March 3, 2014 Update

a SPECIES DISTRIBUTION LISTING for

**TOWNSHIP 18 SOUTH, RANGE 16 EAST PIMA COUNTY, ARIZONA**

**Gila and Salt River Baseline and Meridian**

Record Created and Maintained by William T. Kendall

“An increasing need for careful husbandry of the earth’s natural resources has renewed

interest in the classification and mapping of ecosystems. The inventory of our remaining biotic entities is

particularly urgent because the increased aspirations of a constantly growing world population are

placing ever greater stress on these generous, but finite, living resources.”

United States Department of Agriculture, Forest Service, General Technical Report RM-73



This photograph was taken looking northeast toward the Empire Mountains.

William T. Kendall, September 26, 2005

“To know the desert involves an acquaintance with all its aspects, and all its physical

features, as well as all of the animals and plants that have learned how to find in it a congenial place

to live. The most significant lesson that the desert dweller can learn from a familiarity with its plant and

animal life is to regard himself not as an exile from some better place, but as a man at home in an

environment to which his life can be adjusted without physical or intellectual loss.”

Forest Shreve, The Cactus and Its Home, located in *Discovering the Desert*, by William G. McGinnies

MAJOR CONTRIBUTORS AND SOURCES OF INFORMATION

Matthew B. Johnson, Program Manager and Curator of the Desert Legume Program - Boyce Thompson Southwestern Arboretum \*MBJ (date of observation)\*

William T. Kendall \*WTK (date of observation)\*

Arizona Daily Star \*ADS (date of article)\*

Arizona Game and Fish Department, Heritage Data Management System - Special Status Species Reports \*8\*

Las Cienegas National Conservation Area - Records and Reports \*49 and/or LCNCA\*

Empire-Cienega Bird Checklist \*158\*

Southwest Environmental Information Network (SEINet) \*85 (a date of a search for information on the species)\*

E. Lendell Cockrum. 1960. The Recent Mammals of Arizona: Their Taxonomy and Distribution, The University of Arizona Press, Tucson, Arizona. This inclusion is based on the general distribution maps and statements. \*118 (distribution note, map - Figure Number and Page Number)\*

Charles H. Lowe. 1964. The Vertebrates of Arizona with Major Section on Arizona Habitats, The University of Arizona Press, Tucson, Arizona. \*55\*

SPECIES DISTRIBUTION LISTINGS

Species Distribution Listings are being developed to encourage and promote the conservation of local native animals and plants. The listings are developed for legally defined geographic areas, and larger bodies of water. The listings include species reported as having been observed in or reported from the described area. Exotic and non-local landscaped plants are not included in the listings unless they have become naturalized into the surrounding native environment. Neither “man” nor our domesticated animals, except for feral animals, have been included in the listings of species; however, they have had an impact on all natural areas, the future degree of this impact must be managed in order to restore and provide for the continuation of the natural interrelationships between all species.

Due to the continuing addition of species, the listings should be considered works in progress. In the listings, and most often in the listing of animals, species may have been included based on general distribution mapping and/or statements and not on an observation made in a specific location. It is recommended that we consider a species “confirmed” as occurring in a township or general listing area only after we have at least three recorded sightings cited in the footnotes with no more than one of those records being based on general distribution mapping for the species. Note that the Southwest Environmental Information Network (SEINet) \*85\* may have several collections recorded for a species within any given township or listing area, and that the date shown in parentheses is a date of the search of their records and not a date of recorded sighting. Note also that many of the individual species collection records found in SEINet include additional associated species. For assistance with the identification of a plant, contact the University of Arizona Herbarium (520-621-7243; FAX: 520-621-7186; P.O. Box 210036 Herring Hall, 1130 East South Campus Drive, Tucson, Arizona 85721).

The species are presented alphabetically by division, class, family and genus within their kingdoms. Unlike the usage by most authors, all common names have been capitalized, to normalize simply return uppercase letters, except for those used in proper names, to lowercase letters. Common names presented in languages other than English may lack the inclusion of certain characters/phonetic symbols because of an inability to be reproduce them. The vernacular names included by Daniel F. Austin in his book Baboquivari Mountain Plants: Identification, Ecology, and Ethnobotany are noted “140” with synonyms (dialectic variants or alternate transcriptions) printed in angle brackets <> and/or variations printed in brackets []. An attempt has been made to identify the range in mature heights reported for the plants. Whenever possible the flowering period is reported to early month (1st-10th), mid-month (11th-20th) and late month (21st-end of the month). The individual species records include a general description of the habitat which is provided to help visualize the types of natural habitats the species may be found in. These descriptions have been developed, in part, from herbarium records and general descriptions of habitat found in literature, and should not be considered limiting as to the type of habitat that a plant might occupy. The terms “streambed”, “creekbed”, “riverbed” or “lakebed” refer to their dry aspects. Plants reported as occurring in recently burned areas were observed in that area within one year following a fire. The range in elevation has been rounded off to the nearest 100 feet up for the higher elevation, or down for the lower elevation. Species reported as being within 0 to 100 feet are recorded as occurring “from sea level”. The reporting of the ecological formations generally follows the mapping presented in the “Biotic Communities of the Southwest” by David E. Brown and Charles H. Lowe, August 1980, with the exception of the “wetlands” which are being reported as an ecological formation in the listings; footnotes: Species not considered to be native to Arizona are shown as being EXOTIC, printed in red. Exotic plants are not recommended for use in landscaping or restoration projects. Plants that may be an attractive component of a restored native habitat are so noted. Plants reported as having been used by native peoples of North America and which might be investigated to determine their value as a home garden or commercial crop may be so noted, much of this information is based on the records of the Native American Ethnobotany website [University of Michigan - Dearborn], footnote \*127\*, the inclusion of these plants in the listings is not a recommendation for their use and should not serve as an inference that they are in any way safe to use. When describing the “native range” of plants in North America northwestern refers to Alaska, northern refers to northern Canada (the Yukon Territory, Northwest Territories and Nunavut), northeastern refers to Greenland, central refers to southern Canada (north-central: British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, Newfoundland and Labrador, New Brunswick, Nova Scotia and Prince Edward Island) and the United States (south-central), and southern refers to Mexico, below which is Central America and South America. In the footnotes, the source(s) used for the inclusion of the species in the listing is printed in either green \***00**\* (indicating that the entry is based on an actual sighting) or blue \***00**\* (indicating that the entry is based on a general distribution description and/or mapping). Plants listed in the book “Livestock-Poisoning Plants of Arizona” by Ervin M. Schmutz, Barry M. Freeman and Raymond E. Reed and published in 1968 (80) as being either “Major Poisonous Range Plants” or “Secondary Poisonous Range Plants” are further identified by their listing heading being printed in red in the footnotes; plants considered to be “Rarely Poisonous and Suspected Poisonous Range Plants” and “Poisonous Cropland and Garden Plants” have also been noted.

Local native plants are recommended for use in landscape and restoration projects. Once established many native species require little, if any, irrigation. The inclusion of a plant in the township listing does not necessarily mean that the plant is suitable for the site in which you want to plant it. Ideally restoration should include those species of plants that were native to the property. The source material, of plants and seed, used in the project should be as local as possible. In order to determine what plants were native try to locate photographs of the area prior to clearing or look for natural areas and remnant populations and plants adjacent to where the restoration is to take place. Plants should be planted in their approximate original habitat and density and taking into consideration the original local native site and elevation of occurrence.

The use of local native plants in landscape and restoration projects encourages native animals to remain in the area and helps us to retain the area’s natural beauty and unique identity and heritage.

A NOTE TO RANCHERS: The development of the Species Distribution Listings has been made, in part, with the hope that they will enhance the body of information you are using to assist you in your efforts to improve on the management of native rangelands, bringing about a more productive rangeland, enhanced wildlife management, and an economically and ecologically stable environment.

A NOTE ON SPRINGS TO LAND DEVELOPERS AND MINING OPERATIONS: No development should take place within close proximity of any spring. No activity should take place that would alter to any extent our natural springs. Wildlife activity should be expected and planned for by providing protected access. Springs are an invaluable and irreplaceable natural resource.

DISCLAIMER: The information presented under “Township Notes” has been obtained from large scale mapping and should be used only as a general guide. The listings are not meant to take the place of on-site surveys for species. Information used in the listings is accepted from biologists and individuals interested in helping to promote the conservation of our natural resources. Mistakes are made in the identification of species, the interpretation of data and in the recording of information, and changes in nomenclature occur. For these reasons I can not and do not warrant the accuracy of these listings. Attempts are made to keep the information contained in the Species Distribution Listings as accurate as possible; however, I disclaim any implied warranty or representation about its accuracy, completeness, or appropriateness for any particular purposes. Users of the information found in the listings assume full responsibility for their use of the information and remain fully responsible or liable for any claim, loss, or damage resulting from its use.

CAUTION: Many native desert plants have sharp thorns and spines. Care should be given when handling these plants and consideration should be given to public safety at sites where they are to be planted. Range plants having a known toxic or poisonous property may be so noted. Footnotes for plants whose sources may have cautionary statements, comments and information on rarely poisonous or suspected poisonous properties may be shown in red \*00\*. Many poisonous plants are similar in appearance to edible ones. No field collected plant should be eaten unless you know for a fact that it is safe for you to do so.

CONTENTS

Township Notes

Conservation Related Agencies and Organizations

Listing of Plants

Kingdom Plantae: The Plant Kingdom

Subkingdom Tracheobionta: The Vascular Plants

Division Pteridophyta: The Ferns

Class Filicopsida: The Ferns

Superdivision Spermatophyta: The Seed Plants

Division Coniferophyta: The Conifers

Class Pinopsida: The Conifers

Division Magnoliophyta: The Flowering Plants

Class Liliopsida: The Monocots

Class Magnoliopsida: The Dicots

Listing of Animals

Kingdom Animalia: The Animal Kingdom

Subkingdom Metazoa: The Multicellular Animals

Section Protostomia: The Protosomes

Phylum Mollusca: The Mollusks

Class Gastropoda: The Snails and Their Allies

Phylum Arthropoda: The Arthropods

Subphylum Mandibulata: The Mandibulates

Class Insecta: The Insects

Section Deuterostomia: The Deuterostomes

Phylum Chordata: The Chordates

Subphylum Vertebrata: The Vertebrates

Class Amphibia: The Amphibians

Class Aves: The Birds

Class Mammalia: The Mammals

Class Osteichthyes: The Bony Fishes

Class Reptilia: The Reptiles

Acknowledgements

Footnotes and References for the Species Distribution Listings



Map created using TOPO!® © 2002 National Geographic

Map of Township, shown with adjacent sections

TOWNSHIP NOTES

LOCATION: This township is located in southeastern Pima County in south-central Arizona. Portions of this township are located within the Coronado National Forest and Las Cienegas National Conservation Area.

Historic Ranching Activities: General ranching activities included the placement of corrals, check dams, stock tanks, cattle troughs and windmills. Named historic ranches include the Chapo’s Ranch, Hidden Valley (aka Hidden Spring and Scholefield) Ranch, Lopez Ranch (El Tonel), Martinez Ranch (includes one (or more) gravesites), St. Helena Ranch and VR Ranch. Named stock tanks include the Adobe Tank, Blacktail Tank, Cemetery Tank, East Dam and Mulberry Tank.

Historic Mining Activities: General mining activities included barrow pits, gravel pits, mining, quarrying and prospecting. Historic mine sites and communities include the Helena Mine, Rosemont (including Rosemont Camp and Rosemont Junction) and New Rosemont.

LANDMARKS: Portions of this township are located within the Empire Mountains and Santa Rita Mountains. Named peaks include Mount Fagan. Named canyons include Barrel Canyon, Davidson Canyon, Davidson Canyon - East Fork, Highway Canyon, McCleary Canyon, Mulberry Canyon, North Canyon, Papago Canyon, Scholefield Canyon, Sycamore Canyon and Wasp Canyon. Named springs include the Barrel Spring, Fig Tree Spring, Mulberry Spring, Ojo Blanco Spring, Questa Spring, Rosemont Spring and Scholefield Spring.

ELEVATION: Elevations range from approximately 3,990 feet in Davidson Canyon on the north township line west of the northeast corner to approximately 6,189 feet at Mount Fagan located in the northwest quarter (1).

PHYSIOGRAPHIC PROVINCE: This township is located within the Mexican Highland Desert Section of the Basin and Range Physiographic Province (2).

SOILS: Soils have been described as being Thermic (hot) Arid Soils (soils with mean annual temperatures of 59 degrees to 72 degrees Fahrenheit (15 degrees to 22 degrees Centigrade) and 5 to 10 inches (13 to 25 cm) mean annual precipitation) and/or Thermic (hot) Semiarid Soils (soils with mean annual temperatures of 59 degrees to 72 degrees Fahrenheit (15 degrees to 22 degrees Centigrade) and 10 to 16 inches (25 to 41 cm) mean annual precipitation) of the Caralampi-Hathaway Association (deep, semiarid gravelly soils on deeply dissected uplands) and the Rock Outcrop-Lampshire-Cellar Association (rock outcrop and very shallow and shallow semiarid soils of the mountains and foothills) (3).

BIOTIC COMMUNITY: Portions of this township are located within the Scrub-Grassland (Semidesert Grassland) Regional Formation of the Grassland Formation and Madrean Evergreen Woodland of the Woodland Formation with associated Wetlands (4).

LISTED BELOW ARE A FEW OF THE NATIVE PLANTS REPORTED

AS OCCURRING IN THIS TOWNSHIP THAT MIGHT BE CONSIDERED

FOR USE IN LANDSCAPE AND RESTORATION PROJECTS

Common Name (Family Name: Scientific Name - range in reported mature heights)

Trees and Large Shrubs (over 7 feet maximum height)

Fremont Cottonwood (Salicaceae: *Populus fremontii* subsp. *fremontii* - 10’ to 112’ in height, see NOTES)

Arizona Black Walnut (Juglandaceae: *Juglans major* - 5’ to 66’ in height, see NOTES)

Emory Oak (Fagaceae: *Quercus emoryi* - 5’ to 66’ in height)

Arizona White Oak (Fagaceae: *Quercus arizonica* - 20” to 66’ in height)

Wingleaf Soapberry (Sapindaceae: *Sapindus saponaria* - 7’ to 60’ in height, see NOTES)

Netleaf Hackberry (Ulmaceae: *Celtis reticulata* - 40” to 60’ in height)

Mexican Pinyon (Pinaceae: *Pinus cembroides* - 10’ to 57’ in height)

Velvet Mesquite (Fabaceae: *Prosopis velutina* - 2’ to 56’ in height)

Redberry Juniper (Cupressaceae: *Juniperus coahuilensis* - 7’ to 50’ in height)

Catclaw Acacia (Fabaceae: *Senegalia* *greggii* - 2’ to 40’ in height)

Desert Willow (Bignoniaceae: *Chilopsis linearis* subsp. *arcuata* - 5’ to 33’ in height)

Ocotillo (Fouquieriaceae: *Fouquieria splendens* - 5’ to 33’ in height)

Western Coral-bean (Fabaceae: *Erythrina flabelliformis* - 2’ to 30’ in height)

Cliffrose (Rosaceae: *Purshia mexicana* var. *stansburyana* - 1’ to 25’ in height)

Hairy Mountain-mahogany (Rosaceae: *Cercocarpus breviflorus* - 4’ to 20’ in height)

Whitethorn Acacia (Fabaceae: *Vachellia constricta* - 1’ to 20’ in height)

Mountain Yucca (Agavaceae: *Yucca schottii* - 3’ to 18’ in height)

Wright Silktassel (Garryaceae: *Garrya wrightii* - 3’ to 15’ in height)

Seep Willow (Asteraceae: *Baccharis salicifolia* - 1’ to 15’ in height)

Desert Cotton (Malvaceae: *Gossypium thurberi* - 3’ to 14’ in height)

Greythorn (Rhamnaceae: *Ziziphus obtusifolia* var. *canescens* - 3’ to 13’ in height)

Kearney Snakewood (Rhamnaceae: *Condalia warnockii* var. *kearneyana* - 20” to 13’ in height)

Arizona Desert-thorn (Solanaceae: *Lycium exsertum* - 20” to 13’ in height)

Velvetpod Mimosa (Fabaceae: *Mimosa dysocarpa* - 18” to 13’ in height)

Arrow-wood (Asteraceae: *Ambrosia monogyra* - 1’ to 13’ in height)

Fishhook Barrel Cactus (Cactaceae: *Ferocactus wislizeni* - 8” to 11’ in height)

Cliff Fendlerbush (Hydrangeaceae: *Fendlera rupicola* - 3’ to 10’ in height)

Pancake Pricklypear Cactus (Cactaceae: *Opuntia chlorotica* - 2’ to 10’ in height)

Skunkbush Sumac (Anacardiaceae: *Rhus aromatica* var. *aromatica* - 2’ to 10’ in height)

Evergreen Sumac (Anacardiaceae: *Rhus virens* var. *choriophylla* - 20” to 10’ in height)

Cane Cholla (Cactaceae: *Cylindropuntia spinosior* - 16” to 10’ in height)

Catclaw Mimosa (Fabaceae: *Mimosa aculeaticarpa* var. *biuncifera* - 1’ to 10’ in height)

Spanish Dagger (Agavaceae: *Yucca baccata* var. *brevifolia* - acaulescent to 10’ in height with rigid leaves1’ to 4’ in length and a flowering stalk reaching stalk reaching 13” to 5’ in height)

Desert Honeysuckle (Acanthaceae: *Anisacanthus thurberi* - 3’ to 8’ in height)

Engelmann Pricklypear Cactus (Cactaceae: *Opuntia engelmannii* var. *engelmannii* - 20” to 8’ in height)

Desert Spoon (Liliaceae: *Dasylirion wheeleri* - 16” to 8’ in height)

Desert Ceanothus (Rhamnaceae: *Ceanothus greggii* var. *greggii* - 1’ to 8’ in height)

Shrubs (2 to 7 feet maximum height)

California Brickellbush (Asteraceae: *Brickellia californica* - 1’ to 7’ in height)

Tulip Pricklypear Cactus (Cactaceae: *Opuntia phaeacantha* - 10” to 7’ in height)

Wilcox Barberry (Berberidaceae: *Berberis wilcoxii* - 8” to 7’ in height)

Oakwoods Prairie Clover (Fabaceae: *Dalea versicolor* - 8” to 7’ in height/length)

Rubber Rabbitbrush (Asteraceae: *Ericameria nauseosa* subsp. *nauseosa* var. *latisquamea* - 40” to 78” in height)

Beargrass (Liliaceae: *Nolina microcarpa* - 24” to 78” in height)

Desert Mountain Manihot (Euphorbiaceae: *Manihot angustiloba* - 12” to 78” in height)

Pubescent Skunkbush Sumac (Anacardiaceae: *Rhus aromatica* var. *pilosissima* - 12” to 78” in height)

Fairyduster (Fabaceae: *Calliandra eriophylla* - 4” to 78” in height)

Arizona Orange (Rutaceae: *Choisya dumosa* var. *arizonica* - 20” to 6’ in height)

Desert Christmas Cactus (Cactaceae: *Cylindropuntia leptocaulis* - 1’ to 6’ in height)

American Threefold (Asteraceae: *Trixis californica* - 10” to 6’ in height)

Palmer Agave (Agavaceae: *Agave palmeri* - 1’ to 5’ in height)

Coulter Brickellbush (Asteraceae: *Brickellia coulteri* - 1’ to 5’ in height)

Desert Mistletoe (Viscaceae: *Phoradendron californicum* - 8” to 5’ in height, see NOTES)

Threadleaf Snakeweed (Asteraceae: *Gutierrezia microcephala* - 2” to 4½’ in height)

Turpentine Bush (Asteraceae: *Ericameria laricifolia* - 10” to 50” in height)

Slim Pod Senna (Fabaceae: *Senna hirsuta* var *leptocarpa* - 36” to 40” in height)

Wright Buckwheat (Polygonaceae: *Eriogonum wrightii* - 4” to 40” in height)

Range Ratany (Krameriaceae: *Krameria erecta* - 2” to 40” in height)

Grasses

Wright Sacaton (Poaceae: *Sporobolus wrightii* - 36” to 100” in height)

Alkali Sacaton (Poaceae: *Sporobolus airoides* - 14” to 100” in height)

Spidergrass (Poaceae: *Aristida ternipes* var. *ternipes* - 16” to 79” in height)

Deergrass (Poaceae: *Muhlenbergia rigens* - 14” to 63” in height)

Cane Bluestem (Poaceae: *Bothriochloa barbinodis* - 20” to 60” in height)

Bullgrass (Poaceae: *Muhlenbergia emersleyi* - 20” to 60” in height)

Spiked Crinkleawn (Poaceae: *Trachypogon spicatus* - 18” to 60” in height)

Tanglehead (Poaceae: *Heteropogon contortus* - 8” to 60” in height, see NOTES)

Green Sprangletop (Poaceae: *Leptochloa dubia* - 4” to 60” in height)

Hall’s Panicgrass (Poaceae: *Panicum hallii* var. *hallii* - 4” to 60” in height)

Mexican Lovegrass (Poaceae: *Eragrostis mexicana* - 4” to 52” in height)

Sideoats Grama (Poaceae: *Bouteloua curtipendula* - 3” to 52” in height)

Woolyspike Balsamscale (Poaceae: *Elionurus barbiculmis* - 14” to 48” in height)

Arizona Cottontop (Poaceae: *Digitaria californica* - 12” to 48” in height)

Sand Dropseed (Poaceae: *Sporobolus cryptandrus* - 12” to 48” in height)

Streambed Bristlegrass (Poaceae: *Setaria leucopila* - 8” to 48” in height)

Plains Bristlegrass (Poaceae: *Setaria vulpiseta* - 8” to 48” in height)

Tapertip Cupgrass (Poaceae: *Eriochloa acuminata* - 6” to 4’ in height)

Grisebach’s Bristlegrass (Poaceae: *Setaria grisebachii* - 4” to 48” in height)

Purple Muhly (Poaceae: *Muhlenbergia rigida* - 16” to 44” in height)

Mexican Panicgrass (Poaceae: *Panicum hirticaule* - 2” to 44” in height)

Crimson Bluestem (Poaceae: *Schizachyrium sanguineum* - 12” to 40” in height)

Plains Lovegrass (Poaceae: *Eragrostis intermedia* - 8” to 40” in height)

Fendler Bluegrass (Poaceae: *Poa fendleriana* - 6” to 40” in height)

Sixweeks Threeawn (Poaceae: *Aristida adscensionis* - 1¼” to 40” in height)

Feather Fingergrass (Poaceae: *Chloris virgata* - ½” to 40” in height)

Purple Grama (Poaceae: *Bouteloua radicosa* - 12” to 32” in height)

Vine Mesquite Grass (Poaceae: *Hopia obtusa* - 6” to 32” in height with short rhizomes and 1’ to 10’ long stolons)

Slender Grama (Poaceae: *Bouteloua repens* - 4” to 32” in height)

Slim Tridens (Poaceae: *Tridens muticus* - 3” to 32” in height)

Squirreltail (Poaceae: *Elymus elymoides* - 3” to 31 (to 78”?) in height)

Black Grama (Poaceae: *Bouteloua eriopoda* - 8” to 30” in height)

Rothrock Grama (Poaceae: *Bouteloua barbata* var. *rothrockii* - 8” to 30” in height)

Hairy Grama (Poaceae: *Bouteloua hirsuta* var. *hirsuta* - 4” to 30” in height)

Santa Rita Grama (Poaceae: *Bouteloua eludens* - 8” to 28” in height)

Western Witchgrass (Poaceae: *Digitaria pubiflora* - 8” to 28” in height)

Slender Muhly (Poaceae: *Muhlenbergia tenuifolia* - 8” to 28” in height)

Blue Grama (Poaceae: *Bouteloua gracilis* - 4” to 28” in height)

Gulf Lovegrass (Poaceae: *Eragrostis pectinacea* var. *miserrima* - 4” to 28” in height)

Bristly Wolfstail (Poaceae: *Muhlenbergia alopecuroides* - 8” to 24” in height)

Fendler Threeawn (Poaceae: *Aristida purpurea* var. *longiseta* - 6” to 24” in height)

Sprucetop Grama (Poaceae: *Bouteloua chondrosioides* - 4” to 24” in height)

Shortleaf Woollygrass (Poaceae: *Erioneuron avenaceum* - 3” to 24” in height)

Marshland Muhly (Poaceae: *Muhlenbergia sinuosa* - 5” to 20” in height)

Spike Pappusgrass (Poaceae: *Enneapogon* *desvauxii* - 4” to 20” in height)

Curly Mesquite (Poaceae: *Hilaria belangeri* - 2” to 14” in height)

Desert Fluffgrass (Poaceae: *Dasyochloa pulchella* - ½” to 12” in height)

Vines and Climbers

Fingerleaf Gourd (Cucurbitaceae: *Cucurbita digitata* - 3’ to 40’ in length)

Canyon Grape (Vitaceae: *Vitis arizonica* - 16” to 33’ in length)

Fringed Twinevine (Asclepiadaceae: *Funastrum cynanchoides* subsp. *cynanchoides* - 40” to 20’ in length)

Little Snapdragon Vine (Scrophulariaceae: *Maurandella antirrhiniflora* - 1’ to 8’ in length)

Watson Indian Root (Aristolochiaceae: *Aristolochia watsoni* - 4” to 20” (to 5’) in length)

Shrubs (under 2 feet maximum height), Subshrubs, Herbs and Small Succulents

Southern Annual Saltmarsh Aster (Asteraceae: *Symphyotrichum divaricatum* - 14” to 79” in height)

Toothleaf Goldeneye (Asteraceae: *Viguiera dentata* - 12” to 78” in height)

Heartleaf Goldeneye (Asteraceae: *Viguiera cordifolia* - 14” to 5’ in height)

Brownfoot (Asteraceae: *Acourtia wrightii* - 1’ to 5’ in height)

Mexican Fireplant (Euphorbiaceae: *Euphorbia heterophylla* - 8” to 5’ in height)

Brownplume Wirelettuce (Asteraceae: *Stephanomeria pauciflora* - 4” to 5’ in height)

Sanddune Wallflower (Brassicaceae: *Erysimum capitatum* - 2” to 5’ in height)

Yellow Monkeyflower (Scrophulariaceae: *Mimulus guttatus* - 2” to 5’ in height)

Bluestem Pricklepoppy (Papaveraceae: *Argemone pleiacantha* subsp. *pleiacantha* - 20” to 4’ in height)

Fall Tansyaster (Asteraceae: *Dieteria asteroides* - 1’ to 4’ in height)

Spreading Fanpetals (Malvaceae: *Sida abutifolia* - 8” to 4’ in length)

Ragleaf Bahia (Asteraceae: *Bahia dissecta* - 1¼” to 4’ in height)

Mexican Yellowshow (Bixaceae: *Amoreuxia palmatifida* - 4” to 46” in height)

Desert Tobacco (Solanaceae: *Nicotiana obtusifolia* var. *obtusifolia* - 12” to 42” in height, see NOTES)

Palmleaf Thoroughwort (Asteraceae: *Conoclinium dissectum* - 16” to 40” in height)

Lemmon’s Candyleaf (Asteraceae: *Stevia lemmonii* - 12” to 40” in height)

Burroweed (Asteraceae: *Isocoma tenuisecta* - 6” to 40” in height)

Sandyseed Clammyweed (Capparaceae: *Polanisia dodecandra* subsp. *trachysperma* - 4” to 40” in height)

Whiteflower Prairie Clover (Fabaceae: *Dalea albiflora* - 3” to 40” in height)

Chaparral Fleabane (Asteraceae: *Erigeron oreophilus* - 3” to 40” in height)

Arizona Foldwing (Acanthaceae: *Dicliptera resupinata* - 12” to 32” in height)

Abert Buckwheat (Polygonaceae: *Eriogonum abertianum* - 2” to 32” in height)

Whiteflower Ipomopsis (Polemoniaceae: *Ipomopsis longiflora* subsp. *australis* - 24” to 30” in height)

Slender Goldenweed (Asteraceae: *Xanthisma gracile* - 2” to 28” in height)

Ragged Nettlespurge (Euphorbiaceae: *Jatropha macrorhiza* var. *septemfida* - 8” to 26” in height)

Coral Bells (Saxifragaceae: *Heuchera sanguinea* - 10” to 24” in height)

Bearded Prairie Clover (Fabaceae: *Dalea pogonathera* var. *pogonathera* - 8” to 24” in height)

Whitemouth Dayflower (Commelinaceae: *Commelina erecta* - 6” to 24” in height)

Hairyseed Bahia (Asteraceae: *Bahia absinthifolia* - 4” to 24” in height)

Desert Mariposa Lily (Liliaceae: *Calochortus kennedyi* - 4” to 24” in height)

Golden Fumewort (Fumariaceae: *Corydalis aurea* - 4” to 24” in height)

Arizona Poppy (Zygophyllaceae: *Kallstroemia grandiflora* - 4” to 24” in height, stems to over 8’ in length)

Blackfoot Daisy (Asteraceae: *Melampodium leucanthum* - 4” to 24” in height)

Rusby’s Flatsedge (Cyperaceae: *Cyperus sphaerolepis* - 3” to 24” in height)

Goodding Mock Vervain (Verbenaceae: *Glandularia gooddingii* - 3” to 24” in height)

Red Dome Blanketflower (Asteraceae: *Gaillardia pinnatifida* - 2” to 24” in height)

Mexican Star (Liliaceae: *Milla biflora* - 1” to 24” in height)

Orange Flameflower (Portulacaceae: *Phemeranthus aurantiacus* - 6” to 20” in height)

Golden Mariposa Lily (Liliaceae: *Calochortus aureus* - 4” to 20”)

Dakota Mock Vervain (Verbenaceae: *Glandularia bipinnatifida* var. *bipinnatifida* - 4” to 20” in height)

Pinewoods Spiderwort (Commelinaceae: *Tradescantia pinetorum* - 4” to 20” in height)

Desert Zinnia (Asteraceae: *Zinnia acerosa* - 3” to 20” in height)

Leather-weed Croton (Euphorbiaceae: *Croton pottsii* var. *pottsii* - 8” to 18” in height)

Arizona Blue-eyes (Convolvulaceae: *Evolvulus arizonicus* - 4” to 18” in height)

Rainbow Hedgehog Cactus (Cactaceae: *Echinocereus rigidissimus* - 2¼” to 18” in height)

Bundle Hedgehog Cactus (Cactaceae: *Echinocereus fasciculatus* - 2” to 18” in height)

Bajada Lupine (Fabaceae: *Lupinus concinnus* - 2” to 18” in height)

Schott Agave (Agavaceae: *Agave schottii* var. *schottii* - 8” to 16” in height)

Eaton’s Lipfern (Pteridaceae: *Cheilanthes eatonii* - 2½” to 16” in height)

Toad Rush (Juncaceae: *Juncus bufonius* - 1” to 16” in height)

Arizona Phacelia (Hydrophyllaceae: *Phacelia arizonica* - 1” to 16” in height)

Santa Rita Mountain Yellowshow (Bixaceae: *Amoreuxia gonzalezii* - 6” to 12” in height)

Cochise Scaly Cloakfern (Pteridaceae: *Astrolepis cochisensis* subsp. *cochisensis* - 3” to 12” in height)

Shrubby Purslane (Portulacaceae: *Portulaca suffrutescens* - 3” to 12” in height)

Desert Holly (Asteraceae: *Acourtia nana* - 2” to 12” in height)

Southwestern False Cloakfern (Pteridaceae: *Argyrochosma limitanea* subsp. *limitanea* - 2” to 12” in height)

Trailing Fleabane (Asteraceae: *Erigeron flagellaris* - 1” to 12” in height)

Straight-spined Hedgehog Cactus (Cactaceae: *Echinocereus fendleri* var. *rectispinus* - 4” to 10” in height)

Sun Spurge (Euphorbiaceae: *Euphorbia radians* - 2¼” to 10” in height)

Desert Mariposa Lily (Liliaceae: *Calochortus aureus* var. munzii - 4” to 20”)

Tufted Evening-primrose (Onagraceae: *Oenothera caespitosa* subsp. *marginata* - 4” to 8” in height)

Greene’s Bird’s-foot Trefoil (Fabaceae: *Acmispon greenei* - 3” to 8” in height)

Woven-spine Pineapple Cactus (Cactaceae: *Echinomastus intertextus* - 2” to 8” in height)

California Caltrop (Zygophyllaceae: *Kallstroemia californica* - 2” to 8” in height, stems to 5’ in length)

Yellow Desert Evening-primrose (Onagraceae: *Oenothera primiveris* - 2” to 8” in height)

MacDougal Pincushion Cactus (Cactaceae: *Mammillaria heyderi* var. *macdougalii* - 1½” to 8” in height)

Rose Heath (Asteraceae: *Chaetopappa ericoides* - 1” to 8” in height)

Bisbee Beehive Cactus (Cactaceae: *Escobaria vivipara* var. *bisbeeana* - 2” to 3” in height)

CONSERVATION RELATED AGENCIES AND ORGANIZATIONS

**Arizona Department of Agriculture**

<http://www.azda.gov/>

Native Plant Crimes HOTLINE: 602-364-0907

The mission statement of the Arizona Department of Agriculture is to regulate and support Arizona agriculture in a manner that encourages farming, ranching, and agribusiness while protecting consumers and natural resources.

NOTICE OF INTENT TO CLEAR LAND

The Arizona Department of Agriculture enforces the sections of the Arizona Revised Statutes commonly referred to as the “Arizona Native Plant Law”. The statutes require, in part, that anyone who is clearing land notify the State of Arizona in advance of the clearing. Some land owners involved in the clearing of land allow for nurseries and people who are interested in salvaging plants to do so prior to the clearing. The Arizona Department of Agriculture posts these notifications in their county offices. You may also contact the Arizona Department of Agriculture and, for a fee, be put on a mailing list of people receiving copies of the Notices of Intent to Clear Land.

Contact Information: Arizona Department of Agriculture, 1688 West Adams Street, Phoenix, Arizona 85007. Telephone number: 602-542-4373.

**Arizona Game and Fish Department**

<http://www.gf.state.az.us/>

Operation GAME THIEF: 602-942-3000

The mission statement of the Arizona Game and Fish Department is to conserve, enhance, and restore Arizona's diverse wildlife resources and habitats through aggressive protection and management programs, and to provide wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use

As part of their conservation program the Arizona Game and Fish Department provides ideas on how to learn to live with, and landscape for, wildlife:

LIVING WITH WILDLIFE

<http://www.azgfd.gov/w_c/urban_wildlife.shtml>

Contact Information: Arizona Game and Fish Department, 5000 West Carefree Highway, Phoenix, Arizona 85086-5000. Telephone number: 602-942-3000

**Arizona Native Plant Society**

<http://www.aznativeplantsociety.org/>

The Arizona Native Plant Society is a statewide nonprofit organization devoted to Arizona's native plants. Its mission is to promote knowledge, appreciation, conservation, and restoration of Arizona native plants and their habitats. They work with the Southwest Rare Plant Task Force to develop strategies for protecting rare species and their habitats; they keep abreast of conservation issues concerning native plants species and responds to those through their Conservation Committee; they promote the use of native species in residential and commercial landscapes; they publish the Plant Press, support the publication of scholarly works and maintains a website with information and links about native plant, and they host a series of statewide events that provide forums to learn from professionals. Member activities and benefits include chapter and statewide gatherings; field trips and educational presentations; conservation through education, outreach and restoration; habitat restoration projects; informative website, newsletters and journals, and interactions with plant experts and enthusiasts.

LISTING OF SOURCES FOR NATIVE PLANTS AND SEEDS

The Arizona Native Plant Society maintains a listing of Native Plant and Seed Sources at:

<http://www.aznativeplantsociety.org/sources.php>

Contact Information: Arizona Native Plant Society, PO Box 41206, Tucson, Arizona 85717.

**Tucson Cactus and Succulent Society**

<http://www.tucsoncactus.org/>

The Tucson Cactus and Succulent Society is a non-profit organization dedicated to educating, teaching and learning about cacti and succulent plants. Their monthly programs feature knowledgeable individuals who can educate you and help you understand more about these fascinating plants. They conduct and sponsor native cactus and succulent rescue operations, plant sales, field trips, nursery and garden visits, conventions and conferences as well as other activities throughout the year.

NATIVE PLANT RESCUE NOTICE

Members of the Tucson Cactus and Succulent Society expend a tremendous amount of time and effort in organizing and overseeing their native plant rescue events. The native plant rescues carried out by the dedicated members of the Society provide an immeasurable service to our community. Members of the Tucson Cactus and Succulent Society organize native plant rescues in areas being cleared for development. If interested in rescuing plants and/or obtaining local native plants for your landscaping or restoration project join the Society and become a rescue crew member.

Contact Information: Tucson Cactus and Succulent Society, PO Box 64759, Tucson, Arizona 85728-4759. Telephone number: 520-885-6367.

LISTING OF PLANTS

STRICTLY ENFORCED LAWS PROTECT MANY OF ARIZONA’S

NATIVE PLANTS FROM COLLECTION, MUTILATION AND DESTRUCTION

Native Plant Crimes HOTLINE: 602-364-0907

Kingdom Plantae: The Plant Kingdom

Subkingdom Tracheobionta: The Vascular Plants

Division Pteridophyta: The Ferns

CLASS FILICOPSIDA: The FERNS

Pteridaceae: The Maidenhair Fern Family

***Argyrochosma limitanea* (W.R. Maxon) M.D. Windham subsp. *limitanea*: Southwestern False Cloak Fern**

SYNONYMY: *Cheilanthes limitanea* (W.R. Maxon) J.T. Mickel; *Notholaena limitanea* W.R. Maxon; *Pellaea limitanea* (W.R. Maxon) C.V. Morton. COMMON NAMES: Border Cloak Fern; Kalawala (Tarahumara); Typical Southwestern False Cloak Fern; Typical Southwestern False Cloak Fern; Typical Southwestern False Cloak-fern; Typical Southwestern Falsecloak Fern. DESCRIPTION: Terrestrial perennial evergreen forb/herb (fronds are 2 to 12 inches in length); the leaf blades may be dark gray, green or dull green above and waxy white beneath with black, purplish-black or reddish-brown stipes; sporulation generally takes place summer through fall. HABITAT: Within the range of this species it has been reported from mountains; mountainsides; bases of mountains; rocky cliffs; cliff faces; rock walls; rocky canyons; scree; crevices in rocks; ledges; bases of ledges; rocky ridges; ridgetops; foothills; hills; hilltops; rocky hillsides; escarpments; rocky slopes; rocky outcrops; amongst rocks; at the bases of boulders, under rocks; banks; rocky arroyos; streambeds; within sandy washes; within drainages; (rocky) banks of arroyos; bottomlands, and riparian areas growing in dry bouldery, rocky and sandy ground, occurring from 2,000 to 8,500 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Argyrochosma limitanea* subsp. *limitanea* is native to southwest-central and southern North America. \*5, 6, 15, 30, 42 (070713), 43 (070713 - no record for *Argyrochosma limitanea* subsp. *limitanea*), 44 (070713), 46 (recorded as *Pellaea limitanea*, Page 37), 51 (recorded as *Notholaena limitanea* var. *limitanea*, Page 161, color photograph 186), 63 (070613), **85** (070713 - color presentation), 122, 140 (recorded as *Notholaena limitanea* Maxon,)\*

***Astrolepis cochisensis* (L.N. Goodding) D.M. Benham & M.D. Windham subsp. *cochisensis*: Cochise Scaly Cloakfern**

SYNONYMY: *Notholaena cochisensis* L.N. Goodding; *Notholaena sinuata* (M. Lagasca y Segura ex O. Swartz) G.F. Kaulfuss var. *cochisensis* (L.N. Goodding) C.A. Weatherby. COMMON NAMES: Cloak Fern (Cloak-fern is a name also applied to other species and the genus *Astrolepis*); Cochise Scaly Cloakfern Cochise’s Cloak Fern; Helechillo (“Little Fern”)140; Jimmy Fern; Jimmyfern; Narrow Cloakfern; Scaly Cloak Fern; Scaly Star Fern. DESCRIPTION: Terrestrial perennial evergreen forb/herb (fronds are 3 to 12 inches in length); the leaf blades are olive green or green above and reddish-brown beneath with brown to reddish-brown stipes; sporulation generally takes place summer through fall. HABITAT: Within the range of this species it has been reported from mountains; mountainsides; cliffs; bouldery-sandy and rocky canyons; rocky and sandy canyon walls; talus slopes; bases of cliffs; crevices in rocks; buttes; rocky ledges; rocky and silty-loamy ridges; foothills; hills; rocky and gravelly-loamy hillsides; rocky, stony, gravelly-loamy and clayey-loamy slopes; rocky outcrops; amongst boulders and rocks; on boulders; flats; basins; valley floors; arroyos; rocky draws; along streams; in bouldery streambeds; in rocks along creeks; along and in sandy washes, and riparian areas growing in dry bouldery, bouldery-sandy, rocky, stony and sandy ground and gravelly loam, clayey loam and silty loam ground, occurring from 1,100 to 8,500 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Astrolepis cochisensis* subsp. *cochisensis* is native to southwest-central and southern North America. \*5, 6, 15 (recorded as *Notholaena cochisensis* Goodding), 16 (recorded as *Notholaena cochisensis* Goodding), 28 (recorded as *Notholaena cochisensis*, color photograph 9), 42 (070613), 43 (081009), 44 (070613 - no listings recorded under Common Name; species and genus records), 46 (recorded as *Notholaena sinuata* (Lag.) Kaulf. var. *cochisensis* (Goodding) Weatherby, Page 41), 51 (recorded as *Notholaena cochisensis*, Page 155, color photograph 171), 63 (081009), 77 (recorded as *Notholaena cochisensis* Goodd.), 80 (*Notholaena sinuata* var. *cochisensis* is listed as a Secondary Poisonous Range Plant. “Apparently only the variety *cochisensis* is poisonous. The nature of the poison is unknown but it is excreted in the milk and is not destroyed by drying of the plant. Sheep are most susceptible, especially pregnant ewes, but goats and cattle may be poisoned. ... The danger is greatest from the middle of November through February when other forage is dry and the evergreen fern remains succulent and relatively palatable. ... Losses may be prevented by deferring infested ranges during the danger period or by feeding supplements.” See text for additional information.), **85** (082911 - color presentation), 115 (color presentation of species), 122, 124 (031811), 140 (Pages 230 - species & 303)\*

***Cheilanthes eatonii* J.G. Baker: Eaton’s Lipfern**

COMMON NAMES: Eaton Lipfern; Eaton’s Lip Fern; Eaton’s Lipfern. DESCRIPTION: Terrestrial perennial evergreen forb/herb (fronds are 2½ to 16 inches in height); the leaf blades have been described as being blue-green above, bluish-green above and dusty yellow below, gray, gray-green, dull gray-green, green or reddish with dark reddish-brown stipes; sporulation generally takes place between summer and fall. HABITAT: Within the range of this species it has been reported from mountains; rocky mountain summits; gravelly-loamy mountainsides; rocky bases of mountains; canyon rims; rocky cliffs; cliff faces; along rock faces; gravelly-loamy bases of cliffs; rocky canyons; rocky canyon walls; rocky-loamy canyon sides; bouldery-sandy canyon bottoms; chasms; rocky gorges; bouldery and rocky talus slopes; in sandy crevices in rimrock, boulders and rocks; pockets of soil in bedrock; rocky bluffs; basaltic dikes; bouldery and rocky ledges; bases of ledges; rocky ridges; sandy ridgetops; rocky hills; rocky hillsides; escarpments; bouldery, bouldery-rocky, bouldery-gravelly, bouldery-humusy, rocky, rocky-gravelly-loamy, rocky-loamy, gravelly and gravelly-loamy slopes; bouldery bases of slopes; bouldery bajadas; rocky and cobbly outcrops; bases of outcrops; amongst boulders and rocks; bases of boulders and rocks; banks; bouldery uplands; bedrock bottoms of arroyos; bouldery draws; bouldery and rocky ravines (barrancas); along rocky streambeds; along creeks; rocky creekbeds; along washes; rocky and rocky-sandy drainages; (bouldery-gravelly) banks of streams, washes and drainages; (bouldery-rocky) edges of streams and washes; rocky terraces, and rocky riparian areas growing in moist (rarely reported), damp (rarely reported) and dry rimrock; bouldery, bouldery-rocky, bouldery-gravelly, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, cobbly, gravelly and sandy ground; bouldery-loamy, bouldery-sandy loam, rocky loam, rocky-gravelly loam and gravelly loam ground, and bouldery humusy ground, occurring from 900 to 9,900 feet in elevation in the forest, woodland, scrub, grassland and desertscrub ecological formations. NOTE: *Cheilanthes eatonii* is native to south-central and southern North America and Central America. \*5, 6, 15, 42 (070213), 43 (070213), 44 (070213 - no record of species; genus record), 46 (recorded as *Cheilanthes eatoni*, Page 40), 51 (Page 145, color photograph 155), 63 (070213 - color presentation), **85** (070313 - color presentation), 122, 140 (Page 303), **MBJ**/**WTK** (July 9, 2009)\*

*Cheilanthes limitanea* (see *Argyrochosma limitanea* subsp. *limitanea*)

*Notholaena cochisensis* (see *Astrolepis cochisensis* subsp. *cochisensis*)

*Notholaena limitanea* (see *Argyrochosma limitanea* subsp. *limitanea*)

*Notholaena sinuata* var. *cochisensis* (see *Astrolepis cochisensis* subsp. *cochisensis*)

*Pellaea limitanea* (see *Argyrochosma limitanea* subsp. *limitanea*)

Superdivision Spermatophyta: The Seed Plants

Division Coniferophyta: The Conifers

CLASS PINOPSIDA: The CONIFERS

Cupressaceae: The Cypress Family

***Juniperus coahuilensis* (M. Martinez) H.M. Gaussen ex R.P. Adams: Redberry Juniper**

SYNONYMY: (for *J.c.* var. *coahuilensis*: *Juniperus erythrocarpa* V.L. Cory subsp. *coahuilensis* M. Martinez). COMMON NAMES: Cedro (Spanish); Coahuila Juniper; Cory Juniper; Huata (Spanish); One-seeded Juniper; Red Berry Juniper; Red-berry Juniper; Redberry Juniper (also applied to *Juniperus arizonica* - Not Accepted, *J*.*c*. var. *arizonica* - Accepted; *J*.*c*. var. *coahuilensis* - Accepted); Rose Fruited Juniper; Rose-fruited Juniper; Roseberry; Roseberry Juniper; Tascal (Mexico: Sonora); Táscale (Mexico: Sonora); Táscate (a name also applied to other species, Spanish); Tascate (Mexico: Sonora). DESCRIPTION: Terrestrial perennial evergreen tree (7 to 50 feet in height with a flat, irregular or rounded crown; one plant was observed and described as being 10 feet in height with a crown 20 feet in width, one plant was observed an described as being 10 to 13 feet in height with a crown 16 to 20 feet in width; one plant was observed and described as being 15 feet in height with a crown 20 feet in width; one plant was observed and described as being 26 feet in height with a crown 26 feet in width; one plant was observed and described as being 30 feet in height with a crown 30 feet in width); the trunk bark may be brown, dark brown, pale gray or gray exfoliating in long strips; the branch bark is ash-gray; the scale- and whip-like leaves are light green or green; pollen shed is from late summer to early winter; the juicy seed cones (3/8 inch in diameter) may be blue-violet, bluish-rose, brown-maroon, pink-purple, pinkish, purple, red, red-brown, red-orange, rose or rose-violet with a bluish or grayish cast to the surface. HABITAT: Within the range of this species it has been reported from mountains; mountainsides; rocky mesas; plateaus; cliffs; bouldery and rocky canyons; along rocky canyon bottoms; gravelly-clayey bluffs; ledges; rocky and gravelly ridges; ridgetops; bedrock ridgelines; foothills; rocky hills; hilltops; rocky and gravelly hillsides; rocky, rocky-gravelly, gravelly and clayey slopes; alluvial fans; bajadas; rocky outcrops; amongst boulders; benches; terraces; clayey-loamy plains; gravelly flats; uplands; valley floors; along rocky roadsides; within rocky and sandy-loamy arroyos; bottoms of arroyos; along rocky draws; gulches; ravines; springs; springheads; along streams; along streambeds; along creeks; riverbeds; along and in rocky and sandy washes; along rocky drainages; along banks of creeks; borders of washes; benches; bottomlands; sandy floodplains; mesquite bosques; sandy riparian areas, and disturbed areas growing in dry bouldery, rocky, rocky-gravelly, gravelly, gravelly-sandy and sandy ground; gravelly loam, sandy loam and clayey loam ground, and gravelly clay and clay ground and travertine, occurring from 1,200 to 10,900 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. Several populations of Redberry Juniper in southern Arizona have historically been referred to as *Juniperus* *monosperma*. Redberry Juniper will sprout from its stump after having been cut or following burning. *Juniperus coahuilensis* is native to southwest-central and southern North America. \*5, 6, 15 (recorded as *Juniperus erythrocarpa* Cory), 26 (genus), 42 (070413), 43 (071109), 44 (070413 - no record of species; genus record), 46 (no record of species; genus record, Pages 58-60), 63 (071109 - recognizes two varieties of *Juniperus coahuilensis*: *J.c.* var. *arizonica* R.P. Adams and *J.c.* var. *coahuilensis*, color presentation), 68, 80 (Species of the genus *Juniperus* are listed as a Rarely Poisonous and Suspected Poisonous Range Plant. “Forced use of these coniferous trees may result in abortion in livestock, especially when downed trees or lopped branches are available.”), **85** (070413 - color presentation including habitat), 124 (121510 - no record of species; genus record), 140 (Page 127), **MBJ**/**WTK** (April 20, 2006?), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

*Juniperus erythrocarpa* subsp. *coahuilensis* (see SYNONYMY under *Juniperus coahuilensis*)

*Juniperus* *monosperma* (see NOTES under *Juniperus coahuilensis*)

Pinaceae: The Pine Family

***Pinus cembroides* J.G. Zuccarini: Mexican Pinyon**

COMMON NAMES: Bishicuri (Hispanic); Išíkuri (Uto-Azrecan: Tarahumara); Mexican Nut Pine; Mexican Pinyon; Mexican Pinyon Pine; Mexican Stone Pine; Nut Pine; Piñó (Hispanic); Pino Piñonero (Spanish); Piñón (Hispanic); Piñón de Orizaba (Spanish); Piñónero (Hispanic); Pinyon Pine; Stone Pine. DESCRIPTION: Terrestrial perennial evergreen tree (10 to 57 feet in height with a compact, rounded and spreading crown 10 to 25 feet in width, one tree was observed and described as being 26 feet in height and 13 feet in width); the bark is light gray becoming blackish, dark brown, gray, dark gray, red-brown or to reddish-brown; the twigs are red-brown aging to gray or gray-brown; the needles (1 to 2½ inches in length in bundles of 2 (rarely) or 3) are blue-green, dark blue-green, green, dark green or yellow-green; the cones (¾ to 2 inches in length and width) are light brown, dull orange or dull reddish-brown; the seeds (3/8 to 3/4 inch in length) are brown or dark brown. HABITAT: Within the range of this species it has been reported from mountains; mountaintops; rocky mountainsides; mesas; plateaus; rocky canyons; canyon walls; rocky talus slopes; bedrock ledges; gravelly ridgetops; meadows; foothills; hills; rocky hillsides; rocky, rocky-loamy, shaley, gravelly, gravelly-sandy-clayey and clayey slopes; bajadas; rocky outcrops; amongst boulders and rocks; alcoves; rocky plains; cobbly bottoms of arroyos; ravines; in gravel along streams; along streambeds; rocky-sandy washes, and riparian areas growing in dry bouldery, rocky, rocky-sandy, shaley, gravelly and sandy ground; rocky loam ground, and gravelly-sandy clay and clay ground, occurring from 1,500 to 9,400 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. The Mexican Pinyon is slow growing and may live to be 350 years of age. The seeds are eaten by birds, squirrels, rodents and other wildlife. *Pinus cembroides* is native to southwest-central and southern North America. \*5, 6, 18, 26 (“Pinon nuts food for Native Americans; also consumed by birds and rodents. Pinon pitch used as a jewelry cement and for waterproofing baskets.”, color photograph), 28 (color photograph 22), 30, 42 (070413), 43 (062310 - *Pinus cembroides* Zucc.), 46 (Page 52), 48, 52 (color photograph), 53, 63 (062310 - color presentation including habitat), **85** (100510 - color presentation), **HR**\*

Division Magnoliophyta: The Flowering Plants

CLASS LILIOPSIDA: The MONOCOTS

Agavaceae: The Century-plant Family

***Agave palmeri* G. Engelmann: Palmer’s Century Plant**

COMMON NAMES: ‘A’uḍ (Uto-Aztecan: Hiá Ceḍ O’odham)140; A’uḍ <a’ud, ‘a’udh, a’ut, a’o’t> (Uto-Aztecan: Tohono O’odham)140; Agave (a name also applied to other species and the genus *Agave*); Awé (Uto-Aztecan: Guarijío)140; Čawé <chawi-ki, chgawe-ke, chawi> (also called Sóko or Méke, Uto-Aztecan: Tarahumara)140; Century Plant (English)140; Century-plant; Henequen (Mexico and Central America - name applied to the fibers (of cultivated plants) used in commerce); Golden-flower Century Plant (*Agave palmeri* var. *chrysantha* - Not Accepted, *Agave chrysantha* - Accepted); Ikaz (Athapascan: Western Apache; nadah <nada>, the roasted heart)140; Inada (Athapascan: Chiricahua and Mescalero Apache)140; Ku’u (Uto-Aztecan: Yaqui)140; Kwàntsoki <kwa ni, kwá:ni> (Uto-Aztecan: Hopi)140; Lechuguilla (a name also applied to other species); Lechuguilla (“Little Lettuce”, Spanish)140; Mˀały <ma’ał> (Yuman: Cocopa)140; Maguey (Spanish)140; Maguey de Tlalcoyote (Spanish); Mavil (Yuman: Maricopa)140; ‘Me (Uto-Aztecan: Tarahumara)140; Mescal (Mexico and Central America - name applied to the food obtained by roasting the caudex and emerging flower stalk and also to a drink obtained from the distillation of mash made from the caudex); Nanta <nántA> (Uto-Aztecan: Southern Paiute)140; Noodah (Athapascan: Navajo)140; Palmer Agave; Palmer Century Plant; Palmer’s Agave [Century Plant] (English: Arizona, New Mexico)140; Palmer’s Century Plant; Sisal (Mexico and Central America - name applied to the fibers (of cultivated plants) used in commerce); Ūmúhl (Yuman: Kumiai)140; Vathi’l (Yuman: Mohave)140; Viyál (Yuman: Walapai)140; Zapatote (Spanish)140. DESCRIPTION: Terrestrial perennial evergreen leaf-succulent forb/herb, subshrub or shrub (1 to 5 feet in height and 2 to 5¼ feet in diameter with a flowering stem reaching from 5½ to 25 feet in height); the leaves may be bluish-green, glaucous-bluish, glaucous-green, gray-blue-green, pale gray-green, pale green, green, green-glaucous-gray or dark green, sometimes with a reddish or reddish-maroon tinge; the flowering stalk is glaucous-green or purple-maroon; the flowers have been described as being cream, creamy-green, cream-lime-green-pink-maroonish, golden-yellow with purple or reddish tips, green, pale greenish-yellow, greenish-white, pale orange, pink, pinkish-maroon, reddish-brown, waxy white, white, pale yellow or yellow-green; the anthers are yellow; flowering generally takes place between late May and mid-October (additional records: one for early January, one for mid-April, one for early November and one for mid-December). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; mesas; canyons; rocky ridges; clayey ridgetops; rocky foothills; rocky hills; rocky hillsides; bedrock, rocky, rocky-gravelly, cobbly and sandy slopes; rocky pediments; bajadas; rocky outcrops; plains; valley floors; along washes; floodplains, and riparian areas growing in dry rocky, rocky-gravelly, cobbly, gravelly and sandy ground and clay ground, occurring from 2,800 to 7,500 feet in elevation in the forest, woodland, scrub, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, the rosettes die shortly after they complete flowering. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food and/or beverage crop; it was also noted as having been used as tools (stalk was used as hoe handles and lance shafts, and the thorn was used as needle and thread) and for decorations. This plant is dependent on bats for pollination, this includes the Lesser Long-nosed Bat (*Leptonycteris yerbabuenae*) its primary pollinator in areas where both species occur together. The Hooded Oriole (*Icterus cucullatus*), Scott’s Oriole (*Icterus parisorum*) and hummingbirds, including the Black-chinned Hummingbird (*Archilochus alexandri*), have been observed visiting the flowers and drinking the nectar. *Agave palmeri* is native to southwest-central and southern North America. \*5, 6, 10, 13 (recorded as *Agave palmeri* Engelm. and *Agave palmeri* Engelm. var, *palmeri*, Pages 75-76, color photograph: Plate K.2., Page 398), 15, 17, 42 (070513), 43 (062310 - unable to access site), 45 (color photograph), 46 (Page 195), 48 (genus), 58, 63 (062310 - color presentation), 85 (062310 - color presentation including habitat, unable to access species information), 91, 115 (color presentation), 127, 140 (Pages 29-30 & 281), **MBJ**/**WTK** (April 20, 2006?), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

*Agave palmeri* var. *palmeri* (see footnote 13 under *Agave palmeri*)

***Agave schottii* G. Engelmann: Schott’s Century Plant**

COMMON NAMES: A’uḍ <‘a’udh, a’o’t> (Uto-Aztecan: Tohono O’odham)140; Agave (a name also applied to other species and the genus *Agave*); Amole (“Soap”, Spanish: Sonora)140; Amolillo <amoliyo> (“Little Soap”, Spanish: Sonora)140; Century Plant (a name also applied to other species); Century Plant (English)140; Chugilla [Churiqui] (Spanish: Mountain Pima)140; Maguey (Spanish)140; Maguey Puercoespín (Spanish); Mayi (Uto-Aztecan: Mountain Pima)140; Schott Agave (also applied to var. *schottii* and var. *treleasei*); Schott’s Century Plant (also applied to var. *schottii*); Schott’s Century Plant (English: New Mexico)140; Shin Dagger (English)140; Shin Digger; Trelease’s Century Plant (var. *treleasei*); ‘Utko Je:j (“Mother’s Stalks”, Uto-Aztecan: Hiá Ceḍ O’odham)140. DESCRIPTION: Terrestrial perennial evergreen leaf-succulent forb/herb, subshrub or shrub (acaulescent and cespitose 8 inches to 2 feet in height and spreading to 12 to 20 inches in diameter with a flowering stem (spike) reaching 5 to 13 feet in height); the leaves are green, dark green or yellowish-green; the flowers are yellow or deep yellow; the anthers may be light yellow, yellow or deep yellow; flowering generally takes place between mid-May and late November. HABITAT: Within the range of this species it has been reported from mountains; mountainsides; canyons, ridgetops; rocky and gravelly slopes, rocky outcrops, and bajadas growing in dry rocky and gravelly ground, occurring from 3,000 to 7,000 feet in elevation in the woodland, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop. The flowers are visited by bats, bees, hummingbirds and wasps. The Southern Long-nosed Bat (*Leptonycteris curasoae* subsp. *yerbabuenae*) is reported to be a pollinator of the Schott Agave. *Agave schottii* is native to southwest-central and southern North America. \*5, 6, 13 (Pages 67-69, color photograph: Plate K.1., Page 398), 15 (color photograph #102), 17, 28 (color photographs 139 A&B), 42 (070513), 43 (062310), 44 (020311 - no record of species), 45 (color photograph), 46 (Page 192), 48 (genus), 63 (062310), 77, **85** (062310 - color presentation), 115 (color presentation), 124 (020311 - no record of species), 127, 140 (Pages 32-33 & 281)\*

***Agave schottii* G. Engelmann var. *schottii*: Schott’s Century Plant**

COMMON NAMES: A’uḍ <‘a’udh, a’o’t> (Uto-Aztecan: Tohono O’odham)140; Agave (a name also applied to the species, other species and to the genus *Agave*); Amole (“Soap”, Spanish: Sonora)140; Amolillo <amoliyo> (“Little Soap”, Spanish: Sonora)140; Century Plant (a name also applied to other species); Century Plant (English)140; Chugilla [Churiqui] (Spanish: Mountain Pima)140; Maguey (Spanish)140; Mayi (Uto-Aztecan: Mountain Pima)140; Schott Agave (a name also applied to the species); Schott’s Century Plant (English: New Mexico)140; Shin Dagger (English)140; Shin Digger; ‘Utko Je:j (“Mother’s Stalks”, Uto-Aztecan: Hiá Ceḍ O’odham)140. DESCRIPTION: Terrestrial perennial evergreen leaf-succulent forb/herb, subshrub or shrub (8 to 16 inches and 14 inches in diameter with a flowering stem reaching 5 to 13 feet in height); the leaves are green, green-yellow or yellowish-green; the flowers are cream-yellow or yellow; the anthers may be light yellow, yellow or deep yellow; the stigmas are yellow; flowering generally takes place between mid-May and late November. HABITAT: Within the range of this species it has been reported from mountains; rocky canyons; rocky canyon bottoms; ridgetops; rocky hills; rocky hillsides; rocky, rocky-sandy-loamy and gravelly slopes; rocky outcrops; bajadas, and riparian areas growing in dry rocky, rocky-gravelly and gravelly ground and rocky-sandy loam ground, occurring from 3,000 to 7,000 feet in elevation in the woodland, scrub, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. The sweet scented flowers are visited by bees, hummingbirds and wasps. The Southern Long-nosed Bat (*Leptonycteris curasoae* subsp. *yerbabuenae*) is reported to be a pollinator of the Schott Agave. The species, *Agave schottii*, was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop. *Agave schottii* var. *schottii* is native to southwest-central and southern North America. \*5, 6, 13 (Page 68, color photograph of species: Plate K.1., Page 398), 17, 42 (070513), 43 (062310), 44 (122010 - no record of species), 45 (species, color photograph of species), 46 (Page 192), 48 (genus), 63 (062310), 85 (122010 - color presentation), 124 (122010 - no record of species), 127, 140 (Pages 33 & 281 - species), **MBJ**/**WTK** (November 3, 2009)\*

*Yucca arizonica* (see *Yucca baccata* var. *brevifolia*)

***Yucca baccata* J. Torrey var. *brevifolia* (H.W. Schott ex J. Torrey) L.D. Benson & R.A. Darrow: Spanish Dagger**

SYNONYMY: *Yucca arizonica* S.A. McKelvey; *Yucca thornberi* S.A. McKelvey. COMMON NAMES: Arizona Yucca (had been applied to *Yucca arizonica*); Banana Yucca; Blue Yucca; Datil; Palma Criolla; Spanish Dagger (a name also applied to other species); Thornber Yucca (had been applied to *Yucca thornberi*). DESCRIPTION: Terrestrial perennial evergreen leaf-succulent forb/herb, subshrub, shrub or tree (acaulescent or prostrate, decumbent and/or erect stems to 10 feet in height with a flowering stalk 13 inches to 5 feet in height); the rigid leaves (12 to 40 inches in length) may be blue-green, bluish-green, gray-green, green, dark green, dark olive-green, yellow-green (older leaves), dark yellow-green or yellowish-green; the flowers have been described as being cream, cream-white, green-creamish-yellow & cream-white, greenish-cream, greenish-yellow-cream or white sometimes tinged with maroon-purple or purple; the anthers may be white or yellow; flowering generally takes place between early March and early June (additional records: one for early February, one for late August, one for late September and one for early October); the fruits are large and fleshy. HABITAT: Within the range of this species it has been reported from mountains; mountainsides; mesas; canyons; canyon bottoms; bases of cliffs; bluffs; knolls; ridges; ridgetops; foothills; hills; rocky hillsides; rocky and clayey slopes; bases of slopes; bajadas; plains; gravelly flats; valley floors; arroyos; draws; along and in washes; along margins of washes, and benches growing in dry rocky, gravelly and sandy ground; gravelly loam ground, and clay ground, occurring from 1,600 to 6,600 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. The species, *Yucca baccata*, was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food, beverage, candy, sweetener and/or fiber crop; it was also noted as having been used as a ceremonial item, as a tool, as a musical instrument, as a toy or in games, as a drug or medication and as a commodity used in personal hygiene. *Yucca baccata* var. *brevifolia* is native to southwest-central and southern North America. \*5, 6, 13 (recorded as *Yucca baccata* Torrey var. *brevifolia* (Schott) Benson & Darrow, Pages 55-56, color photograph: Plate J.1., Page 397), 15 (color photograph on back cover of *Yucca thornberi* in habitat), 26 (genus), 28 (color photograph 144), 42 (070613), 43 (052610 - *Yucca baccata* Torr. in Emory var. *brevifolia* L.D. Benson & R.A. Darrow), 44 (112210 - no record), 45 (color photograph, recorded as *Yucca arizonica*), 46 (recorded as *Yucca arizonica* McKelvey and *Yucca thornberi* McKelvey, Page 187, also see Supplement Pages 1043-1044), 48 (genus), 48 (genus), 58, 63 (070613), 63 (052610 - recorded as *Yucca* x *schottii* (pro sp.) [*baccata* x *elata*], color presentation), 77, **85** (070613 - color presentation), 91 (recorded as *Yucca arizonica* McKelvey, Pages 407-409), 124 (102410 - no record, genus), 140 (recorded as *Yucca baccata* Torrey var. *brevifolia* (Schott ex Torrey) L.D. Benson & R.A. Darrow, Page 281), **MBJ**/**WTK** (recorded as *Yucca arizonica*, November 3, 2009)\*

*Yucca madrensis* (see notes under *Yucca schottii*)

*Yucca* x *schottii* (see notes under *Yucca schottii*)

***Yucca* *schottii* G. Engelmann - Not Accepted: Mountain Yucca**

SYNONYMY: *Yucca madrensis* H.S. Gentry is Accepted for *Yucca madrensis* but not for *Yucca schottii*; *Yucca schottii* G. Engelmann - Not Accepted; *Yucca schottii* G. Engelmann - Not Accepted; *Yucca* x *schottii* G. Engelmann (pro. sp.) is Accepted for *Yucca schottii*). COMMON NAMES: Hairy Yucca; Hoary Yucca; Izote de Schott (*Yucca schottii* - Not Accepted; *Yucca* x *schottii* - Accepted, Spanish)42; Mountain Yucca; Schott Yucca; Schott’s Yucca (*Yucca schottii* - Not Accepted; *Yucca* x *schottii* - Accepted); Soco (Spanish); Spanish Bayonet; Spanish-bayonet; Spanish Dagger (a name also applied to other species); Spanish-dagger; Yuca (Spanish). DESCRIPTION: Terrestrial perennial evergreen leaf-succulent forb/herb, subshrub or shrub (3 to 18 feet in height and 3 to 4 feet in diameter with a flowering stalk reaching 1 to 3 feet in height); the flexible and leathery leaves (16 to 32 inches in length) may be blue-green, bluish-glaucous, bluish-green, gray-green, green or yellow-green; the bell-shaped flowers have been described as being cream-white, creamish-white or white; the anthers are yellow; the stigmas are white; flowering generally takes place between mid-April and late August; the fleshy fruit (4 to 5½ inches in length) is green. HABITAT: Within the range of this species it has been reported from mountains; bases of mountains; canyons; along canyon bottoms; foothills; hills; hillsides; rocky and gravelly slopes; bajadas; rocky outcrops; valley floors; roadsides; along rocky and gravelly arroyos; within rocky draws; drainages; at waterfalls, and riparian areas growing in dry rocky, rocky-gravelly and gravelly ground and silty loam ground, occurring from 3,600 to 8,100 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop when grown on a limited basis. The flowers may be pollinated by beetles. *Yucca schottii* is native to southwest-central and southern North America. \*5, 6, 13 (recorded as *Yucca schottii* Engelm., placed in the Liliaceae), 15 (recorded as *Yucca schottii* Engelm.), 18 (recorded as *Yucca schottii*), 26 (genus), 28 (recorded as *Yucca schottii*, color photograph 147), 42 (030114), 43 (070613), 45 (recorded as *Yucca schottii*, color photograph), 46 (recorded as *Yucca schottii* Engelm., placed in the Liliaceae, Page 187), 48 (genus), 52 (recorded as *Yucca schottii* Engelm., placed in the Liliaceae), 53 (*Yucca schottii* Engelm., placed in the Liliaceae), 63 (050509), **85** (070613 - presented as *Yucca madrensis* Gentry, color presentation), 127, **MBJ**/**WTK** (July 9, 2009, recorded as *Yucca madrensis*), **WTK** (September 26, 2005)\*

*Yucca thornberi* (see *Yucca baccata* var. *brevifolia*)

Commelinaceae: The Spiderwort Family

***Commelina erecta* C. Linnaeus: Whitemouth Dayflower**

SYNONYMY: *Commelina erecta* C. Linnaeusvar. *angustifolia* (A. Michaux) M.L. Fernald; *Commelina erecta* C. Linnaeus var. *crispa* (E.O. Wooton) E.J. Palmer & J.A. Steyermark. COMMON NAMES: Atlic (“drinkable”, Spanish: Náhuatl, San Luis Potosí)140; Áłtsíní Iilt’áá’í <k.lciní’j.lt’:j..’i> (Athapascan: Navajo)140; Bluebird (English: a Creole name, Nicaragua)140; Canutillo (a name applied to the genus, Spanish)140; Cuna de Niño (“Baby’s Cradle”, Spanish: Sonora)140; [White-mouth] Day Flower [Whitemouth Dayflower] (English)140; Dayflower (a name also applied to the genus *Commelina*); Dew-flower (English)140; Erect Dayflower; Espuelitas (“Little Spurs”, Spanish: Coahuila)140; Hierba de Pollo (“Herb of the (cooked) Chicken”, Spanish); Hierba de Pollo (“Chicken Herb””, Spanish: Texas Sonora)140; Hierba del Pollo (Spanish); Kasalá (Uto-Aztecan: Guarijío)140; Little Bamboo (English: Belize)140; Matlali (Hispanic); Matlalina (Hispanic); Matlalitzic <mataliste, mataliz, matalís> (Uto-Aztecan: Náhuatl, Tabasco, El Salvador)140; Narrowleaf Dayflower; Okí Ahissí <oybá ahissí> (Muskogean: Koasati, Louisiana)140; Osi (Uto-Aztecan: Mayo, Sonora)140; Pah-tsá (Mayan: Maya)140; Perrito (“Little Dog”, Spanish: Mountain Pima)140; Sinvergüenza (“Without Shame”, Spanish: Sonora)140; Slender Dayflower (New Jersey); Slender Day-flower (Pennsylvania); Small-bracted Dayflower; Tamakusi (Carib: Carib, Surinam)140; Totor Kakam (“It Has a Chicken’s Face”, Pima Bajo); Tripa de Gallina (Hispanic); Utek’ (Mayan: Huastec, San Luis Potosí)140; Whitemouth Dayflower (was also applied to *C*.*e*. var. *angustifolia* - Not Accepted, *C*.*e*. var. *deamiana* - Not Accepted, and *C*.*e*. var. *erecta* - Not Accepted; *Commelina erecta* - Accepted); Widow’s Tears (English)140; X-habul-ha (Mayan: Maya)140; Ya’ax-ha-xiu (Mayan: Maya)140; Yerba de la Borrego (“Sheep Herb”, Spanish: Northern Tepehuan)140. DESCRIPTION: Terrestrial perennial forb/herb (spreading, sprawling, trailing and much-branched prostrate, procumbent, decumbent, ascending and/or erect stems to 6 inches to 2 feet in height with reclining stems reaching 26 inches to 10 feet in length); the leaves are green; the color of the flowers (about 1 inch in diameter) has been described as being white (clear white or pearl white) & blue, light blue, blue-mauve, light blue-violet, bright blue, sky blue, dark blue, bluish-purple, lavender, lilac, purple or white; the anthers may be golden-yellow or yellow; the stigmas are bright yellow; flowering generally takes place between late June and early November (additional records: one for early January, three for mid-January, one for early February, one for mid-February, one for late February, three for late March, one for early May, one for mid-May, one for late May, one for late November, one for mid-December and one for late December). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; along rocky canyons; bouldery and rocky canyon bottoms; crevices in rocks; ledges; sandy ridges; rocky ridgetops; stony openings in forests; rocky meadows; foothills; sandy hills; hilltops; rocky hillsides; rocky, rocky-gravelly and sandy-loamy slopes; clayey bajadas; amongst rocks; sand hills; sand dunes; mesquite hummocks; banks; benches; rocky terraces; shale barrens; sandy prairies; silty plains; fields; clayey and silty flats; valley floors; coastal cliffs; sandy coastal plains; railroad right-of-ways; along sandy roadsides; along and in rocky, gravelly-sandy and sandy arroyos; bottoms of arroyos; ravines; rocky seeps; along streams; streambeds; along creeks; in sand along rivers; along washes; drainages; marshes; sandy blowouts; (rocky and silty) banks of creeks and rivers; (sandy) edges of washes and ponds; (rocky) sides of rivers; sand bars; strands; sandy terraces; bottomlands; sandy floodplains; mesquite bosques and woodlands; catchment dams; ditches; riparian areas; sandy waste places, and disturbed areas growing in wet, moist, damp and dry bouldery, rocky, rocky-gravelly, rocky-sandy, shaley, stony, gravelly, gravelly-sandy and sandy ground; sandy loam and loam ground; rocky clay, silty clay and clay ground; silty ground, and humusy ground, occurring from sea level to 8,900 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. Bobwhite Quail (*Colinus virginianus*) feed on the seeds. *Commelina erecta* is native to south-central and southern North America; Central America and western South America. \*5, 6, 15, 28 (noted under *Commelina dianthifolia* on Page 21), 30, 42 (070713), 43 (070713), 44 (070713 - no record of species; genus record), 46 (recorded var. *crispa* as being the variety occurring in Arizona, Page 167), 58, 63 (070713 - color presentation), **85** (070813 - color presentation), 86 (color photograph 600), 115 (color presentation), 140 (Pages 114-115 & 289)\*

*Commelina erecta* var. *angustifolia* (see *Commelina erecta*)

*Commelina erecta* var. *crispa* (see *Commelina erecta*)

***Tradescantia pinetorum* E.L. Greene: Pinewoods Spiderwort**

COMMON NAMES: Pine Spiderwort; Pinewoods Spiderwort; Spiderwort (a name also applied to the Commelinaceae); Spider-wort (Spiderwort is a name that is also applied to the Commelinaceae). DESCRIPTION: Terrestrial perennial forb/herb (unbranched or sparsely branched ascending and/or erect stems 4 to 20 inches in height); the color of the flowers has been described as being blue, bright blue, light blue, dark blue, blue-lavender, blue-purple, blue-violet, bluish-purple, bluish-violet, lavender, lavender-purple, pink-lavender, pink-purple, purple, pale purple, rose, rose-purple, violet, deep violet or violet-blue; the anthers are yellow; flowering generally takes place between early July and late September (additional records: one for early April and one for mid-May). HABITAT: Within the range of this species it has been reported from mountains; gravelly mountain peaks; mesas; cliffs; rock walls; rock faces; canyons; canyon bottoms; bases of talus; crevices in rocks; pockets of sandy soil on bedrock and outcrops; rocky knolls; rocky ledges; sandy-loamy meadows; hilltops; rocky and gravelly-loamy hillsides; along bouldery, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, gravelly, gravelly-sandy, sandy and sandy-clayey slopes; rocky outcrops; bedrock and rocky outcrops; amongst boulders and rocks; banks; barrens; rocky-gravelly, gravelly and sandy-loamy flats; rocky valley floors; along rocky and gravelly-sandy-clayey-loamy roadsides; bottoms of arroyos; bottoms of ravines; springs; along streams; streambeds; along creeks; along creekbeds; sandy washes; depressions; banks of streams; sides of brooks; sand bars; bottomlands; floodplains; bouldery riparian areas, and recently burned areas of grasslands growing in wet, moist and dry bouldery, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, gravelly, gravelly-sandy and sandy ground; gravelly loam, gravelly-sandy loam, gravelly-sandy-clayey loam and sandy loam ground, and rocky clay, sandy clay and clay ground, occurring from 4,500 to 9,900 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. *Tradescantia pinetorum* is native to southwest-central and southern North America. \*5, 6, 15, 42 (070813), 43 (070813), 44 (070813 - no record of species; genus record), 46 (Page 167), 63 (070813 - color presentation), **85** (070813 - color presentation), 86 (color photograph 646), 127, 140 (Page 289)\*

Cyperaceae: The Sedge Family

***Cyperus aggregatus* (Wild.) S.F. Endlicher: Inflatedscale Flatsedge**

SYNONYMY: *Cyperus flavus* (M.H. Vahl) C.G. Nees von Esenbeck, non J.S. Presl & C.B. Presl. COMMON NAMES: Inflated-scale Flatsedge; Inflatedscale Flatsedge. DESCRIPTION: Terrestrial perennial graminoid (8 to 40 inches in height); the spikelets (floral scales) have been described as being golden-brown, often red-speckled, and medially greenish; based on few records located flowering generally takes place between late July and mid-October (flowering records: one for early March, one for late July, one for mid-August, two for early September, one for mid-September, one for late September and one for mid-October). HABITAT: Within the range of this species it has been reported from mountains; canyons; pockets of soil on bedrock outcrops; hills; hilltops; clayey and silty slopes; basins; along roadsides; seepage areas; streambeds; along sandy washes; drains; bases of waterfalls; waste places, and disturbed areas growing in wet, moist, damp and dry sandy ground; sandy-silty loam and loam ground; clay ground; sandy silty and silty ground, and deep leaf litter, occurring from 1,300 to 6,000 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTES: *Cyperus aggregatus* is native to south-central and southern North America; Central America and coastal islands in the Caribbean Sea, and South America. \*15 (recorded as *Cyperus flavus* (Vahl) Nees), 42 (070713), 43 (070713 - *Cyperus aggregatus* Endl.; *Cyperus flavus* (Vahl) Nees), 44 (070713 - no record of species; genus record), 46(recorded as *Cyperus flavus* (Vahl) Nees, Page 151), 63 (070713), **85** (071013 - color presentation)\*

***Cyperus esculentus* C. Linnaeus: Yellow Nutsedge**

COMMON NAMES: Amande de Terre (French); Amandes de Terre (French); ˀAráwp <kwarao> (Yuman: Cocopa)140; Bebollin; Cebollín (Spanish); Choufa (French); Chufa (a name also applied to other species, Portuguese); Chufa Flat Sedge; Chufa Flat-sedge; Chufa Flatsedge; Chufa Grass; Chufa Nut Grass; Chufa Nut-grass; Chufa Nutgrass; Chufa Nut Sedge; Chufa Nut-sedge; Chufa Nutsedge; Chufa Umbrella Sedge; Chufa Umbrella-sedge; Coquillo (Hispanic); Coquillo Amarillo (Hispanic); Earth Almond; Earth-almond; Earth-nut (a name also applied to other species); Edible Cyperus; Edible Galingale; Erdmandel (German); Field Nut Sedge; Field Nut-sedge; Galingale (a name also applied to other species and to the genus *Cyperus*, Indiana); Ground Almond (a name also applied to other species); Juncia Avellanada (Spanish); Northern Nut Grass; Northern Nut-grass; Northern Nutgrass; Nut Grass (a name also applied to other species and the genus *Cyperus*); Nut-grass (a name also applied to other species and the genus *Cyperus*); Peonía [Pieoneo] (a name also applied to other species, Spanish: Valley of Mexico)140; Rush Nut; Rush-nut; Sai´ (Hispanic); Souchet Comestible (French); Straw Sedge (a name also applied to other species); Straw-sedge (a name also applied to other species); Taboose; Taboose Grass; Tiger Nut; Tiger-nut; Tigernut; Tiririca (Portuguese: Brazil); Tiririca-amarela (Portuguese: Brazil); Tiririca-mansa (Portuguese: Brazil); Water-grass (a name also applied to other species); Yellow Nut Grass (a name also applied to other species); Yellow Nut-grass (a name also applied to other species); Yellow Nutgrass (a name also applied to other species); Yellow Nut Sedge (a name also applied to other species); Yellow Nut-sedge (a name also applied to other species); Yellow Nutsedge (a name also applied to other species); Zacate (a name also applied to other species, Hispanic). DESCRIPTION: Terrestrial perennial graminoid (2½ to 40 inches in height); the leaves are yellow-green or bright green above and whitish below; the spikelets may be dark brown, golden-brown, golden-tan, reddish, yellow-brown, yellowish or yellowish-brown; flowering generally takes place between mid-June and early November (additional records: two for early May, two for late May and one for late December). HABITAT: Within the range of this species it has been reported from mountains; sandy pockets of soils on top of cliffs; canyons; canyon walls; rocky, rocky-sandy, gravelly and sandy canyon bottoms; pockets of soil amongst rocks; bluffs; sandy-loamy, loamy and clayey meadows; foothills; hills; bouldery hillsides; rocky, sandy, loamy and clayey slopes; bouldery and rocky outcrops; amongst boulders and rocks; along marshy banks; plains; rocky, gravelly, gravelly-loamy, sandy-clayey-loamy and clayey flats; basins; silty valley bottoms; along rocky and gravelly-loamy roadsides; arroyos; sandy arroyo bottoms; seeps; along streams; along and in sandy streambeds; along sandy creeks; along creekbeds; along rivers; sandy riverbeds; along and in clayey washes; drainages; along drainage ways; palm oases; sandy-loamy ephemeral ponds; playas; bogs; marshes; gravelly-sandy and sandy depressions; sandy-loamy sinks; along (sandy-silty) banks of arroyos, streams, creeks, rivers and washes; (muddy and sandy) edges of rivers, pools, ponds, lakes and playas; along (sandy) shorelines of lakes; gravel bars; sandy benches; rock shelves; bottomlands; sandy floodplains; around stock tanks (charcos); dikes of reservoirs; along canals; along and in ditches; cobbly and gravelly riparian areas, and disturbed areas growing in muddy and wet, moist or damp bouldery, rocky, rocky-sandy, cobbly, gravelly, gravelly-sandy and sandy ground; gravelly loam, sandy loam, sandy-clayey loam, humusy-clayey loam and loam ground; clay ground, and sandy silty and silty ground, occurring from sea level to 9,200 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: EXOTIC, no varieties have been reported as being native to Arizona. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop; it was also noted as having been used as a drug or medication. *Cyperus esculentus* var. *esculentus* is native to the Old World. \*5, 6, 15, 30, 43 (081309), 44 (032111), 46 (Page 150), 58, 63 (081309 - color presentation), 68, 77, **85** (090511 - color presentation), 101 (color photograph), 124 (022111), 127, 140 (recorded as *Cyperus esculentus* Linnaeus [*Cyperus esculentus* Linnaeus var. *leptostachyus* Boeckeler], Pages 128, 141 & 290)\*

***Cyperus fendlerianus* J.O. Boeckeler: Fendler’s Faltsedge**

COMMON NAMES: Fendler Flat Sedge; Fendler Flatsedge; Fendler Nutgrass; Fendler Umbrella-sedge; Fendler’s Falt-sedge; Fendler’s Faltsedge; Fendler’s Nutgrass; Fendler’s Sedge; Tuberroot Flatsedge. DESCRIPTION: Terrestrial perennial graminoid (3 to 34 inches in height); the plants are a pale gray-green; the spikelets (floral scales) have been described as being green, green-brown, greenish-brown, reddish, white or yellowish and medially greenish; flowering generally takes place between mid-July and late October (additional record: one for late June). HABITAT: within the range of this species it has been reported from mountains; rocky and sandy mountain peaks; gravelly mountainsides; rocky mesas; rocky rims of cliffs; rocky cliffs; bases of walls; rocky and gravelly canyons; canyon walls; rocky and sandy canyon bottoms; in sand in crevices in rock; in sandy pockets of soil on outcrops; rocky bluffs; rocky knolls; ledges; rocky, shaley and gravelly ridges; gravelly and sandy ridgetops; ridgelines; gravelly clearings openings in forests and woodlands; meadows; gravelly hills; hillsides; escarpments; bouldery-rocky, rocky, rocky-loamy, rocky-clayey-loamy, gravelly, gravelly-clayey, gravelly-silty-loamy, sandy, sandy-loamy, sandy-clayey-loamy, sandy-silty and loamy slopes; bases of slopes; rocky outcrops; amongst boulders and rocks; sand hills; gravelly-loamy and sandy-loamy flats; rocky roadcuts; along cindery and sandy-clayey roadsides; two-tracks; roadside culverts; rocky draws; gullies; rocky-gravelly bottoms of ravines; seeps; springs; along and in streams; streambeds; along creeks; creekbeds; along rivers; clayey riverbeds; washes; within drainages; boggy areas; swampy areas; sandy depressions; (sandy-silty) banks of streams; (silty-loamy) edges of streams, lakes and depressions; (sandy) sides of streams and creeks; sand bars; sandy benches; along terraces; bottomlands; sandy riparian areas, and disturbed areas growing in wet, moist, damp and dry bouldery, bouldery-rocky, rocky, rocky-gravelly, rocky-sandy, shaley, cindery, gravelly and sandy ground; rocky loam, rocky-gravelly loam, rocky-clayey loam, gravelly loam, gravelly-silty loam, sandy loam, sandy-clayey loam, silty loam, silty-clayey loam, humusy-clayey loam and loam ground; gravelly clay, sandy clay and clay ground, and sandy silty and silty ground, occurring from 1,600 to 10,700 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop; it was also noted that the flowers and seeds were used as fodder. These plants have short, thick stolons that were reportedly eaten by Native Americans. *Cyperus fendlerianus* is native to southwest-central and southern North America. \*5, 6, 15 (recorded as *Cyperus fendlerianus* Boeckl. var. *fendlerianus*), 42 (070713 - no record of *Cyperus fendlerianus* var. *fendlerianus*), 43 (070713), 44 (070713 - no record of species; genus record), 46 (Page 150), 63 (070713), **85** (070913), 127\*

*Cyperus fendlerianus* var. *debilis* (see *Cyperus sphaerolepis*)

*Cyperus flavus* (see *Cyperus aggregatus*)

*Cyperus rusbyi* (see *Cyperus sphaerolepis*)

***Cyperus sphaerolepis* J.O. Boeckeler: Rusby’s Flatsedge**

SYNONYMY: *Cyperus fendlerianus* J.O. Boeckeler var. *debilis* (N.L. Britton) G. Kükenthal; *Cyperus rusbyi* N.L. Britton. COMMON NAMES: Rusby Flatsedge; Rusby’s Flat Sedge; Rusby’s Flatsedge; Rusby’s Sedge. DESCRIPTION: Terrestrial perennial graminoid (3 to 24 inches in height); the spikelets (floral scales) have been described as being light brown, deep red, reddish-brown or whitish; flowering generally takes place between late July and mid-September (additional record: one for late January). HABITAT: Within the range of this species it has been reported from mountains; mountain summits; mountainsides; rocky mesas; sandy plateaus; rocky canyons; soil pockets in outcrops; ledges; ridges; rocky ridgetops; bases of ridges; clearings in forests; meadows; foothills; hills; sandy-loamy hillsides; bouldery-rocky, rocky, loamy, clayey-loamy and silty slopes; loamy alluvial fans; rocky outcrops; amongst boulders and rocks; blow-sand deposits; steppes; plains; clayey-loamy and silty flats; basins; valley floors; along roadsides; within rocky-loamy draws; gulches; along sandy streambeds; bouldery creeks; along creekbeds; along rivers; along washes; along sandy drainages; within sandy depressions; edges of floodplains; margins of creeks and ponds; floodplains; lowlands; stock tanks; within ditches; riparian areas, and recently burned areas in grasslands growing in wet, moist, damp and dry bouldery, bouldery-rocky, rocky, gravelly, gravelly-sandy and sandy ground; rocky loam, clayey loam and loam ground, and silty ground where it is often reported as being found growing amongst grasses, occurring from 3,200 to 8,700 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Cyperus sphaerolepis* is native to southwest-central and southern North America. \*5, 6, 15 (recorded as *Cyperus fendlerianus* Boeckl. var. *debilis* (Britt.) Kukenth), 42 (070713), 43 (070713 - *Cyperus fendlerianus* Boeckeler var. *debilis* Kük.), 44 (070713 - no record of species; genus record), 46 (recorded as *Cyperus rusbyi* Britton, Page 150), 58 (*Cyperus rusbyi* Britt.), 63 (070713), **85** (071013 - color presentation)\*

Juncaceae: The Rush Family

***Juncus bufonius* C. Linnaeus: Toad Rush**

COMMON NAMES: Bog Rush (a name also applied to the genus *Juncus*); Coe Grass; Coe-grass; Common Toad Rush; Common Toad-rush; Common Toadrush; Frog Grass; Frog Weed; Frog-grass; Frog-weed; Frogweed; Juncus Palustris Humilior Erectus Etiam Repens; Salt Weed; Salt-weed; Saltweed; Toad Rush; Toad-grass; Toadweed; Tutillo (Spanish). DESCRIPTION: Semi-aquatic and terrestrial annual graminoid (decumbent, ascending and/or erect stems 1 to 16 inches in height); the foliage may be dark red-purple or yellow-green; the flowers are green or greenish; flowering generally takes place between early March and mid-October (additional records: one for early November, one for late November, one for mid-December and one for late December). HABITAT: Within the range of this species it has been reported from mountains; sandy mesas; plateaus; bases of cliffs; bouldery and rocky canyons; bouldery-gravelly-sandy, rocky-sandy, rocky-silty and sandy canyon bottoms; buttes; rock ledges; sandy-silty, clayey-loamy and loamy meadows; foothills; rocky hills; rocky hillsides; bouldery, bouldery-sandy, rocky, shaley, sandy and clayey slopes; amongst boulders; sand flats; prairies; plains; sandy, clayey and silty flats; basins; valley floors; valley bottoms; coastal prairies; along gravelly, pebbly-sandy and sandy roadsides; along arroyos; sandy bottoms of arroyos; within sandy draws; bottoms of draws; gullies; ravines; along and in sandy and loamy seeps; along and in springs; along and in streams; along and in gravelly-sandy and sandy streambeds; along and in creeks; in rocky-sandy and cobbly creekbeds; in sandy-clay along rivers; rocky, rocky-clayey, sandy and sandy-clayey riverbeds; along and in rocky-sandy, gravelly, sandy and sandy-silty washes; within rocky and loamy drainages; palm oases; mudholes; around pools; clayey poolbeds; around clayey vernal pools; moist beds of vernal pools; around ponds; along lakes; boggy areas; clayey-loamy ciénegas; freshwater and saltwater marshes; swamps; within clayey and clayey-loamy depressions; swales; along (muddy, sandy, sandy-clayey, sandy-silty and clayey) banks of streams, streambeds, creeks, rivers, drainages, poolbeds, ponds and lakes; edges of seeps, springs, streams, creeks, rivers, drainages, lakes and riparian areas; along (sandy and silty-loamy) margins of streamlets, streams, creeks, creekbeds, pools and ponds; sides of streams; along (sandy, sandy-clayey and clayey) shorelines of rivers, ponds, lakes, lakebeds and lagoons; areas of drawdown; mudflats; rocky-sand, clayey-sand and sand bars; sandy beaches, benches; sandy bottomlands; rocky-sandy-clayey and silty-clayey floodplains; lowlands; around stock tanks; along edges of reservoirs; along and in gravelly ditches; muddy, stony-loamy, gravelly, gravelly-sandy, sandy, sandy-loamy and silty-loamy riparian areas, and disturbed areas growing in shallow water and mucky, muddy and wet, moist, damp and dry (seldom reported) bouldery, bouldery-gravelly-sandy, bouldery-sandy, rocky, rocky-sandy, shaley, cobbly, gravelly, gravelly-sandy, pebbly-sandy and sandy ground; stony loam, sandy loam, clayey loam, silty loam and loam ground; rocky-sandy clay, sandy clay, silty clay and clay ground, and rocky silty, sandy silty and silty ground, occurring from sea level to 9,600 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. *Juncus bufonius* is native to North America; Central America and coastal islands in the Caribbean Sea; northern, western and southern South America; Europe; Asia and coastal islands in the western Pacific Ocean; northern and eastern Africa and coastal islands in the western Indian Ocean, and Australia. \*5, 6, 15, 42 (070713), 43 (040511), 44 (040511), 46 (Page 171), 58, 63 (040511 - color presentation), 80 (Species of the genus *Juncus* are listed as a Rarely Poisonous and Suspected Poisonous Range Plant, based on the report that a species of this genus has caused loss of cattle in Europe, but no losses have been reported from American species.), **85** (071013 - color presentation), 101 (color photographs), 124 (040511), 127, 140 (Page 294)\*

Liliaceae: The Lily Family

***Calochortus aureus* S. Watson: Golden Mariposa Lily**

SYNONYMY: *Calochortus nuttallii* J. Torrey & A. Gray var. *aureus* (S. Watson) F.M. Ownbey. COMMON NAMES: Golden Mariposa Lily; Mariposa (a name also applied to the genus *Calochortus*). DESCRIPTION: Terrestrial perennial forb/herb (4 to 20 inches in height); the flowers (1 to 2 inches in diameter) have been described as being white, yellow, clear yellow, bright yellow or lemon-yellow; the anthers are yellowish-cream; flowering generally takes place between early April and late June (additional record: flowering as late as July has been reported). HABITAT: Within the range of this species it has been reported from mountains; plateaus; canyons; meadows; foothills; hillsides; clayey escarpments; rocky-clayey, gravelly-clayey-loamy, sandy, sandy-loamy and clayey slopes; shaley outcrops; amongst rocks; sand dunes; flats; roadbeds; along sandy roadsides; along sandy draws, and sandy swales growing in dry silty cryptogamic soils; desert pavement; rocky, shaley, gravelly and sandy ground; gravelly-sandy loam, gravelly-clayey loam and sandy loam ground; rocky clay, sandy clay and clay ground, and silty ground, occurring from 3,500 to 8,200 feet in elevation in the forest, woodland, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop; it was also noted as having been used as a ceremonial medicine and in children’s games. *Calochortus aureus* is native to southwest-central North America. \*42 (070713), 43 (070713), 44 (070713 - no record of species; genus record), 46 (recorded as *Calochortus nuttallii* Torr. & Gray var. *aureus* (Wats.) Ownbey, Pages 184-185), 63 (070713 - color presentation), **85** (071113 - color presentation), 127\*

***Calochortus kennedyi* Porter: Desert Mariposa Lily**

COMMON NAMES: Cobena Amarilla (Spanish); Desert Mariposa; Desert Mariposa Lily; Desert Mariposa Lily (var. *kennedyi* and var. *munzii*); Desert Mariposa-lily; Desert Mariposa Tulip; Desert Mariposa-tulip; Flame Mariposa (var. *kennedyi*); Kennedy Mariposa; Kennedy Mariposa Lily; Kennedy Mariposa-lily; Kennedy Mariposa Tulip; Kennedy Mariposa-tulip; Kennedy’s Mariposa; Kennedy’s Mariposa Lily; Kennedy’s Mariposa-lily; Kennedy’s Mariposa Tulip; Kennedy’s Mariposa-tulip; Mariposa Lily (a name also applied to the genus *Calochortus*); Munz’s Desert Mariposa Lily (var. *munzii*); Red Mariposa (var. *kennedyi*); Red Mariposa Lily; Red Mariposa Lily (var. *kennedyi*); Red Mariposa-lily (var. *kennedyi*); Yellow Desert Mariposa (var. *munzii*); Yellow-flowered Mariposa Lily (var. *munzii*). DESCRIPTION: Terrestrial perennial forb/herb (4 inches to 2 feet in height); the leaves (4 to 8 inches in length) are grayish-green; the bell-shaped flowers (1 to 2 inches in diameter) may be golden, bright orange, orange, dark orange, orange-red, orange-yellow, reddish, reddish-orange, vermilion, light yellow or yellow often with a dark brown-purple or dark purple basal blotch; the anthers are purplish; flowering generally takes place between early March and mid-June. HABITAT: Within the range of this species it has been reported from mountains; mountainsides; boulder mesas; cliffs; rocky and gravelly canyons; rocky canyon bottoms; rocky ledges; rocky ridges; rocky and sandy-loamy ridgetops; foothills; rocky and stony hills; hilltops; rocky and rocky-clayey hillsides; rocky, rocky-sandy, rocky-loamy, stony, sandy and clayey slopes; bajadas; amongst rocks; rocky, rocky-sandy and gravelly-sandy flats; basins; valley floors; along rocky roadsides; along creeks; borders of washes; benches, and riparian areas growing in dry bouldery, rocky, rocky-sandy, stony, gravelly, gravelly-sandy and sandy ground; rocky loam and sandy loam ground, and rocky clay, gravelly clay and clay ground, occurring from 1,300 to 5,900 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Calochortus kennedyi* is native to southwest-central and southern North America. \*5, 6, 15, 16, 28 (color photographs 319 & 529), 42 (051313), 43 (081509), 44 (100211), 46 (Page 185), 48 (genus), 63 (051313 - color presentation), 77 (color photograph #55), **85** (051413 - color presentation), 86 (color photograph), 106 (081509), 115 (color presentation), 124 (100211 - no record of species; genus record)\*

***Calochortus kennedyi* Porter var. *munzii* W.L. Jepson: Desert Mariposa Lily**

COMMON NAMES: Desert Mariposa; Desert Mariposa Lily; Mariposa Lily; Munz’s Desert Mariposa Lily; Yellow Desert Mariposa; Yellow-flowered Mariposa Lily. DESCRIPTION: Terrestrial perennial forb/herb (4 inches to 2 feet in height); the leaves (4 to 8 inches in length) are grayish-green; the bell-shaped flowers (1 to 2 inches in diameter) may be golden, orange-yellow, bright yellow, light yellow or yellow; flowering generally takes place between early March and mid-June. HABITAT: Within the range of this species it has been reported from mountains; mesas; canyons; rocky ridges; foothills; hills; hilltops; rocky and rocky-clayey hillsides; rocky slopes; bajadas; amongst rocks; flats; basins; along creeks; benches, and riparian areas growing in dry rocky ground and rocky clay, gravelly clay and clay ground, occurring from 1,300 to 5,900 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Calochortus kennedyi* var. *munzii* is native to southwest-central and southern North America. \*5, 6, 15, 28 (species, color photographs of species 319 & 529), 43 (081509), 44 (020411), 46 (Page 185), 48 (genus), 58, 63 (051313 - color presentation of species), **85** (051413 - color presentation of species), 86 (species, color photograph of species), 106 (081509, species), 115 (species), 124 (020411 - no record of species; genus record), 140 (Page 295)\*

*Calochortus nuttallii* var. *aureus* (see *Calochortus aureus*)

***Dasylirion wheeleri* S. Watson: Common Sotol**

COMMON NAMES: Cactus Spoon; Common Sotol; Cucharilla (a name also applied to other species, Spanish); Desert Spoon (English)140; Desert-spoon; Húumug (Uto-Aztecan: Onavas Pima); Igabaané <ekibanne, k’ashbaané> (Athapascan: Western Apache)140; Kokiše <kogice> (“Fire Stick?”, Athapascan: Chiricahua and Mescalero Apache)140; Palma [Palmilla] (“[Little] Palm”, Spanish: Chihuahua); Palmilla de Serruchito (Mexico, Sonora); Palmilla de Serrucho (Spanish); Saño (Spanish); Sanó (Spanish)140; Sawo (Spanish); Seré <selé> (Uto-Aztecan: Guarijío)140; Seréke <sere-ke> (Uto-Aztecan: Tarahumara)140; Seriki <shereki> (“Straight”, Uto-Aztecan: Mountain Pima)140; Sotol, Sotol (Spanish)140; Sotol de Desierto (Spanish); Spoon Flower; Spoon Plant; Spoon-flower; Spoon-leaf; Šušida Kúrui (Uto-Aztecan: Northern Tepehuan)140; Tehuizote (Spanish)140; Umoga (Uto-Aztecan: Mountain Pima)140; Umug <uhmug, umu’k, ‘umug> (Uto-Aztecan: Akimel O’odham and Tohono O’odham)140; Wheeler Dasylirion; Wheeler Sotol. DESCRIPTION: Terrestrial perennial evergreen leaf-succulent subshrub or shrub (16 inches to 8 feet in height and 4 to 6 feet in width with a flowering spike reaching 6 to 17 feet in height; one plant was observed and described as being 6 feet in height and width); the spiny leaves (14 to 40 inches in length and ½ to 1 inch in width) may be bluish-gray, bluish-green, green or whitish; the flowers (dioecious, female and male flowers are born on separate plants) may be cream, greenish, greenish-white, greenish-yellow, white, pale yellow, yellow, yellow-green or yellowish-white; flowering generally takes place between early June and early October (additional records: one for mid-February, one for mid-May, one for late October and one for mid-November); the papery three-winged fruits may be golden-brown, reddish or straw. HABITAT: Within the range of this species it has been reported from mountains; mountainsides; rocky mesas; plateaus; canyon rims; bouldery and rocky canyons; rocky canyon bottoms; talus slopes; bases of cliffs; rocky ledges; rocky and shaley ridges; rocky ridgetops; bases of ridges; rocky balds; rocky openings in chaparral; rocky and gravelly hills; hilltops; rocky, rocky-gravelly, stony-gravelly and gravelly hillsides; bedrock, bouldery-gravelly-loamy, rocky, rocky-gravelly-clayey-loamy, shaley, gravelly, sandy-clayey and clayey slopes; bajadas; rocky outcrops; lava flows; prairies; gravelly flats; rocky valley floors; rocky arroyos; gulches; streambeds; along rivers; rocky washes; along drainages; benches; bottomlands; riparian areas, and disturbed areas growing in dry rocky desert pavement; rocky, rocky-gravelly, stony-gravelly, gravelly and sandy ground; bouldery-gravelly loam, rocky-gravelly-clayey loam, gravelly loam, gravelly-sandy loam and sandy loam ground, and sandy clay and clay ground, occurring from 1,700 to 7,200 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food, beverage and/or fiber crop; it was also noted as having been used in ceremonial items as a tool (fire drill hearths). This plant may be browsed by Bighorn Sheep (*Ovis canadensis*). *Dasylirion wheeleri* is native to southwest-central and southern North America. \*5, 6, 13 (Pages 62-63), 15 (placed in the Agavaceae), 18, 26 (color photograph 141), 28 (color photograph 141), 42 (051313), 43 (081010), 44 (051313 - no record of species or genus), 45 (color photograph), 46 (Page 190), 48, 58 (placed in the Agavaceae), 63 (051313 - color presentation), 77 (placed in the Agavaceae), 85 (051513 - color presentation including habitat), 86 (color photograph), 115 (color presentation), 124 (102510 - no record of species), 127, 140 (placed in the Agavaceae/Ruscaceae, Pages 33-34 & 281), **MBJ**/**WTK** (April 20, 2006?), **MBJ**/**WTK** (July 9, 2009), **WTK** (September 26, 2005)\*

***Milla biflora* A.J. Cavanilles: Mexican Star**

COMMON NAME: Azucena (“Lily”, Spanish); Mexican Star; Mexican-star; Vaxlilja (Swedish). DESCRIPTION: Terrestrial perennial forb/herb 1 inch to 2 feet in height with the flowering stalk rising from 2 to 22 inches in height); the flowers have been described as being white or white with a green mid-vein; the anthers may be cream, light yellow or yellow; the stigmas are white; flowering generally takes place between early July and mid-October (additional records: one for mid-March and one for early December). HABITAT: Within the range of this species it has been reported from mountains; rocky mountaintops; mountainsides; rocky mesas; rocky canyons; gravelly ridges; ridgetops; clearings and openings in woodlands and scrub; meadows; foothills; rocky hills; rocky and rocky-gravelly hillsides; rocky, rocky-gravelly, rocky-silty-loamy, stony, stony-clayey, gravelly, sandy, clayey, silty-clayey and humusy slopes; llanos; gravelly-sandy plains; sandy, clayey and humusy flats; valleys; along rocky roadsides; rocky arroyos; gulches; within sandy washes; clayey bottomlands; floodplains, and disturbed areas growing in moist (rarely reported) and dry rocky, rocky-gravelly, stony, gravelly, gravelly-sandy and sandy ground; rocky-silty loam, gravelly loam ground; stony clay, silty clay and clay ground, and humusy ground, occurring from 3,200 to 9,000 feet in elevation in the forest, woodland, scrub, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Milla biflora* is native to southwest-central and southern North America and Central America. \*5, 6, 42 (071113), 43 (071113), 44 (071113 - no record of species or genus), 46 (Page 183), 63 (071113), **85** (071113)\*

***Nolina microcarpa* S. Watson: Sacahuista**

COMMON NAMES: Bear Grass; Bear-grass (English)140; Beargrass; Bį’, Gogisa (Athapascan: Western Apache)140; Duya <ruya, guru> (Uto-Aztecan: Tarahumara)140; Etłodeitsa (Athapascan: Chiricahua and Mescalero Apache)140; Hogéesh <ho.gisi’> (“Cutting Leaves”, Athapascan: Navajo)140; Kurú [Wirúku] (Uto-Aztecan: Guarijío)140; Moho (Uto-Aztecan: Hiá Ceḍ O’odham)140; Moho <mōhō> (Uto-Aztecan: Tohono O’odham)140; Moho <moh, moj> (Uto-Aztecan: Mountain and Onavas Pima)140; Ŏkrĭnyúda (Yuman: Havasupai)140; Palma (“Palm”, Spanish: Chihuahua)140; Palmilla (“Little Palm”, Spanish: Sonora)140; Palmilla Sacahuista (Spanish); Qanyud (Yuman: Walapai)140; Sacahuista (Spanish: Arizona, Sonora)140; Saw-grass (English)140; Si Lio Mo Hi (Hopi for “Long Yucca”)140; Silíomóhu (Uto-Aztecan: Hopi)140; Small-seed Nolina; Sotol Chiquita (Mexico), Sotol Chiquito (“Little Sotol”, Spanish: Sonora)140; Soyate (Spanish)140; Squaw-flowers (English)140; Zacate [Cortador, de Aparajo, de Amazón] (“[Cutting, Packsaddle, Framework] Grass”, Spanish)140. DESCRIPTION: Terrestrial perennial evergreen grass-like subshrub or shrub (acaulescent (branching below ground) 2 to 6½ feet in height in clumps to 40 inches to 6½ feet in width with a flower bearing spike (scape) reaching 1 to 12 feet in height; plants were observed and described as being 32 inches in height and 40 inches in width, plants were observed and described that had dark gray trunks up to 2 feet in length); the leaves (24 to 79 inches in length and ¼ to ½ inch in width) may be gray-green, light green, green, dark green, olive-green, light yellowish-green or yellow-green; the flowers (1/16 to 1/8 inch in width in dense terminal clusters 16 inches to 4 feet in length; dioecious (female and male flowers are born on separate plants) have been described as being cream, creamy-white, creamy-yellow, pale green, greenish, greenish-white, greenish-yellow, white, pale yellow, yellow or yellow-cream; flowering generally takes place between mid-April and late July (additional records: two for mid-August, two for late August, two for early September, one for late September, one for early October, one for mid-October and one for mid-November); the papery fruits (1/4 to 3/8 inch in diameter) are brownish-orange, tan or yellow-white. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky, gravelly and sandy mesas; rocky cliffs; bases of cliffs; rocky headlands; bouldery and rocky canyons; rocky canyon bottoms; talus slopes; crevices in rocks; bluffs; rocky knolls; ledges; along rocky ridges; rocky ridgetops; foothills; rocky hills; bouldery hilltops; bedrock and rocky hillsides; rocky, rocky-sandy, gravelly, sandy and clayey slopes; bajadas; rocky outcrops; amongst boulders and rocks; plains; flats; rocky and shaley esplanades; valley floors; along gravelly roadsides; rocky arroyos; bottoms of arroyos; rocky ravines; seeps; streambeds; along creeks; along rocky creekbeds; within gravelly washes; within rocky-clayey drainages; banks of creeks and rivers; benches; terraces; bottomlands, and gravelly riparian areas growing in dry, well drained bouldery, rocky, rocky-gravelly, rocky-sandy, shaley, gravelly, gravelly-sandy and sandy ground and rocky clay and clay ground, occurring from 1,400 to 8,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat; it may live to be 50 year of age. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food, beverage, fiber and/or dye crop; it was also noted as having been used in the making of cooking tools and ceremonial items, and as a commodity used in personal hygiene. Beargrass may be browsed by wildlife in times of drought. *Nolina microcarpa* is native to southwest-central and southern North America. \*5, 6, 13 (Pages 60-61), 15 (placed in the Agavaceae), 18 (placed in the Agavaceae), 28 (color photograph 143), 42 (071213), 43 (122210), 44 (071213 - no record of species; genus record), 45 (color photograph, placed in the Nolinaceae), 46 (Page 189), 48 (genus), 58 (placed in the Agavaceae), 63 (122210 - color presentation), 80 (This plant is listed as a Secondary Poisonous Range Plant. “The poisonous principle is unknown; it is found mainly in the flower buds, flowers and fruits. The evergreen leaves are usually grazed without ill effects and are even considered desirable forage for cattle in times of drought. However, excessive grazing of the plant may cause photosensitization. Cattle, sheep and goats may be poisoned but goats and sheep are most susceptible. … The best control is to remove animals from heavily infested pastures for a short period during the flowering and early fruiting stage when the stalks are succulent and palatable.” See text for additional information.), **85** (071213 - color presentation including habitat), 124 (122210 - no record of species), 127, 140 (Pages 253-254 - placed in the Ruscaceae & 281 - placed in the Agavaceae), **WTK** (September 26, 2005)\*

Orchidaceae: The Orchid Family

*Hexalectris colemanii* (see *Hexalectris revoluta* var. *colemanii*)

***Hexalectris revoluta* D.S. Correll: Chisos Mountain Crested Coralroot**

COMMON NAMES: Chisos Coral-root; Chisos Mountain Coralroot; Chisos Mountain Crested Corair; Chisos Mountain Crested Coralroot; Coleman’s Crested Coralroot (*Hexalectris colemanii* - Not Accepted, *Hexalectris revoluta* var. *colemanii* - Accepted); Correll’s Cock’s Comb; Curly Coralroot; Raiz de Coral Revoluta (Spanish); Recurved Crested Coralroot. DESCRIPTION: Terrestrial perennial forb/herb (erect stems 16 to 22 inches in height); the stems may be pale brown to pale pink, or tan; the flowers may be pinkish-brown to tan; with the middle lobe being white, with purple and yellow near base and the lateral lobes being white to yellow; the anthers are yellow; flowering generally takes place between May and August. HABITAT: Within the range of this species it has been reported from mountains; canyons; canyon bottoms; rocky cliffs; hills; hillsides; rocky-gravelly and gravelly-silty slopes; bases of slopes; rocky outcrops; streambeds, and drainages growing in rocky ground; sandy loam ground; gravelly silty ground; humus, and leaf litter, occurring from 3,200 to 6,000 (8,000?) feet in elevation in the forest and woodland ecological formations. NOTES: *Hexalectris revoluta* is native to southwest-central and southern North America. \*5, 6, **8**, 42 (122013), 43 (122013), 44 (122013 - no record of species or genus), 63 (122013), 85 (122013), 106 (070313 - no record of species; genus record with a listing of species, color presentation), 127 (122013 - no matches found), 133 (122013 - no record for species), 156 (122013), ADS (Thursday, June 3, 2010, Section A, Pages 1&4: Orchid delays Rosemont Mime plans), ADS (Friday, December 20, 2013, Section A, Pages 2&8: Rare orchid won’t be protected, feds say)\*

***Hexalectris revoluta* D.S. Correll var. *colemanii* P.M. Catling: Coleman’s Crested Coralroot**

SYNONYMY: *Hexalectris colemanii* (P.M. Catling) A.H. Kenn. & L.E. Watson. COMMON NAMES: Chisos Coral-root (a name also applied to the species); Chisos Mountain Coralroot; Chisos Mountain Crested Corair; Chisos Mountain Crested Coralroot (a name also applied to the species); Coleman’s Crested Coralroot (*Hexalectris colemanii* - Not Accepted, *Hexalectris revoluta* var. *colemanii* - Accepted); Correll’s Cock’s Comb; Curly Coralroot; Raiz de Coral Revoluta (Spanish); Recurved Crested Coralroot. DESCRIPTION: Terrestrial perennial forb/herb (erect stems 16 to 22 inches in height); the stems may be pale brown to pale pink, or tan; the flowers may be pinkish-brown to tan; with the middle lobe being white, with purple and yellow near base and the lateral lobes being white to yellow; the anthers are yellow; flowering generally takes place between May and August. HABITAT: Within the range of this species it has been reported from mountains; canyons; canyon bottoms; rocky cliffs; hills; hillsides; rocky-gravelly and gravelly-silty slopes; rocky outcrops; streambeds, and drainages growing in rocky ground; sandy loam ground; gravelly silty ground; humus, and leaf litter, occurring from 3,200 to 6,000 (8,000?) feet in elevation in the forest and woodland ecological formations. NOTES: *Hexalectris revoluta* var. *colemanii* is native to southwest-central North America. \*5, 6, 8, 42 (122013 - no record for *Hexalectris colemanii*), **43** (122013), 44 (122013 - no record of variety, species or genus), 63 (122013 - recognizes *Hexalectris colemanii* (Catling) A.H. Kennedy & L.E. Watson as a species), **85** (122013), 106 (070313 - no record of species; genus record with a listing of species, color presentation), 127 (122013 - no matches found), 133 (122013 - no record for variety or species), 156 (122013 - no record of variety), ADS (Thursday, June 3, 2010, Section A, Pages 1&4: Orchid delays Rosemont Mime plans), ADS (Friday, December 20, 2013, Section A, Pages 2&8: Rare orchid won’t be protected, feds say), ADS (Thursday, June 3, 2010, Section A, Pages 1&4: Orchid delays Rosemont Mime plans), **ADS** (Friday, December 20, 2013, Section A, Pages 2&8: Rare orchid won’t be protected, feds say)\*

Poaceae (Gramineae): The Grass Family

*Andropogon barbinodis* (see *Bothriochloa barbinodis*)

*Andropogon contortus* (see *Heteropogon contortus*)

*Andropogon hirtiflorus* var. *feensis* (see *Schizachyrium sanguineum*)

***Aristida adscensionis* C. Linnaeus: Sixweeks Threeawn**

COMMON NAMES: Annual Bristle Grass (a name also applied to other species); Dog-town Grass (a name also applied to other species); Flechilla (Spanish); Needle Grass (a name also applied to other species and to the genus *Aristida*); Plumilla (Spanish); Purple Beard Grass (a name also applied to other species); Sabal Abu El-hosein (Arabic); Safwah (Arabic); Six Weeks Three Awn; Six Weeks Three Awn Grass; Six Weeks Threeawn; Six-weeks Needle Grass; Six-weeks Needle-grass; Six-weeks Needlegrass; Six-weeks Three-awn; Six-weeks Three-awn Grass; Six-weeks Threeawn; Sixweeks Three Awn; Sixweeks Three-awn; Sixweeks Threeawn; Three-awn (a name also applied to other species and to the genus *Aristida*); Tres Barbas (Spanish), Triple-awn Beard Grass (a name also applied to other species and to the genus *Aristida*); Triple-awned Beard Grass (a name also applied to other species and to the genus *Aristida*); Triple-awned Beard-grass (a name also applied to other species and to the genus *Aristida*); Zacate Cola de Zorra (Spanish); Zacate de Semilla (Spanish); Zacate Tres Barbas (a name also applied to other species and to the genus *Aristida*, Spanish); 6-Weeks 3-Awn. DESCRIPTION: Terrestrial annual tufted graminoid (ascending and/or erect culms 1¼ to 40 inches in height); the color of the foliage has been described as being bright green, purple or yellow curing to straw; the florets may be purple, purplish or red-purple; flowering may take place year-round between early January and late December; the seed heads may be purple. HABITAT: Within the range of this species it has been reported from rocky mountains; mountaintops; rocky mountainsides; bedrock, rocky, rocky-sandy-loamy, gravelly, gravelly-sandy-clayey and sandy mesas; plateaus; rocky canyons; rocky and sandy canyon bottoms; rocky gorges; talus slopes; crevices in rocks; shallow pockets of soil; buttes; rocky ledges; rocky ridges; rocky and gravelly ridgetops; meadows; foothills; rocky, gravelly and sandy hills; rocky-gravelly and gravelly hilltops; rocky and stony hillsides; escarpments; sandy bases of escarpments; bedrock, bouldery, bouldery-sandy, rocky, rocky-gravelly, rocky-clayey, stony, stony-clayey, cobbly-sandy-clayey, gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey, gravelly-clayey-loamy, sandy, sandy-clayey, sandy-clayey-loamy, sandy-silty, clayey and clayey-loamy slopes; bases of slopes; rocky alluvial fans; gravelly-sandy bajadas; rocky outcrops; amongst boulders and rocks; sandy lava flows; sand hills; sandy dunes; terraces; gravelly, gravelly-sandy-loamy, gravelly-loamy, sandy and sandy-loamy prairies; cobbly, gravelly-sandy, sandy and clayey-loamy plains; rocky, rocky-sandy, gravelly, gravelly-loamy, gravelly-sandy-loamy, sandy, sandy-loamy and sandy-clayey-loamy flats; gravelly, gravelly-sandy and sandy uplands; valley bottoms; along rocky railroad right-of-ways; along roadbeds; gravelly roadcuts; along rocky, rocky-gravelly, rocky-sandy, rocky-clayey-loamy, gravelly, gravelly-sandy, gravelly-loamy, sandy and sandy-loamy roadsides; along and in sandy arroyos; gravelly bottoms of arroyos; rocky draws; ravines; seeps; silty springs; along streams; streambeds; along creeks; creekbeds; along rivers; sandy riverbeds; along and in rocky, rocky-sandy, cobbly-pebbly-sandy, gravelly, gravelly-sandy and sandy washes; bedrock and sandy drainages; within rocky drainage ways; silty depressions; swales; banks of draws and washes; borders of washes; along (rocky) edges of washes; along margins of washes; (sandy) sides of rivers; mudflats; sandy benches; shelves; terraces; bottomlands; floodplains; lowlands; ditches; gravelly-sandy riparian areas; sandy waste places, and disturbed areas growing in dry desert pavement; bouldery, bouldery-sandy, rocky, rocky-gravelly, rocky-pebbly, rocky-sandy, shaley, stony, cobbly, cobbly-pebbly-sandy, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-gravelly loam, rocky-sandy loam, rocky-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-clayey loam, sandy loam, sandy-clayey loam, clayey loam and silty loam ground; rocky clay, stony clay, cobbly-sandy clay, gravelly clay, gravelly-sandy clay, sandy clay and clay ground, and gravelly-sandy silty, sandy silty and silty ground, occurring from below sea level to 12,700 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant may be confused with *Aristida purpurea* var. *parishii*. *Aristida adscensionis* is native to south-central and southern North America; Central America; South America, and other tropic, sub-tropic and warm-temperate regions of the world. \*5, 6, 15, 16, 33 (Page 242), 42 (051813), 43 (080109), 44 (032611 - color presentation including habitat), 46 (Page 120), 58, 63 (051913 - color presentation), 77, **85** (051913 - color presentation), 105, 124 (032611), 140 (Pages 197 & 298)\*

*Aristida longiseta* (see *Aristida purpurea* var. *longiseta*)

***Aristida purpurea* T. Nuttall var. *longiseta* (E.G. von Steudel) G. Vasey: Fendler Threeawn**

SYNONYMY: *Aristida longiseta* E.G. von Steudel. COMMON NAMES: Dog Town Grass; Dog-town Grass (a name also applied to other species); Dogtown Grass (Dogtown-grass is a name also applied to other species); Fendler Threeawn (a name also applied to var. *fendleriana*); Fendler’s Threeawn (a name also applied to var. *fendleriana*); Large Purple Aristida (Iowa); Long-awn Aristida; Long-awn Needle Grass (New Mexico); Long-awned Aristida; Long-awned Needlegrass (New Mexico); Long-awned Three-awn; Long-awned Three-awn Grass; Poverty Grass (a name also applied to the species, to other species and to the genus *Aristida*, South Dakota); Purple Aristida (Iowa, a name also applied to the species); Red Three Awn; Red Three-awn; Red Threeawn; Three-awn (a name also applied to the species, to other species and to the genus *Aristida*); Three-awn Grass (a name also applied to the species, to other species and to the genus *Aristida*); Tres Barbas Rojo (Spanish); Wire Grass (a name also applied to the species, to other species and to the genus *Aristida*). DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with erect culms 6 to 24 inches in height and 4 to 8 inches in width at the base); the foliage is green curing to tan with older growth remaining on the plant from the prior growing season giving it a grayish-green color; the inflorescence may be purple, red, red-purple or reddish-violet; flowering generally takes place between early May and late October (additional records: one for late November; flowering beginning as early as April has been reported); the awns are purple or red-purple. HABITAT: Within the range of this species it has been reported from mountains; rocky-gravelly-silty, gravelly-sandy, sandy and clayey-loamy mesas; plateaus; along sandy canyon rims; rocky cliffs; canyons; rocky canyon walls; along rocky-gravelly and sandy canyon bottoms; talus slopes; shaley and sandy bluffs; rocky, rocky-gravelly and sandy-clayey buttes; rocky knolls; rocky, rocky-sandy, shaley, gravelly-sandy, gravelly-sandy-clayey and sandy ridges; rocky ridgetops; silty ridgelines; rocky openings in forests; along rocky meadows; gravelly foothills; rocky, gravelly, sandy, clayey and loamy hills; hilltops; rocky, rocky-sandy and gravelly hillsides; rocky, rocky-gravelly, rocky-loamy, rocky-clayey-loamy, shaley, stony, stony-gravelly, gravelly, gravelly-sandy-loamy, gravelly-sandy-clayey, gravelly-clayey-loamy, sandy, sandy-loamy, loamy, clayey, clayey-loamy, silty-loamy and silty-clayey slopes; sandy bajadas; rocky, rocky-clayey and shaley outcrops; amongst boulders and rocks; lava flows; sand hills; sand dunes; breaks; barrens; sandy and clayey uplands; sandy steppes; rocky, gravelly, sandy, sandy-clayey, clayey, clayey-loamy, silty-loamy-clayey and silty-clayey prairies; rocky, stony, gravelly, gravelly-sandy, sandy and sandy-clayey plains; rocky, rocky-sandy, gravelly, sandy, sandy-clayey, loamy, clayey-loamy and silty-clayey flats; uplands; sandy basins; sandy valley floors; valley bottoms; along railroad right-of-ways; along gravelly, gravelly-sandy, gravelly-loamy, sandy, sandy-loamy and clayey roadsides; down two-tracks; sandy and clayey-loamy arroyos; sandy bottoms of arroyos; within sandy, clayey and silty draws; bottoms of draws; gravelly-sandy bottoms of gulches; rocky gullies; within sandy ravines; springs; along streams; streambeds; along creeks; along sandy creekbeds; along rivers; riverbeds; along and in gravelly and sandy washes; along and in bedrock, rocky-sandy, gravelly-sandy, sandy, clayey and silty drainages; drainage ways; blowouts; swales; (marshy, gravelly, sandy and silty) banks of streams, creekbeds, rivers, washes and drainages; (sandy) edges of rivers; (gravelly) margins of streams, washes, pools and lakes; sides of washes; gravelly benches; in river breaks; sandy terraces; bottomlands; sandy and clayey floodplains; lowlands; along fencerows; clayey catchments; sandy shorelines of reservoirs; ditches; clayey-loamy riparian areas; recently burned areas, and disturbed areas growing in muddy and wet, moist and dry bouldery, bouldery-rocky, rocky, rocky-gravelly, rocky-sandy, shaley, shaley-sandy, stony, stony-gravelly, cindery, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-clay loam, sandy loam, clayey loam, silty loam, humusy loam and loam ground; rocky clay, gravelly-sandy clay, sandy clay, silty-loamy clay, silty clay and clay ground, and rocky-gravelly silty, gravelly silty, sandy silty and silty ground, occurring from 700 to 9,000 feet in elevation in the forest, woodland, scrub, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. Fendler Threeawn is a preferred grass of the Bison (*Bos bison*). *Aristida purpurea* var. *longiseta* is native to central and southern North America. \*5, 6, 33 (recorded as *Aristida longiseta* Steud., Page 243), 42 (051913), 43 (081809), 44 (040911), 46 (recorded as *Aristida longiseta* Steud., Page 120), 48 (species), 58 (recorded as *Aristida longiseta* Steud.), 63 (051913), 77, **85** (052313 - color presentation), 105 (recorded as *Aristida longiseta* Steud.), 124 (040911)\*

*Aristida longiseta* (see *Aristida purpurea* var. *longiseta*)

***Aristida ternipes* A.J. Cavanilles: Spidergrass**

COMMON NAMES: Aristida Grass (a name that could possibly be applied to any other species in the genus *Aristida*); Ba’aso (Uto-Aztecan: Mayo)140; Chak-suuk <tok-suuk> (Mayan: Maya)140; Guatoco (Uto-Aztecan: Guarijío)140; Hahay’iqalmongwa <hahaí’iqálmongwa> (Uto-Aztecan: Hopi)140; Otatillo (a name also applied to other species, Spanish: Mexico)140; Spider Grass; Spider Three-awn; Spider Three-awn Grass; Spider Threeawn; Spidergrass; Three Awn (a name also applied to other species and the genus *Aristida*); [Poverty, Six-weeks] Three Awn (English)140; Three-awn (a name also applied to other species and the genus *Aristida*); Three-awn Spidergrass; Threeawn (a name also applied to other species and the genus *Aristida*); Tl’oh (“Grass” a name applied to grasses, Athapascan: Western Apache)140; Tres Barbas Arqueado (“Arched Three Barbs”, Spanish: Mexico)140; Waháɨ (“Grass” a name applied to any grass, Uto-Aztecan: Northern Paiute)140; Waṣai (“Grass” a name applied to any grass, Uto-Aztecan: Tohono O’odham)140; Zacate (Spanish)140; Zacate Araña (Spanish); Zacate Araña [de Tres Barbas] (“[Three-awn] Spider Grass” names also historically applied to other species, Spanish: Arizona, New Mexico, Sonora)140; Zacate Barba (“Barbed Grass”, Spanish: Sonora)140; Zacate Barbón (Mexico: Sonora). DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with ascending and/or erect culms 10 to 79 inches in height; one plant was observed and described as being 52 inches in height and 4 inches in diameter at the base); flowering generally takes place between mid-March and mid-December. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; bouldery-cobbly and rocky mesas; plateaus; rock cliffs; rocky canyons; rocky canyon walls; along rocky canyon bottoms; rocky talus; crevices in rocks; rock ledges; rocky ridges; rocky ridgetops; meadows; foothills; rocky, rocky-gravelly, gravelly-sandy, gravelly-clayey-loamy and sandy hills; rocky hillsides; bedrock, bouldery, rocky, rocky-gravelly, rocky-gravelly-clayey, rocky-loamy, gravelly, gravelly-sandy-loamy, gravelly-loamy, sandy, sandy-loamy, sandy-clayey, sandy-clayey-loamy and loamy slopes; alluvial fans; gravelly and sandy bajadas; rocky outcrops; amongst boulders and rocks; cobbly and gravelly plains; bouldery-sandy, rocky-loamy, gravelly, gravelly-sandy, sandy and silty flats; valley floors; valley bottoms; coastal plains; in roadbeds; along bouldery-rocky and gravelly roadsides; along rocky and sandy arroyos; rocky bottoms of arroyos; along draws; ravines; along streams; streambeds; along and in bouldery creeks; rocky creekbeds; along rivers; riverbeds; along and in rocky and sandy washes; within drainages; banks of creeks; along edges of washes; sides of creeks; sandy beaches; benches; rocky terraces; bottomlands; sandy floodplains; mesquite bosques; along fencelines; stock tanks (charcos, represos); ditches; sandy riparian areas, and disturbed areas growing in dry bouldery, bouldery-rocky, bouldery-cobbly, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, cobbly, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-gravelly loam, rocky-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-clayey loam, sandy loam, sandy-clayey loam, humusy loam and loam ground; sandy clay ground, and sandy silty and silty ground, occurring from sea level to 6,800 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Aristida ternipes* is native to southwest-central and southern North America; Central America, and northern South America. \*5, 6, 15, 16, 33 (Page 238), 42 (052413), 43 (092709), 44 (033011), 46 (Page 119), 58, 63 (052413), 77, **85** (052513 - color presentation), 124 (033011 - no record of species; genus record), 140 (recorded as *Aristida ternipes* Cavanilles var. *ternipes*, Pages 196-198 & 298), **WTK** (September 26, 2005)\*

***Aristida ternipes* A.J. Cavanilles var. *ternipes*: Spidergrass**

COMMON NAMES: Ba’aso (a name applied to the species, Uto-Aztecan: Mayo)140; Chak-suuk <tok-suuk> (a name applied to the species, Mayan: Maya)140; Guatoco (a name applied to the species, Uto-Aztecan: Guarijío)140; Hahay’iqalmongwa <hahaí’iqálmongwa> (a name applied to the species, Uto-Aztecan: Hopi)140; Otatillo (a name also applied to the species and other species, Spanish: Mexico)140; Spider Grass (a name also applied to the species); Spidergrass (a name also applied to the species); Three Awn (a name also applied to the species, other species and to the genus *Aristida*); Three-awn (a name also applied to the species, other species and to the genus *Aristida*); Threeawn (a name also applied to the species, other species and to the genus *Aristida*); Tl’oh (“Grass” a name applied to grasses, Athapascan: Western Apache)140; Tres Barbas Arqueado (“Arched Three Barbs” a name applied to the species, Spanish: Mexico)140; Typical Spider Grass; Typical Spider Three-awn; Typical Spider Three-awn Grass; Typical Spider Threeawn; Typical Spidergrass; Typical Three-awn Spidergrass; Waháɨ (“Grass” a name applied to any grass, Uto-Aztecan: Northern Paiute)140; Waṣai (“Grass” a name applied to any grass, Uto-Aztecan: Tohono O’odham)140; Zacate (Spanish)140; Zacate Araña (a name also applied to the species and other species); Zacate Araña [de Tres Barbas] (“[Three-awn] Spider Grass” names also historically applied to the species and other species, Spanish: Arizona, New Mexico, Sonora)140; Zacate Barba (“Barbed Grass” a name applied to the species, Spanish: Sonora)140; Zacate Barbón (a name also applied to the species, Mexico: Sonora). DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) 16 to 79 inches in height, plants were observed that were 6½ feet in height and 8 inches in width at the base); flowering generally takes place between mid-March and mid-December. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky and gravelly mesas; plateaus; rocky canyons; rocky canyon walls; along rocky canyon bottoms; rocky talus; crevices in rocks; rocky and gravelly ridgetops; foothills; rocky, rocky-gravelly, gravelly-sandy and gravelly-clayey-loamy hills; rocky hillsides; bedrock, bouldery, rocky, rocky-cobbly-gravelly, rocky-gravelly, rocky-gravelly-clayey, gravelly and sandy slopes; gravelly and sandy bajadas; rocky outcrops; amongst boulders; cobbly plains; gravelly, gravelly-sandy and sandy flats; rocky valley floors; valley bottoms; along bouldery-rocky and gravelly roadsides; rocky and sandy arroyos; rocky and gravelly bottoms of arroyos; along draws; along streams; streambeds; along creeks; riverbeds; along and in sandy washes; within drainages; ciénegas; (sandy) sides of rivers; terraces; bottomlands; sandy floodplains; mesquite bosques; riparian areas, and disturbed areas growing in dry rocky desert pavement; bouldery, bouldery-rocky, bouldery-sandy, rocky, rocky-cobbly-gravelly, rocky-gravelly, cobbly, gravelly, gravelly-sandy and sandy ground; rocky-gravelly loam, rocky-clayey loam and gravelly-clayey loam ground; rocky-gravelly clay ground, and sandy silty ground, occurring from 200 to 6,300 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Aristida ternipes* var. *ternipes* is native to southwest-central and southern North America; Central America, and northern South America. \*5, 6, 33 (species, Page 238), 42 (052413), 43 (092709), 44 (041211 - no record of variety *ternipes*; species and genus records), 46 (species, Page 119), 63 (052413), **85** (052513 - color presentation), 124 (041311 - no record of variety or species; genus record), 140 (Pages 197 & 298)\*

***Bothriochloa barbinodis* (M. Lagasca y Segura) W.G. Herter: Cane Bluestem**

SYNONYMY: *Andropogon barbinodis* M. Lagasca y Segura. COMMON NAMES: Algodoneso (Spanish: Mexico)140; Barbed Beard Grass (Oklahoma); Barbed Beard-grass (Oklahoma); Beard-grass (a name also applied to other species and the genus *Bothriochloa*); Bristlejoint Bluestem; Cane Beard Grass; Cane Beard-grass (English)140; Cane Beardgrass; Cane Bluestem; Cane Bluestem (var. *barbinodis*); Cola de Coyote (“Coyote’s Tail”, Spanish: Nuevo León)140; Feather Bluestem; Feather Grass; Fuzzy Top; Fuzzy Top Beardgrass; Fuzzy-top; Palmer’s Cane Bluestem (*Bothriochloa barbinodis* var. *palmeri* - Not Accepted, *Bothriochloa palmeri* - Accepted); Perforated Bluestem; Pin-hole Beard Grass; Pinhole Beardgrass; Pinhole Bluestem; Pitted Beardgrass(*Bothriochloa barbinodis* var. *perforata* - Not Accepted, *Bothriochloa perforata* - Accepted); Plains Beardgrass; Popotillo [Perforado, Plateado] (“[Perforated, Folded] Little Broom”, Spanish: Sonora)140; Popotillo Algodonero (Spanish); Silver Beardgrass; Tł’oh (“Grass” a word used for any grass, Athapascan: Western Apache)140; Waháɨ (“Grass” a word used for any grass, Uto-Aztecan: Northern Paiute)140; Waṣai (“Grass” a word used for any grass, Uto-Aztecan: Tohono O’odham)140; Ya-jewel-g-ute (Havasupai); Zacate Popotillo (“Little Broom Grass”, Spanish: Mexico)140; Zacatón (Hispanic). DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with spreading decumbent, geniculate, ascending and/or erect culms 20 inches to 5 feet in height; one plant was observed and described as being 4 inches in width at the base); the foliage is bluish-green or yellow-green curing to a dull red, reddish-brown or yellow; the spikelets (flowers) are tawny-green or tan; the silvery-white inflorescences are oblong to fan-shaped; flowering generally takes place between late March and early December (additional records: one for early February and two for mid-February). HABITAT: Within the range of this species it has been reported from rocky mountains; mountainsides; rocky and gravelly mesas; plateaus; cliffs; along cliff faces; rocky bases of cliffs; rocky and gravelly-loamy canyons; along bedrock, bouldery-sandy, rocky, rocky-sandy, gravelly, gravelly-sandy and sandy canyon bottoms; rocky chasms; crevices in bedrock, boulders and rocks; buttes; ledges; rocky and sandy-loamy ridges; rocky ridgetops; clearings in woodlands; meadows; cinder cone peaks; rocky foothills; rocky hills; rocky and gravelly hillsides; escarpments; rocky, rocky-loamy, gravelly, gravelly-sandy-loamy, gravelly-loamy, gravelly-clayey, gravelly-clayey-loamy, sandy, sandy-loamy, sandy-clayey, sandy-clayey-loamy and clayey-loamy slopes; bases of slopes; bajadas; rocky outcrops; amongst boulders and rocks; sand dunes; sandy plains; gravelly, sandy, sandy-clayey and clayey flats; rocky valley floors; railroad right-of-ways; clayey roadbeds; along gravelly, gravelly-loamy, sandy and silty-clayey-loamy roadsides; along rocky, stony and sandy arroyos; sandy bottoms of arroyos; sandy-clayey-loamy draws; gullies; ravines; rocky seeps; springs; along sandy streams; along and in bouldery streambeds; along creeks; along and in creekbeds; along rivers; within bouldery-cobbly-sandy riverbeds; along and in rocky, rocky-gravelly, cobbly-sandy-loamy, gravelly, gravelly-sandy, gravelly-loamy, sandy and clayey washes; within gravelly-sandy-loamy drainages; within rocky and clayey drainage ways; ciénegas; swales; rock tanks; along (sandy) banks of creeks, rivers, washes and lakes; borders of washes; (sandy) edges of creeks; sides of creekbeds; bouldery-sandy and sandy beaches; benches; rocky and gravelly terraces; bottomlands; floodplains; lowlands; mesquite bosques; stock tanks; along and in ditches; bouldery-cobbly-sandy, rocky and sandy riparian areas, and disturbed areas growing in moist and dry rocky desert pavement; bouldery, bouldery-cobbly-sandy, bouldery-gravelly, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, stony, cobbly-sandy, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-clayey loam, cobbly-sandy loam, gravelly loam, gravelly-sandy loam, gravelly-clayey loam, sandy loam, sandy-clayey loam, clayey loam, silty-clayey loam and loam ground; gravelly clay, sandy clay and clay ground, and silty ground, occurring from sea level to 8,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat and is extremely drought-resistant and tolerant of coastal conditions. Pronghorn (*Antilocapra americana*) browse this plant. *Bothriochloa barbinodis* is native to southwest-central and southern North America; Central America, and western and southern South America. \*5, 6, 15, 16, 30, 33 (recorded as *Andropogon barbinodis* Lag., Page 306), 42 (052513), 43 (092709), 44 (032711), 46 (recorded as *Andropogon barbinodis* Lag., Page 142), 48, 58, 63 (052513 - color presentation), 77, **85** (052513 - color presentation), 105 (recorded as *Andropogon barbinodis* Lag.), 124 (032711), 140 (Pages 198-199 & 299), **WTK** (September 26, 2005)\*

***Bothriochloa ischaemum* (C. Linnaeus) Y.L. Keng: Yellow Bluestem**

COMMON NAMES: Bai Yang Cao (transcribed Chinese); Capim-cola-de-zorro-amarelo (Portuguese: Brazil); Gemeines Bartgras (applied to var. *ischaemum*, German); K.R. Blue Stem; K.R. Blue-stem; K.R. Bluestem; King Ranch Blue Stem; King Ranch Blue-stem; King Ranch Bluestem (applied to var. *ischaemum* and var. *songarica*); King Ranch Bluestem Grass; King’s Ranch Bluestem; KR Blue Stem; KR Blue-stem; KR Bluestem; Texas Yellow Beard Grass (applied to var. *songarica*); Texas Yellow Beardgrass; Turkestan Beard Grass; Turkestan Beard-grass; Turkestan Beardgrass (applied to var. *ischaemum*); Turkestan Blue Stem; Turkistan Blue Stem; Turkestan Blue-stem; Turkistan Blue-stem; Turkestan Bluestem; Turkistan Bluestem; Yellow Beardgrass; Yellow Blue Stem; Yellow Blue-stem; Yellow Bluestem (also applied to var. *ischaemum* and var. *songarica*). DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with decumbent, geniculate, ascending and/or erect culms 12 to 38 inches in height); the culms are green and yellow; the panicles (compound inflorescences) have been described as being purple or silvery-reddish-purple, the spikelets purplish or reddish sometimes reported to have a maroonish-brown tinge; flowering generally takes place between early July and mid-November (additional record: one for late May). HABITAT: Within the range of this species it has been reported from mountains; plateaus; canyons; canyon walls; gravelly-sandy bottoms of canyons; crevices in boulders and rocks; ridgetops; foothills; hills; hillsides; slopes; rocky outcrops; sandy steppes; prairies; plains; gravelly-loamy flats; sandy valleys; valley bottoms; coastal prairies; sandy coastlines; along gravelly, gravelly-loamy, sandy and clayey roadsides; streambeds; in sandy soil along creeks; along washes; drainages; within depressions; within swales; (sandy) edges of riparian areas; (bouldery) sides of streams and ponds; shores of lakes; floodplains; lowlands; mesquite woodlands; within ditches; riparian areas; waste places, and disturbed areas growing in wet, moist, damp and dry bouldery, rocky, rocky-sandy, gravelly, gravelly-sandy and sandy ground; gravelly loam ground, and sandy clay and clay ground, occurring from 100 to 7,700 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: EXOTIC Invasive Species. *Bothriochloa ischaemum* is native to central, eastern and southern Europe and coastal islands in the Mediterranean Sea; Asia and coastal islands in the North Pacific Ocean, and northern Africa. \*33 (no record of species or genus), 42 (072213), 43 (072213), 44 (072213), 46 (no record of species, genus record Pages 141-142), 63 (072213 - color presentation), **85** (072213 - color presentation), 133 (072213), 155 (072213)\*

***Bouteloua aristidoides* (K.S. Kunth) A.H. Grisebach var. *aristidoides*: Needle Grama**

COMMON NAMES: Aceitilla (a name also applied to the species); Arizona Needle Grama (a name also applied to *B*.*a*. var. *arizonica*); Navajita (a name also applied to the species); Needle Grama (a name also applied to the species); Pasto Cabra (a name also applied to the species, Hispanic); Six-weeks Needle Grama (a name also applied to the species); Tochite (a name also applied to the species, Hispanic); Zacate Saitillo (a name also applied to the species). DESCRIPTION: Terrestrial annual tufted graminoid (decumbent and/or geniculate culms 1½ to 24 inches in height); the foliage is light green or violet curing to straw; the flowers are purplish; the anthers are yellow or yellow & red; flowering generally takes place between late July and late October (flowering records: two for early January, four for early April, two for early September, two for late September, two for mid-October and one for late October). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; sandy mesas; rocky cliffs; rocky canyons; canyon bottoms; chasms; ridges; rocky hills; rocky hillsides; rocky, gravelly, gravelly-sandy and sandy slopes; gravelly and sandy bajadas; rocky coves; sand hills; sand dunes; sand hummocks; edges of dune fields; plains; gravelly and sandy flats, basins; valley floors; loamy valley bottoms; coastal dunes; along gravelly and sandy roadsides; in arroyos; bottoms of arroyos; stony-sandy draws, along streams; streambeds; creekbeds; along rivers; sandy riverbeds; along and in rocky, gravelly, sandy, clayey and silty-clayey washes; in drainage ways; depressions; sandy and sandy-loamy banks of rivers and washes; sandy borders of ponds; benches; sandy terraces; loamy bottomlands; sandy floodplains; mesquite bosques; gravelly ditches; waste places, and disturbed areas growing in dry in desert pavement; bouldery, rocky, stony-sandy, gravelly, gravelly-sandy and sandy ground; gravelly-sandy loam, sandy loam and loam ground, and silty clay and clay ground, occurring from sea level to 8,000 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Bouteloua aristidoides* var. *aristidoides* is native to southwest-central and southern North America. \*5, 6, 33 (recorded as *Bouteloua aristidoides* (H.B.K.) Griseb., Pages 141-143), 42 (072213), 43 (092809), 46 (recorded as *Bouteloua aristidoides* (H.B.K.) Griseb., Page 128), 63 (052809), 68, **85** (052809 - inclusion based on a record from the Rosemont Ranger Station Pasture), 105 (species), 124 (032711 - no record of species or variety; genus record), 133 (072213 - no record of variety; species record), 155 (072213)\*

***Bouteloua barbata* M. Lagasca y Segura var. *rothrockii* (G. Vasey) F.W. Gould: Rothrock’s Grama**

SYNONYMY: *Bouteloua rothrockii* G. Vasey. COMMON NAMES: Navajita Liebrero (Spanish); Rothrock Grama; Rothrock’s Grama. DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with decumbent, geniculate, ascending and/or erect culms 8 to 30 inches in height); the foliage is green curing to straw; the flowers have been described as being brownish-red, pale green, green, orange or reddish; the anthers may be pink or white; flowering generally takes place between late July and late September (additional records: one for early March, one for mid-May, one for late May, one for late October and one for mid-November). HABITAT: Within the range of this species it has been reported from mountains; rocky-gravelly mountainsides; gravelly and sandy mesas; along canyons; sandy canyon bottoms; rocky and rocky-gravelly and gravelly-loamy foothills; rocky and rocky-sandy hills; rocky, gravelly and gravelly-sandy-loamy hillsides; rocky, rocky-gravelly, gravelly, sandy, sandy-loamy, sandy-clayey and clayey slopes; rocky alluvial fans; gravelly and sandy bajadas; prairies; along rocky, cobbly and sandy plains; bouldery-sandy, gravelly, gravelly-loamy and sandy flats; basins; gravelly-loamy valley floors; valley bottoms; along gravelly and sandy roadsides; sandy draws; sandy bottoms of gulches; streambeds; sandy riverbeds; along washes; rocky drainages; within drainages; swales; edges of washes; along margins of ciénegas; benches; terraces; sandy floodplains; mesquite bosques; riparian areas, and disturbed areas growing in dry bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, cobbly, gravelly and sandy ground; rocky-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-clayey loam, sandy loam and sandy-clayey loam ground, and sandy clay and clay ground, occurring from 300 to 5,700 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This short-lived perennial may be an attractive component of a restored native habitat, it has been described as being hardy and drought-resistant. Rothrock Grama (perennial) may be confused with the annual Sixweeks Grama (*Bouteloua barbata*). the Masked Bobwhite (*Colinus virginianus* subsp. *ridgwayi*) feeds on the seeds of the Rothrock Grama. *Bouteloua rothrockii* is native to southwest-central and southern North America. \*5, 6, 15, 16, 33 (Page 151), 42 (072213), 43 (093009), 44 (072213 - no record of species; genus record), 46 (Page 128), 48, 58, 63 (093009 - color presentation), 77, **85** (102211 - inclusion based on a record from the Rosemont Ranger Station Pasture, color presentation of dried material), 105, 124 (102510 - no record of species; genus record), 133 (072213), 140 (Page 200 & 299), 155 (072213)\*

***Bouteloua chondrosioides* (K.S. Kunth) G. Bentham ex S. Watson: Sprucetop Grama**

COMMON NAMES: Harvard Grama; Pasto (Hispanic); Spruce-top Grama; Sprucetop; Sprucetop Grama; Uitsaku (Purépecha); Woolly-spiked Grama. DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with erect culms 4 to 24 inches in height); the foliage is bright green, purple or yellow curing to gray-white; the anthers are orange or yellow; the spikelets (flowers) are purple-hued; flowering generally takes place between early August and early November (additional records: one for early April, one for late June and one for mid-July). HABITAT: Within the range of this species it has been reported from mountains; bases of mountains; rocky and gravelly mesas; grassy plateaus; canyons; canyonsides; canyon bottoms; pockets of soil in rocks; rocky bluffs; ridges; ridgetops; rocky and gravelly-loamy foothills; rocky, rocky-gravelly and stony hills; rocky hillsides; along rocky, rocky-gravelly, gravelly-sandy-loamy, gravelly-loamy, gravelly-clayey, gravelly-clayey-loamy and sandy slopes; bases of slopes; rocky outcrops; amongst boulders; sandy plains; rocky flats; along rocky-loamy roadsides; within draws; bottoms of draws; gulches; along streams; within creekbeds; floodplains, and disturbed areas growing in dry bouldery, rocky, rocky-gravelly, stony, gravelly and sandy ground; rocky loam, gravelly loam, gravelly-sandy loam, gravelly-clayey loam, sandy loam and clayey loam ground, and gravelly clay ground, occurring from 600 to 8,200 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. Purple and yellow forms were reported. *Bouteloua chondrosioides* is native to southwest-central and southern North America and Central America. \*5, 6, 15, 30, 33 (Page 145), 42 (071413), 43 (081910), 44 (011411 - no record of species; genus record), 46 (Page 128), 48, 58, 63 (081910), 77, **85** (081910 - color presentation), 105, 124 (020211 - no record of species; genus record), 140 (Page 299), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

***Bouteloua curtipendula* (A. Michaux) J. Torrey: Sideoats Grama**

COMMON NAMES: Avenilla (Hispanic); Banderilla (“Little Flag”, Spanish: Baja California, Chihuahua, Sonora); [Pasto] Banderilla (“Little Flag [Grass]”, Spanish: Chihuahua, Sonora)140; Banderita (Hispanic); Dadpk Waṣai <da:pk washai, dadpk washai> (“Slippery Grass / Smooth Grass”, Uto-Aztecan: Hiá Ceḍ O’odham, Tohono O’odham)140; Fall Grama Grass; Fall Gramma Grass; Grama (a name also applied to other species and the genus *Bouteloua*, Spanish: Oklahoma); Grama-azul (Portuguese: Brazil); Grama del Cerro (Hispanic); Grama Grass (a name also applied to other species and the genus *Bouteloua*, Nebraska); Gramilla (“Little Grass”, Spanish: Mexico)140; Hairy Mesquite Grass (a name also applied to other species); Hairy Muskit (a name also applied to other species); Harushö (Uto-Aztecan: Hopi)140, Isnáap Ic Is (“Whose Fruit Is On One Side” a name also applied to other species, Hokan: Seri)140; Mesquit Grass (a name also applied to other species); Mesquite Grass (a name also applied to other species and the genus *Bouteloua*); Muskit (a name also applied to other species); Navaja Sa’i <sha’i> (Uto-Aztecan: Mountain Pima)140; Navajita (“Little Knife” a name also applied to other species, Spanish: Baja California, Chihuahua, Sonora); Navajita [Banderilla] (“Little Knife” [Little Flag] Spanish: Baja California, Chihuahua, Sonora)140; Owiv (“Grass”, Uto-Aztecan: Ute); Prairie Oats (Kansas)140; Qm-u-se’-a (Havasupai); Racemed Atheropogon; Racemed Boutelous; Side Oat Grama; Side Oats; Side Oats Grama; Side Oats Grama Grass; Side Oats Gramma Grass; Side Oats Grammagrass; Side-oat Grama; Side-oat Gramma; Side-oats; Side-oats Grama (a name also applied to the genus *Bouteloua*); Side-oats Grama (var. *caespitosa*); Side-oats Grama Grass; Side-oats Grama-grass; Side-oats Gramina; Side-oats Gramma; Side-oats Gramma-grass; Side-oats Gramma Grass; Side-oats Grass; Sideoat Grama; Sideoat Gramma; Sideoats Grama (English)140; Sideoats Grama (var. *caespitosa* and var. *curtipendula*); Sideoats Grama Grass; Sideoats Gramma-grass; Sideoats Grass; Stort Moskitgräs (Swedish); Ta Tăn Iŋ (Kiowa Tanoan: Tewa)140; Tall Grama (a name also applied to other species and the genus *Bouteloua*); Tall Grama Grass; Tall Grama Oats; Tall Grama-grass; Tall Gramma; Tall Gramma Grass; Tall Mesquite (a name also applied to other species); Tall Mesaquite Grass; Tap’eñita (Kiowa Tanoan: Tewa)140; Tł’oh (“Grass”, a word used for grasses, Athapascan: Western Apache)140; Tł’oh Łichíí’ <y’oh lici> (“Red Grass”, Athapascan: Navajo)140; Tł’oh Nástasí (“Grass That Bends Back Around”, Athapascan: Navajo)140; Tłobindaiłkehntii (“Grass With Seeds Lying on Top of One Another”, Athapascan: Chiricahua and Mescalero Apache)140; Uitsaku Juatarhu (Purépecha); Waháɨ (“Grass” a word used for grasses, Uto-Aztecan: Northern Paiute)140; Wiry Grama; Zacate de Navaja (“Knife Grass”, Spanish: Sonora)140. DESCRIPTION: Terrestrial perennial (usually) tufted graminoid (a bunchgrass (clumpgrass) with decumbent, geniculate, ascending and/or erect culms 3 to 52 inches in height and up to 2 feet in width at the base; one plant was observed and described as being 12 to 16 inches in height and 16 inches in width at the base, one plant was observed and described as being 28 inches in height and 4 inches in width at the base); the foliage is bluish-green or purple-green curing to reddish-brown or straw; the flowers are bright purple; the anthers are orange, purple, red, yellow or dark yellow; flowering generally takes place between late April and mid-November (additional records: one for mid-February, one for early April, one for early December); the mature fruits are red-brown. HABITAT: Within the range of this species it has been reported from mountains; mountaintops; rocky mountainsides; bouldery, rocky, rocky-gravelly, gravelly, pebbly-sandy, sandy and clayey-loamy mesas; plateaus; rocky and sandy canyon rims; rims of gorges; cliffs; hanging gardens; sandy bases of cliffs; along rocky, sandy and loamy canyons; along stony and sandy canyon walls; along rocky and sandy canyon bottoms; rocky gorges; sandy crevices in rocks; rocky-gravelly, gravelly and sandy bluffs; rocky, gravelly-clayey and clayey buttes; rocky and sandy-clayey bases of buttes; knolls; rocky and sandy ledges; along rocky, rocky-sandy, shaley, gravelly-loamy and sandy-silty-loamy ridges; rocky, gravelly, gravelly-clayey, gravelly-silty-loamy ridgetops; clayey ridge slumps; clearings and openings in forests and woodlands; meadows; rocky and clayey-loamy foothills; rocky, rocky-gravelly and cindery (scoria) hills; sandy hilltops; rocky, shaley, stony and sandy hillsides; sandy bases of escarpments; along bedrock, bouldery, bouldery-rocky-sandy, rocky, rocky-cobbly-gravelly, rocky-gravelly, rocky-sandy, rocky-sandy-loamy, rocky-loamy, rocky-clayey, rocky-clayey-silty, shaley, shaley-silty, stony, stony-gravelly, stony-sandy, gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey, sandy, sandy-loamy, sandy-clayey-loamy, sandy-silty, loamy, clayey, clayey-loamy and silty-loamy slopes; gravelly bajadas; rocky outcrops; amongst boulders, rocks and cobbles; clayey and silty rockbeds; sandy lava flows; sand hills; sand bluffs; sand dunes; sandy and sandy-clayey banks; breaks; rocky-sandy and stony-gravelly benches; benchlands; breaks; rock shelves; shaley barrens; sandy steppes; rocky-clayey, sandy, clayey-loamy and silty-clayey prairies; rocky, sandy and sandy-clayey plains; rocky, rocky-gravelly, sandy, sandy-clayey, sandy-silty, loamy, clayey and clayey-silty flats; rocky, sandy, clayey, clayey-loamy and silty-clayey uplands; sandy valley floors; valley bottoms; sandy roadcuts; along gravelly and sandy roadsides; along and in bedrock, rocky and gravelly arroyos; sandy bottoms of arroyos; along and in rocky, loamy, loamy-clayey and silty draws; gullies; bottoms of gullies; along ravines; bedrock bottoms of ravines; seeps; along springs; around streams; along streambeds; in silty-loamy soils along and in creeks; along rocky creekbeds; along rivers; riverbeds; along and in rocky, rocky-gravelly, gravelly and sandy washes; along and in rocky-clayey-silty, gravelly-sandy, gravelly-clayey, sandy, clayey and silty-loamy drainages; within drainage ways; coves; ciénegas; marshes; silty-clayey depressions; silty slumps; in low swales with Desert Willow; along (gravelly-sandy, sandy, clayey and silty) banks of draws, gullies, streams, creeks, rivers and washes; borders of washes; along (rocky) edges of ravines, springs and washes; margins of streams, rivers and pools; (clayey-loamy) shores of lakes; gravel bars; rocky-sandy benches; rock shelves; gravelly terraces; bottomlands; gravelly, sandy and clayey floodplains; mesquite bosques; along sandy fencelines; clayey catchments; stock tanks; rocky riparian areas, and disturbed areas growing in mucky (rarely reported), and wet (rarely reported), moist (rarely reported) and dry rimrock; rocky desert pavement; bouldery, bouldery-rocky-sandy, bouldery-cobbly-sandy, rocky, rocky-cobbly-gravelly, rocky-gravelly, rocky-sandy, shaley, stony, stony-gravelly, stony-sandy, cobbly, cindery (scoria), cindery-gravelly, gravelly, gravelly-sandy, pebbly-sandy and sandy ground; rocky loam, rocky-sandy loam, rocky-sandy-clayey loam, rocky-clayey loam, gravelly loam, gravelly-clayey loam, gravelly-silty loam, sandy loam, sandy-clayey loam, sandy-silty loam, clayey loam, silty loam, silty-clayey loam and loam ground; bouldery clay, rocky clay, gravelly clay, gravelly-sandy clay, sandy clay, loamy clay, silty clay and clay ground; rocky silty, rocky-clayey silty, shaley silty, sandy silty, clayey silty and silty ground, and chalky ground, occurring from 300 to 9,800 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial fiber or fodder crop; it was also noted as having been used as a decoration. Sideoats Grama may be useful in controlling erosion. Stems may occur singly or in small clusters from creeping rhizomes (var. *curtipendula*), or form into large clumps from a common root crown (var. *caespitosa*). In areas where it occurs naturally, consider including Sideoats Grama seed in reseeding mixtures. This plant is a larval food plant for the Orange Skipperling (*Copaeodes aurantiacus*). *Bouteloua curtipendula* is native to central and southern North America; Central America, and South America. \*5, 6, 15, 16, 18, 30, 33 (Page 143, “One of the most important range grasses in the Southwest, highly palatable and a vigorous grower.”), 42 (052613), 43 (092909), 44 (041311), 46 (Page 129), 48, 58, 63 (052713 - color presentation), 77, 82, **85** (052913 - color presentation), 105 (“This is one of our most important range grasses. ... It cures well and maintains a fairly high feeding value throughout the year. ... Sideoats is a normal component of most Arizona grassland ranges, and these ranges are not in excellent condition without an abundance of the grass. It lengthens the grazing season and increases forage production, in addition to providing variety in the feed.”), 106 (061407), 124 (041311), 127, 140 (Pages 199-200 & 299), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

***Bouteloua eludens* D. Griffiths: Santa Rita Mountain Grama**

COMMON NAMES: Elusive Grama; Santa Rita Grama; Santa Rita Mountain Grama. DESCRIPTION: Terrestrial perennial tufted graminoid (culms 8 to 28 inches in height); the leaf blades are light green; the flowers are purplish or yellow-green; flowering generally takes place between early August and mid-September (additional records: one for early April, one for late October and four for early November). HABITAT: Within the range of this species it has been reported from mountains; mesas; canyons; crevices in rocks; pockets of soil; ridges; foothills; rocky, rocky-gravelly and gravelly hills; hilltops; hillsides; rocky slopes; rocky, rocky-gravelly and gravelly slopes; rocky outcrops; amongst rocks; banks; flats; along sandy roadsides; gulches; riverbeds; along washes; banks of gulches, and floodplains growing in dry rocky, rocky-gravelly, gravelly and sandy ground and rocky loam ground, occurring from 2,600 to 6,200 feet in elevation in the woodland, grassland and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. Santa Rita Mountain Grama may somewhat resemble the Sprucetop Grama (*Bouteloua chondrosioides*) and is often observed to be growing with it. *Bouteloua eludens* is native to southwest-central and southern North America. \*5, 6, 33 (Pages 143-145), 42 (072013), 43 (022011), 44 (022011 - no record of species), 46 (Page 128), 58, 63 (022011), **85** (022011 - color presentation), 124 (022011 - no record of species; genus record)\*

***Bouteloua eriopoda* (J. Torrey) J. Torrey: Black Grama**

COMMON NAMES: Black Grama; Black Grama Grass; Black Gramagrass; Black Gramma; Black Gramma Grass; Black Grass; Hairyfoot Grama; Navajita Negra (Spanish); Woolly Foot Grama; Woolly Jointed Grama; Woolly-foot Grama; Woolly-joint Grama; Woolly-jointed Grama; Woollyfoot Grama; Wooly Grama. DESCRIPTION: Terrestrial perennial graminoid (a bunchgrass with decumbent culms 8 to 30 inches in height, plants were described that were 6 to 8 inches in height and 2 to 4 inches in width, plants 8 inches in height and 2 to 4 inches in width were observed and recoded); the foliage is grayish-green curing to gray; the spikelets (flowers) have been described as being maroon, purplish, reddish-brown or red-maroon; the anthers are orange to yellow; flowering generally takes place between late June and early November (high amounts of spring rainfall may induce an earlier flowering; additional records: four for late May). HABITAT: Within the range of this species it has been reported from mountains; gravelly mountaintops; mountainsides; bouldery, rocky, gravelly, gravelly-sandy, sandy and sandy-silty mesas; sandy plateaus; rims of gorges; cliffs; sandy bases of cliffs; rocky canyons; rocky canyon sides; bedrock, bouldery and sandy canyon bottoms; rocky-sandy gorges; rocky talus slopes; rocky slides; along crevices in rocks; sandy and sandy-loamy pockets of soil in slickrock; rocky knolls; ledges; bedrock and gravelly ridges; gravelly-loamy ridgetops; sandy meadows; cinder cones; rims of craters; crater walls; rocky foothills; bouldery, rocky, rocky-gravelly, rocky-sandy and sandy hills; gravelly-clayey hilltops; bouldery and rocky hillsides; along rims of escarpments; sandy bases of escarpments; bouldery, bouldery-gravelly, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, rocky-loamy, rocky-clayey, shaley, stony, cobbly, cindery, gravelly, gravelly-sandy, gravelly-sandy-clayey, gravelly-loamy, gravelly-clayey, sandy, sandy-loamy; sandy-chlky and clayey-loamy slopes; gravelly-sandy-loamy alluvial fans; rocky outcrops; amongst boulders, rocks and stones; rock fields; lava flows; sandy sand hills; sandy dunes; sandy hummocks; blow-sand deposits; breaks; sandy prairies; sandy, sandy-clayey and clayey-loamy plains; rocky, stony-sandy, cindery and sandy-loamy flats; esplanades; basins; valley floors; sandy valley bottoms; along rocky, rocky-gravelly, rocky-sandy, gravelly, gravelly-sandy, gravelly-loamy, sandy and loamy roadsides; sandy arroyos; bottoms of arroyos; draws; seeps; rills; along creeks; sandy riverbeds; along and in bouldery, rocky, gravelly, sandy and clayey washes; within bouldery-gravelly, rocky, gravelly and sandy drainages; bedrock and silty depressions; swales; margins of washes; sandy beaches; gravelly-sandy benches; gravelly shelves; gravelly terraces; sandy bottomlands; floodplains; sandy riparian areas; waste places, and disturbed areas growing in damp and dry, well drained desert pavement; bouldery, bouldery-gravelly, bouldery-sandy, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, shaley, stony, stony-sandy, cobbly, cindery, cindery-gravelly, gravelly. gravelly-sandy and sandy ground; rocky loam, rocky-sandy loam, cobbly-sandy loam, gravelly loam, gravelly-sandy loam, sandy loam, sandy-clayey loam, sandy-silty loam, clayey loam, silty loam and loam ground; rocky-clayey, gravelly clay, gravelly-sandy clay, sandy clay and clay ground; rocky-clayey silty and sandy silty ground; sandy chalky ground, and gypsum, occurring from 1,800 to over 8,200 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, established plants are tolerant of short droughts and the plants may form “fairy rings”. The plants may form large patches through the spreading and rooting of stoloniferous runners, it also regenerates through tillering and layering. Even though it may be difficult to establish, consideration should be given to including this plant in re-seeding mixtures, seedling establishment is reduced by drought. Black Grama is considered excellent forage for wildlife, and Cactus Wrens (*Campylorhynchus brunneicapillus*) will use this grass in the construction of their nests. *Bouteloua eriopoda* is native to southwest-central and southern North America. \*5, 6, 15, 30, 33 (Pages 149-151), 42 (022814), 43 (081910), 44 (022814), 46 (Page 128), 48, 58, 63 (081910 - color presentation), 77, **85** (022814 - color presentation), 105, 140 (Page 299)\*

*Bouteloua filiformis* (see *Bouteloua repens*)

***Bouteloua gracilis* (C.L. von Wildenow ex K.S. Kunth) M. Lagasca y Segura ex D. Griffiths: Blue Grama**

COMMON NAMES: Blue Grama; Blue Grama Grass; Blue Grama-grass; Blue Gramagrass; Blue Gramma; Blue Gramma Grass; Blue Gramma-grass; Blue Grammagrass; Eyelash Grass (a name also applied to other species); Five-spike Blue Grama; Fivespike Blue Grama; Graceful Grama; Graceful Grama Grass; Graceful Grama-grass; Graceful Gramma; Graceful Gramma Grass; Graceful Gramma-grass; Grama (a name also applied to other species and the genus *Bouteloua*, Spanish); Low Mesquite Grass; Mosquito Grass; Navajita (Spanish); Navajita Azul (Spanish); Navajita Común (Spanish); White Grama; Zacate Cepillo (Hispanic); Zacate Chino (Hispanic); Zacate Navajita (Hispanic). DESCRIPTION: Terrestrial perennial densely tufted (cold and drought tolerant) graminoid (a bunchgrass (clumpgrass) or a sod-forming or turf grass with decumbent, geniculate, ascending and/or erect culms generally 4 to 28 inches in height; stems with inflorescence may reach 40 inches to 5 feet in height); the foliage may be blue-green, grayish-green or yellow-green curing to gray, straw-yellow or yellow; the flowers have been described as being brownish, maroon, purplish-brown or dark red; the anthers may be purple or yellow; flowering generally takes place between mid-May and late October (additional records: one for mid-April and one for late November). HABITAT: Within the range of this species it has been reported from mountains; gravelly mountaintops; rocky crags; mountainsides; along bouldery, rocky and sandy mesas; rocky and sandy plateaus; along rocky and sandy canyon rims; cliffs; sandy tops of cliffs; bases of cliffs; along rocky and gravelly canyons; stony canyon walls; canyon bottoms; talus fields; pockets of sandy soil in rock; sandy buttes; gravelly knolls; rocky ledges; rocky, sandy-loamy and loamy ridges; gravelly and gravelly-sandy ridgetops; rocky and sandy clearings and openings in forests and woodlands; rocky, rocky-sandy and gravelly meadows; foothills; rocky, rocky-clayey, rocky-clayey-loamy, gravelly, sandy, clayey and silty hills; bouldery-silty and gravelly-silty hilltops; rocky hillsides; bases of hills; rocky escarpments; bouldery, rocky, rocky-sandy-clayey, rocky-clayey, shaley, shaley-sandy, stony, stony-sandy, cobbly, cindery, gravelly, gravelly-sandy, gravelly-loamy, sandy, sandy-loamy, sandy-clayey, sandy-clayey-loamy, loamy, clayey, silty-clayey, humusy and humusy-loamy slopes; bases of slopes; stony-cobbly-loamy and cobbly-clayey alluvial fans; bajadas; rocky, rocky-clayey and sandy outcrops; amongst boulders and rocks; craters; lava flows; sand hills; sand dunes; sandy-clayey breaks; sandy-clayey benches; benchlands; rocky, sandy and sandy-loamy prairies; llanos; sandy plains; rocky-sandy-clayey-loamy fields; rocky, gravelly, sandy, sandy-clayey, sandy-loamy, loamy, clayey, clayey-loamy, silty-clayey and humusy-loamy flats; rocky uplands; sandy basins; sandy valley floors; valley bottoms; railroad right-of-ways; rocky and sandy roadcuts; along cindery, gravelly, gravelly-sandy, gravelly-loamy, sandy and sandy-loamy roadsides; two-tracks; sandy and clayey-loamy arroyos; sandy bottoms of arroyos; gravelly draws; gullies; rocky ravines; along streams; gravelly-loamy streambeds; along creeks; along rocky and clayey creekbeds; in rocky-sandy soil along rivers; riverbeds; within rocky, sandy and clayey washes; within rocky and cobbly-gravelly drainages; along lakes; lakebeds; swales; banks of gullies, streams and rivers; edges of drainages and ponds; margins of streams; sides of streams and washes; (rocky) shores of lakes; clayey mudflats; sandy and sandy-clayey benches; along terraces; bottomlands; sandy floodplains; lowlands; mesquite bosques; around reservoirs; along ditches; sandy and clayey-loamy riparian areas; loamy waste places, and disturbed areas growing in moist and dry bouldery, rocky, rocky-sandy, shaley, shaley-sandy, stony, stony-sandy, cobbly, cobbly-gravelly, cindery, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-sandy loam, rocky-sandy-clayey loam, rocky-clayey loam, stony-cobbly loam, cobbly loam, gravelly loam, sandy loam, sandy-clayey loam, clayey loam, silty loam, humusy loam and loam ground; rocky clay, rocky-sandy clay, cobbly clay, sandy clay, silty clay and clay ground; bouldery silty, gravelly silty and silty ground, and humusy ground, occurring from 700 to 11,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, it may form ring patterns (fairy rings); the long-lasting blonde seedheads are displayed high above the foliage. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food and/or fiber (used in basketry and to make brooms and brushes) crop; it was also noted as having been used as a forage grass, as a ceremonial item, as a cooking tool (strainer), as a toy or game, as a drug or medication and as an indicator of a season (one fruit spike foretold a mild winter and two or more spikes foretold a severe winter). Like Buffalo Grass (*Buchloë* *dactyloides*) and Hairy Grama (*Bouteloua hirsuta*) it is a hardy, drought resistant species of the Great Plains. Blue Grama is an important forage plant for Bison (*Bos bison*), Mule Deer (*Odocoileus hemionus*), Elk (*Cervus elaphus*), Pronghorn (*Antilocapra americana*), Bighorn Sheep (*Ovis canadensis*) and Scaled Quail (*Callipepla squamata*), some small mammals and songbirds feed on the seeds. *Bouteloua gracilis* is native to central and southern North America. \*5, 6, 15, 30, 33 (Page 149, “Blue grama is the most widespread and also the most valuable of the gramas. It occurs on all major soil types and is adapted to widely varying habitats.”), 42 (071613), 43 (082810), 44 (071613), 46 (Page 128), 48, 58, 63 (071613 - color presentation), 77, 85 (071613 - color presentation), 105, 127, **MBJ**/**WTK** (November 3, 2009)\*

***Bouteloua hirsuta* M. Lagasca y Segura (var. *hirsuta* is the variety reported as occurring in Arizona): Hairy Grama**

COMMON NAMES: Black Grama; Black Grama Grass; Bristly Mesquit; Bristly Mesquite; Bristly Muskit; Buffalo Grass; Grama Grass; Gramma Grass; Hairy Grama; Hairy Mesquite; Hairy Mesquite Grass; Hairy Mesquite-grass; Mezquit Grass; Navajita Velluda (Hispanic); Peyiokiyata (“Forked Grass?” Lakota?); Short Grama; Spiked Grama; Tall Grama; Zacate Banderita (Hispanic). DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with decumbent to erect culms 4 to 30 inches in height); the foliage is bluish-green curing to gray or straw; the flowers may be green, dark purple or purple-green; the anthers are cream or yellow; flowering generally takes place between late June and early November (flowering beginning as early as April and May has been reported). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky, rocky-clayey, gravelly, gravelly-sandy and sandy mesas; plateaus; rocky canyons; along sandy canyon bottoms; in sandy crevices; rocky-gravelly and sandy bluffs; rocky and gravelly knolls; stony tops of knolls; rocky ridges; rocky, gravelly and gravelly-loamy ridgetops; sandy bases of ridges; meadows; foothills; rocky and rocky-gravelly hills; bouldery and stony hilltops; bouldery, rocky, gravelly-sandy, sandy and clayey hillsides; along bouldery, bouldery-rocky, bouldery-gravelly-loamy, rocky, rocky-gravelly-sandy, rocky-sandy-loamy, rocky-loamy, stony-gravelly, gravelly, gravelly-sandy, gravelly-loamy, sandy, sandy-loamy, loamy and clayey-loamy slopes; rocky outcrops; amongst boulders and rocks; lava flows; sandhills; sand dunes; breaks; rocky and rocky-sandy steppes; rocky and sandy prairies; gravelly-sandy and sandy plains; rocky and sandy flats; rocky and sandy valley floors; road beds along gravelly-loamy and sandy roadsides; rocky arroyos; within draws; streambeds; creekbeds; sandy washes; within rocky and rocky-clayey-silty drainages; along banks of creeks; shores of lakes; stony-gravelly benches; sandy alluvial mounds; gravelly terraces; clayey bottomlands; floodplains; lowlands; around and in stock tanks; gravelly and sandy riparian areas, and disturbed areas growing in moist and dry desert pavement; bouldery, bouldery-rocky, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, shaley, stony, stony-gravelly, gravelly, gravelly-sandy and sandy ground; bouldery-gravelly loam, rocky loam, rocky-gravelly loam, rocky-sandy loam, rocky-clayey loam, gravelly loam, gravelly-sandy loam, sandy loam, sandy-clayey loam, clayey loam, silty loam and loam ground; rocky clay, sandy clay and clay ground, and rocky silty, rocky-clayey silty and silty ground, occurring from 100 to 8,300 feet in elevation in the forest, woodland, scrub, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, and may form rings. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a fodder and as a ceremonial item. Like Blue Grama (*Bouteloua gracilis*) and Buffalo Grass (*Buchloë* *dactyloides*) it is a hardy, drought resistant species of the Great Plains. Hairy Grama may be browsed by Pronghorn (*Antilocapra americana*). *Bouteloua hirsuta* is native to south-central and southern North America and Central America. \*5, 6, 15, 30, 33 (Pages 147-148), 43 (081210 - *Bouteloua hirsuta* Lag.), 46 (Page 128), 48, 58, 63 (081310 - color presentation of seed), 77, **85** (081310 - color presentation), 105, 124 (102510), 127, 140 (Page 299)\*

***Bouteloua radicosa* (E.P. Fournier) D. Griffiths: Purple Grama**

COMMON NAME: Navajita Morada (Spanish); Purple Grama. DESCRIPTION: Terrestrial perennial graminoid (a bunchgrass (clumpgrass) with erect culms 12 to 32 inches in height); the florets are purplish; based on few records located flowering generally takes place between mid-August and early October. HABITAT: Within the range of this species it has been reported from mountains; gravelly mesas; bases of cliffs; rocky canyons; rocky canyonsides; canyon bottoms; rocky points; crevices in boulders and rocks, buttes; rock ledges; rocky ridges; ridgetops; meadows; foothills; rocky hills; hilltops; along rocky hillsides; rocky, rocky-gravelly, stony and gravelly slopes; pebbly-clayey-loamy piedmonts; rocky outcrops; on boulders and rocks; amongst boulders; on rocks; rocky flats; along roadsides; along and in rocky draws; in cobbly streambeds; riverbeds; within sandy washes; (gravelly) edges of arroyos, draws and washes; margins of washes; sandy riparian areas, and disturbed areas growing in moist and dry rocky, rocky-gravelly, stony, cobbly, gravelly and sandy ground; rocky loam, gravelly loam, pebbly-clayey loam and loam ground, and rocky clay ground sometimes forming small localized colonies or almost pure stands over large areas, occurring from 600 to 9,900 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Bouteloua radicosa* is native to southwest-central and southern North America. \*5, 6, 15, 30 (unable to access 120906), 33 (Pages 145-146), 43 (100910 - *Bouteloua radicosa* Griffiths), 44 (102211 - no record of species; genus record), 46 (Pages 128-129), 63 (100910), **85** (102211 - color presentation including habitat), 124 (102211 - no record of species; genus record), 140 (Page 299)\*

***Bouteloua repens* (K.S. Kunth) F.L. Scribner & E.D. Merrill: Slender Grama**

SYNONYMY: *Bouteloua filiformis* (E.P. Fournier) D. Griffiths). COMMON NAMES: Large Mesquite Grama; Navajta (“Little Knife” a name also applied to other species, Spanish: Mexico, Sonora); Navajta Rastrera (Spanish); Slender Grama (*Bouteloua filiformis*); Zacate Sabanilla (Spanish). DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with sprawling decumbent, geniculate, ascending and/or erect culms 4 to 32 inches in height and up to 4 inches in width at the base); the leaves are bright green (purple and yellow forms were also reported) curing to gray or yellow; the spikelets (flowers) are reddish-purple; the anthers may be orange, purple, red or yellow; flowering generally takes place between early August and early November (additional records: two for early January, three for late February and one for mid-June; flowering beginning as early as June and July and ending as late as December has also been reported). HABITAT: Within the range of this species it has been reported from rocky mountains; mountainsides; gravelly and gravelly-loamy mesas; cliff faces; bases of cliffs; rocky canyons; along rocky and gravelly-sandy canyon bottoms; talus slopes; crevices in rocks; pockets of soil in rocks; rocky buttes; rocky ledges; bedrock ridges; rocky ridgetops; openings in forests; rocky and gravelly-loamy foothills; rocky hills; hilltops; rocky and rocky-clayey hillsides; along rocky, rocky-gravelly, rocky-gravelly-sandy-loamy, rocky-clayey, rocky-sandy-loamy, gravelly, gravelly-sandy, gravelly-loamy, sandy, sandy-loamy and clayey slopes; alluvial fans; bajadas; bedrock and rocky outcrops; amongst rocks; rocky banks; prairies; llanos; rocky, cobbly and sandy plains; sandy and clayey flats; bedrock valley floors; valley bottoms; sandy ocean shores; railroad right-of-ways; along rocky roadbeds; along gravelly and sandy roadsides; along rocky and sandy arroyos; bottoms of arroyos; rocky draws; bottoms of draws; gulches; ravines; along streams; along and in rocky streambeds; along and in rocky, gravelly, gravelly-loamy and sandy washes; along and in bedrock drainages; within drainage ways; ciénegas; rocky-clayey swales; (gravelly-loamy) banks of washes; edges of arroyos; (sandy) shorelines of oceans; benches; bottomlands; floodplains; mesquite bosques; riparian areas, and disturbed areas growing in moist (rarely reported) and dry rocky, rocky-gravelly, gravelly, gravelly-sandy and sandy ground; rocky-gravelly-sandy loam, rocky-sandy loam, cobbly-sandy loam, gravelly loam, gravelly-sandy loam, sandy loam and clayey loam ground, and rocky clay and clay ground, occurring from sea level to 8,300 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. Slender Grama holds up well under heavy grazing pressure. *Bouteloua repens* is native to southwest-central and southern North America; Central America and coastal islands in the Caribbean Sea, and northern South America. \*5, 6, 15, 16, 33 (recorded as *Bouteloua filiformis* (Fourn.) Griffiths, Page 145), 42 (053113), 43 (093009), 44 (112210 - no record of species; genus record), 46 (recorded as *Bouteloua filiformis* (Fourn.) Griffiths, Page 129), 48, 58, 63 (053113 - color presentation), 77, **85** (053113 - color presentation), 105 (recorded as *Bouteloua filiformis* (Fourn.) Griffiths), 124 (102510 - no record of species; genus record), 140 (Page 299)\*

*Bouteloua repens* var. *repens* (see footnote 85 under *Bouteloua repens*)

*Chaetochloa leucopila* (see *Setaria leucopila*)

*Chloris dubia* (see *Leptochloa dubia*)

*Chloris elegans* (see *Chloris virgata*)

***Chloris virgata* O. Swartz: Feather Fingergrass**

SYNONYMY: *Chloris elegans* K.S. Kunth. COMMON NAMES: Barbas de Indio (Hispanic); Cola de Zorra (Spanish); Plumerito (Hispanic); Feather Finger; Feather Finger Grass; Feather Finger-grass; Feather Fingergrass; Feather Windmill Grass; Feather Windmill-grass; Feather Windmillgrass; Feathered Chloris; Feathery Rhodes Grass; Feather-finger (Texas); Feather-top Chloris; Feather-top Rhodes Grass; Featherfinger (Texas); Feathertop Chloris; Feathertop Rhodes Grass; Feathertop Rhodesgrass; Feder-Fingergras (German); Finger Grass (a name also applied to other species and the genus *Chloris*); Five-finger Windmillgrass; Klossiegras (Afrikaans); Oldland Grass; Showy Chloris; Showy Windmillgrass; Silky Chloris; Silky Fingergrass; Sweet Grass (a name also applied to other species); Verdillo (Hispanic); Verdillo Plumerito (Spanish); Zacate de Cinco Dedos; Zacate de Cola de Zorra (Hispanic); Woolly-top Rhodes Grass; Zacate Lagunero (Spanish); Zacate Mota (Spanish); Zacate Pluma (Spanish). DESCRIPTION: Terrestrial annual tufted (usually) graminoid (a bunchgrass with decumbent, geniculate, ascending and/or erect culms ½ to 40 inches in height); the foliage is light green curing to light straw; the flowers are greenish; flowering generally takes place between mid-July and late October (additional flowering records: one for late January, one for early May, three for mid-May, one for mid-November, two for late November; flowering beginning as early as April has been reported). HABITAT: Within the range of this species it has been reported from mountains; rocky and clayey-loamy mesas; bases of cliffs; rocky canyons; gravelly canyon bottoms; ridges; meadows; rocky foothills; amongst hills; rocky hillsides; rocky, rocky-clayey-loamy, gravelly, gravelly-sandy-loamy, gravelly-loamy, sandy, sandy-loamy, loamy and clayey-loamy slopes; gravelly bajadas; amongst boulders, rocks and pebbles; sand dunes; sandy prairies; plains; gravelly, sandy-loamy, loamy and clayey-loamy flats; clayey valley floors; valley bottoms; along rocky-gravelly-clayey, gravelly, gravelly-sandy, gravelly-loamy and sandy roadsides; arroyos; sandy bottoms of arroyos; draws; bottoms of draws; seeps; along streams; rocky streambeds; along creeks; creekbeds; along and in rocky, gravelly, sandy and clayey washes; within drainages; within drainage ways; around ponds; ciénegas; freshwater marshes; silty depressions; swales; along banks of rivers; (sandy and sandy-clayey) edges of washes; margins of washes; (rocky-sandy) shores of lakes; clayey mudflats; gravel bars; sandy beaches; sandy benches; rocky shoals; terraces; loamy bottomlands; floodplains; mesquite bosques; along fencelines; clayey-loamy stock tanks (represos); around reservoirs; along ditches; ditch banks; bouldery-cobbly-sandy and sandy riparian areas; gravelly waste places, and disturbed areas growing in moist, damp and dry bouldery, bouldery-cobbly-sandy, rocky, rocky-sandy, gravelly, gravelly-sandy, pebbly and sandy ground; rocky-clayey loam, gravelly loam, gravelly-sandy loam, sandy loam, clayey loam, clayey-humusy loam and loam ground; rocky clay, rocky-gravelly clay, sandy clay and clay ground, and silty ground, occurring from sea level to 7,200 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Chloris virgata* is native to south-central and southern North America; Central America and coastal islands in the Caribbean Sea; northern, western and southern South America; southern Asia and coastal islands in the north Pacific Ocean, and Africa and coastal islands in the West Indian Ocean. \*5, 6, 15, 16, 30, 33 (Page 130), 42 (072113), 43 (100509), 44 (110211), 46 (Page 126), 58, 63 (110211 - color presentation), 68, 77, **85** (110211 - inclusion based on a record from the Rosemont Ranger Station Pasture, color presentation including habitat), 105, 124 (110211), 133 (072113), 155 (072113)\*

***Cynodon dactylon* (C. Linnaeus) C.H. Persoon: Bermudagrass**

COMMON NAMES: ‘A’ai Hihimdam Vaṣai (Uto-Aztecan: Hiá Ceḍ O’odham)140; ‘A’ai Himdam Vashai [A’ai Hihimdam Waṣai] (“Grass that Spreads in All Directions”, Uto-Aztecan: Akimel O’odham and Tohono O’odham)140; Acabacahuiztle (Hispanic); Acacahuitzli (Náhuatl); Acaxacahuitztli <acabacahuitztli> (Uto-Aztecan: Náhuatl)140; Bahama Grass (var. *dactylon*); Bahama-grass; Baso Huilanch (Mayo); Bermud Grass; Bermuda Couch Grass; Bermuda Devil Grass; Bermuda Grass (a name also applied to var. *dactylon* and to the genus *Cynodon*); Bermuda Grass (English)140; Bermudagras (German, a name applied to var. *dactylon*); Bermudagrass (a name also applied to the genus *Cynodon*); Bermudgrass; Bramilla (Hispanic); Cane Grass; Canzuuc (Maya); Capim-bermuda (Portuguese, applied to var. *dactylon*); Chiendent Pied-de-poule (French); Coarse Kweek; Common Bermuda Grass; Common Bermuda-grass; Common Bermudagrass; Creeping Bermuda Grass; Creeping Cynodon; Creeping-cynodon; Cynodon Dactyle (French, applied to var. *dactylon*); Devil Grass; Devil’s Grass (var. *dactylon*); Devilgrass; Dhub (India, applied to var. *dactylon*); Diente de Perro (“Dog’s Tooth”, Spanish)140; Doab Grass; Doab-grass; Dog-tooth Grass (a name also applied to the genus *Cynodon*); Dog’-tooth; Dog’s Grass; Dog’s Tooth; Dog’s Tooth Grass; Dog’s-tooth Grass; Doob (India, applied to var. *dactylon*); Doob Grass; Doob-grass; Doorba; Dub (northern India); Dub Grass; Dub-grass; Durba (Bengal); European Bermuda Grass; Gallito (“Little Rooster”, Spanish: Mexico)140; Gallitos (Hispanic); Gewonekweek (Afrikaans); Giant Bermuda Grass (var. *aridus*); Giant Bermudagrass; Gou Ya Gen (transcribed Chinese); Grama (“Grass”, Spanish: Spain)140; Grama (Bermuda) de la Costa (Spanish); Grama-seda; Gramilla (Hispanic); Grana (Hispanic); Grama Rastrera (Spanish, applied to var. *dactylon*); Gramina (Italian); Grand Chiendent (French, applied to var. *dactylon*); Green Couch; Green Couch Grass; Guix-biguiñi (Zapotec); Hariali (Deccan); Hariali Grass (var. *dactylon*); Hundezahngras (German, applied to var. *dactylon*); Hundtandsgräs (Swedish); Indian Couch; Indian Couch Grass; Indian Couch-grass; Indian Doab; Indian Doob; Kan-suuk (Mayan: Maya)140; Ki: Weco Vaṣai (Uto-Aztecan: Hiá Ceḍ O’odham)140; Kii Wecho Vashai [Ki: Weco Waṣai] (“Grass Around Houses” used when first seen, Uto-Aztecan: Akimel O’odham and Tohono O’odham)140; Komal Himdam (“Spreads Out Flat Grass”, Uto-Aztecan: Akimel O’odham)140; Kweekgras (Afrikaans, applied to var. *dactylon*); Lan-suuk (Maya); Manienie; Motie Molulu; Najeel (Arabic); Owiv (“Grass”, Uto-Aztecan: Ute)140; Pasto Bermuda (Hispanic); Pasto de Bermuda (Spanish); Pasto Estrella (Hispanic); Pata de Gallo (“Rooster’s Foot”, Spanish: Sonora)140; Pata de Perdiz (Hispanic); Pata de Pollo (Hispanic); Plain Couch; Quick Grass (var. *dactylon*); Sacate Lana (Mexico Sonora); Scotch Grass; Scutch Grass; Theel (Arabic); Tł’oh (“Grass” a word applied to any grass, Athapascan: Western Apache)140; Tsakam Toom (Hispanic); Vaiṣoi [Vásoi] (“Grass” a word applied to any grass, Uto-Aztecan: Northern Tepehuan)140; Waháɨ (“Grass” a word applied to any grass, Uto-Aztecan: Northern Paiute)140; White Quick Grass; Wire Grass (a name also applied to other species and to the genus *Aristida*); Wire-grass; Xusí (Yuman: Cocopa)140; Zacate (Hispanic); Zacate Bermuda (Spanish: Sonora)140; Zacate Borrego (Hispanic); Zacate Chino (Hispanic); Zacate Conejo (“Rabbit Grass”, Spanish: Chihuahua)140; Zacate de Bermuda (Spanish, applied to var. *dactylon*); Zacata de Lana (“Wool Grass”, Spanish: Mayo, Sonora)140; Zacate del Conejo (Hispanic); Zacate Inglés (“English Grass”, Spanish: Sonora)140; Zacate Pilillo (Hispanic); Zaruue (Hispanic); Zarzuue (Mayan: Maya, Yucatán)140. DESCRIPTION: Terrestrial perennial graminoid (a sodgrass with stoloniferous, usually also rhizomatous creeping , spreading and/or trailing prostrate, decumbent and/or geniculate culms 2 to 24 inches in height); the foliage is green or yellow-green curing to straw after a frost; the color of the florets has been described as being purple; flowering generally takes place between mid-February and mid-December (additional record: one for early January). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky canyons; bouldery-gravelly-sandy, rocky and sandy canyon bottoms; pockets of sandy soil in boulders; buttes; meadows; foothills; rocky hills; bouldery and rocky hillsides; rocky, rocky-cobbly-gravelly, gravelly, sandy and clayey slopes; rocky outcrops; sand hummocks; alcoves; prairies; cobbly plains; gravelly, sandy and clayey flats; basins; bolsons; valley floors; clayey valley bottoms; along railroad right-of-ways; along gravelly, gravelly-clayey-loamy and sandy roadsides; along and in sandy arroyos; gravelly and sandy bottoms of arroyos; seeps; springs; about streams; seeping streams; along and in muddy streambeds; along creeks; along sandy creekbeds; along rivers; sandy riverbeds; along and in rocky and sandy washes; within drainages; within rocky drainage ways; tinajas; waterholes; moist beds of dried vernal pools; in clayey soils around ponds; playas; ciénegas; freshwater marshes; clayey marshlands; sandy depressions; along (sandy) banks of draws, streams, creeks, rivers and washes; borders of washes; (sandy) edges of rivers, ponds, lagoons, bogs and marshes; margins of rivers; (sandy) sides of rivers; shores of lakes; gravel bars; sandy beaches; along bouldery and sandy benches; sandy and loamy bottomlands; floodplains; mesquite bosques; in and around clayey-loamy stock tanks; sandy-loamy edges of reservoirs; edges of canals; along canal banks; along ditch banks; bouldery, rocky and sandy riparian areas; waste places, and disturbed areas growing in muddy and wet, moist, damp and dry bouldery, bouldery-cobbly-sandy, bouldery-gravelly-sandy, bouldery-sandy, rocky, rocky-cobbly-gravelly, rocky-cobbly-sandy, rocky-sandy, gravelly, gravelly-sandy and sandy ground; rocky loam, gravelly loam, gravelly-clayey loam, sandy loam, clayey loam and loam ground; clay ground, and bouldery-gravelly-sandy silty, sandy silty and silty ground, occurring from sea level to 6,500 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: EXOTIC Invasive Plant which poses a significant threat to our native biotic communities. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a veterinary aid. Bermuda Grass is sometimes confused with another exotic species, Large Crabgrass (*Digitaria sanguinalis*) a species of similar general appearance. Bermuda Grass goes dormant when nighttime temperatures drop below freezing or average daytime temperatures are below 50 degrees Fahrenheit. Vigorous growth is achieved when nighttime temperatures are above 60 degrees Fahrenheit and daytime temperatures are above 85 degrees Fahrenheit. *Cynodon dactylon* is native to Africa. \*5, 6, 15, 16, 18, 22 (color photograph), 30, 33 (Page 129), 42 (060813), 43 (100509), 44 (032711), 46 (Page 124), 58, 63 (060813 - color presentation), 68, 77, 80 (Bermudagrass is listed as a Poisonous Cropland and Garden Plant. “Cattle grazing on Bermudagrass pasture may develop photosensitization, paralysis or a nervous syndrome.”), 85 (061113 - color presentation), 101 (color photograph), 105, 109, 124 (032711), 127, 140 (Pages 202-203 & 299), **WTK** (September 26, 2005)\*

***Dasyochloa pulchella* (K.S. Kunth) C.L. von Wildenow ex P.A. Rydberg: Low Woollygrass**

SYNONYMY: *Erioneuron pulchellum* (K.S. Kunth) T. Tateoka; *Tridens pulchellus* (K.S. Kunth) A.S. Hitchcock; *Triodia pulchella* K.S. Kunth. COMMON NAMES: Desert Fluffgrass; False Fluff Grass; False Fluffgrass; Fluff Grass (a name also applied to other species); Fluff-grass (a name also applied to other species); Fluffgrass (a name also applied to other species); Low Fluffgrass; Low Triodia; Low Woolly Grass; Low Woolly-grass; Low Woollygrass; Low Woolygrass; Oerennuak Grass; Zacate Borreguero (Spanish). DESCRIPTION: Terrestrial perennial (often appearing to be an annual and has also been described as being a short-lived perennial) tufted graminoid (a bunchgrass (clumpgrass) with creeping, spreading and training prostrate, decumbent, geniculate, ascending and/or erect culms ½ to 12 inches in height; plants were observed and recorded as being 2 to 4 inches in height and 2 to 4 inches in width, plants were observed and recorded as being 4 inches in height and 12 inches in width); the foliage is bluish-green curing to a gray-white; the flowers are green, silvery or white; flowering generally takes place between mid-March and late October (additional records: two for mid-February and one for early December). HABITAT: Within the range of this species it has been reported from mountains; rocky-sandy, gravelly, sandy-loamy and clayey mesas; along rocky, gravelly and sandy canyons; gravelly and gravelly-sandy canyon bottoms; gorges; lava rincons; rocky talus slopes; sandy soils in crevices in rocks and rock slabs; knolls; rocky and gravelly ridges; clayey ridgetops; rocky ridgelines; meadows; gravelly foothills; rocky, gravelly and sandy hills; rocky, rocky-sandy and gravelly hillsides; sandy bases of escarpments; sandy edges of escarpments; bedrock, bouldery, rocky, rocky-cobbly-gravelly, rocky-gravelly, stony, cindery-clayey, gravelly, gravelly-sandy, gravelly-sandy-loamy, gravelly-sandy-clayey-loamy, gravelly-loamy, gravelly-clayey, sandy and loamy slopes; rocky alluvial fans; rocky-sandy, gravelly and sandy bajadas; rocky outcrops; amongst boulders and rocks; rocky-sandy coves; sandy benches; sand hills; sand dunes; breaks; gravelly steppes; sandy and clayey plains; rocky, cindery, gravelly, gravelly-sandy, sandy, sandy-loamy and clayey flats; stony uplands; valley floors; sandy valley bottoms; along railroad right-of-ways; along bouldery-rocky, rocky, gravelly, gravelly-sandy-loamy, gravelly-loamy, sandy and sandy-loamy roadsides; along two-tracks; sandy arroyos; sandy bottoms of arroyos; gravelly draws; bottoms of gulches; rocky gullies; streambeds; along creeks; creekbeds; along and in rocky, rocky-sandy, cobbly-gravelly, gravelly, gravelly-sandy and sandy washes; along and in rocky and sandy drainages; playas; marshes; clayey depressions; swales; along banks of washes; borders of washes; edges of washes; (rocky-sandy) shores of lakes; beaches; benches; gravelly and sandy terraces; rocky-sandy and loamy bottomlands; floodplains; rocky lowlands; mesquite bosques; sandy riparian areas, and disturbed areas growing in moist, damp or dry desert pavement; bouldery, bouldery-rocky, rocky, rocky-cobbly-gravelly, rocky-gravelly, rocky-sandy, shaley, stony, cobbly, cobbly-gravelly, cindery, gravelly, gravelly-sandy, pebbly and sandy ground; gravelly loam, gravelly-sandy loam, gravelly-sandy-clayey loam, sandy loam, clayey loam and loam ground; rocky clay, cindery clay, gravelly clay, gravelly-sandy clay, sandy clay and clay ground, and sandy silty ground, occurring from 100 to 7,000 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This low, densely tufted perennial may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. This plant is browsed by the Desert Bighorn Sheep (*Ovis canadensis* *mexicana*); however, it has been reported that this plant is generally avoided by grazing animals. *Dasyochloa pulchella* is native and endemic to southwest-central and southern North America. \*5, 6, 15 (recorded as *Erioneuron pulchellum* (H.B.K.) Tateoka), 16 (recorded as *Erioneuron pulchellum* (H.B.K.) Tateoka), 33 (recorded as *Tridens pulchellus* (H.B.K.) Hitchc., Page 97), 42 (061213), 43 (071309), 44 (032811 - records located under *Erioneuron pulchellum*, color photograph), 46 (recorded as *Tridens pulchellus* (H.B.K.) Hitchc., Page 90), 58 (recorded as *Erioneuron pulchellum* (H.B.K.) Tateoka), 63 (061213 - color presentation), 77 (recorded as *Erioneuron pulchellum* (H.B.K.) Tateoka), **85** (061313 - color presentation including habitat), 105 (recorded as *Tridens pulchellus* (H.B.K.) Hitchc.), 124 (032811 - no record of species or genus, record for *Erioneuron*), 127, **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

***Digitaria californica* (G. Bentham) J.T. Henrard: Arizona Cottontop**

SYNONYMY: *Trichachne californica* (G. Bentham) M.A. Chase. COMMON NAMES: Arizona Cotton Grass; Arizona Cotton Top; Arizona Cotton-grass; Arizona Cotton-top; Arizona Cottongrass; Arizona Cottontop; California Cotton-grass; California Cotton-top; California Cottontop; California Crab Grass; California Crabgrass; Cotton Grass (a name also applied to other species); Cotton Top (Texas, a name also applied to other species); Cotton-top (a name also applied to other species); [Arizona, California] Cotton-top (English)140; Cottongrass (a name also applied to other species); Cottontop (a name also applied to other species); Plumero Blanco (“White Feather Duster”, Spanish)140; Punta Blanca (Spanish); Tł’oh (“Grass” a word applied to any grass, Athapascan: Western Apache)140; Waháɨ (“Grass” a word applied to any grass, Uto-Aztecan: Northern Paiute)140; Waṣai (“Grass” a word applied to any grass, Uto-Aztecan: Tohono O’odham)140; Zacate Punta Blanca (“White Top Grass”, Spanish: Chihuahua, Sonora)140. DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with geniculate, ascending and/or erect culms 1 to 4 feet in height); the foliage may be dark bluish-green, gray-green, green or yellow-green curing to gray or straw; spikelets (flowers) are purplish-pink, flowering generally takes place between early August and early December (additional records: one for early May and one for early July); the cottony seedheads are covered by silky hairs. HABITAT: Within the range of this species it has been reported from rocky mountains; mountaintops; sandy-loamy mesas; shaded rocky cliffs; bases of cliffs; rocky and gravelly-loamy canyons; rocky canyon walls; sandy canyon bottoms; bouldery and rocky talus slopes; crevices in rocks; rock buttes; knobs; ledges; rocky ridges; foothills; bouldery and rocky hills; rocky hillsides; bouldery escarpments; bouldery, bouldery-rocky, bouldery-rocky-sandy, rocky, rocky-gravelly, rocky-sandy-loamy, gravelly, gravelly-sandy, gravelly-sandy-loamy, gravelly-clayey, gravelly-sandy-loamy, sandy, sandy-loamy, sandy-clayey and clayey-loamy slopes; alluvial fans; bajadas; bouldery outcrops; amongst boulders and rocks; sand dunes; silty plains; rocky, gravelly and sandy flats; hollows; valley floors; valley bottoms; coastal plains; roadbeds; along gravelly and sandy roadsides; arroyos; rocky draws; gulches; ravines; springs; along creeks; creekbeds; riverbeds; along and in sandy and silty-clayey washes; within drainage ways; marshes; along (rocky and sandy) banks of arroyos, streams and washes; borders of washes; gravel bars; along benches; terraces; clayey bottomlands; sandy floodplains; ditches; sandy riparian areas, and disturbed areas growing in dry rocky desert pavement; bouldery, bouldery-rocky, bouldery-rocky-sandy, rocky, rocky-gravelly, rocky-sandy, shaley, stony, cobbly, gravelly, gravelly-sandy, pebbly-sandy and sandy ground; rocky-sandy loam, rocky-clayey loam, gravelly loam, gravelly-sandy loam, sandy loam, clayey loam and loam ground; gravelly clay, sandy clay, silty clay and clay ground, and sandy silty and silty ground, occurring from sea level to 7,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Digitaria californica* is native to southwest-central and southern North America; Central America, and western and southern South America. \*5, 6, 15, 16, 33 (recorded as *Trichachne californica* (Benth.) Chase, Page 296), 42 (061313), 43 (100609), 44 (110311), 46 (recorded as *Trichachne californica* (Benth.) Chase, Page 132), 48, 58, 63 (061313 - color presentation), 77, 85 (061313 - color presentation), 105 (recorded as *Trichachne californica* (Benth.) Chase), 124 (110311), 140 (Pages 199, 203-204 & 299), **WTK** (September 26, 2005)\*

*Digitaria cognata* var. *pubiflora* (see *Digitaria pubiflora*)

***Digitaria pubiflora* (G. Vasey) J.K. Wipff: Western Witchgrass**

SYNONYMY: *Digitaria cognata* (J.A. Schultes) R.K. Pilger var. *pubiflora* (G. Vasey) L.H. Dewey. COMMON NAMES: Carolina Crabgrass; Fall Witch Grass; Fall Witchgrass (a name also applied to *Digitaria cognata*); Western Witchgrass. DESCRIPTION: Terrestrial perennial graminoid (a bunchgrass with erect culms 8 to 28 inches in height); the foliage is bluish-green; the upper lemmas of the floret are dark brown; the anthers may be purple, red or yellow; flowering generally takes place between August to September (additional records: flowering beginning as early as May and ending as late as November has also been reported). HABITAT: Within the range of this species it has been reported from mountains; canyons; clayey knolls; ridges; rocky-gravelly, gravelly and sandy hills; rocky and sandy-loamy slopes; loamy alluvial fans; sandy bajadas; sand hills; sand dunes; gravelly and sandy plains; roadsides; two-tracks; arroyos; bottoms of arroyos; draws; gulches; creekbeds; along riverbeds; drainages; (sandy) banks of arroyos; bottomlands, and disturbed areas growing in dry rocky, rocky-gravelly, gravelly and sandy ground; sandy loam and loam ground, and clay ground, occurring from 900 to 6,400 feet in elevation in the woodland, grassland and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Digitaria pubiflora* is native to southwest-central and southern North America. \*5, 6, 33 (recorded as *Leptoloma cognatum* (Schult.) Chase, Page 298), 42 (071413 - neither *Leptoloma cognata* (J.A. Schultes) M.A. Chase nor *Panicum cognatum* J.A. Schultes were listed as being synonyms), 43 (053010 - *Digitaria cognata* (Schult.) Pilg. var. *pubiflora* (Vasey ex L.H. Dewey) Wipff), 44 (071413 - no record of species; genus record), 46 (recorded as *Leptoloma cognatum* (Schult.) Chase, Page 132), 63 (071413), **85** (071413), 140 (recorded as *Digitaria cognata* (Schultes) Pilger var. *pubiflora* (Vasey ex L.H. Dewey) Wipff, Page 299)\*

*Diplachne dubia* (see *Leptochloa dubia*)

*Disakisperma dubia* (see footnote 133 under *Leptochloa dubia*)

*Disakisperma dubium* (see *Leptochloa dubia*)

*Elionurus barbiculmis* var. *parviflorus* (see *Elionurus barbiculmis*)

***Elionurus barbiculmis* E. Hackel: Woolyspike Balsamscale**

SYNONYMY: *Elionurus barbiculmis* E. Hackel var. *parviflorus* F.L. Scribner. COMMON NAMES: Sapatike (Tarahumara); Woolspike Balsamscale; Wooly Bunchgrass; Woolly Bunchgrass; Wooly Spike Balsam-scale; Wooly Spike Grass; Woolyspike Balsamscale; Zacate Lanoso (Hispanic). DESCRIPTION: Terrestrial perennial tufted graminoid (a cespitose bunchgrass (clumpgrass) with ascending to erect culms 14 inches to 4 feet in height); the foliage is light green curing to dark straw yellow; the inflorescence is silvery; the stamens and styles are red-purple; based on few records locate, flowering generally takes place between late July and mid-September (flowering records: one for late July, one for mid-August, two for late August and two for mid-September; flowering ending as late as October has been reported). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; rocky mesas; rims of canyons; rocky canyons; canyon bottoms; talus slopes; buttes; ridgetops; openings in woodlands; foothills; rocky hills; rocky hillsides; rocky, rocky-gravelly, rocky-clayey, gravelly, loamy and clayey slopes; pediments; plains; rocky flats; valley floors; rocky roadcuts; gulches, and sandy washes growing in dry rocky, rocky-gravelly, gravelly and sandy ground; loam ground; rocky clay and clay ground, and sandy silty ground, occurring from 1,400 to 6,100 feet in elevation in the woodland, scrub, grassland and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, include with a mixture of other native grasses. *Elionurus barbiculmis* is native to southwest-central and southern North America. \*5, 6, 15, 30, 33 (recorded as *Elyonurus barbiculmis* Hack., Page 300), 43 (022111 - *Elyonurus barbiculmis* var. *parviflorus* Scribn.; no record of *Elyonurus barbiculmis* Hack. or *Elyonurus barbiculmis* var. *parviflorus* Scribn.), 44 (022111 - no record of species), 46 (recorded as *Elyonurus barbiculmis* Hack., *Elyonurus barbiculmis* var. *parviflorus* Scribn., Page 144), 48, 63 (022111), **85** (022111 - color presentation of dried material; also recorded as *Elyonurus barbiculmus* Hack.), 124 (022111 - no record of species), 105 (recorded as *Elyonurus barbiculmis* Hack.), 140 (Page 299)\*

***Elymus elymoides* (C.S. Rafinesque-Schmaltz) G.D. Swezey: Squirreltail**

COMMON NAMES: Alkali Rye; Barb Goatgrass; Beardless Wild Rye; Bottle Brush (a name also applied to other species); Bottle Brush Grass; Bottle Brush Squirrel Tail; Bottle Brush Squirreltail; Bottle-brush Squirreltail; Bottle-brush Squirrel-tail; Bottlebrush Squirrel Tail; Bottlebrush Squirrel-tail; Bottlebrush Squirreltail; Common Squirrel-tail; Common Squirreltail (subsp. *elymoides*); Creeping Wild Rye; Long-bristle Wild Rye; Long-bristled Wild Rye; Long-bristled Wild-rye; Long-bristle Wild Rye; Mono’pü (Uto-Aztecan: Paiute)140; O’ro [O’do, O’ro, O’rorop] (Uto-Aztecan)140; Odorûmbiv (Uto-Aztecan: Ute)140; Orchard Barley; Pahankis (Uto-Aztecan: Cahuilla)140; Pesru <pésru> (Uto-Aztecan: Hopi)140; Porcupine Grass; Squaw Grass; Squirrel Tail; [Bottlebrush] Squirrel-tail (English)140; Squirreltail (a name also applied to other species and the genus *Elymus*); Tł’oh (“Grass” a word applied to any grass, Athapascan: Western Apache)140; Triguillo Desértico (“Little Desert Wheat”, Spanish: Mexico)140; Waṣai (“Grass” a word applied to any grass, Uto-Aztecan: Tohono O’odham)140; Western Bottle Brush Grass; Western Bottle-brush Grass; Western Squirreltail; Zacate Cebadilla [Sevaidilla] (“Little Nourishing Grass”, Spanish: Mexico)140; Zacate Ladera (“Slope Grass, Spanish: Sonora)140; Zee’iilwo’ii Ntsaaigii (Navajo); ‘Zéé’iilwoii <ˀazeˀ i.l “oˀi> (Athapascan: Navajo)140. DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with decumbent, geniculate, ascending and/or erect culms 3 inches to 31 inches (6½ feet?) in height; plants were observed and reported as being 12 inches in height and 6 inches in width at the base, plants were observed and reported as being 20 inches in height and 2 inches in width at the base); the foliage is green; the spikelets (flowers) are gray-green or green; flowering generally takes place between mid-March and late October). HABITAT: Within the range of this species it has been reported from mountains; rocky and gravelly mountaintops; sandy mountainsides; rocky-sandy-silty bases of peaks; bases of mountains; rocky-sandy, stony-cobbly, shaley and sandy-clayey-loamy mesas; rocky, sandy and clayey-loamy plateaus; tablelands; canyon rims; cliff faces; bases of cliffs; bouldery, rocky, gravelly-sandy and sandy canyons; along pebbly-sandy canyon walls; shaley, gravelly and gravelly-sandy canyonsides; rocky and gravelly-sandy canyon bottoms; rocky gorges; rocky and clayey scree; rocky talus slopes; crevices in rocks; sandy bluffs; rocky, rocky-gravelly, gravelly, gravelly-sandy, gravelly-clayey, sandy-clayey and clayey buttes; stony, sandy and clayey knolls; rocky and sandy ledges; bouldery, rocky, rocky-gravelly, shaley, stony, gravelly, gravelly-sandy, sandy, sandy-silty-loamy and clayey ridges; rocky, shaley, stony-cobbly, gravelly, sandy and clayey ridgetops; ridgelines; rocky clearings in forests; rocky, rocky-silty, gravelly, sandy and loamy meadows; foothills; rocky, shaley, cindery (scoria), gravelly-sandy, sandy, sandy-clayey and clayey hills; rocky, stony-cobbly, gravelly, sandy and clayey hilltops; rocky, rocky-sandy, rocky-clayey and gravelly hillsides; sandy bases of hills; bouldery, bouldery-rocky, bouldery-silty, rocky, rocky-gravelly-loamy, rocky-sandy, rocky-sandy-loamy, rocky-sandy-clayey, rocky-loamy, rocky-clayey, rocky-clayey-loamy, rocky-silty, shaley, shaley-sandy, shaley-clayey, stony, stony-cobbly, stony-cobbly-sandy-clayey, stony-sandy, stony-clayey, cobbly-sandy-loamy, cindery-clayey, gravelly, gravelly-sandy, gravelly-sandy-loamy, gravelly-loamy, gravelly-clayey, gravelly-clayey-loamy, pebbly-sandy, sandy, sandy-loamy, sandy-clayey, sandy-clayey-loamy, loamy, clayey, clayey-loamy, clayey-silty, silty and silty-clayey slopes; gravelly bajadas; bouldery, rocky, shaley and clayey outcrops; amongst boulders, rocks and gravels; rocky fell-fields; rocky-clayey rock beds; bases of rocks; sandy alcoves; sandy lava flows; lava beds; sand dunes; sandy hummocks; blow-sand deposits; clayey mounds; gravelly mudslopes; breaks; shaley and gravelly benches; edges of clayey balds; loamy steppes; stony and sandy prairies; gravelly, pebbly, sandy, sandy-clayey and clayey plains; rocky, rocky-sandy, rocky-clayey, gravelly, gravelly-sandy-clayey, gravelly-loamy, sandy, sandy-clayey, clayey, silty-loamy and silty-clayey flats; pebbly-sandy, sandy and clayey uplands; rocky and clayey basins; basin floors; sandy and sandy-silty valley floors; clayey valley bottoms; along sandy and clayey railroad right-of-ways; roadbeds; sandy roadcuts; along rocky, rocky-gravelly-silty, rocky-sandy, cindery, gravelly and clayey roadsides; within arroyos; within rocky-sandy, shaley, gravelly-sandy, sandy and clayey draws; sandy bottoms of draws; gulches; bottoms of gulches; muddy-clayey, rocky and sandy gullies; bottoms of gullies; ravines; seeps; springs; along streams; gravelly-clayey streambeds; along creeks; rocky and clayey creekbeds; along rivers; sandy riverbeds; along and in rocky, rocky-sandy, shaley, sandy and clayey washes; within cobbly-gravelly, gravelly-sandy and sandy drainages; within rocky drainage ways; playas; sandy-clayey depressions; clay pits; swales; along (gravelly, sandy and silty) banks of streams, creeks and rivers; along edges of washes and lakes; margins of rivers, playas and (soda) lakes; (sandy) shores of lakes; along gravel, gravelly-sand and sand bars; sandy beaches; rocky, rocky-sandy, shaley, gravelly and sandy-clayey benches; gravelly and clayey terraces; sandy and clayey bottomlands; along sandy, sandy-clayey and clayey floodplains; clayey lowlands; mesquite bosques; fencelines; clayey catchments; around stock tanks; edges and margins of reservoirs; dry bottoms of reservoirs; along ditches; sandy-loamy banks of ditches; sandy riparian areas, and disturbed areas growing in cryptogamic; shallow water and wet, moist, damp and dry rimrock; rocky desert pavement; bouldery, bouldery-rocky, bouldery-rocky-sandy, rocky, rocky-gravelly, rocky-sandy, shaley, shaley-gravelly, stony, stony-cobbly, stony-sandy, cobbly-gravelly, cindery, gravelly, gravelly-sandy, pebbly, pebbly-sandy and sandy ground; rocky loam, rocky-gravelly-sandy-clayey loam, rocky-gravelly loam, rocky-sandy loam, rocky-clayey loam, stony-clayey loam, cobbly-sandy loam, gravelly-sandy-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-clayey loam, sandy loam, sandy-clayey loam, sandy-silty loam, clayey loam, silty loam, humusy loam and loam ground; rocky clay, rocky-sandy clay, shaley clay, stony clay, stony-cobbly-sandy clay, cindery clay, gravelly clay, gravelly-sandy clay, sandy clay, silty clay and clay ground; bouldery silty, rocky silty, rocky-gravelly silty, rocky-sandy silty, sandy silty, clayey silty and silty ground; humusy ground; peaty ground, and chalky ground, occurring from 1,500 to 11,600 feet in elevation in the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial fodder crop. *Elymus elymoides* is native to west-central and southern North America. \*5, 6, 15, 33 (*Elymus elymoides* (Raf.) Swezey (*Sitanion hystrix* J.G. Smith) subsp. *elymoides*, Pages 115-117), 42 (061913), 43 (100809), 44 (110611 - color photograph), 46 (subsp. *elymoides*, recorded as *Sitanion hystrix* J.G. Smith, “The mature awns penetrate the flesh of grazing animals, causing inflammation.”, Page 96), 48, 63 (061913 - color presentation), 68, 77 (recorded as *Elymus elymoides* (Raf.) Swezey [*Sitanion hystrix* (Nutt.) J.G. Smith]. Squirrel Tail), **85** (111011 - color presentation including habitat), 124 (110611), 127, 140 (204-206, 215 & 299)\*

*Elyonurus barbiculmis* (see footnotes 15, 33, 46 and 105 under *Elionurus barbiculmis*)

*Elyonurus barbiculmis* var. *parviflorus* (see footnote 46 under *Elionurus barbiculmis*)

*Elyonurus barbiculmus* (see footnote 85 under *Elionurus barbiculmis*)

***Enneapogon* *desvauxii* A.M. Palisot de Beauvois: Nineawn Pappusgrass**

SYNONYMY: *Pappophorum wrightii* S. Watson. COMMON NAMES: False Pappus Grass; Feather Pappus Grass (a name also applied to the genus Enneapogon); Feather Pappusgrass (a name also applied to the genus Enneapogon); Kalkgras (Afrikaans); Nine Awned Pappus Grass; Nine-awn Feather Pappus Grass; Nine-awn Feather-pappus Grass; Nine-awn Pappus Grass; Nine-awn Pappus-grass; Nine-awn Pappusgrass; Nine-awned Feather-pappus Grass; Nine-awned Pappus Grass; Nineawn Pappusgrass; Purple Grass (a name also applied to other species); Purple-grass; Spike Pappus Grass (Texas); Spike Pappus-grass; Spike Pappusgrass; Spike-pappus Grass; Wondergras (Afrikaans); Wright Pappusgrass; Zacate Ladera (Spanish); Zacate Lobero (Spanish). DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with decumbent, geniculate, ascending and/or erect culms 4 to 20 inches in height); the foliage may be grayish-green or light green; the flowers are grayish, grayish-green or purplish; flowering generally takes place in summer and fall between early August and early November (additional records: two for late January, two for early July and one for mid-December; flowering beginning in February and ending in March has also been reported). HABITAT: Within the range of this species it has been reported from mountains; mountaintops; mountainsides; bedrock, gravelly and sandy mesas; plateaus; cliffs; along bases of cliffs; sandy rims of canyons; along bouldery, rocky and clayey canyons; sandy canyon bottoms; talus slopes; crevices; pockets of sandy soil in rim rock sandstone; knolls; bouldery and rocky ledges; bedrock ridges, ridgetops; rocky foothills; rocky, gravelly and clayey hills; gravelly hilltops; rocky hillsides; escarpments; bedrock, rocky, rocky-gravelly, rocky-loamy, gravelly, gravelly-sandy-loamy, gravelly-loamy, sandy, sandy-loamy and clayey slopes; bedrock and gravelly bajadas; rocky outcrops; amongst rocks; sandy lava flows; lava fields; debris fans; plains; gravelly and sandy-loamy flats, basins; rocky valley floors; rocky valley bottoms; along rocky, rocky-gravelly, gravelly and sandy roadsides; rocky bottoms of arroyos; gulches; gullies; ravines; along streambeds; gravelly-loamy creekbeds; within rocky and gravelly washes; along and in drainages; drainage ways; depressions; edges of ravines; sand bars; benches; terraces; bottomlands; floodplains; stock tanks; ditches; riparian areas; waste areas, and disturbed areas growing in moist (rarely reported) and dry rocky desert pavement; bouldery, bouldery-rocky-sandy, rocky, rocky-cindery-sandy, rocky-sandy, gravelly, gravelly, gravelly-sandy and sandy ground; rocky loam, gravelly loam, gravelly-sandy loam and sandy loam ground; gravelly clay, sandy clay and clay ground, and rocky-gravelly silty ground, occurring from 900 to 7,300 feet in elevation in the forest, woodland, scrub, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, consider using in a mix with other grasses when over-seeding. *Enneapogon* *desvauxii* is native to southwest-central and southern North America, and west-central and southern South America; central and southern Asia, and Africa. \*5, 6, 15, 16, 33 (Pages 102-103), 42 (072113), 43 (112311 - *Enneapogon* *desvauxii* P. Beauv.), 44 (112211), 46 (Page 91), 58, 63 (112211 - color presentation), 77, **85** (112311 - color presentation including habitat), 105 (“This grass seems to be rather short-lived for a perennial. However, it is a prolific seeder and re-establishes rapidly and abundantly during seasons of good rainfall”), 106 (053109), 124 (112211), 140 (Page 299)\*

*Eragrostis arida* (see *Eragrostis pectinacea* var. *miserrima*)

***Eragrostis cilianensis* (C. Allioni) F. Vignolo-Lutati ex E.E. Janchen: Stinkgrass**

SYNONYMY: *Eragrostis megastachya* (G.L. Koeler) J.H. Link. COMMON NAMES: Amoresco (Hispanic); Candy Grass (a name also applied to other species and the genus *Eragrostis*); Candy-grass (a name also applied to other species and the genus *Eragrostis*); Candygrass (a name also applied to other species and the genus *Eragrostis*); Éragrostide Fétide; Graminha (Portuguese: Brazil); Großes Liebesgras (German); Gray Love Grass; Lovegrass (a name also applied to other species and the genus *Eragrostis*); Stink Grass (a name also applied to other species and the genus *Eragrostis*); Stinkgrass (a name also applied to other species and the genus *Eragrostis*); Stinking Lovegrass; Strong-scented Lovegrass (a name also applied to other species); Strongscented Lovegrass (a name also applied to other species); Watergrass; Zacate Apestoso (Hispanic); Zacate Arestoso140; Zacate Borreguero (Hispanic); Zacate de Amor Hediondo (Hispanic); Zacate Estepario (Hispanic). DESCRIPTION: Terrestrial annual tufted graminoid (a bunchgrass with prostrate, decumbent, geniculate and/or erect culms 3 to 36 inches in height); the foliage is gray-green or light green; the spikelets (flowers) have been described as being greenish, white or whitish with green veins turning tawny with age, the anthers are yellow; flowering generally takes place between early July and late October (additional records: one for mid-March, one for late March, one for mid-May, one for late May, two for early June, one for mid-November, one for late November and one for mid-December). HABITAT: Within the range of this species it has been reported from mountains; sandy mesas; sandy bases of cliffs; rocky, gravelly and sandy canyons; gravelly-sandy and sandy canyon bottoms; bluffs; knolls; ledges; bedrock ridges; bases of ridges; sandy meadows; bouldery foothills; rocky and gravelly hills; rocky and gravelly hillsides; rocky, rocky-gravelly, rocky-clayey-loamy, gravelly, gravelly-sandy-loamy, gravelly-loamy, sandy-loamy, sandy-clayey, sandy-humusy, loamy, clayey and clayey-loamy slopes; sandy-loamy bottoms of slopes; rocky outcrops; amongst boulders and rocks; coves; sandy outwash; gravelly-clayey slides; gravelly-sandy plains; gravelly, sandy, sandy-loamy, sandy-silty and clayey-loamy flats; uplands; valley floors; valley bottoms; roadbeds; roadcuts; along gravelly, gravelly-loamy, sandy, sandy-silty and loamy roadsides; two-tracks; along sandy arroyos; bottoms of arroyos; loamy and loamy-clayey draws; gulches; gullies; gravelly-sandy seeps; springs; along streams; along and in cobbly-sandy and loamy-clayey streambeds; along creeks; in gravelly-sandy and sandy creekbeds; along rivers; in gravelly-sandy, sandy and sandy-clayey riverbeds; along and in gravelly, sandy and silty-clayey washes; within drainage ways; clayey lakebeds; ciénegas; marshes; bedrock depressions; silty swales; along (rocky-sandy, gravelly, sandy and sandy-loamy) banks of streams, creeks, rivers, washes and drainages; (sandy) edges of streams, ponds, lakes and marshes; mud flats; sandy areas of drawdown; sand bars; sandy benches; gravelly-loamy terraces; loamy bottomlands; gravelly, sandy and clayey floodplains; sandy mesquite bosques; sandy fencerows; around and in stock tanks (charcos, represos); around and in reservoirs; banks of reservoirs; along sandy ditches; sandy riparian areas; waste places, and disturbed areas growing in clayey-loamy mucky and wet, moist, damp and dry bouldery, rocky, rocky-gravelly, stony, cobbly-sandy, gravelly, gravelly-sandy and sandy ground; rocky-clayey loam, gravelly loam, gravelly-sandy loam, sandy loam, clayey loam, clayey-humusy loam and loam ground; gravelly clay, sandy clay, loamy clay, silty clay and clay ground; sandy silty and silty ground, and sandy humusy ground, occurring from sea level to 8,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: EXOTIC Invasive Plant. This plant may have a foul odor. *Eragrostis cilianensis* is native to middle, eastern and southern Europe; western, eastern and southern Asia and coastal islands in the North Pacific Ocean and Mediterranean Sea, and Africa. \*5, 6, 15, 16, 30, 33 (recorded as *Eragrostis megastachya* (Koel.) Link, Pages 82-83), 42 (072213), 43 (101009), 44 (032811), 46 (Page 86), 58, 63 (101009 - color presentation of seed), 68, 77, 80 (This plant is listed as a Rarely Poisonous and Suspected Poisonous Range Plant. “This annual grass was reported to cause poisoning in horses when fed in large quantities over a long period of time.”), **85** (112511 - color presentation), 101 (color photograph), 105 (recorded as *Eragrostis megastachya* (Koel.) Link), 124 (032811), 133 (072213), 140 (Pages 207 & 300), 155 (072213)\*

***Eragrostis intermedia* A.S. Hitchcock: Plains Lovegrass**

COMMON NAMES: Love-grass (a name also applied to other species and the genus *Eragrostis*); Love-grass (English)140; Plains Love Grass; Plains Love-grass; Plains Lovegrass; Tł’oh (“Grass” a name applied to grasses, Athapascan: Navajo, Western Apache)140; Waṣai (“Grass” a name applied to grasses, Uto-Aztecan: Tohono O’odham)140; Zacate Amor de Planicie (Hispanic); Zacate de Amor (Hispanic); Zacate Llanero (“Prairie Grass”, Spanish: Sonora)140; Zacate Pradera (Hispanic); Zacate Volador (“Flying Grass”, Spanish: Arizona, Sonora)140. DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with decumbent, geniculate, ascending and/or erect culms 8 to 40 inches in height; plants in clumps 2 inches to 1 foot in width at the base were observed and reported); the foliage is gray-green, green or yellow-green curing to a light straw-yellow; the branches of the inflorescence is red-purple; the spikelets (flowers) are green or greenish-tan; flowering generally takes place between early July and late October (additional records: one for mid-March, one for late March, one for mid-April, three for mid-May and one for late November; flowering beginning as early as June has been reported). HABITAT: Within the range of this species it has been reported from mountains; mountaintops; bases of mountains; rocky, gravelly-sandy and sandy mesas; plateaus; bases of cliffs; canyons; canyon walls; along rocky and sandy canyon bottoms; talus slopes; crevices in rocks; clefts in granite domes; rocky bluffs; along rocky ridges; ridgetops; ridgelines; meadows; rocky and rocky-gravelly-loamy foothills; rocky hills; rocky hilltops; bouldery, rocky, gravelly-loamy and silty hillsides; rocky, rocky-gravelly, stony-clayey-loamy, gravelly, sandy, sandy-clayey, sandy-clayey-loamy, clayey and clayey-loamy slopes; bases of slopes; rocky outcrops; bases of rock outcrops; amongst boulders and rocks; sandy prairies; rocky, gravelly-sandy and sandy plains; clayey flats; sandy basins; dells; valley floors; roadbeds; along gravelly roadsides; two-tracks; sandy bottoms of arroyos; gulches; within sandy ravines (barrancas); springs; in cobbles and sand along streams; rocky and cobbly streambeds; along sandy creeks; riverbeds; along and in rocky, rocky-sandy and sandy washes; along and in sandy drainages; low spots; along (rocky-sandy, gravelly and sandy) banks of creeks, rivers and washes; edges of washes and lakes; along margins of streams; (rocky) shores of lakes and bays; benches; rock shelves; floodplains; along fencelines; sandy riparian areas, and disturbed areas growing in moist and dry bouldery, rocky, rocky-gravelly, rocky-sandy, stony, cobbly, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-gravelly loam, rocky-clayey loam, stony loam, stony-clayey loam, gravelly loam, gravelly-clayey loam, sandy loam, sandy-clayey loam, clayey loam and loam ground; rocky-clay, gravelly clay, sandy clay and clay ground, and silty ground, occurring from 100 to 8,500 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Eragrostis intermedia* is native to south-central and southern North America and Central America. \*5, 6, 15, 30, 33 (Pages 80-81), 43 (053110), 44 (041511 - no record of Common Names listed under species; genus record), 46 (Page 87), 48, 58, 63 (053110 - color presentation), 77, **85** (112611 - color presentation), 105, 124 (041511), 140 (Pages 206-207 & 300)\*

***Eragrostis lehmanniana* C.G. Nees von Esenbeck: Lehmann Lovegrass**

COMMON NAMES: Lehman (error) Lovegrass; Lehmann Love Grass; Lehmann Lovegrass; Lehmann’s Love Grass; Lehmann’s Lovegrass; Lovegrass (a name also applied to other species and the genus *Eragrostis*); Zacate Africano; Zacate de Amor; Zacate de Amor Lehman (Spanish). DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with decumbent, geniculate, ascending and/or erect culms 8 to 48 inches in height); the foliage is bright green or yellow-green curing to a dull yellow; the spikelets (flowers) are grayish-green, lead or straw colored with yellowish anthers; flowering generally takes place between late July and early November (flowering records: one for early March, one for mid-March, one for early May, one for mid-May, two for early June, two for early July, two for late July, one for early August, three for mid-August, three for late August, one for early September, two for mid-September, one for late September, three for early October, two for mid-October, two for late October and two for early November; flowering beginning in February and ending in May and again beginning in August and end ending in November has also been reported). HABITAT: Within the range of this species it has been reported from mountains; rocky mesas; rocky canyons; along rocky canyon bottoms; gravelly ridges; meadows; rocky foothills; rocky hills; rocky hillsides; rocky, gravelly, gravelly-loamy and sandy-loamy slopes; gravelly bajadas; rock outcrops; amongst boulders; dunes; gravelly plains; gravelly, sandy and clayey flats; clayey valley floors; roadbeds; along sandy and clayey roadsides; two-tracks; along arroyos; springs; along and in streambeds; along creeks; along and in creekbeds; along rivers; sandy riverbeds; along gravelly and sandy washes; drainages; depressions; along banks of rivers; shores of lakes; sandy beaches; cobbly-sandy benches; travertine clefts; terraces; loamy bottomlands; sandy floodplains; mesquite bosques; ditches; riparian areas, and disturbed areas growing in dry bouldery, bouldery-cobbly-sandy, rocky, rocky-cobbly-sandy, rocky-sandy, stony, cobbly-sandy, gravelly, gravelly-sandy and sandy ground; gravelly loam, sandy loam and clayey loam ground, and clay ground, occurring from 100 to 7,600 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: EXOTIC Invasive Plant that poses a significant threat to our native biotic communities. *Eragrostis lehmanniana* is native to southern Africa. \*5, 6, 15, 16, 22 (color photograph), 33 (Page 79), 43 (101009), 44 (112611), 46 (Page 87), 58, 63 (101009 - color presentation of seeds), 77, **85** (112611 - color presentation), 105, 124 (112611 - no record of species; genus record), 140 (Pages 206, 207 & 300), **MBJ**/**WTK** (November 3, 2009)\*

*Eragrostis megastachya* (see *Eragrostis cilianensis*)

***Eragrostis mexicana* (J.W. Hornemann) J.H. Link: Mexican Lovegrass**

COMMON NAMES: Jaboncillo (Mexico: Distrito Federal, Valley of Mexico); Mexican Eragrostis; Mexican Love Grass; Mexican Spear Grass; Mexican Love-grass; Mexican Lovegrass (also applied to subspp. *virescens* and *mexicana*); Mexikanskt Kärleksgräs (Swedish); Sixweeks Lovegrass (Arizona: Gila County). DESCRIPTION: Terrestrial annual tufted graminoid (spreading decumbent, geniculate, ascending and/or erect culms 4 to 52 inches in height), the foliage is yellow-green or yellowish-green; the spikelets (flowers) are grayish-green, green or purple-brown mottled with purple or red; the anthers are purplish; flowering generally takes place between late June and late November (additional records: one for April, two for mid-May, two for late May and two for early June). HABITAT: Within the range of this species it has been reported from mountains; mountaintops; mountainsides; bases of mountains; mesas; rocky rims; cliffs; bases of cliffs; rocky and gravelly-loamy canyons; canyon walls; rocky, gravelly-clayey and sandy-silty bottoms of canyons; rocky-humusy talus; bouldery-clayey-loamy bases of talus; crevices in rocks; pockets of soil in rocks; along bluffs; rocky ledges; rocky bases of ledges; along rocky ridges; clayey ridgetops; openings in forests and woodlands; cindery meadows; foothills; hills; hilltops; rocky hillsides; bases of hills; rocky, gravelly, gravelly-loamy, sandy-loamy, sandy-clayey, loamy, clayey, clayey-loamy and silty-loamy slopes; bases of slopes; rocky outcrops; amongst boulders and rocks; bases of boulders; alcoves; terraces; fields; rocky, sandy, loamy, clayey an clayey-loamy flats; valleys; valley bottoms; along clayey dirt tracks; along dirt tracks; roadways; along clayey roadsides; within arroyos; rocky-sandy bottoms of arroyos; rocky draws; within gulches; ravines (barrancas); muddy springs; in sand and sandy-loamy soils along streams; along and in sandy streambeds; along creeks; within rocky creekbeds; along rivers; within sandy riverbeds; along and in gravelly and sandy washes; within rocky, pebbly and sandy drainages; depressions; swales; (rocky, rocky-gravelly and sandy) banks of arroyos, streams, creeks, rivers and drainages; along edges of playas and riparian areas; margins of streams and creeks; gravel and sand bars; gravelly-sandy beaches; sandy benches; along cobbly-sandy terraces; rocky and sandy bottomlands; gravelly and sandy floodplains; mesquite bosques; around edges of charcos; edges of canals; culverts; within ditches; along ditch banks; rocky and sandy riparian areas; waste places, and disturbed areas growing in shallow water; muddy, and wet, moist, damp and dry bouldery, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, stony, cobbly-sandy, cindery, gravelly, gravelly-sandy, pebbly and sandy ground; bouldery-clayey loam, gravelly loam, sandy loam, clayey loam, silty loam and loam ground; gravelly clay, sandy clay and clay ground; sandy silty ground, and rocky humusy ground, occurring from sea level to 9,900 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop. *Eragrostis mexicana* is native to central and southern North America; Central America, and central and southern South America. \*33 (Pages 83-84), 42 (071413), 43 (071413), 44 (071413), 46 (Page 87), 63 (071413), **85** (071513 - color presentation), 127\*

***Eragrostis pectinacea* (A. Michaux) C.G. Nees von Esenbeck ex E.G. von Steudel var. *miserrima* (E.P. Fournier) J.R. Reeder: Desert Lovegrass**

SYNONYMY: *Eragrostis arida* A.S. Hitchcock, *Eragrostis tephrosanthos* J.A. Schultes. COMMON NAMES: Desert Love Grass (a name also applied to the species and other species); Desert Lovegrass (a name also applied to other species); Gulf Love Grass; Gulf Lovegrass. DESCRIPTION: Terrestrial annual tufted graminoid (a bunchgrass (clumpgrass) with spreading decumbent, geniculate, ascending or erect culms 4 to 28 inches in height); flowering generally takes place between mid-July and late October (additional records: one for late May and one for late June; flowering ending in November has been reported). HABITAT: Within the range of this species it has been reported from mountains; rocky and sandy-loamy mesas; bouldery and rocky canyons; sandy ridgetops; clearings in forests; meadows; foothills; hills; rocky and clayey hillsides; escarpments; bouldery-rocky, rocky, rocky-clayey-loamy, gravelly, gravelly-sandy-loamy, sandy-loamy and silty-loamy slopes; llanos; Tobosa flats; gravelly-sandy uplands; valley floors; along roadsides; arroyos; seeps; along streams; streambeds; along creeks; sandy soils along rivers; along and in gravelly and sandy washes; clayey lakebeds; playas; ciénegas; mucky-clayey marshes; depressions; swales; banks of creeks; edges of washes and pools; swales; gravelly terraces; bottomlands; sandy floodplains; mesquite bosques; banks of stock tanks; along sandy ditches; sandy riparian areas; waste places, and disturbed areas growing in mucky clay and dry bouldery, bouldery-rocky, rocky, stony, gravelly, gravelly-sandy and sandy ground; rocky-clayey loam, gravelly-sandy loam, sandy loam, silty loam and humusy-clayey loam ground, and clay ground, occurring from 800 to 7,900 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetlands ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant may be an attractive component of a restored native habitat. *Eragrostis pectinacea* var. *miserrima* is native to south-central and southern North America; Central America, and northern South America. \*5, 6, 30 (species), 33 (recoded as *Eragrostis arida* Hitchc., Pages 84-85, *Eragrostis tephrosanthos* Schult., Pages 86-87), 42 (071513), 43 (101009), 44 (112711), 46 (recoded as *Eragrostis arida* Hitchc., Page 87), 63 (112711), **85** (112711 - color presentation of dried material), 124 (112711 - no record of variety; genus and species records), 140 (Page 300 - recorded as *Eragrostis pectinacea* (Michaux) Nees [*Eragrostis pectinacea* (Michaux) Nees var. *miserrima* (E. Fournier) J. Reeder])\*

***Eragrostis superba* J.J. Peyritsch: Wilman Lovegrass**

COMMON NAMES: Capim-Massai (Portuguese: Brazil); Hear-seed Grass; Herzstraubgras (German); Pasto Avena (Spanish); Sawtooth Love Grass; Sawtooth Lovegrass; Weeluiseragrostis (Afrikaans); Wilman Love Grass; Wilman Lovegrass; Wilman’s Lovegrass. DESCRIPTION: Terrestrial perennial graminoid (a bunchgrass (clumpgrass) with erect culms 18 inches to 4 feet in height); the foliage is green, light green to straw curing to a light straw-yellow; the spikelets (flowers) are greenish or straw colored sometimes with a reddish-purple tinge; the anthers are golden-yellow; based on few records located flowering generally takes place between early May and late September (flowering records: one for early May, one for mid-June, one for late June, one for mid-August, one for late August and one for late September); the grain is reddish-brown. HABITAT: Within the range of this species it has been reported from mountains; bases of mountains; canyons; canyon bottoms; knolls; meadows; rocky hills; rocky hillsides; rocky slopes; bases of slopes; amongst boulders; sandy flats; valleys; along roadsides; gulches; creekbeds; washes; mesquite bosques, and disturbed areas growing in bouldery, rocky and sandy ground, occurring from 1,400 to 5,400 feet in elevation in the woodland, grassland and desertscrub ecological formations. NOTES: EXOTIC Plant. *Eragrostis superba* is native to eastern and southern Africa. \*5, 6, 33 (no record of species), 42 (071513), 43 (062510), 44 (071513 - no record of species; genus record), 46 (no record of species), 63 (062510 - color presentation of seed), **85** (062510 - color presentation), 105, 124 (102610 - no record of species), 140 (Page 300)\*

*Eragrostis tephrosanthos* (see *Eragrostis pectinacea* var. *miserrima*)

***Eriochloa acuminata* (J.S. Presl) K.S. Kunth: Tapertip Cupgrass**

COMMON NAMES: Cupgrass (a name also applied to other species and the genus *Eriochloa*); Southwestern Cup Grass; Southwestern Cup-grass; Southwestern Cupgrass; Taper Tipped Cup Grass; Taper-tip Cup Grass; Taper-tip Cup-grass; Taper-tipped Cup Grass; Taper-tipped Cup-grass; Tapertip Cup Grass; Tapertip Cupgrass (also applied to varieties *acuminata* and *minor*); Tapertipped Cup Grass. DESCRIPTION: Terrestrial annual tufted graminoid (decumbent, ascending and/or erect culms 6 inches to 4 feet in height); the foliage may be bright green or yellow-green; based on few records located, flowering generally takes place between late August and mid-October (flowering records: three for late August and one for mid-October). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; rocky canyons; bedrock canyon bottoms; talus slopes; in pockets of soil on bedrock; sandy meadows; foothills; hills; rocky hillsides; rocky, rocky-gravelly, gravelly, sandy, rocky-loamy, gravelly-clayey, sandy-loamy, loamy and clayey slopes; bedrock outcrops; amongst boulders; plains; gravelly, sandy and loamy flats; valley floors; valley bottoms; along gravelly-loamy roadsides; arroyos; bottoms of arroyos; draws; gulches; seeps; along streams; streambeds; sandy riverbeds; along and in gravelly and sandy washes; rocky drainages; within rocky drainage ways; pools; depressions; swales; along banks of rivers and drainage ways; edges of ponds; benches; terraces; loamy bottomlands; sandy floodplains; mesquite bosques; along margins of stock tanks; along canals; along and in clayey ditches; sandy riparian areas, and disturbed areas growing in moist and dry rocky, rocky-gravelly, gravelly and sandy ground; rocky loam, gravelly-loam, sandy-loam, humus-clayey loam and loam ground, and gravelly clay, sandy-clay and clay ground, occurring from 100 to 9,300 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. Alternate spellings of *lemmonii* were presented: *lemmonii* and *lemmoni*. *Eriochloa acuminata* is native to south-central and southern North America. \*5, 6, 33 (recoded as *Eriochloa lemmoni* Vasey & Scribn. var. *gracilis* (Fourn.) Gould., Pages 273-274), 42 (071613), 43 (101109), 44 (041511), 46 (recoded as *Eriochloa gracilis* (Fourn.) Hitchc., Page 133), 58, 63 (021011), 68 (recoded as *Eriochloa gracilis* (Fourn.) Hitchc.), 77, **85** (112811 - color presentation), 101 (color photograph, recoded as *Eriochloa gracilis* (Fourn.) A.S. Hitchc.), 124 (041511 - no record of species; genus record)\*

***Erioneuron avenaceum* (K.S. Kunth) T. Takeoka: Shortleaf Woollygrass**

SYNONYMY: *Erioneuron avenaceum* (K.S. Kunth) T. Takeoka var. *grandiflorum* (G. Vasey) F.W. Gould; *Tridens grandiflora* (G. Vasey) E.O. Wooton & P.C. Standley; *Tridens grandiflorus* (G. Vasey) E.O. Wooton & P.C. Standley (*grandiflorus* is a misspelling); *Triodia grandiflora* G. Vasey. COMMON NAMES: Large-flowered Tridens; Nealley’s Woollygrass (*Erioneuron* *avenaceum* var. *nealleyi* - Not Accepted; *Erioneuron nealleyi* - Accepted); Short-leaf Triodia; Shortleaf Tridens; Shortleaf Woollygrass. DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with erect culms 3 to 24 inches in height); the spikelets (flowers) are purplish, the lemmas purplish-green; based on few records located flowering generally takes place between mid-August and mid-October (flowering records: three for mid-August, two for early September, one for mid-September and one for mid-October). HABITAT: Within the range of this species it has been reported from mountains; cliffs; canyons; crevices in rocks; bluffs; rocky ledges; along bedrock and rocky ridges; openings in woodlands; rocky foothills; gypsum hills; rocky hillsides; rocky, rocky-gravelly and sandy slopes; stony and gravelly bajadas; rocky outcrops; amongst rocks; mountain prairies; rocky and gravelly flats; uplands; valley floors; roadbeds; along roadsides; arroyos; draws; bottoms of gulches; benches, and floodplains growing in dry rocky, rocky-gravelly, stony, gravelly and sandy ground and gypsum, occurring from 2,400 to 8,000 feet in elevation in the woodland, scrub, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Erioneuron avenaceum* is native to southwest-central and southern North America. \*5, 6, 33 (recorded as *Tridens grandiflorus* (Vasey) Woot. & Standl., Page 97), 42 (072113), 43 (072113 - *Tridens grandiflorus* (Vasey) Wooton & Standl.), 44 (072113 - no record of species; genus record), 46 (recorded as *Tridens grandiflorus* (Vasey) Woot. & Standl., Page 90), 63 (072113), **85** (072113 - inclusion based on a record from the Rosemont Ranger Station Pasture, color presentation of dried material), 133 (072113 - no record of species), 155 (072113)\*

*Erioneuron avenaceum* var. *grandiflorum* (see *Erioneuron avenaceum*)

*Erioneuron pulchellum* (see *Dasyochloa pulchella*)

***Heteropogon contortus* (C. Linnaeus) A.M. Palisot de Beauvois ex J.J. Roemer & J.A. Schultes: Tanglehead**

SYNONYMY: *Andropogon contortus* C. Linnaeus. COMMON NAMES: Assegaaigras (Afrikaans); Barba Negra (“Black Beard”, Spanish: Mexico)140; Bihag Waṣai (“Wrap-around Grass”, Uto-Aztecan: Tohono O’odham)140; Biibhinol Vashai (“Wrap-around Grass”, Uto-Aztecan: Akimel O’odham, Arizona)140; Black Spear Grass; Black Speargrass; Bunch Spear Grass; Bunched Speargrass; Carrizo (a name also applied to other grasses, Spanish: Sonora)140; Common Tangleweed; Contorted Tanglehead; Hierba Negros de los Prados (“Black Herb of the Prairies”, Spanish: Mexico)140; Hierba Torcida (Spanish); Needle-grass (English: New Mexico)140; Pili Grass; Piligrass (Hawaii); Rabo de Asno (“Donkey’s Tail”, Spanish: Mexico)140; Retorcido Moreno (“Black Twisted”, Spanish: Mexico)140; Spear Grass (a name also applied to other species); Speergras (German); Steekgras (Afrikaans); Tangel Head; Tangle Grass; Tangle Head; Tangle-head (English)140; Tangle-head Grass; Tangelhead; Tanglehead (a name also applied to the genus *Heteropogon*); Tanglehead Grass (a name also applied to the genus *Heteropogon*); Tł’oh (“Grass” a name applied to any grass, Athapascan: Western Apache, Navajo)140; Twisted Tanglehead; Ujchú (Uto-Aztecan: Guarijío)140; Waháɨ (“Grass” any grass, Uto-Aztecan: Northern Paiute)140; Zacate Aceitillo (“Oily Grass”, Spanish: Chihuahua, Sonora)140; Zacate Colorado (“Red Grass”, Spanish: Arizona, Chihuahua, Sonora)140; Zacate Retorcido (“Twisted Grass”, Spanish: Mexico)140. DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with ascending and/or erect culms 8 inches to 5 feet in height); the foliage is bright green or yellow-green curing to orange-brown; the spikelets (flowers) may be brown or purple; based on few records located, flowering generally takes place between early January and late May and again between late July and early December (flowering records: one for early January, three for late January, one for late February, one for mid-March, one for early May, one for late May, one for late July, three for early August, five for late August, three for early September, five for mid-September, four for late September, three for early October, three for mid-October, five for early November, one for mid-November and one for early December). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky, gravelly and sandy mesas; cliffs; cliff faces; bases of cliffs; along and in rocky canyons; along canyon walls; along bouldery, rocky and gravelly canyon bottoms; rockslides; crevices in rocks; ledges; along rocky ridges; bouldery and rocky ridgetops; volcanic cones; gravelly and sandy foothills; rocky hills; rocky and gravelly-clayey hillsides; bedrock, rocky, gravelly, gravelly-sandy and sandy slopes; rocky outcrops; amongst boulders and rocks; lava flows; rocky and sandy plains; gravelly flats; valley floors; along sandy roadsides; along and in rocky and sandy arroyos; rocky-sandy bottoms of arroyos; along draws; gulches; within gullies; ravines; around seeping streams; streambeds; creekbeds; along and in rocky, rocky-sandy, cobbly, gravelly-sandy and sandy washes; within gravelly-sandy-loamy drainages; within rocky and sandy drainage ways; bedrock tinajas; around pools; (silty) banks of streams and rainwater basins; edges of washes; margins of waterways; sandy beaches; terraces; floodplains; riparian areas, and disturbed areas growing in dry bouldery, bouldery-sandy, rocky, rocky-sandy, cobbly, gravelly, gravelly-sandy and sandy ground; gravelly-sandy loam and loam ground; gravelly clay ground, and silty ground, occurring from sea level to 7,500 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat; however, the awns may bring about painful sores in livestock and pets and in some areas may be considered to be a noxious weed. It is able to become established in newly disturbed and poor soils. *Heteropogon contortus* is native to south-central and southern North America; eastern Asia, and possibly to other tropic sub-tropic and warm-temperate regions of the world. \*5, 6, 15, 16, 33 (Page 302), 42 (071613), 43 (101209), 44 (120411 - color photograph), 46 (Page 144), 48, 58, 63 (120411 - color presentation), 77, **85** (120411 - color presentation including habitat), 105 (Reports that Tanglehead Grass “is one of the easiest grasses to establish under conditions of low rainfall.”), 124 (120411 - no record of genus or species), 140 (Pages 207-208 & 300), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

***Hilaria belangeri* (E.G. von Steudel) G.V. Nash: Curly-mesquite**

COMMON NAMES: Common Curly-mesquite; Common Curlymesquite; Creeping Curly-mesquite; Curly Mesquite (also applied to var. *belangeri*); Curly Mesquite Grass; Curly-mesquite (also applied to var. *belangeri*); Curlymesquite (also applied to var. *belangeri*); Curlymesquite Grass; Longleaf Curly Mesquite (var. *longifolia*); Longleaf Curly-mesquite (var. *longifolia*); Mesquite-grass; Southwestern Buffalo Grass. DESCRIPTION: Terrestrial perennial tufted graminoid (a sodgrass with ascending and/or erect culms 2 to 14 inches in height; plants to 4 inches in width at the base have been reported); the foliage is bluish-green curing to white; inflorescences are green, dark red-purple or purplish; the awns are purple; flowering generally takes place between early August and early November (additional records: one for mid-February, one for early March, one for mid-March and one for mid-June). HABITAT: Within the range of this species it has been reported from mountains; rocky mesas; plateaus; rocky canyons; rocky canyon bottoms; knolls; gravelly-sandy-clayey ridges; ridgelines; ridgetops; meadows; foothills; rocky and gravelly-clayey-loamy hills; rocky hilltops; rocky hillsides; rocky, rocky-gravelly-sandy, stony, gravelly, gravelly-sandy-clayey and clayey slopes; gravelly bajadas; boulder and rock outcrops; amongst boulders, rocks and gravels; prairies; sandy plains; gravelly and sandy flats; grassy valley floors; along roadsides; along arroyos; along streams; streambeds; along creeks; along and in gravelly washes; within drainage ways; depressions; swales; banks of washes; benches; riparian areas; recently burned areas in grasslands, and disturbed areas growing in dry bouldery, rocky, rocky-cobbly-gravelly, rocky-gravelly-sandy, rocky-sandy, stony, gravelly and sandy ground; bouldery-gravelly loam, gravelly loam, gravelly-clayey loam, sandy loam, clayey loam and loam ground, and gravelly-sandy clay and clay ground, occurring from 1,100 to 6,100 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat and should be considered for use in restoration projects; it has good soil binding capabilities; however, it is not overly drought-resistant (preferring areas with 10 to 19 inches annual [spring thru summer] precipitation, goes dormant during drought) or shade tolerant. Stands of Curlymesquite Grass have been reported to have a lifespan of 5 to 9 years of age with the plant growing well in areas of disturbance. Stoloniferous plants may spread up to 13 feet in a year. In native stands most of the rapid growth is shown after the beginning of the summer rains. Depending upon the variety, this plant may be soloniferous (var. *belangeri*) or may not be soloniferous (var. *longifolia*). Curlymesquiteis grazed by pronghorn and deer. This grass is not damaged by fire and may increase following a spring fire in grasslands and woodlands. *Hilaria belangeri* is native to southwest-central and southern North America. \*5, 6, 15, 16, 33 (Pages 158-160), 42 (071613), 43 (101209), 44 (120511 - no record of species or genus), 46 (Page 122), 48, 58, 63 (101209), **85** (120511 - color presentation), 105 (Curly Mesquite, a palatable and nutritious grass, may be used as an indicator plant of range conditions. Where Curly Mesquite is abundant in comparison to other high-volume production grasses the stocking load should be reduced, sound range management is indicated where high-volume production grasses are abundant or increasing.), 124 (120511 - no record of species or genus), **MBJ**/**WTK** (November 3, 2009)\*

***Hopia obtusa* (K.S. Kunth) F.O. Zuloaga & O. Morrone: Vine Mesquite**

SYNONYMY: *Panicum obtusum* K.S. Kunth. COMMON NAMES: Blunt Panic Grass; Blunt Panic-grass; Grape Vine Grass; Grape-vine Grass; Grapevine-grass; Grape-vine Mesquite; Grapevine Mesquite; Obtuse-flower Panicum; Obtuse-flowered Panicum; Panic Grass (a name also applied to other species and the genus *Panicum*); Range Grass; Triguillo (Spanish); Vine Mesquite; Vine Mesquite Grass; Vine-mesquite; Vine-mesquite Grass; Wire Grass (a name also applied to other species and to the genus *Aristida*); Wiregrass; Zacate Gramilla (Spanish); Zacate Guia (Spanish). DESCRIPTION: Terrestrial perennial tufted graminoid (a sodgrass with decumbent, ascending and/or erect culms 6 to 32 inches in height or length; produces short rhizomes and 1 to 10 foot long stolons); the foliage is light bluish-green or yellow-green curing to reddish-straw and then gray-tan; the flowers are purple; the anthers are maroon or purple; flowering generally takes place between early July and late September (additional records: two for late October; flowering beginning as early as May has been reported). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; bouldery and gravelly-sandy mesas; rocky canyons; sandy canyon bottoms; clayey bluffs; gravelly buttes; knolls; ledges; along gravelly ridges; sandy meadows; foothills; hills; hillsides; rocky, shaley-sandy, gravelly, gravelly-loamy, sandy-loamy, loamy, clayey and silty-clayey slopes; sandy-loamy bottoms of slopes; amongst boulders; sandy dunes; sandy prairies; gravelly-sandy, sandy-loamy and clayey-loamy plains; rocky, sandy, sandy-loamy and loamy flats; rocky basins; sandy valley floors; sandy-silty valley bottoms; along rocky, gravelly, gravelly-loamy and sandy roadsides; arroyos; rocky and loamy draws; silty bottoms of draws; gullies; ravines; seeps; springs; along streams; along streambeds; creeks; sandy soil along rivers; along sandy riverbeds; along and in rocky and sandy washes; within sandy and clayey-loamy drainages; along rocky drainage ways; pondbeds; playas; boggy areas; ciénegas; marsh lands; swampy areas; silty-clayey depressions; within loamy, clayey and silty swales; along (gravelly, sandy and sandy-silty) banks of arroyos, streams, rivers and washes; borders of washes; edges of springs, rivers and deltas; shores of lakes; mudflats; sand bars; rocky beaches; benches; cobbly-sandy-silty terraces; bottomlands; along floodplains; lowlands; mesquite bosques; sandy margins of stock tanks (charcos); along and in ditches; sandy riparian areas, and disturbed areas growing in wet (sometimes seasonally), moist and dry bouldery, rocky, rocky-gravelly, shaley, shaley-sandy, gravelly, gravelly-sandy and sandy ground; gravelly loam, sandy loam, clayey loam and loam ground; sandy clay, silty clay and clay ground, and cobbly-sandy silty, sandy silty and silty ground, occurring from 1,000 to 9,500 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food and/or fodder crop; it was also noted as having been used as a drug or medication and as a commodity used in personal hygiene. This plant is useful in binding soils and controlling erosion, it grows best in areas receiving an average of 10 to 18 inches annual precipitation with a May to October active growing period. The foliage is browsed by Mule Deer (*Odocoileus hemionus*), White-tailed Deer (*Odocoileus virginianus*), Elk (*Cervus elaphus*), ground squirrels, jackrabbits, prairie dogs, Pronghorn (*Antilocapra americana*) and some small mammals; Gambel’s Quail (*Callipepla gambelii*), Northern Bobwhite (*Colinus virginianus*), Mourning Dove (*Zenaida macroura*) and Scaled Quail (*Callipepla squamata*) feed on the seed, and the dense stands of Vine-mesquite Grass provide cover for rodents and upland game birds. *Panicum obtusum* is native to south-central and southern North America. \*5, 6, 33 (recorded as *Panicum obtusum* H.B.K., Page 287), 42 (071813), 43 (101809), 44 (071813 - no record of species; genus record), 46 (recorded as *Panicum obtusum* H.B.K., Page 137), 48, 58, 63 (122811 - color presentation), 77 (recorded as *Panicum obtusum* H.B.K.), 80 (Species of the genus *Panicum* are listed as Rarely Poisonous and Suspected Poisonous Range Plants. Species of this genus have been reported to cause loss in livestock due to photosensitization and nitrate poisoning.), **85** (122811 - color presentation), 105 (recorded as *Panicum obtusum* H.B.K.), 124 (122711), 127, 133 (18 July 2013 - *Panicum obtusum*)\*

***Leptochloa dubia* (K.S. Kunth) C.G. Nees von Esenbeck: Green Sprangletop**

SYNONYMY: *Chloris dubia* K.S. Kunth; *Diplachne dubia* (K.S. Kunth) F.L. Scribner; *Disakisperma dubium* (K.S. Kunth) P.M. Peterson & N. Snow. COMMON NAMES: Desparramado Dubia (“Dubious Sprangletop”, Spanish: Mexico)140; Green Spangle Top; Green Spangle-top; Green Spangletop Grass; Green Sprangle-top (English)140; Green Sprangletop; Hierba del Hilo (“Thread Herb”, Spanish: Mexico)140; Kupo (Yuman: Mohave)140; Pasto Gigante (“Giant Grass”, Spanish: Mexico)140; Prangle (Oklahoma); Sprangle (a name also applied to other species); Sprangle-top (a name also applied to other species); Sprangletop (a name also applied to other species and the genus *Leptochloa*); Texas Crow-foot (English)140; Texas Crowfoot; Tł’oh (“Grass” a name given to any grass (Athapascan: Navajo)140; Tł’oh (“Grass” a name given to any grass (Athapascan: Western Apache)140; Waháɨ (“Grass” a word applied to any grass, Uto-Aztecan: Northern Paiute)140; Waṣai (“Grass” a word applied to any grass, Uto-Aztecan: Tono O’odham)140; Zacate Gigante (“Giant Grass”, Spanish: Arizona, Chihuahua, Sonora)140. DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with erect culms (few-stemmed) 4 to 60 inches in height; plants 2 to 4 inches in width at the base have been observed and reported); the foliage may be bluish-green, gray-green, green or dark green; the spikelets (flowers) may be light brown, greenish or dark olive-green; flowering generally takes place between mid-June and early November (additional record: **two** for mid-December). HABITAT: Within the range of this species it has been reported from rocky mountains; gravelly mountaintops; mountainsides; plateaus; rocky mesas; bases of cliffs; along bouldery-sandy, rocky and gravelly-loamy canyons; rocky, rocky-gravelly-sandy, rocky-gravelly-sandy-loamy and sandy canyon bottoms; crevices in rocks; buttes; sandy ledges; ridges; ridgetops; clearings in woodlands; meadows; foothills; rocky hills; rocky hillsides; escarpments; bedrock, bouldery, rocky, rocky-gravelly, rocky-clayey, rocky-clayey-loamy, shaley, gravelly, gravelly-loamy, gravelly-clayey-loamy, sandy, sandy-loamy, sandy-clayey, sandy-clayey-loamy, loamy and clayey-loamy slopes; alluvial fans; rocky outcrops; amongst boulders and rocks; sandy lava flows; benches; sandy plains; clayey-loamy flats; rocky valley floors; valley bottoms; along gravelly and gravelly-loamy roadsides; along rocky arroyos; bottoms of arroyos; along draws; gulches; ravines; seeps; springs; along streams; sandy streambeds; along creeks; along and in clayey creekbeds; along rivers; along cobbly riverbeds; along and in rocky, gravelly, sandy and clayey washes; within drainages; marshes; banks of rivers; edges of arroyos and pools; margins of creeks and cienegas; gravel bars; benches; along terraces; bottomlands; floodplains; sandy mesquite bosques; ditches; rocky-gravelly-sandy-loamy and sandy riparian areas, and disturbed areas growing in wet, moist and dry rocky desert pavement; bouldery, bouldery-cobbly-sandy, bouldery-sandy, rocky, rocky-gravelly, rocky-gravelly-sandy, shaley, cobbly, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-gravelly-sandy loam, rocky-clayey loam, gravelly loam, gravelly-clayey loam, sandy loam, sandy-clayey loam, clayey loam and loam ground, and rocky clay, shaley clay, sandy clay and clay ground, occurring from sea level to 8,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Leptochloa dubia* is native to south-central and southern North America; Central America, and central and southern South America. \*5, 6, 33 (Pages 135-136), 42 (071713), 43 (071713), 44 (011511), 46 (Page 123), 48, 63 (071713 - color presentation), 77, **85** (071713 - color presentation of dried material), 105, 124 (011511), 133 (recorded as *Disakisperma dubia* (K.S. Kunth) P.M. Peterson & N. Snow), 140 (*Leptochloa dubia* (Kunth) Nees [*Diplachne dubia* Scribner], Pages 208-210 & 300)\*

*Leptoloma cognatum* (see footnote 33 under *Digitaria pubiflora*)

*Lycurus setosus* (see *Muhlenbergia alopecuroides*)

*Muhlenbergia affinis* (see *Muhlenbergia rigida*)

***Muhlenbergia alopecuroides* (A.H. Grisebach) P.M. Peterson & J.T. Columbus: Bristly Wolfstail**

SYNONYMY: *Lycurus setosus* (T. Nuttall) C.G. Reeder. COMMON NAMES: Bristly Wolfstail; Cola de Zorra (Spanish); Wolf Tail Muhley; Wolf Tail Muhly; Wolf’s Tail Muhley; Wolf’s Tail Muhly; Wolf-tail Muhley; Wolf-tail Muhly; Wolf’s-tail Muhley; Wolf’s-tail Muhly; Wolfstail Muhley; Wolfstail Muhly; Wolftail Muhley; Wolftail Muhly; Zacate Lobero (Spanish). DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with decumbent, geniculate, ascending and/or erect culms 8 inches to 2 feet in height; plants were observed and recorded as being up to 3 to 4 inches in width at the base); the foliage may be gray-green or grayish-green curing to a grayish-straw color; the anthers are yellowish; flowering generally takes place between mid-July and early October (additional records: three for late October; flowering ending as late as November has been reported). HABITAT: Within the range of this species it has been reported from open mountains; mountainsides; bases of mountains; rocky-clayey mesas; rocky-clayey plateaus; rocky canyon rims; rocky cliffs; rocky canyons; rocky canyon walls; sandy canyon bottoms; rocky gorges; talus slopes; crevices in rocks; pockets of sandy soil in rock; along rocky ledges; bouldery-rocky and rocky ridges; along gravelly ridgetops; gravelly-loamy and sandy meadows; cinder cones; rocky foothills; rocky, rocky-gravelly and gravelly hills; bouldery-gravelly hilltops; bouldery, rocky and sandy hillsides; escarpments; rocky, rocky-gravelly, gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey, pebbly-sandy, sandy, sandy-loamy, sandy-clayey-loamy and clayey-loamy slopes; bajadas; pediment slopes; rocky outcrops; amongst boulders and rocks; pebbly and sandy lava flows; benches; breaks; prairies; sandy and sandy-clayey plains; rocky and sandy flats; basins; sandy valley floors; along gravelly, gravelly-sandy and gravelly-loamy roadsides; along arroyos; within rocky draws; gulches; ravines; along streams; along and in sandy streambeds; creekbeds; riverbeds; sandy washes; sandy-loamy playas; clayey depressions; banks of streams and creeks; stony-sandy margins of streambeds; rocky-sandy and sandy benches; bottomlands; floodplains; lowlands; along ditches; riparian areas, and disturbed areas growing in moist, damp and dry bouldery, bouldery-rocky, bouldery-gravelly, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, stony-sandy, gravelly, gravelly-sandy, pebbly, pebbly-sandy and sandy ground; rocky-gravelly loam, rocky-sandy loam, gravelly loam, sandy loam, sandy-clayey loam, humusy loam, clayey loam and loam ground; rocky clay, gravelly clay, sandy clay and clay ground, and sandy silty ground, occurring between 1,800 and 11,200 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Muhlenbergia alopecuroides* is native to southwest-central and southern North America and central and southern South America. \*5, 6, 15 (recorded as *Lycurus setosus* (Nutt.) Reeder / *Lycurus phleoides* H.B.K.), 33 (no record of species, possibly included with *Lycurus phleoides* H.B.K., Page 185), 42 (071713), 43 (071713), 44 (071713), 46 (no record of species, possibly included with *Lycurus phleoides* H.B.K., Pages 104-105), 63 (071713 - GRIN “Taxonomic recognition of Wolftail [*Lycurus*] species is inconsistent.”), 77 (recorded as *Lycurus setosus* (Nutt.) Reeder [*L. phleoides* H.B.K. var. *glaucifolius* Beal]. Wolftail), **85** (071713 - recorded as *Lycurus setosus*, color presentation), 105 (no record of species, possibly included with Wolftail (Texas Timothy): *Lycurus phleoides* H.B.K.), 124 (110910 - no record of species; genus (*Lycurus*) record), 140 (Page 300), **WTK** (September 26, 2005)\*

***Muhlenbergia emersleyi* G. Vasey: Bullgrass**

COMMON NAMES: Bull Grass; Bull Muhly; Bull-grass; Bullgrass; Cola de Ratón (Chihuahua); Cola de Zorra; Pičíraka (Tarahumara); Zacate Toro (Spanish: Sonora). DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with decumbent and/or erect culms 20 inches to 5 feet in height and up to 8 inches to 5 feet in width at the base); the foliage is gray-green or light green curing to a light gray; the panicles (inflorescences) are light brownish, maroon or light purplish; the spikelets (flowers) are light-maroonish-brown or purple; the anthers may be purple, purplish or yellowish; flowering generally takes place between mid-August and late November (additional record: one for late July); the caryopses (fruits) are reddish-brown. HABITAT: Within the range of this species it has been reported from rocky mountains; mountaintops; bouldery-gravelly mountainsides; plateaus; along rocky cliffs; rocky canyons; rocky canyon sides; along rocky canyon bottoms; talus; crevices in boulders and rocks; pockets of soil in tuff formations; bluffs; buttes; rocky ledges; rocky ridges; ridgetops; openings in forests and woodlands; foothills; bouldery, bouldery-rocky and rocky hills; hilltops; bouldery, rocky and rocky-clayey hillsides; escarpments; bouldery, bouldery-gravelly, rocky, rocky-gravelly, rocky-gravelly-clayey, rocky-loamy, stony, stony-loamy, gravelly, gravelly-loamy, rocky-clayey, gravelly-clayey-loamy, loamy and clayey-loamy slopes; rocky bases of slopes; rocky outcrops; amongst boulders and rocks; sandy bases of boulders; along breaks; prairies; clayey-loamy flats; gravelly dells; valley floors; roadcuts; along roadsides; along rocky arroyos; within rocky draws; gulches; within ravines; bottoms of ravines; springs; rocky, rocky-sandy and sandy streambeds; in sand along creeks; along gravelly-sandy creekbeds; along and in rocky-sandy, gravelly and sandy washes; within drainages; (rocky) banks of gullies, streams and drainages; borders of washes; along (bouldery and rocky) edges of gullies, ravines (barrancas), seeps, washes and drainages; shores of lakes; benches; rocky-gravelly terraces; floodplains, and sandy riparian areas growing in wet, moist and dry bouldery, bouldery-rocky, bouldery-gravelly, rocky, rocky-gravelly, rocky-sandy, stony, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-sandy loam, stony loam, gravelly loam, gravelly-clayey loam, sandy-clayey loam, clayey loam, humusy loam and loam ground; rocky clay and rocky-gravelly clay ground, and rocky-silty ground, occurring from 2,600 to 8,900 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat and is grown as an ornamental. *Muhlenbergia emersleyi* is native to southwest-central and southern North America. \*5, 6, 15, 18, 33 (Pages 219-220), 42 (062313), 43 (060810), 44 (010711 - no record of species; genus record), 46 (Page 112), 48, 58, 63 (062313 - color presentation), 77, **85** (062313 - color presentation), 105, 124 (010711 - no record of species; genus record), 140 (Pages 212 & 300)\*

***Muhlenbergia fragilis* J.R. Swallen: Delicate Muhly**

COMMON NAMES: Annual Muhly (a name also applied to other species); Delicate Muhley; Delicate Muhly; Fragile Muhley; Fragile Muhly. DESCRIPTION: Terrestrial annual tufted graminoid (spreading or erect culms 4 to 16 inches in height); the stems may be purple; the anthers are purplish; flowering generally takes place between mid-September and mid-October (flowering beginning as early as August has been reported); the caryopses (fruits) are reddish-brown. HABITAT: Within the range of this species it has been reported from mountains; rocky-clayey mesas; cliffs; bouldery and rocky canyons; canyon walls; along sandy canyon bottoms; gorges; rocky talus slopes; pockets of sandy soil in bedrock and sandstone; soil filled potholes in slickrock; crevices; bluffs; rocky buttes; rocky ledges; gravelly-loamy ridges; meadows; rocky foothills; rocky and rocky-gravelly hills; hilltops; hillsides; bedrock, bouldery-gravelly-loamy, rocky, rocky-gravelly, rocky-loamy, rocky-clayey, gravelly, gravelly-loamy, gravelly-sandy-loamy, sandy, sandy-loamy and clayey slopes; rocky outcrops; amongst boulders and rocks; lava flows; gravelly, gravelly-loamy and sandy flats; valley floors; roadcuts; along rocky and sandy roadsides; stony-sandy arroyos; sandy seeps; along streams; streambeds; along creeks; riverbeds; along and in bouldery-rocky-sandy, rocky and sandy washes; along and in pebbly and sandy drainages; bottoms of drainage ways; (rocky-gravelly) banks of arroyos; along edges of streambeds and washes; benches; terraces; bottomlands; floodplains; within ditches; sandy riparian areas, and disturbed areas growing in moist and dry bouldery, bouldery-rocky-sandy, rocky, rocky-gravelly, rocky-sandy, stony-sandy, gravelly, pebbly and sandy ground; bouldery-gravelly loam, rocky loam, gravelly loam, gravelly-sandy loam and sandy loam ground, and rocky clay and clay ground reported as often found growing in moist ground, occurring form 1,100 to 7,300 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Muhlenbergia fragilis* is native to southwest-central and southern North America. \*5, 6, 15, 33 (Page 198), 42 (071713), 43 (041711), 44 (041711), 46 (Page 108), 58, 63 (041711 - color presentation), **85** (041711 - color presentation), 124 (041711 - no record of species; genus record), 140 (Page 300)\*

*Muhlenbergia metcalfei* (see *Muhlenbergia rigida*)

*Muhlenbergia metcalfii* (see footnote 43 under *Muhlenbergia rigida*)

*Muhlenbergia monticola* (see *Muhlenbergia tenuifolia*)

***Muhlenbergia rigens* (G. Bentham) A.S. Hitchcock: Deergrass**

COMMON NAMES: Basket Muhly; California Deer Grass; California Deer-grass; California Deergrass; Deer Grass (a name also applied to other species); Deer Muhley; Deer Muhly; Deer-grass (a name also applied to other species, English: Arizona)140; Deergrass (a name also applied to other species); Escobón (“Big Brush”, Spanish: Sonora)140; Hierba del Paisano (“Country-man’s Herb”, Spanish: Sonora)140; Liendrilla de Venado (Hispanic); Mašil (“Plant”, Uto-Aztecan: Tübatulabal)140, Monopi [Monope, Mónop] (Uto-Aztecan: Mono)140; Nor <norr> <nol> (“To Turn [Leaves]”, Uto-Aztecan: Mountain Pima)140; Pi’shu Li’awe (Language Isolate: Zuni)140; Sipu(m)bivɨ [Šipu(m)bavɨ] (Uto-Aztecan: Kawaiisu)140; Suul (Uto-Aztecan: Cahuilla)140; Tło (“Grass”, a word for any grass, (Athapascan: Chiricahua and Mescalero Apache)140; Tł’oh (“Grass”, a word applied to any grass, Athapascan: Navajo)140; Waṣai (“Grass”, a word applied to any grass, (Uto-Aztecan: Tohono O’odham)140; Zacate Venado (“Deer Grass”, Spanish: Sonora)140. DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with erect culms 14 to 63 inches in height in clumps to 4 to 40 inches in width at the base; one plant was observed and described as being 30 inches in height and 30 inches in width, one plant was observed and described as being 40 inches in height and 28 inches in width); the foliage is blue-green, gray-green or grayish curing to a gray straw color; the flowers are in long narrow spikes (3 to 16 inches in length and 1/4 to 3/8 inch in diameter); the panicles (inflorescences) are grayish-green; the spikelets (flowers) are grayish or light green; the anthers are purplish or yellow; flowering generally takes place between mid-July and late November (additional records: one for mid-April, three for early May, four for early June and two for late June); the caryopses (fruits) are brownish. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky mesas; plateaus; along rocky canyons; along bouldery, rocky, rocky-sandy, gravelly and sandy canyon bottoms; gorges; crevices in bedrock; meadows; foothills; rocky hills; rocky hillsides; rocky, rocky-sandy-loamy, sandy, clayey-loamy and clayey slopes; alluvial fans; amongst boulders and rocks; clayey flats; basins; valley bottoms; roadsides; along rocky and sandy arroyos; bottoms of arroyos; within rocky and rocky-gravelly-sandy draws; bottoms of draws; gulches; along and in rocky gullies; bouldery and rocky bottoms of ravines; along seeps; around and in gravely and sandy springs; along streamlets; along streams; along and in bedrock, rocky, gravelly and sandy streambeds; in boulders and rocky-sandy soil along creeks; along and in rocky, rocky-sandy, stony and sandy creekbeds; rocky riverbeds; along and in bouldery, rocky, rocky-gravelly, cobbly, gravelly and sandy washes; along and in bouldery and rocky drainages; water courses; bases of waterfalls; depressions; along (rocky, cobbly and sandy) banks of draws, streams, creeks, rivers and washes; along (gravelly-sandy) edges of arroyos, seeps, streams, streambeds, creeks, rivers and washes; along margins of streambeds and washes; sand bars; sandy terraces; bottomlands; gravelly-sandy floodplains; along fencelines; along ditch banks, and bouldery-cobbly-sandy, rocky-gravelly-sandy, cobbly, gravelly and sandy riparian areas growing in shallow water; muddy, and wet, moist, damp and dry (seasonally wet) bouldery, bouldery-cobbly-sandy, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, cobbly, cobbly-sandy, gravelly, gravelly-sandy and sandy ground; rocky-sandy loam, gravelly-clayey-loamy, gravelly-silty loam and clayey loam ground; clay ground, and silty ground, occurring from sea level to 9,200 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food, fodder and/or fiber crop; it was also noted as having been used in the making of cooking tools and containers, and as a ceremonial item. *Muhlenbergia rigens* is native to southwest-central and southern North America. \*5, 6, 15, 18, 30, 33 (Page 218), 42 (071713), 43 (060910), 44 (010811), 46 (Page 110), 48, 58, 63 (060910 - color presentation), 77, **85** (010811 - color presentation including habitat), 105, 124 (010811 - no record of species; genus record), 127, 140 (Pages 211-212 & 301), **WTK** (September 26, 2005)\*

***Muhlenbergia rigida* (K.S. Kunth) K.S. Kunth: Purple Muhly**

SYNONYMY: *Muhlenbergia affinis* C.B. von Trinius; *Muhlenbergia metcalfei* M.E. Jones. COMMON NAMES: Metcalf Muhly (*Muhlenbergia metcalfei* - Not Accepted; *Muhlenbergia rigida* - Accepted); Metcalfe’s Muhly (*Muhlenbergia metcalfei* - Not Accepted; *Muhlenbergia rigida* - Accepted); Norr [nol] (Pima); Purple Muhly. DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with erect culms 16 to 44 inches in height; clumps were observed and described as being up to 8 inches in diameter, other clumps were described as being small to comparatively large); the foliage is dark purple at maturity; the spikelets have been described as being dark purple, purplish, red, reddish, the flowers whitish or yellow; the anthers are purplish; based on few records located flowering generally takes place between late August and early November (additional records: three for late November; flowering beginning as early as July has also been reported). HABITAT: Within the range of this species it has been reported from mountains; mesas; plateaus; cliffs; rocky canyons; rocky ledges; rocky and gravelly ridges; ridgetops; openings in forests and woodlands; meadows; foothills; hills; hilltops; bouldery and rocky hillsides; rocky, rocky-loamy, rocky-clayey, gravelly, sandy, sandy-clayey, sandy-clayey-loamy, loamy and clayey-loamy slopes; clayey-loamy bajadas; rocky outcrops; amongst rocks; coves; plains; rocky fields; rocky flats; uplands; valleys; roadsides; rocky and sandy draws; bottoms of draws; ravines (barrancas); within streambeds; within creekbeds; drainages; rocky depressions; bottoms of swales; along ditches, and disturbed areas growing in dry bouldery, rocky, rocky-gravelly, gravelly and sandy ground; rocky loam, gravelly loam, sandy-clayey loam, clayey loam and loam ground, and rocky clay, sandy clay and clay ground, occurring from 3,900 to 9,000 feet in elevation in the forest, woodland and grassland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Muhlenbergia rigida* is native to southwest-central and southern North America and western and southern South America. \*33 (Pages 215-217), 42 (072013), 43 (072113 - *Muhlenbergia metcalfii* M.E. Jones), 44 (072013 - no record of species; genus record), 46 (Page 112), **85** (072013 - color presentation), 106 (072113 - no record of species), 133 (072013 - recorded as *Muhlenbergia rigida* (Kunth) Trin.), 155 (072013 - recorded as *Muhlenbergia rigida* (Kunth) Trin.)\*

***Muhlenbergia sinuosa* J.R. Swallen: Marshland Muhly**

COMMON NAME: Marshland Muhly. DESCRIPTION: Terrestrial annual graminoid (a clumpgrass with geniculate to erect culms 5 to 20 inches in height); the spikelets (flowers) have been described as being greenish often mottled with purple; the anthers may be purple, yellow or yellow-green with purple stripes; flowering generally takes place between mid-August and late October (additional records: two for April, one for late May and one for mid-November). HABITAT: Within the range of this species it has been reported from mountains; plateaus; about rocky rims of canyons; cliffs; rocky and gravelly canyons; along sandy canyon bottoms; talus slopes; pockets of gravelly soil in rocks; along rocky ledges; clearings in forests; meadows; rocky-sandy and sandy hills; bouldery-rocky, gravelly and sandy hillsides; bouldery-rocky, rocky, rocky-gravelly, rocky-sandy, rocky-clayey, gravelly, sandy-loamy and loamy slopes; bases of slopes; rocky outcrops; rocky flats; loamy valleys; along rocky-sandy roadsides; along and in rocky and sandy draws; bottoms of draws; seeps; along streams; in rocky, gravelly-sandy and sandy streambeds; along creeks; in sandy creekbeds; along and in rocky-sandy, gravelly-sandy and sandy washes; along drainages; within depressions; banks of drainages; edges of washes; (sandy) margins of streambeds and creeks; bottomlands; floodplains; lowlands; along ditches; riparian areas; waste places, and disturbed areas growing in wet, moist, damp and dry bouldery, bouldery-rocky, rocky, rocky-gravelly, rocky-sandy, gravelly, gravelly-sandy and sandy ground; gravelly loam, sandy loam and loam ground; rocky clay ground, and silty ground, occurring from 2,700 to 8,500 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Muhlenbergia sinuosa* is native to southwest-central and southern North America. \*5, 6, 15, 33 (Pages 198-199), 42 (072013), 43 (072113), 44 (072113 - no record of species; genus record), 46 (Page 108), 63 (072113), **85** (072113 - color presentation), 106 (072113 - no record of species), 133 (072113 - no record of species), 140 (Page 301), 155 (072113)\*

***Muhlenbergia tenuifolia* (K.S. Kunth) K.S. Kunth: Slender Muhly**

SYNONYMY: *Muhlenbergia monticola* S.B. Buckley. COMMON NAMES: Liendrilla (Spanish); Mesa Muhly; Slender Muhly; Slimflower Muhly. DESCRIPTION: Terrestrial annual or perennial densely tufted graminoid (a bunchgrass (clumpgrass) with decumbent, ascending or erect culms 8 to 28 inches in height; clumps were observed and described as being to 4 to 12 inches in width at the base); the foliage may be red-green; the spikelets (flowers) may be purplish; the anthers are yellowish; based on few records located flowering generally takes place between early August and early November (additional records: one for late November; flowering beginning as early as July has been reported); the caryopses (fruits) are brownish. HABITAT: Within the range of this species it has been reported from mountains; mountaintops; rocky mountainsides; rocky cliffs; cliff faces; along bases of cliffs; rocky, rocky-gravelly and sandy canyons; rocky canyon bottoms; rocky gorges; talus slopes; crevices in bedrock and rocks; rocky ledges; rocky ridges; rocky ridgetops; meadows; foothills; rocky hills; hilltops; rocky and gravelly hillsides; escarpments; rocky, rocky-clayey, rocky-clayey-loamy, gravelly, gravelly-loamy, loamy and clayey-loamy slopes; bouldery and rocky outcrops; amongst boulders and rocks; bases of rocks; within niches; plains; fields; gravelly flats; valley floors; railroad right-of-ways; rocky roadcuts; along rocky and gravelly roadsides; two-tracks; along arroyos; gravelly bottoms of arroyos; sandy draws; gulches; along ravines (barrancas); in rocks along streams; streambeds; along creeks; rocky creekbeds; along and in bouldery-gravelly, rocky and sandy washes; sandy drainages; coves; (rocky-gravelly) banks of arroyos and streams; (rocky and rocky-gravelly) edges of arroyos and draws; terraces; sandy-clayey-loamy ditches; riparian areas; waste places, and disturbed areas growing in moist and dry bouldery, bouldery-gravelly, rocky, rocky-gravelly, gravelly and sandy ground; rocky-clayey loam, gravelly loam, sandy-clayey loam, clayey loam and loam ground, and rocky clay ground, occurring from 2,600 to 8,600 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Muhlenbergia tenuifolia* is native to southwest-central and southern North America; Central America, and northern South America. \*5, 6, 15 (recorded as *Muhlenbergia monticola* Buckl.), 33 (recorded as *Muhlenbergia monticola* Buckl., Page 215), 42 (071713), 43 (060910 - *Muhlenbergia tenuifolia* Trin.), 44 (071713), 46 (recorded as *Muhlenbergia monticola* Buckl., Page 111 and Supplement Page 1041), 63 (071713), 77 (recorded as *Muhlenbergia monticola* Buckl.), **85** (071713 - color presentation of dried material), 140 (Page 301)\*

***Panicum hallii* G. Vasey (var. *hallii* is the variety reported as occurring in Arizona): Hall’s Panicgrass**

SYNONYMY: (for *Panicum hallii* var. *hallii*: *Panicum lepidulum* A.S. Hitchcock & M.A. Chase). COMMON NAMES: Filly Panic (applied to var. *filipes*); Filly Panicum (applied to var. *filipes*); Hall Panicgrass; Hall Panicum (also applied to var. *hallii*); Hall’s Panic (also applied to var. *hallii*); Hall’s Panicgrass (also applied to var. *filipes* and var. *hallii*); Hall’s Panicum; Halls Panicum. DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with erect culms 4 inches to 5 feet in height; plants were observed and described as being 4 inches in width at the base); the foliage may be bluish-green, light green or yellowish-green; based on few records located flowering generally takes place between mid-February and late October (flowering records: one for mid-February, one for early March, one for mid-April, one for early May, one for late May, one for early July, one for mid-August, two for late August, three for early September, three for mid-September, one for late September, one for early October, three for mid-October and one for late October). HABITAT: Within the range of this species it has been reported from mountains; mesas; canyon rims; bases of cliffs; bouldery canyons; rocky and sandy canyon bottoms; talus slopes; crevices in rocks; rocky bluffs; bases of ledges; along bedrock and gravelly ridges; rocky ridgetops; along tops of ridgelines; foothills; rocky, rocky-loamy and gravelly-clayey-loamy hills; rocky and rocky-silty hillsides; bedrock, bouldery, rocky, rocky-silty, cobbly-sandy-clayey, gravelly, sandy, sandy-loamy, loamy and silty slopes; bases of slopes; cobbly-clayey and loamy alluvial fans; bajadas; pediments; piedmonts; rocky outcrops; amongst boulders, rocks and gravels; benches; sandy prairies; sandy plains; rocky, sandy-clayey, clayey and silty flats; valley bottoms; railroad right-of-ways; along stony, gravelly, gravelly-sandy and sandy roadsides; rocky arroyos; along draws; rocky streambeds; seeps; along and in gravelly-clayey, sandy and clayey washes; within drainage ways; impoundments; within depressions; muddy clayey swales; edges of washes; floodplains; muddy and clayey ditches; riparian areas, and disturbed areas growing in muddy and wet, moist and dry bouldery, rocky, rocky-gravelly, stony, gravelly, gravelly-sandy and sandy ground; rocky loam, gravelly loam, gravelly-clayey loam, sandy loam, clayey loam and loam ground; cobbly-sandy clay, cobbly clay, gravelly clay, sandy clay and clay ground, and rocky silty and silty ground, occurring from 900 to 7,500 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Panicum hallii* is native to south-central and southern North America and Central America. \*5, 6, 15, 33 (Pages 290-291), 42 (071813), 43 (070810), 44 (071813 - no record of species; genus record), 46 (Page 137), 63 (070810 - color presentation), 80 (Species of the genus *Panicum* are listed as Rarely Poisonous and Suspected Poisonous Range Plants. Species of this genus have been reported to cause loss in livestock due to photosensitization and nitrate poisoning.), **85** (071813 - color presentation), 105, 106 (071813 - no record of species), 140 (Page 301 - recorded as *Panicum hallei* Vasey)\*

***Panicum hallii* G. Vasey var. *hallii*: Hall’s Panicgrass**

SYNONYMY: *Panicum lepidulum* A.S. Hitchcock & M.A. Chase. COMMON NAMES: Hall Panicgrass (also applied to the species); Hall Panicum (also applied to the species); Hall’s Panic (also applied to the species); Hall’s Panicgrass (also applied to the species); Hall’s Panicum (also applied to the species). DESCRIPTION: Terrestrial perennial graminoid (a bunchgrass (clumpgrass) with erect culms 4 inches to 5 feet in height); based on few records located flowering for the species generally takes place between mid-February and late October (flowering records: one for early September and one for mid-October). HABITAT: Within the range of this species it has been reported from mountains; mesas; canyon rims; canyons; along rocky and sandy canyon bottoms; talus slopes; crevices in rocks; rocky hills; rocky hillsides; bouldery, rocky, cobbly-sandy-clayey, gravelly, sandy and sandy-loamy slopes; rocky outcrops; amongst boulders and rocks; prairies; sandy plains; railroad right-of-ways; along sandy roadsides; rocky arroyos; rocky streambeds; along washes; within depressions; swales; muddy ditches, and disturbed areas growing in dry bouldery, rocky, gravelly and sandy ground; gravelly loam, sandy loam, clayey loam and loam ground, and cobbly-sandy clay, gravelly clay and clay ground, occurring from 2,500 to 7,500 feet in elevation in the forest, woodland, scrub, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Panicum hallii* var. *hallii* is native to southwest-central and southern North America. \*5, 6, 15, 33 (recorded as *Panicum lepidulum* Hitchc. & Chase, Page 291), 42 (071813), 43 (070810), 44 (071813 - no record of variety or species; genus record), 46 (recorded as *Panicum lepidulum* Hitchc. & Chase, Page 137), 63 (070810), 80 (Species of the genus *Panicum* are listed as Rarely Poisonous and Suspected Poisonous Range Plants. Species of this genus have been reported to cause loss in livestock due to photosensitization and nitrate poisoning.), **85** (071813), 105, 106 (071813 - no record of variety or species), 140 (Page 301 - recorded as *Panicum lepidulum* A.S. Hitchcock & Chase)\*

***Panicum hirticaule* J.S. Presl: Mexican Panicgrass**

COMMON NAMES: Capim Lanudo (Portuguese, var. *stramineum*); Chiri Chiri (Spanish, var. *hirticaule*); Mexican Panic Grass; Mexican Panic-grass; Mexican Panicgrass (also applied to var. *hirticaule* and var. *verrucosum*); Mexican Witch Grass; Mexican Witch-grass; Mexican Witchgrass; Panizo Cauchin (Spanish); Rough Panic Grass; Rough Panic-grass; Rough-stalk Witch Grass; Rough-stalk Witch-grass; Rough-stalk Witchgrass; Rough-stalked Witchgrass; Roughstalk Witchgrass; Roughstalked Witchgrass; Sauhui (Spanish, var. *hirticaule*); Sonora Panic (var. *hirticaule*); Sonoran Panicgrass (*Panicum hirticaule* var. *stramineum* - Not Accepted, *Panicum stramineum* - Accepted); Sowi Millet (var. *hirticaule*); Triguillo (Spanish, var. *hirticaule*); Witchgrass (a name also applied to the genus *Panicum*); Woodland Panic; Zacahuastle (Spanish, var. *verrucosum*); Zacate de Año (Spanish, var. *hirticaule*); Zacate Peludo Perdis (Spanish, var. *hirticaule*). DESCRIPTION: Terrestrial annual tufted graminoid (decumbent, geniculate, ascending and/or erect culms 2 to 44 inches in height); the spikelets may be reddish-brown; flowering generally takes place between early August and early November (additional records: one for mid-May and one for late November). HABITAT: Within the range of this species it has been reported from mountains; rocky, gravelly and sandy mesas; bases of cliffs; rocky and gravelly canyons; gravelly, gravelly-sandy and sandy canyon bottoms; soil pockets in bedrock and rocks; rocky ridgetops; meadows; rocky foothills; rocky and rocky-loam hills; hilltops; bedrock, rocky, rocky-gravelly, rocky-clayey and gravelly hillsides; bouldery-rocky, rocky, cindery, gravelly, gravelly-loamy, gravelly-clayey, sandy, sandy-loamy and sandy-clayey slopes; alluvial fans; bajadas; amongst boulders and rocks; bases of boulders and rocks; sand hills; dunes; rocky and sandy plains; rocky, sandy-loamy, clayey and sandy-silty flats; basins; valley floors; valley bottoms; along railroad right-of-ways; along rocky, rocky-loamy, sandy and silty roadsides; sandy arroyos; bottoms of arroyos; within sandy draws; ravines; along seepages; along streams; along bouldery-sandy and gravelly-sandy streambeds; along bouldery creeks; rocky creekbeds; along rivers; along and in gravelly, gravelly-sandy, sandy, clayey, silty and silty-clayey washes; drainages; within sandy and clayey drainage ways; oases; clayey depressions; sink-holes; clayey-loamy and silty swales; (rocky-sandy) banks of washes, drainages and drainage ways; along (bouldery) margins of creeks, washes and sloughs; sand bars; benches; rocky shelves; along gravelly-sandy and sandy floodplains; gravelly lowlands amongst Creosote Bushes; mesquite bosques; around stock tanks; along ditches; sandy riparian areas; waste places, and disturbed areas growing in wet, moist, damp and dry bouldery, bouldery-rocky, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, shaley, cindery, gravelly, gravelly-sandy and sandy ground; rocky loam, gravelly loam, sandy loam and clayey loam ground; rocky clay, gravelly clay, sandy clay, silty clay and clay ground, and sandy silty and silty ground, occurring from sea level to 7,600 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop. *Panicum hirticaule* is native to southwest-central and southern North America; Central America and coastal islands in the Caribbean Sea, and South America. \*5, 6, 15, 16, 30, 33 (recorded as *Panicum capillare* L. var. *hirticaule* (Presl) Gould, Page 283; *Panicum capillare* L. var. *pampinsonum* (Hitchc. & Chase) Gould, Page 284; *Panicum capillare* L. var. *stramineum* (Hitchc. & Chase) Gould, Page 283, and *Panicum sonorum* Beal, Page 282), 42 (071813), 43 (122711), 44 (122711), 46 (Page 136), 58, 63 (122711 - color presentation of seed), 77 (recorded as *Panicum hirticaule* Presl **[***Panicum capillare* L. var. *hirticaule* (Presl) Gould]), 80 (Species of the genus *Panicum* are listed as Rarely Poisonous and Suspected Poisonous Range Plants. Species of this genus have been reported to cause loss in livestock due to photosensitization and nitrate poisoning.), **85** (122711 - color presentation), 124 (122711), 127, 140 (recorded as *Panicum hirticaule* J. Presl var. *hirticaule* [*Panicum capillare* Linnaeus var. *hirticaule* (J. Presl) Gould], Pages 204, 213,214 & 301)\*

*Panicum lepidulum* (see *Panicum hallii* var. *hallii*)

*Panicum obtusum* (see *Hopia obtusa*)

*Pappophorum wrightii* (see *Enneapogon* *desvauxii*)

***Poa fendleriana* (E.G. von Steudel) G. Vasey: Muttongrass**

COMMON NAMES: Blue-grass (a name also applied to other species); Bluegrass (a name also applied to other species); Cusick Bluegrass (subsp. *fendleriana*); Cusick’s Bluegrass (subsp. *fendleriana*); Fendler Blue Grass; Fendler Blue-grass; Fendler Bluegrass; Fendler Muttongrass; Fendler’s Blue Grass; Fendler’s Blue-grass; Fendler’s Bluegrass; Fendler’s Mutton Grass; Fendler’s Muttongrass; Long-liguled Muttongrass; Longtongue Mutton Grass; Longtongue Muttongrass (subsp. *fendleriana*); Mutton Blue Grass; Mutton Bluegrass; Mutton Grass (also applied to subsp. *fendleriana*); Mutton-grass; Muttongrass (also applied to subsp. *albescens*, subsp. *fendleriana* and subsp. *longiligula*); Skyline Bluegrass (subsp. *fendleriana*); Timber Grass. DESCRIPTION: Terrestrial perennial tufted (sometimes producing rhizomes) graminoid (a cespitose bunchgrass (clumpgrass) with decumbent to erect culms 6 to 40 inches in height and 1 to 20 inches in diameter at the base; one plants was observed and described as being 8 to 12 inches in height and 4 to 6 inches in diameter at the base, plants were observed and described as being 20 inches in height and 20 inches in diameter at the base, plants were observed and described as being 32 inches in height and 4 inches in diameter at the base); the foliage may be a pale bluish-green, gray-green, green or yellow-green; the inflorescence may be purplish, red-brown, reddish or reddish-brown with pinkish-red or white-pink florets; flowering generally takes place between late February and early September (additional records: one for late September and one for mid-October). HABITAT: Within the range of this species it has been reported from bouldery mountains; along bouldery and rocky mountaintops; balds on top of volcanic mountains; at and above (in alpine meadows) timberline; gravelly-loamy mountainsides; clayey-loamy mesas; sandy plateaus; rim rock; canyon rims; cliffs; hanging gardens; rocky, rocky-gravelly and sandy bases of cliffs; along gravelly and sandy canyons; rocky and pebbly-sandy canyon walls; canyonsides; bouldery, rocky-clayey and gravelly canyon bottoms; chasms; within clefts; scree slopes; rocky talus slopes; bases of scree; crevices in rocks; pockets of sand in rocks; sandy bluffs; rocky buttes; rocky hogbacks; rocky knobs; rocky and rocky-sandy knolls; rocky, rocky-gravelly-loamy and rocky-sandy ledges; under rock ledges; along bouldery, rocky, rocky-shaley, rocky-sandy, stony, cobbly-gravelly, gravelly, sandy and sandy-loamy ridges; rocky, shaley, gravelly, sandy and clayey ridgetops; bouldery-rocky and rocky ridgelines; rocky clearings and openings in forests and woodlands; rocky, rocky-gravelly-loamy, rocky-sandy, shaley, stony-loamy, gravelly, gravelly-sandy, gravelly-loamy, sandy-loamy and loamy meadows; cinder cones; rocky foothills; bouldery-clayey, rocky, shaley-clayey and clayey hills; rocky, rocky-sandy, sandy, sandy-clayey, sandy-silty and silty hilltops; bouldery, rocky, rocky-gravelly and gravelly-sandy hillsides; escarpments; bedrock, bouldery, rocky, rocky-gravelly, rocky-gravelly-loamy, rocky-gravelly-clayey, rocky-gravelly-silty-loamy, rocky-sandy, rocky-loamy, rocky-clayey, rocky-clayey-loamy, rocky-silty-loamy, shaley, stony, stony-sandy, stony, stony-clayey, cobbly, cobbly-loamy, cindery, gravelly, gravelly-sandy, gravelly-sandy-loamy, gravelly-loamy, sandy, sandy-loamy, sandy-clayey, loamy, clayey and clayey-loamy slopes; along bouldery, rocky, rocky-clayey and shaley outcrops; along bases of rocky outcrops; amongst boulders, rocks, cobbles and gravels; bases of boulders; boulder fields; fellfields; felsenmeer; rocky moraines; alcoves; lava beds; sand dunes; rocky and gravelly banks; bases of embankments; in rocks along rocky-sandy-clayey breaks; steppes; prairies; gravelly plains; stony, stony-clayey, gravelly, gravelly-sandy, gravelly-loamy, sandy and sandy-loamy flats; rocky basins; cobbly-loamy hollows; valley floors; along silty valley bottoms; roadcuts; along sandy and clayey roadsides; along arroyos; within bouldery, rocky-sandy, gravelly, sandy, sandy-clayey and clayey draws; bottoms of draws; gulches; bottoms of gulches; along and in sandy and silty-loamy gullies; sandy and sandy-loamy ravines; seeps; along springs; in gravel and sand along streams; along and in bouldery, rocky-sandy and sandy streambeds; in sand along and in creeks; along creekbeds; along rivers; along riverbeds; along and in bouldery, rocky, gravelly and sandy washes; along and in rocky, gravelly-sandy, sandy and silty-loamy drainages; bases of waterfalls; around lakes; clayey playas; boggy areas; rocky-sandy bowls; depressions; swales; along (bouldery, rocky and sandy) banks of streams, creeks, rivers, washes and beaver ponds; edges of streams; along margins of streams, rivers and washes; (gravelly-sandy and sandy) shores of creeks, rivers and lakes; along bouldery-cobbly-sandy, cobbly-sandy, gravel and sand bars; gravelly, sandy and loamy benches; rocky-sandy coves; shelves; terraces; sandy bottomlands; sandy, sandy-silty and clayey floodplains; along aqueducts; along and in ditches; gravelly, gravelly-sandy, sandy, sandy-humusy and loamy riparian areas (including beaver dam systems), and disturbed areas growing in shallow water and mucky, soggy and wet, moist, damp and dry cryptogrammic; rimrock pavement; bouldery, bouldery-rocky, bouldery-shaley-sandy, bouldery-cobbly-sandy, bouldery-sandy, rocky, rocky-shaley, rocky-gravelly, rocky-sandy, shaley, stony, stony-sandy, cobbly, cobbly-gravelly, cobbly-sandy, cindery, gravelly, gravelly-sandy, pebbly-sandy and sandy ground; rocky loam, rocky-gravelly loam, rocky-gravelly-silty loam, rocky-sandy loam, rocky-clayey loam, rocky-silty loam, stony loam, cobbly loam, gravelly loam, gravelly-sandy loam, sandy loam, clayey loam, silty loam, silty-clayey loam, humusy loam and loam ground; bouldery clay, rocky clay, rocky-sandy clay, stony clay, gravelly clay, sandy clay and clay ground; sandy silty and silty ground, and rocky humusy and sandy humusy ground, occurring from 1,100 to 13,000 feet in elevation in the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food and/or fodder crop; it was also noted as having been used as a ceremonial drug or medication. This plant is a valuable forage plant for wildlife, it is browsed by deer and was observed at the center of a low density prairie dog town. *Poa fendleriana* is native to west-central and southern North America. \*5, 6, 15, 33 (Pages 69-70, “The most valuable and abundant of the native Bluegrasses and among the twenty most important range grasses of the Rocky Mountain area. Range Plant Handbook, 1937”), 42 (071813), 43 (022111), 44 (022111), 46 (Page 84), 48, 63 (022111 - color presentation), 80 (The Ergot Fungus (*Claviceps* sp.) is listed as a Secondary Poisonous Range Plant. Bluegrasses of the genus *Poa* can be hosts of the Ergot Fungus. “Ergot contains poisonous alkaloids and other compounds that may cause chronic poisoning (gangrenous ergotism) in the extremities when consumed in small amounts, or convulsive poisoning when large amounts are eaten. Animals may be poisoned by feeding on mature, infected grain or hay. Livestock, especially cattle, and humans are susceptible. ... Pastures causing ergot poisoning should be mowed or the animals removed. Mildly poisoned animals will usually recover if removed from the infested pastures, kept quiet, and supplied with good feed and water. In Arizona, some losses may be expected on rangelands during wet years, but most losses have occurred from grazing pastures of Dallas Grass (*Paspalum dilatatum*).” See text for additional information.), **85** (022511 - color presentation including habitat), 105, 127, 140 (Page 301)\*

*Schizachyrium hirtiflorum* (see *Schizachyrium sanguineum*)

***Schizachyrium sanguineum* (A.J. Retzius) A.H. Alston: Crimson Bluestem**

SYNONYMY: *Andropogon hirtiflorus* (C.G. Nees von Esenbeck) K.S. Kunth var. *feensis* (E.P. Fournier) E. Hackel; *Schizachyrium hirtiflorum* C.G. Nees von Esenbeck; *Schizachyrium sanguineum* (A.J. Retzius) A.H. Alston var. *hirtiflorum* (C.G. Nees von Esenbeck) S.L. Hatch. COMMON NAMES: Crimson Bluestem (*S.s.* var. *hirtiflorum* - Not Accepted, *S.s.* var. *oligostachyum* - Not Accepted, *Ss.* var. *sanguineum* - Not Accepted; *Schizachyrium sanguineum* - Accepted); Crimson False Bluestem (*S.s.* var. *hirtiflorum* - Not Accepted; *Schizachyrium sanguineum* - Accepted); Tallo Azul (Hispanic). DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with erect culms 12 to 40 inches in height; plants were observed and described as being up to 2 inches to 16 inches in diameter at the base); the foliage may be pale red purple, reddish or yellow-green (aging red-brown) curing to pale gray; the inflorescence has been described as being purple; based on few records located flowering generally takes place between mid-April and late December (flowering records: one for mid-April, one for early July, one for late August, two for early September, three for mid-September, one for early October, two for mid-October, two for late October and one for late December; flowering beginning in June and ending in October has also been reported). HABITAT: Within the range of this species it has been reported from mountains; rocky mountaintops; rocky bases of mountains; rocky cliffs; bases of rock faces; rocky canyons; bouldery and rocky canyon bottoms; rocky gorges; crevices in boulders and rocks; pockets of soil on boulders; rocky bluffs; ridges; ridgetops; openings in forests and woodlands; rocky hills; rocky hillsides; bouldery, bouldery-rocky, rocky, rocky-gravelly and gravelly slopes; along rocky outcrops; on boulders; rock piles; terraces; stony flats; rocky roadcuts; along roadsides; within draws; barrancas (ravines); along streams; along and in bedrock and sandy streambeds; along creeks; along stony washes; within drainages; waterfalls; bases of waterfalls; (clayey) banks of arroyos, draws and washes; (sandy) edges of arroyos, washes and creeks; (stony-sandy) margins of streambeds and creekbeds; (stony) sides of streams; bottomlands; mesquite bosques; riparian areas, and disturbed areas growing in moist and dry bouldery, bouldery-rocky, rocky, rocky-gravelly, shaley-gravelly-sandy, stony, stony-sandy, gravelly and sandy ground; gravelly loam, clayey loam and loam ground, and clay ground, occurring from 2,900 to 8,200 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Schizachyrium sanguineum* var. *hirtiflorum* is native to south-central and southern North America; Central America, and South America. \*5, 6, 15 (recorded as *Schizachyrium hirtiflorum* Nees), 30, 33 (recorded as *Andropogon hirtiflorus* (Nees) Kunth var. *feensis* (Fourn.) Hack., Page 307), 42 (071813), 43 (071813), 44 (071813 - no record of species; no listings recorded under Common Names for genus), 46 (recorded as *Andropogon hirtiflorus* (Nees) Kunth var. *feensis* (Fourn.) Hack., Page 141), 63 (071813), **85** (071813 - reported under *Schizachyrium sanguineum* var. *hirtiflorum* (Nees) Hatch, color presentation), 133 (18 July 2013), 140 (recorded as *Schizachyrium hirtiflorum* Nees, Page 301)\*

*Schizachyrium sanguineum* var. *hirtiflorum* (see *Schizachyrium sanguineum*)

***Setaria* A.M. Paliisot de Beauvois.: Bristlegrass**

COMMON NAMES: Bristle Grass; Bristle-grass; Bristlegrass; Brittle Grass; Brittle-grass; Brittlegrass; Setaria. \*33 (Pages 266-271), 42 (072913), 43 (072913), 44 (072013), 46 (Pages 138-139 and Supplement Page 1041), 63 (072013), 85 (072013), 106 (072013), **MBJ**/**WTK** (November 3, 2009)\*

***Setaria grisebachii* E.P. Fournier:Grisebach’s Bristlegrass**

COMMON NAMES: Cola de Zorra (Spanish); Grisebach Bristlegrass; Grisebach’s Bristle Grass; Grisebach’s Bristlegrass. DESCRIPTION: Terrestrial annual tufted graminoid (decumbent, geniculate, ascending and/or erect culms 4 inches to 4 feet in height); the panicles (compound inflorescences) are purple; the flowers are yellow with purple spots; flowering generally takes place between late July and mid-October (flowering ending as late as November has been reported). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; mesas; cliffs; rocky bases of cliffs; rocky, gravelly-loamy and sandy canyons; sandy canyon bottoms; gorges; talus slopes; crevices; rocky ledges; along meadows; foothills; rocky hills; rocky, rocky-silty and gravelly-clayey hillsides; rocky, rocky-stony, gravelly, gravelly-clayey, gravelly-silty, sandy, sandy-loamy, loamy, clayey and clayey-loamy slopes; rocky outcrops; amongst boulders and rocks; sandy lava flows; gravelly-silty and clayey-loamy flats; valley floors; along railroad right-of-ways; along sandy roadsides; along and in arroyos; draws; bottoms of draws; rocky gulches; gravelly-sandy seeps; springs; along streams; along and in rocky-gravelly and gravelly streambeds; creeks; along rocky creekbeds; along sandy rivers; along and in sandy and clayey washes; along and in bouldery drainage ways; ciénegas; within swales; banks of washes; sandy benches; rocky bottomlands; sandy floodplains; mesquite bosques; along ditches; sandy riparian areas; waste areas, and disturbed areas growing in moist, damp and dry rocky, rocky-stony, rocky-gravelly, stony, gravelly, gravelly-sandy and sandy ground; gravelly loam, sandy loam, clayey loam and loam ground; clay ground, and rocky silty, gravelly silty and sandy silty ground, occurring from 1,200 to 8,300 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Setaria grisebachii* is native to southwest-central and southern North America; Central America, and northwestern South America. \*5, 6, 15, 33 (Page 269), 42 (071913), 43 (102209), 44 (011112 - no record of species; genus record), 46 (Page 139), 58, 63 (011112 - color presentation), 77, **85** (011112 - color presentation of dried material), 124 (011112 - no record of species; genus record), 140 (Page 301)\*

***Setaria leucopila* (F.L. Scribner & E.D. Merrill) K.M. Schumann: Streambed Bristlegrass**

SYNONYMY: *Chaetochloa leucopila* F.L. Scribner & E.D. Merrill. COMMON NAMES: Bristlegrass (a name also applied to other species and the genus *Setaria*); Plains Bristle Grass (a name also applied to other species); Plains Bristlegrass (a name also applied to other species); Stream-bed Bristle Grass; Streambed Bristle Grass; Streambed Bristlegrass; White-haired Bristlegrass; Yellow Bristlegrass; Yellow Foxtail; Zacate Tempranero (Spanish). DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with decumbent, geniculate, ascending and/or erect culms 8 inches to 4 feet in height and to 20 inches in width at the base); the foliage is green; the spike-like panicles (compound inflorescence) are pale green; based on few records located, flowering generally takes place between early July and early November (additional records: one for early March, three for mid-March, one for late April, two for mid-June and two for late December). HABITAT: Within the range of this species it has been reported from mountains; mesas; plateaus; cliffs; rock walls; bases of cliffs, monoliths and rock walls; canyons; sandy canyon bottoms; gorges; talus slopes; crevices in rocks; buttes; crests of rocky buttes; ridges; ridgetops; foothills; rocky, gravelly and gravelly-sandy hills; rocky and rocky-sandy hillsides; escarpments; sandy bases of escarpments; rocky, rocky-clayey-loamy, gravelly, gravelly-sandy and sandy-loamy slopes; bases of slopes; alluvial fans; bajadas; rocky outcrops; amongst boulders and rocks; rocky and sandy lava flows; sand dunes; sandy steppes; sandy plains; gravelly, gravelly-sandy, sandy, sandy-loamy and sandy-silty flats; basins; valley floors; valley bottoms; coastal sand dunes; coastal flats; coastal beaches; railroad right-of-ways; roadbeds; along rocky, gravelly and sandy-loamy roadsides; along and in rocky-gravelly arroyos; bottoms of arroyos; rocky and gravelly-sandy-loamy draws; gulches; within rocky ravines; seeps; in sand around streams; bouldery streambeds; along creeks; in rocky and gravelly creekbeds; in sand along rivers; riverbeds; along and in rocky, rocky-sandy, gravelly, gravelly-sandy and sandy washes; within sandy drainages; within drainage ways; along (sandy-loamy) banks of draws, streams, rivers and washes; edges of arroyos, springs, washes, pools and marshes; margins of rivers and washes; sand bars; rocky benches; terraces; sandy-loamy bottomlands; floodplains; lowlands; mesquite bosques; sandy mottes; along and in ditches; clayey-loamy water tanks; gravelly and sandy riparian areas, and disturbed areas growing in wet, moist and dry rocky desert pavement; bouldery, rocky, rocky-gravelly, rocky-sandy, gravelly, gravelly-sandy and sandy ground; rocky-clayey loam, gravelly-sandy loam, sandy loam, sandy-clayey loam and clayey loam ground; rocky clay and clay ground, and rocky silty and sandy silty ground often reported as growing at the base or under shrubby mesquites and other protected areas, occurring from sea level to 6,900 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Setaria leucopila* is native to southwest-central and southern North America. \*5, 6, 33 (no record of species), 42 (072213), 43 (061110), 44 (011212 - no record of species; genus record), 46 (included under *S. macrostachya* in the “first edition”, Page 139, and Supplement Page 1041), 48, 63 (011212 - color presentation), 77, **85** (011212 - color presentation), 124 (011212), 133 (072213), 140 (Page 301), 155 (072213)\*

*Setaria macrostachya* (see NOTES and related footnotes 33, 46, 85, 105 and 140 under *Setaria vulpiseta*)

***Setaria vulpiseta* (J.B. de Lamarck) J.J. Roemer & J.A. Schultes: Plains Bristlegrass**

COMMON NAMES: Assaak; Bristle-grass (a name also applied to other species and the genus *Setaria*); [Plains, Summer] Bristle-grass (a name applied to *S*. *macrostachya*, English)140; Bristlegrass (a name also applied to other species and the genus *Setaria*); Foxtail [Wild] Millet (a name applied to *S*. *macrostachya*, English)140; Hasac (a name applied to *S*. *macrostachya*, Hokan: Seri)140; Ne-kuuk-suuk (a name applied to *S*. *macrostachya*, Mayan: Maya)140; Plains Bristle-grass (a name also applied to other species); Plains Bristlegrass (a name also applied to other species); Summer Bristle-grass; Waṣai (“Grass” a word applied to any grass, Uto-Aztecan: Tohono O’odham)140; Xica Quiix (“Globular Things” a name applied to *S*. *macrostachya*, Hokan: Seri)140; Xikkaa Kiix; Zacate Tempranero [Temprano] (“Early Grass” a name applied to *S*. *macrostachya*, Spanish: Chihuahua, Sonora)140; Zacate Temprano (a name applied to *S*. *macrostachya*); Zéé’iilwoii (“One That Goes Into the Throat” a name applied to *S*. *macrostachya*, Athapascan: Navajo)140. DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with decumbent, geniculate, ascending and/or erect culms 8 inches to 4 feet in height; one plant was observed and described as being 2 inches in width at the base, several plants were observed and described as being 8 to 16 inches in width at the base); the stems and leaves are pale to bright green sometimes with a bluish tinge curing to an orange-brown; the flowers may be orange and purple; flowering generally takes place between mid-April and mid-October (additional records: one for early March and one for mid-November). HABITAT: Within the range of this species it has been reported from mountains; mesas; cliffs; bases of cliffs; rocky canyons; rocky canyonsides; rocky canyon bottoms; canyonettes; rocky talus; crevices in rocks; amongst rocky buttes; crests of buttes; rocky ledges; ridges; openings in woodlands; foothills; rocky hills; hilltops; rocky hillsides; rocky, rocky-loamy, gravelly, gravelly-loamy, sandy and clayey slopes; bajadas; rocky outcrops; amongst boulders and rocks; sandy dunes; sandy mesquite hummocks; plains; gravelly flats; valley floors; valley bottoms; along gravelly roadsides; rocky arroyos; bottoms of arroyos; gravelly-sandy-loamy draws; streambeds; sandy creeks; sandy riverbeds; along and in gravelly washes; within drainages; drainage ways; depressions; ciénegas; (gravelly-sandy) banks of streambeds, creeks, rivers and washes; (rocky) edges of streambeds and washes; benches; sandy-loamy bottomlands; sandy floodplains; mesquite bosques; stock tanks; riparian areas, and disturbed areas growing in muddy and moist and dry bouldery, rocky, gravelly, gravelly-sandy and sandy ground; rocky loam, gravelly loam, gravelly-sandy loam, sandy loam and clayey loam ground; sandy clay and clay ground, and cobbly-sandy silty ground sometimes in the partial shade of shrubs and trees, occurring from sea level to 7,600 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: *Setaria vulpiseta*, the Plains Bristlegrass has been recorded in many texts as *Setaria macrostachya*; however, it has been reported that *Setaria macrostachya*, with the common name Large-spike Bristlegrass is an EXOTIC species that may also be found in Arizona. There appears to be some confusion as to what’s what with this species with regard to its taxonomy. The native Plains Bristlegrass may be an attractive component of a restored native habitat, and the plant is reportedly a good soil binder. Plains Bristlegrass is an important forage grass with a high palatability; however, it is often selectively grazed over other range grasses and does not stand up well to heavy grazing. The seeds are eaten by doves, quails, sparrows and other songbirds. *Setaria vulpiseta* is native to south-central (again, some authors say that it is native and other authors say that it isn’t) and southern North America; Central America and coastal islands in the Caribbean Sea, and South America. \*5, 6, 15 (recorded as *Setaria macrostachya* H.B.K.), 16 (recorded as *Setaria macrostachya* H.B.K.), 33 (recorded as *Setaria macrostachya* H.B.K., Plains Bristlegrass, Page 270), 42 (071913), 43 (102409), 44 (011212 - no record of species; genus record), 46 (recorded as *Setaria macrostachya* H.B.K., Plains Bristlegrass, Page 139 and Supplement, Page 1041), 48 (recorded as *Setaria macrostachya*), 58 (recorded as *Setaria macrostachya* H.B.K.), 63 (011212 - color presentation of seed), 77 (recorded as *Setaria macrostachya* H.B.K.), **85** (011312 - *Setaria macrostachya* Kunth and *Setaria vulpiseta* (Lam.) Roemer & J.A. Schultes, color presentation of dried material), 105 (recorded as *Setaria macrostachya* H.B.K.), 124 (011212 - no record of species; genus record), 140 (recorded *Setaria macrostachya* Kunth, Pages 215-216 & 301), **WTK** (September 26, 2005)\*

***Sporobolus airoides* (J. Torrey) J. Torrey: Alkali Sacaton**

COMMON NAMES: Alkalai Drop-seed; Alkalai Dropseed; Alkalai Sacaton; Alkalai Sacaton Grass; Alkali Drop-seed; Alkali Dropseed; Alkali Grass (a name also applied to other species); Alkali Sacaton; Alkali Sacaton Grass; Alkali Sacatone; Alkali Zacaton; Alkalai-sacaton; Alkali-sacaton; Alkili Sacatone; Big Alkali Sacaton (more commonly refers to *Sporobolus wrightii*); Bunch Grass (a name also applied to other species); Bunch-grass (a name also applied to other species); Dropseed (a name also applied to other species, the genus *Sporobolus* and historically to the genus *Muhlenbergia*); Dropseed (English)140; Fine Top (Kansas); Fine Top Grass (a name also applied to other species); Fine-top Grass (a name also applied to other species); Fine-top Salt Grass; Fine-top Salt-grass; Finetop Saltgrass; Hair Grass (a name also applied to other species); Hair Grass Dropseed; Hair-grass Drop-seed; Hair-grass Dropseed; Hairgrass Dropseed; Noḍ <nawt, not> (Uto-Aztecan: Akimel O’odham and Tohono O’odham)140; Nöönö <nɜ́:nɜ́> (Uto-Aztecan: Hopi)140; Rush Grass (a name also applied to other species and the genus *Sporobolus*); Sacaton (a name also applied to the genus *Sporobolus*); [Big Alkali] Sacaton (English)140; Tava’i (Yaqui); Salt Grass (a name also applied to other species); Salt-grass (a name also applied to other species); Tłaltso (“Big Grass”, Athapascan: Chiricahua and Mescalero Apache)140; Tl’oh Dahikalii (Navajo); Tł’oh Ts’ósí <y’oh c’o’s> (“Slender Grass”, Athapascan: Navajo)140; Zacatón <sacatón> (Spanish)140; Zacaton Alcalino. DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with ascending and/or erect culms 14 to 100 inches in height developing clonal rings up to 3 to 7 feet in width; 3 plants were observed and described as being 44 inches in height (with inflorescences to 6 feet in height) and 32 inches in width at the base, plants were observed and described as being 5 feet in height and over 40 inches in width at the base); the color of the foliage has been described as grayish-green; the spikelets are brownish or lead-colored; the florets are pale green; flowering generally takes place between mid-April and late November. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; gravelly-sandy and sandy-loamy mesas; sandy plateaus; canyon rims; sandy bases of cliffs; rocky canyons; bouldery-sandy, rocky, sandy and sandy-silty canyon bottoms; rocky bluffs; sandy-clayey buttes; sandy knolls; sandy and clayey ridges; ridgetops; meadows; foothills; rocky, shaley, sandy and clayey hills; gravelly-silty hilltops; along rocky, rocky-sandy and sandy hillsides; sandy hillocks; mounds; escarpments; bouldery-clayey, rocky, rocky-gravelly, rocky-sandy, shaley, shaley-sandy, shaley-loamy, stony-gravelly-loamy, gravelly-sandy-loamy, gravelly-loamy, sandy, sandy-loamy, sandy-clayey, sandy-clayey-loamy, clayey and powdery-loamy slopes; gravelly alluvial fans; rocky and gravelly outcrops; bases of outcrops; alcoves; sand dunes; sandy hummocks; breaks; rocky-clayey and clayey patches; sandy steppes; sandy, clayey, silty-loamy-clayey and silty-clayey prairies; gravelly-sandy and sandy plains; rocky, shaley, cobbly, gravelly, gravelly-sandy, gravelly-loamy, sandy, sandy-loamy, sandy-clayey, clayey and clayey-loamy flats; rocky-sandy and sandy uplands; cobbly and sandy basins; basin bottoms; sandy, clayey and silty-loamy valley floors; sandy valley bottoms; along railroad right-of-ways; along gravelly, gravelly-sandy, sandy, sandy-loamy, clayey and silty roadsides; within gravelly and clayey-loamy arroyos; sandy bottoms of arroyos; along and in draws; bottoms of draws; shaley-sandy gulches; rocky and sandy-clayey gullies; ravines; sandy-loamy seeps; around springs; around seeping springs; along clayey streambeds; along creeks; creekbeds; in sandy and loamy soils along rivers; gravelly-sandy and sandy riverbeds; along and in gravelly and sandy washes; along and in sandy, sandy-clayey and clayey drainages; within gravelly, sandy and sandy-clayey drainage ways; pools; lakebeds; sandy-loamy and clayey playas, boggy peat deposits; ciénegas; marshy areas; swampy areas; gravelly-sandy, sandy and sandy-loamy depressions; clayey sloughs; clayey swales; along (sandy and clayey) banks of streams, creeks, creekbeds, rivers, drainages, ponds and lakes; (rocky-clayey and sandy) edges of seepages, rivers, ponds and marshes; (sandy) margins of draws, streams, creeks, rivers, washes, pools, lakes and marshes; (clayey) berms and rims at edges of wetlands; along (sandy) shores of drainages and lakes; mudflats; cobbly, cobbly-silty, sandy, sandy-silty and silty bars; sandy beaches; clayey benches; sandy, sandy-clayey and sandy-silty terraces; sandy bottomlands; along cobbly, sandy and loamy-clayey floodplains; sandy lowlands; mesquite bosques; fencelines; in clayey soils around stock tanks; sandy, sandy-clayey and clayey banks of reservoirs; canal banks; in loamy soils along ditches; sandy ditch banks; rocky, gravelly, sandy and clayey-loamy riparian areas, and disturbed areas growing in shallow water and in wet, moist, damp and dry bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, shaley, shaley-sandy, cobbly, cindery, gravelly, gravelly-sandy and sandy ground; shaley loam, stony-gravelly loam, gravelly loam, gravelly-sandy loam, gravelly-silty loam, sandy loam, sandy-clayey loam, clayey loam, silty loam, powdery loam and loam ground; bouldery clay, rocky clay, sandy clay, loamy clay, silty clay, silty-loamy clay and clay ground, and cobbly silty, gravelly silty, sandy silty and silty ground, occurring from sea level to 8,500 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food (utilized as food during times of famine) crop; it was also noted as having been used as a tool (moist grass laid on hot stones to keep steam from escaping). It is useful in stabilizing soils in disturbed areas and slowing erosion. The establishment of seedlings may require frequent irrigations, but once established it is tolerant of both drought and flooding. It grows best where it receives 12 to 18 inches of mean annual precipitation. Earl F. Aldon (Aldon, Earl F. 1975. Establishing alkali sacaton on harsh sites in the Southwest. Journal of Range Management. 28(2): 129-132. [2872], found in the United State Department of Agriculture Forest Service, Fire Effects Information System) developed the following guidelines for establishing alkali sacaton from seed on harsh sites: plant when soil moisture is at least 14% or higher; plant when probabilities for weekly precipitation are greatest and soil temperatures will be near 86 o Fahrenheit (30o Centigrade); use large seeds at least 1 year old; saturate the planting site just prior to planting; cover seed with about ½ inch (13 mm) of mulch to keep conditions moist and dark, and if rainwater does not deposit at least 6 mm of rain within the first 5 days, rewater to bring the soil to saturation. Alkali Sacaton may be browsed by Mule Deer (*Odocoileus hemionus*), White-tailed Deer (*Odocoileus virginianus*), Elk (*Cervus elaphus*), Pronghorn (*Antilocapra americana*), small mammals and birds. *Sporobolus airoides* is native to west-central, southeast-central and southern North America. \*5, 6, 18, 33 (Pages 228-229), 42 (071913), 43 (102409), 44 (011312), 46 (Page 114), 48, 63 (011312 - color presentation including habitat), 77, **85** (011412 - color presentation), 105, 124 (011312), 127, 140 (Pages 216-218 & 301 - recorded as *Sporobolus airoides* (J. Torrey) J. Torrey [*S. wrightii* Munro ex Scribner, *S. airoides* Torrey var. *wrightii* (Munro ex Scribner) Gould])\*

*Sporobolus airoides* var. *wrightii* (see *Sporobolus wrightii*)

***Sporobolus cryptandrus* (J. Torrey) A. Gray: Sand Dropseed**

COMMON NAMES: Covered Spike Drop-seed; Covered-spike Drop-seed; Covered-spike Dropseed; Cryptandrous Dropseed; Dropseed (a name also applied to other species and the genus *Sporobolus*); Drop Seed Grass (a name also applied to other species); Drop-seed Grass (a name also applied to other species and the genus *Sporobolus*); Hidden-spike Dropseed; Large-panicle Vilfa; Larfe-panicled Vilfa; Lesser Dropseed; Prairie Grass; Prairie-grass; Sand Drop-seed; Sand Dropseed; Sand Rush Grass; Sand Rush-grass; Sand Rushgrass; Sporobole à Fleurs Cacnées (French, alternate spelling Sporobole à Fleures Cachées also observed); Vai Tava'i (Yaqui, also called this grass “Vaso” which is the Yaqui generic name for grass); Zacate de Arena (Spanish); Zacate Encubierto (Spanish). DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with decumbent (rarely), ascending and/or erect culms 1 to 4 feet (one record of 6½ feet) in height and up to 1 to 12 inches in width at the base; plants were observed and reported as being 40 inches in height and 4 to 6 inches in width at the base); the foliage may be bluish-green, light green, dark green or purple curing to light straw-yellow; the spikelets may be brownish, purplish, bright red-maroon or yellow; the anthers may be purplish to yellowish or white; flowering generally takes place between late April and late October (additional records: one for late January and one for early April; flowering ending as late as November has been reported); the fruits are light brown to reddish-orange. HABITAT: Within the range of this species it has been reported from mountains; gravelly mountaintops; bouldery, rocky, gravelly-sandy, sandy and sandy-loamy mesas; sandy plateaus; rocky and sandy rims of canyons; cliffs; gravelly and sandy bases of cliffs; rocky and gravelly-loamy canyons; along bouldery-cobbly-sandy, gravelly, gravelly-sandy and sandy canyon bottoms; gorges; bouldery talus slopes; sandy crevices in boulders and rocks; pockets of sandy soil in rocks; bluffs; gravelly sides of bluffs; along tops of bluffs; buttes; sandy knolls; rocky ledges; along rocky, gravelly-loamy and sandy ridges; ridgetops; openings in woodlands; glades; sandy, sandy-loamy and clayey meadows; tops of cinder cones; sandy foothills; shaley, gravelly, gravelly-sandy and sandy hills; rocky and sandy hillsides; escarpments; along bedrock, bouldery, bouldery-cobbly-clayey, rocky, rocky-gravelly, rocky-sandy, rocky-sandy-loamy, rocky-loamy, shaley, cobbly, gravelly, gravelly-sandy-loamy, gravelly-clayey, gravelly-clayey-loamy, sandy, sandy-loamy, sandy-clayey, loamy, clayey, clayey-loamy, silty-clayey and silty-clayey slopes; alluvial fans; bajadas; rocky outcrops; amongst boulders and rocks; sheltered nooks of rim rock; sandy lava flows; sand hills; sand dunes; sand hummocks; steppes; sandy and sandy-loamy prairies; pebbly, gravelly-sandy, sandy and sandy-clayey plains; bouldery, rocky, rocky-sandy, gravelly, sandy, sandy-loamy, sandy-clayey, sandy-silty, loamy, clayey, clayey-loamy, silty-loamy and silty-clayey flats; sandy and clayey uplands; sandy basins; basin floors; sandy bowls; gravelly-sandy and sandy-loamy valley floors; valley bottoms; coastal dunes; sandy coastal plains; sandy coastal flats; along gravelly railroad right-of-ways; sandy roadways; sandy and clayey roadcuts; along rocky-sandy, cindery, gravelly, gravelly-sandy, gravelly-loamy, sandy, sandy-loamy, sandy-clayey, sandy-silty and clayey roadsides; sandy and clayey arroyos; sandy bottoms of arroyos; within sandy draws; bottoms of draws; sandy ravines; sandy, sandy-clayey and clayey seeps; sandy, sandy-clayey and clayey springs; gravelly-loamy soils along streams; along and in sandy, sandy-silty-clayey and clayey streambeds; along creeks; rocky and sandy creekbeds; along rivers; along and in sandy, sandy-clayey and clayey riverbeds; along and in rocky, rocky-sandy, gravelly, gravelly-sandy, sandy, sandy-loamy, clayey and silty-clayey washes; within rocky-clayey-silty and sandy drainages; drainage ways; clayey playas; blowouts; gravelly-sandy, sandy and silty-clayey depressions; sandy and clayey swales; along (muddy, sandy and sandy-loamy) banks of arroyos, springs, streams, creeks, rivers, washes and lakes; (rocky, gravelly and sandy) edges of draws, gullies; streams, drainage ways, pools and depressions; margins of streams, creeks, rivers, pools and lakes; (gravelly-sandy and sandy) shores of rivers and lakes; areas of drawdown; mudflats; sand and silty-sand bars; gravelly and sandy beaches; gravelly and sandy benches; stony-loamy, cobbly-gravelly, cobbly-sandy, sandy, sandy-loamy, silty and silty-clayey terraces; sandy, sandy-clayey, loamy and clayey bottomlands; gravelly-sandy, sandy and clayey floodplains; lowlands; mesquite bosques; along sandy fencerows; around stock tanks (charcos); gravelly banks and sandy shores of reservoirs; along and in sandy, sandy-clayey, loamy and clayey ditches; ditch banks; rocky, gravelly, gravelly-sandy and sandy riparian areas; sandy and loamy waste places, and disturbed areas growing in muddy and wet, moist, damp and dry rimrock; bouldery, bouldery-cobbly-sandy, rocky, rocky-gravelly, rocky-sandy, shaley, stony-gravelly, cobbly, cobbly-sandy, cindery, gravelly, gravelly-sandy, pebbly and sandy ground; rocky loam, stony loam, gravelly loam, gravelly-sandy loam, gravelly-clayey loam, sandy loam, sandy-clayey loam, sandy-silty loam, silty loam, silty-clayey loam and loam ground; bouldery-cobbly clay, cobbly-sandy clay, gravelly clay, gravelly-sandy clay, sandy-clay, sandy-silty clay, silty clay and clay ground, and rocky-clayey silty, gravelly silty, sandy silty and silty ground, occurring from sea level to 10,300 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, established plants are drought resistant. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food and/or fiber crop. When using this plant in landscaping and re-vegetation projects use plants and/or seed collected from as local a population as possible. Rocky Mountain Bighorn Sheep (*Ovis canadensis*) browse this plant, Scaled Quail (*Callipepla squamata*), Black-tailed Jackrabbits (*Lepus californicus*), Black-tailed Prairie Dogs (*Cynomys ludovicianus*) feed on this plant, small mammals and birds also utilize this plant. *Sporobolus cryptandrus* is native to central and southern North America and southern South America (report for Argentina found in the Germplasm Resources Information Network). \*5, 6, 15, 16, 33 (very similar to *Sporobolus flexuosus* and difficult to distinguish without having mature panicles, Pages 226-227), 42 (071913), 43 (102409 - *Sporobolus cryptandrus* A. Gray), 44 (011412), 46 (Page 114), 48, 58, 63 (011412 - color presentation including habitat), 77, **85** (011612 - color presentation including habitat), 105, 124 (011412), 127, 140 (Page 301)\*

***Sporobolus wrightii* W. Munro ex F.L. Scribner: Big Sacaton**

SYNONYMY: *Sporobolus airoides* (J. Torrey) J. Torrey var. *wrightii* (W. Munro ex F.L. Scribner) F.W. Gould. COMMON NAMES: Alkali Sacaton; Big Alkalai Sacaton; Big Alkali Sacaton (a name also applied to *Sporobolus airoides*); Big Sacaton; Big Sacaton Grass; Dropseed (a name applied to *Sporobolus airoides*, other species, the genus *Sporobolus* and historically to the genus *Muhlenbergia*); Dropseed (English)140; Giant Alkali Sacaton; Giant Sacaton; Giant Sacaton Grass; Noḍ <nawt, not> (a name applied to *Sporobolus airoides*, Uto-Aztecan: Akimel O’odham and Tohono O’odham)140; Nöönö <nɜ́:nɜ́> (Uto-Aztecan: Hopi)140; Sacaton (a name also applied to other species and the genus *Sporobolus*); [Big Alkali] Sacaton (English)140; Sacaton Grass (a name also applied to the genus *Sporobolus*); Tłaltso (“Big Grass”, Athapascan: Chiricahua and Mescalero Apache)140; Tl’oh Dahikalii (Navajo); Tł’oh Ts’ósí <y’oh c’o’s> (“Slender Grass”, Athapascan: Navajo)140; Wright Dropseed; Wright Sacaton; Wright’s Dropseed; Wright’s Sacaton; Zacatón <sacatón> (a name also applied to *Sporobolus airoides*, Spanish)140. DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with ascending and/or erect culms 36 to 100 inches in height and 20 inches to 3 feet in width at the base); the foliage is pale green with a gray cast; the spikelets are greenish, purplish or whitish; the anthers are purplish to yellowish; based on few records located, flowering generally takes place between early August and late September (additional records: one for mid-April, one for late April, three for mid-June, (two for early August, four for mid-August, four for late August, five for early September, three for mid-September, one for late September) and one for mid-October; flowering beginning as early as March and ending as late as November has been reported); the fruits are blackish or reddish-brown. HABITAT: Within the range of this species it has been reported from mountains; gravelly-sandy mesas; plateaus; canyons; canyon bottoms; bases of cliffs; rock ledges; meadows; hills; rocky hillsides; escarpments; rocky, stony-loamy, gravelly and sandy-loamy slopes; amongst rocks; plains; clayey flats; basins; basin bottoms; sandy-clayey valley floors; tidal flats; along railroad right-of-ways; along gravelly-loamy and sandy-loamy roadsides; along arroyos; rocky-sandy bottoms of arroyos; along creeks; along rivers; along riverbeds; along and in gravelly and sandy washes; within drainages; bolson depressions; playas; cienegas; marshes; depressions; banks of rivers; (rocky) edges of washes; around margins of ponds; benches; terraces; bottomlands; sandy floodplains; lowlands; mesquite bosques; in clayey-loamy soils around stock tanks; along sandy ditches; riparian areas, and disturbed areas growing in moist and dry rocky, rocky-sandy, shaley, gravelly, gravelly-sandy and sandy ground; rocky loam, stony loam, gravelly loam, sandy loam, sandy-clayey loam, clayey loam and silty-clayey loam ground; sandy clay ground, and gravelly silty ground, occurring from sea level to 7,000 feet in elevation in the woodland, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, and useful in slowing runoff, enhancing infiltration and controlling erosion. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food and/or fiber crop. An estimated 95% of the original stands of Big Sacaton have been lost or degraded due to channelization, erosion and overgrazing. Attempts should be made to restore this grassland. This plant provides cover for wildlife including the Collard Peccary (*Peccari tajacu*), Botteri’s Sparrow (*Aimophila botterii*) and other birds, Diamondback Rattlesnakes (*Crotalus atrox*) and rodents. *Sporobolus wrightii* is native to southwest-central and southern North America. \*5, 6, 15, 16, 33 (recorded as *Sporobolus airoides* (Torr.) Torr. var. *wrightii* (Munro) Gould, Pages 230-231), 42 (071913), 43 (102409), 44 (011612), 46 (Page 114), 44 (042811), 48, 58, 63 (011612 - color presentation including habitat), 77, **85** (011612 - color presentation including habitat), 105, 124 (011612 - no record of species; genus record), 127, 140 (recorded as *Sporobolus airoides* (J. Torrey) J. Torrey [*S. wrightii* Munro ex Scribner, *S. airoides* Torrey var. *wrightii* (Munro ex Scribner) Gould], Pages 216, 217, 218 & 301), **WTK** (September 26, 2005)\*

*Trachypogon montufari* (see *Trachypogon spicatus*)

*Trachypogon montufarii* (see *Trachypogon spicatus*)

*Trachypogon secundus* (see *Trachypogon spicatus*)

***Trachypogon spicatus* (C. Linnaeus f.) C.E. Kuntze: Spiked Crinkleawn**

SYNONYMY: *Trachypogon montufarii* [*montufari* also commonly observed] (K.S. Kunth) C.G. Nees von Esenbeck; *Trachypogon secundus* (J.S. Presl) F. Lamson-Scribner. COMMON NAMES: Alcapajac (Mayan: Chontal, Oaxaca)140; [Zacate] Barba Larga (‘Big Beard [Grass]”, Spanish: Mexico)140; Crinkle Awn; Crinkle-awn (a name also applied to the genus *Trachypogon*, English: Arizona)140; Danikua (Purépecha); Grey Tussock Grass (English)140; Onesided Crinkleawn; Pasto Popotillo (Hispanic); Polmuc (Language Family Unknown: Mexico)140; Quimes (Language Family Unknown: Mexico)140; Servilleta (Hispanic); Sideflower Crinkleawn; Spiked Crinkleawn; Tzurumuta (Purépecha); Waṣai (“Grass” a name applied to any grass, Uto-Aztecan: Tohono O’odham)140; Zacate Barba Larga (Spanish). DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with erect culms 18 to 60 inches in height); the stems may be blue; the leaves cure to a reddish-brown or purplish color; the anthers are orange or yellow; flowering generally takes place between late August and mid-September (additional records: two for early October, one for late October and one for mid-November). HABITAT: Within the range of this species it has been reported from mountains; rocky mesas; rims of canyons; cliffs; rocky walls; rocky canyons; rocky canyon bottoms; crevices in boulders and rocks; pockets of soil in rock; rocky ledges; rocky ridges; along ridgetops; meadows; foothills; rocky and rocky-gravelly hills; rocky hillsides; bouldery, bouldery-rocky, rocky, rocky-gravelly, gravelly, gravelly-sandy-loamy and clayey slopes; bajadas; bouldery and rocky outcrops; bases of rocky outcrops; amongst boulders and rocks; rocky banks; sandy prairies; flats; uplands; along arroyos; rocky draws; bottoms of draws; within rocky and sandy drainages; (rocky) edges of drainages; riparian areas; recently burned areas of grassland, and disturbed areas growing in dry bouldery, bouldery-rocky, bouldery-sandy, rocky, rocky-gravelly, gravelly and sandy ground; gravelly-sandy loam, gravelly-clayey loam and sandy-clayey loam ground, and clay ground, occurring from sea level to 7,900 feet in elevation in the forest, woodland, scrub, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, bright yellow anthers make it conspicuous when in flower, plant with native shrubs and other moderately tall grasses including grama grasses. *Trachypogon spicatus* is native to southwest-central and southern North America; Central America, and eastern South America. \*5, 6, 30, 33 (recorded as *Trachypogon montufari* (H.B.K.) Nees, Pages 300-302), 42 (071913), 43 (011711 - *Trachypogon montufari* Nees; *Trachypogon spicatus* Kuntze), 44 (011711 - no record of species or genus), 46 (recorded as *Trachypogon secundus* (Presl) Scribn., Page 144), 63 (011711 - color presentation), **85** (071913 - color presentation), 105 (recorded as *Trachypogon montufari* (H.B.K.) Nees), 124 (011711 - no record of species), 133 (19 July 2013), 140 (Pages 218-219 & 301)\*

***Tragus berteronianus* J.A. Schultes: Spiked Burr Grass**

COMMON NAME: African Bur Grass; Small Carrot-seed Grass; Spike Bur Grass; Spike Burgrass; Spiked Bur Grass; Spiked Burr Grass; Spiked Burrgrass. DESCRIPTION: Terrestrial annual or perennial graminoid (spreading geniculate culms 1 to 18 inches in height); the flowers have been described as being green to purple, or bright red-maroon; the anthers are yellow and may occasionally be tinged with green or purple; based on few records located flowering generally takes place between early August and late September (additional records: one for late October and one for mid-December). HABITAT: Within the range of this species it has been reported from mountains; bases of mountains; mesas; canyons; gravelly-sandy canyon bottoms; sandy ridges; gravelly foothills; hills; rocky hillsides; rocky and sandy slopes; alluvial fans; bajadas; amongst rocks; terraces; plains; rocky flats; uplands; basin bottoms; valleys; along sandy roadways; along rocky and sandy roadsides; arroyos; along draws; gulches; riverbeds; within rocky-sandy-clayey-loamy, gravelly and sandy washes; along drainages; (sandy) edges of washes; (sandy) sides of streams and rivers; bottomlands; floodplains; waste places, and disturbed areas growing in moist and dry rocky, rocky-sandy, gravelly, gravelly-sandy and sandy ground and rocky-sandy-clayey loam and sandy loam ground, occurring from 3,800 to 7,000 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: EXOTIC. *Tragus berteronianus* is native to southwestern Asia and Africa. \*5, 6, 33 (Page 156), 42 (071913), 43 (071913), 44 (071913 - no record of species or genus), 46 (Page 121), 63 (071913 - color presentation), **85** (071913 - color presentation), 133 (19 July 2013)\*

*Trichachne californica* (see *Digitaria californica*)

*Tridens grandiflora* (see *Erioneuron avenaceum*)

*Tridens grandiflorus* (misspelling, see *Erioneuron avenaceum*)

***Tridens muticus* (J. Torrey) G.V. Nash: Slim Tridens**

COMMON NAMES: Awned Fluff Grass; Awnless Fluff Grass; Rough Tridens (applied to var. *elongatus* and var. *muticus*); Slim Fluffgrass; Slim Tridens (also applied to var. *elongatus* and var. *muticus*); Tridente (Spanish); Tridente Alargado (applied to *Tridens muticus* var. *elongatus*, Spanish); Tridente Esbelto (applied to *Tridens muticus* var. *muticus*, Spanish). DESCRIPTION: Terrestrial perennial tufted graminoid (a bunchgrass (clumpgrass) with ascending and/or erect culms 3 to 32 inches in height and 3 to 4 inches in width at the base; one plant was observed and described as being 32 inches in height and 4 inches in width at base); the foliage is bluish-green or gray-green curing to a light straw-yellow; flowering generally takes place between early March and early June and again between early August and mid-November (additional records: one for mid-January and one for early July). HABITAT: Within the range of this species it has been reported from mountains; gravelly peaks; mesas; rocky cliffs; along bouldery and rocky canyons; canyon walls; along rocky and gravelly canyon bottoms; gorges; bouldery-sandy grottos; talus slopes; crevices in rocks; rocky ledges; bedrock, gravelly and gravelly-sandy-clayey ridges; bouldery and rocky ridgetops; rocky foothills; rocky and gravelly hills; bouldery, rocky, rocky-gravelly-sandy and gravelly hillsides; rocky, rocky-sandy-loamy, gravelly, loamy, clayey and clayey-loamy slopes; rocky bajadas; boulder, rocky, shaley and chalky outcrops; amongst boulders and rocks; bases of rocks; lava flows; lava fields; plains; sandy-clayey flats; uplands; basins; valley floors; railroad right-of-ways; along rocky, gravelly-sandy and sandy roadsides; within rocky and gravelly arroyos; sandy bottoms of aroyos; draws; rocky and sandy-loamy ravines; seeps; springs; along streams; in sand along rivers; bouldery-sandy riverbeds; along and in rocky, gravelly, gravelly-loamy and sandy washes; drainage ways; sandy depressions; around pools; (rocky) banks of washes; borders of washes; (gravelly) edges of streambeds; (rocky) margins of arroyos; benches; stock tanks; riparian areas, and disturbed areas growing in dry rocky and gravelly desert pavement; bouldery, bouldery-sandy, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-sandy loam, gravelly loam, sandy loam, sandy-clayey loam, clayey loam and loam ground; rocky clay, gravelly-sandy clay, sandy clay and clay ground; sandy silty ground, and chalky ground, occurring from 500 to 8,800 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Tridens muticus* var. *muticus* was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial fodder crop; it was noted as having been used as a feed for horses and sheep. Slim Tridens is browsed by Collard Peccary (*Peccari tajacu*), Mule Deer (*Odocoileus hemionus*) and other herbivores and birds and rodents feed on the seed. *Tridens muticus* is native to south-central and southern North America. \*5, 6, 15, 16, 33 (Page 98), 42 (072113), 43 (102509 - *Tridens muticus* Nash,), 44 (011612), 46 (Page 91), 63 (011612 - color presentation including habitat), 77, **85** (011712 - color presentation including habitat), 105, 124 (011612), 127, 133 (072113), 155 (072113)\*

*Tridens pulchellus* (see *Dasyochloa pulchella*)

*Triodia grandiflora* (see *Erioneuron avenaceum*)

*Triodia pulchella* (see *Dasyochloa pulchella*)

CLASS MAGNOLIOPSIDA: The DICOTS

Acanthaceae: The Acanthus Family

***Anisacanthus thurberi* (J. Torrey) A. Gray: Thurber’s Desert Honeysuckle**

COMMON NAMES: Anisacanthus; Buckbrush (English)140; Chuparosa (Spanish: Sonora)140; Chuparrosa (Spanish: Sonora); Cola de Gallo (“Rooster Tail”, Spanish: Sonora)140; Colegallo <colegaiyo, colegayo> (Spanish: Chihuahua, Sonora)140; Desert Honeysuckle; [Thurber’s] Desert Honeysuckle (English)140; Hierba de Cáncer (“Cancer Herb” a name also applied to other species, Spanish: Mexico)140; Lustich <lustiej> (Uto-Aztecan: Guarijío)140; Muicle (a name also applied to other species, Uto-Aztecan)140; Taparosa (Spanish)140; Thurber Anisacanthus; Thurber Desert-honeysuckle; Thurber’s Desert Honeysuckle; Thurber’s Desert-honeysuckle. DESCRIPTION: Terrestrial perennial cold deciduous shrub (3 to 8 feet in height; one plant was observed and described as being 6½ feet in height and 40 inches in width); the stems are pale gray, gray, tan or white; the leaves are green or yellow-green; the tubular flowers may be brick-red, brown-orange, brownish-red, burnt-orange, copper-red, orange, orange-brown, orange-red, orange with a purple fringe, orange-salmon, dull pink-orange, purplish, light red, red, red-orange, red-orange-brown, reddish-brown, reddish-orange or yellow; flowering generally takes place between late February and early August and again between late September and mid-December (additional records: one for early February and one for late August; flowering has also been reported as occurring mainly in the spring, but may take place almost throughout the year). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; cliffs; gravelly bases of cliffs; along bouldery, rocky and sandy canyons; rocky canyon bottoms; meadows; foothills; hills; gravelly hilltops; rocky and rocky-gravelly-loamy hillsides; escarpments; rocky, rocky-gravelly, rocky-clayey, gravelly, gravelly-sandy, gravelly-sandy-loamy, gravelly-loamy and sandy slopes; bajadas; rocky outcrops; amongst boulders; traces; plains; flats; valley floors; valley bottoms; along roadsides; along arroyos; bottoms of arroyos; draws; sandy bottoms of draws; grottos; gulches; ravines; springs; along streams; along and in streambeds; along creeks; creekbeds; along rivers; riverbeds; along and in bouldery-rocky, rocky, gravelly and sandy washes; bouldery drainage ways; ciénegas; along (rocky and gravelly-sandy) banks of arroyos, rivers and washes; borders of washes; along edges of creeks and washes; rocky shelves; bottomlands; rocky-sandy floodplains; mesquite bosques; ditches, and bouldery riparian areas growing in dry bouldery, bouldery-rocky, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, pebbly, gravelly, gravelly-sandy and sandy ground; rocky-gravelly loam and gravelly loam ground; rocky clay and gravelly clay ground, and silty ground, occurring from sea level to 7,200 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, and is currently being used in plantings, often to attract hummingbirds. The Anna’s Hummingbird (C*alypte anna*), Black-chinned Hummingbird (*Archilochus alexandri*), Broad-billed Hummingbird (*Cynanthus latirostris*), Costa’s Hummingbird (*Calypte costae*) and Rufous Hummingbird (*Selasphorus rufus*) have been observed visiting the flowers, and the Verdin (*Auriparus flaviceps*) may use the flowers as a source of nectar. This plant is browsed by wildlife. *Anisacanthus thurberi* is native to southwest-central and southern North America. \*5, 6, 10, 13 (Pages 216-217), 15, 16, 18, 28 (color photograph 539), 42 (072213), 43 (102909 - *Anisacanthus thurberi* A. Gray), 44 (012112 - no record of species or genus), 46 (Page 801), 48, 58, 63 (012112 - color presentation of seed), 77 (color photograph #1), **85** (012112 - color presentation), 91 (Pages 92-94), 115 (color presentation), 124 (012112 - no record of species or genus), 140 (Pages 27-28 & 281), **MBJ**/**WTK** (July 9, 2009), **WTK** (September 26, 2005)\*

*Dicliptera pseudoverticillaris* (see *Dicliptera resupinata*)

***Dicliptera resupinata* (M.H. Vahl) A.L. de Jussieu: Arizona Foldwing**

SYSNONYMY: *Dicliptera pseudoverticillaris* A. Gray. COMMON NAMES: Alfalfilla (Spanish); Arizona Dicliptera; Arizona Foldwing; Dicliptera (a name also applied to the genus *Dicliptera*); Foldwing (a name also applied to the genus *Dicliptera*); Purple Drop; Ramoneada Flor Morada (Spanish); Twin Seed. DESCRIPTION: Terrestrial perennial forb/herb (12 to 32 inches in height); the stems are dark green; the leaves are dark green; the flowers may be lavender, lavender-pink, magenta, pink, dark pink, pink-lavender, pinkish-purple, purple, purple-blue, purple-green and rose; flowering generally takes place between early February and early November (additional records: two for early January, two for mid-December and three for late December). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; mesas; bases of cliffs; along rocky canyons; canyon bottoms; foothills; rocky and gravelly hills; rocky hillsides; rocky, stony and stony-clayey slopes; bajadas; amongst rocks; stony flats; valley floors; roadsides; within gravelly and sandy arroyos; along gravelly and sandy bottoms of arroyos; along and in rocky streambeds; along creeks; along rivers; along and in rocky and sandy washes; drainage ways; swales; banks of arroyos and washes; borders of washes; sandy beaches; terraces; bottomlands; floodplains; lowlands; mesquite bosques; riparian areas, and disturbed areas growing in damp and dry rocky, stony, gravelly and sandy ground; rocky-sandy loam and silty-clayey loam ground, and rocky clay, stony clay and sandy clay ground, sometimes reported as growing in the shade, occurring from sea level to 6,100 feet in elevation in the scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Dicliptera resupinata* is native to southwest-central and southern North America. \*5, 6, 15, 42 (072213), 43 (103009 - *Dicliptera resupinata* Juss.), 44 (012312 - no record of species or genus), 46 (Page 801), 63 (012312), **85** (012312 - color presentation), 115 (color presentation), 124 (012312 - no record of species; genus record), 140 (Pages 28 &281), **MBJ**/**WTK** (November 3, 2009)\*

Aizoaceae: The Fig-marigold Family

***Trianthema portulacastrum* C. Linnaeus: Desert Horsepurslane**

COMMON NAMES: Black Pig Weed; Black Pig-weed; Black Pigweed; Desert Horse Purslane; Desert Horse-purslane; Desert Horsepurslane; Desert Purslane; Giant Pig Weed; Giant Pigweed; Horse Purslane (a name also applied to the genus *Trianthema*); Horse-purslane (a name also applied to the genus *Trianthema*); Jia Hai Ma Chi (transcribed Chinese); Kaach U An (Pima); Lowland-purslane (Lowland Purslane is a name that is also applied to other species); Mexican Watercress; Perennial Sea-purslane; Phak Bia Hin; Pigweed (a name also applied to other species); Purslane (a name also applied to other species); Shoreline Sea Purslane; Shoreline Sea-purslane; Shoreline Seapurslane; Verdolaga (Spanish); Verdolaga Blanca [Bronca] (Spanish); Verdolaga de Cochi (Spanish); Verdolaga Rastrera; Verdolagas (Spanish); Verdolago de Cochi (Spanish). DESCRIPTION: Terrestrial annual or perennial forb/herb (prostrate and/or decumbent stems that are to 1 to 2 or more feet in height and to 1 to 5 feet in length), the stems may be reddish; the succulent leaves are green; the calyx lobes (lacks flowers) are 1/3 inch in length and may be magenta, magenta-pink, pink, pink-magenta, purple, purple-pink, red, rose-pink, rose-purple, white & pink, yellow or yellow-red; flowering generally takes place between late June and late November (additional records: one for late January, one for late April and two for mid-May); the fruits are brick-red. HABITAT: Within the range of this species it has been reported from mountains; mesas; bases of cliffs; rocky canyons; canyon bottoms; sandy ridges; ridgetops; foothills; rocky hills; rocky hillsides; rocky, gravelly and clayey slopes; alluvial fans; bajadas; sand dunes; sand hummocks; blow-sand deposits; plains; gravelly-sandy, sandy, clayey and silty-loamy flats; valley floors; coastal dunes; sandy coastal plains; coastal flats; railroad right-of-ways; along gravelly, gravelly-loamy, sandy and sandy-loamy roadsides; arroyos; along seeps; springs; creekbeds; along rivers; sandy riverbeds; within sandy and sandy-silty washes; along and in drainages; palm oases; lakes; clayey and silty playas; ciénegas; marshes; depressions; sloughs; swales; along (clayey and silty) banks of creeks and rivers; (sandy and sandy-clayey) edges of playas, mudflats; sandy beaches; terraces; sandy and silty floodplains; mesquite woodlands; along canals; along silty ditches; along ditch banks; sandy and clayey riparian areas; waste places, and disturbed areas growing in moist and dry (seasonally) desert pavement; rocky, gravelly, gravelly-sandy and sandy ground; gravelly loam, gravelly-sandy loam, sandy loam and silty loam ground; sandy clay and clay ground, and sandy silty and silty ground, occurring from sea level to 9,500 feet in elevation in the forest, woodland, grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop. The Desert Horsepurslane is an alternate host plant of the Beet Leafhopper (*Circulifer tenellus* Baker 1896). *Trianthema portulacastrum* is native to south-central and southern North America; Central America and islands in the Caribbean Sea; northern, western and southern South America; western, central, eastern and southern Asia and islands in the Indian Ocean and Philippine Sea, and Africa and islands in the Indian Ocean. \*5, 6, 15, 16, 42 (072213), 43 (103109), 44 (012412 - color photograph), 46 (Page 281), 58, 63 (012412), 68, 77, **85** (012412 - color presentation including habitat), 106 (012412 - color photograph), 115 (color presentation), 124 (012412), 127, ADS (reported under the common names Verdolagas or Mexican Watercress, Neto’s Tucson: Verdolagas, or Mexican watercress, a tasty part of our cultural heritage, Section B, Pages 1 and 2, Sunday, July 17, 2011)\*

Amaranthaceae: The Amaranth Family

***Amaranthus albus* C. Linnaeus: Prostrate Pigweed**

SYNONYMY: *Amaranthus graecizans* auct. non C. Linnaeus. COMMON NAMES: Bai Xian (transcribed Chinese); Carurú-branco (Portuguese: Brazil); Cochino; Iowa Pigweed (Iowa); Pale Amaranth; Pellitory-leaf Amaranth; Pellitory-leaved Amaranth; Pig Weed (a name also applied to other species); Pigweed (a name also applied to other species and the genus *Amaranthus*); Pigweed Amaranth; Prostrate Amaranth; Prostrate Pigweed (a name also applied to other species); Quelite Manchado; Stiff Tumbleweed; Tumble Amaranth; Tumble Amaranthus; Tumble Pigweed; Tumble Weed (a name also applied to other species); Tumble-weed (a name also applied to other species and the genus *Amaranthus*); Tumbleweed (a name also applied to other species and the genus *Amaranthus*); Tumbleweed Amaranth; Tumbleweed Amaranthus; Tumbleweed Pigweed; Tumble Pigweed; Tumbling Amaranth; Tumbling Amaranthus; Tumbling Pigweed; Vit Amarant (Swedish); White Amaranth; White Amaranthus; White Coxcomb; White Pigweed (a name also applied to other species); White Tumbleweed (a name also applied to other species). DESCRIPTION: Terrestrial annual forb/herb (almost prostrate (rarely) and/or erect stems 4 inches to 4 feet in height; one plant was observed and described as being 6 to 10 inches in height and 5 feet in width); the stems may be yellowish; the foliage is green; the inconspicuous flowers may be green, greenish, white, whitish-green or yellowish; flowering generally takes place between mid-May and mid-November (additional records: two for mid-January, two for mid-February, one for early March, one for mid-March, one for late March, two for early April, five for mid-April and two for early December). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; sandy mesas; gravelly bases of cliffs; canyons; rocky canyonsides; bouldery-gravelly-sandy, rocky, gravelly-sandy, sandy and clayey canyon bottoms; talus slopes; along bluffs; buttes; knolls; ridges; meadows; foothills; shaley and cindery (scoria) hills; bouldery and rocky hillsides; rocky, shaley, gravelly-sandy, gravelly-loamy, sandy and clayey-loamy slopes; lava beds; sand dunes; clay pans; clayey hardpans; prairies; sandy and silty plains; cindery, sandy, clayey and clayey-loamy flats; sandy-clayey-loamy basins; sandy and sandy-loamy valley floors; valley bottoms; along railroad right-of-ways; loamy roadbeds; sandy roadcuts; along gravelly, gravelly-loamy, sandy, sandy-loamy and loamy-clayey roadsides; along two-tracks; clayey arroyos; gravelly bottoms of arroyos; draws; ravines; seeps; along streams; along and in cobbly, sandy and loamy-clayey streambeds; gravelly-sandy creekbeds; along rivers; rocky-cobbly-sandy and sandy riverbeds; along and in rocky-sandy, gravelly, gravelly, gravelly-sandy-silty, sandy and silty washes; within drainages; vernal pools; clayey poolbeds; along ponds; around and in pondbeds; clayey lakebeds; bogs; freshwater marshes; swampy areas; freshwater marshes; blowouts; clayey depressions; sinks; swales; along (sandy and sandy and clayey-loamy) banks of springs, streams, rivers, riverbeds and lakes; along edges of rivers, washes, tanks, ponds and salt marshes; along margins of rivers, pools, ponds and lakes; mudflats; gravel and sand bars; stony beaches; sandy benches; rock shelves; stony-loamy and sandy terraces; bottomlands; rocky-sandy-clayey, sandy and clayey floodplains; clayey lowlands; around and in stock tanks; along banks and shorelines of reservoirs; along and in ditches; ditch banks; sandy riparian areas; sandy waste places, and disturbed areas growing in mucky; moist and dry bouldery, bouldery-gravelly-sandy, rocky, rocky-cobbly-sandy, rocky-sandy, shaley, stony, cobbly, cindery (scoria), gravelly, gravelly-sandy and sandy ground; stony loam, gravelly loam, sandy loam, sandy-clayey loam, clayey loam and loam ground; rocky-sandy clay, gravelly clay, sandy clay, sandy-loamy clay, loamy clay and clay ground, and gravelly-sandy silty and silty ground, occurring from sea level to 8,500 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop; it was also noted as having been used as a ceremonial item. Prostrate Amaranth is considered to be one of Arizona’s tumbleweeds. *Amaranthus albus* may be native to northwestern, central, and southern North America; however, its native range in North America is obscure and is considered to be an exotic plant by some authors. \*5, 6, 15, 42 (072213), 43 (103109), 44 (012512 - color photograph), 46 (Page 266), 58, 63 (012512 - color presentation), 68 (reported that *Amaranthus albus* was introduced from topical America), **85** (012612 - color presentation including habitat), 101 (color photograph), 124 (012512), 127\*

*Amaranthus graecizans* (synonym historically misapplied to both *Amaranthus albus* and *Amaranthus blitoides*)

***Guilleminea densa* (F.W. von Humboldt & A.J. Bonpland ex J.A. Schultes) C.H. Moquin-Tandon: Small Matweed**

COMMON NAME: Dense Cotton-flower; Dense Cottonflower; Small Matweed. DESCRIPTION: Terrestrial perennial forb/herb (low, mat-forming prostrate stems); the woolly foliage is green, dark green or green & white; the insignificant flowers are cream, cream-white or white; flowering generally takes place between mid-April and late October. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; mesas; rocky canyons; bottoms of canyons; gravelly crevices in boulders; along rocky ridges; ridgetops; clearings in forests; foothills; rocky hills; hillsides; rocky, rocky-gravelly, gravelly, sandy, sandy-loamy and clayey-loamy slopes; bajadas; amongst boulders; gravelly, sandy and clayey flats; gravelly-sandy valley floors; along gravelly and gravelly-loamy roadsides; within arroyos; bouldery-sandy and sandy draws; gulches; along streams; along silty creekbeds; along gravelly and sandy washes; rocky-gravelly and gravelly drainages; along lakes; along (sandy) edges of creeks, lakes and cienegas; terraces; sandy floodplains; riparian areas; waste places, and disturbed areas growing in bouldery, bouldery-sandy, rocky, rocky-gravelly, gravelly, gravelly-sandy and sandy ground; rocky-clayey loam, gravelly loam, sandy loam and clayey loam ground; rocky-sandy clay, sandy clay and clay ground, and silty ground, occurring from under 300 to 7,800 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Guilleminea densa* is native to southwest-central and southern North America; Central America, and western and southern South America. \*5, 6, 15, 42 (072213), 43 (022511), 44 (022511), 46 (*Brayulinea densa* (Humb. & Bonpl.) Small, Page 268), 58, 63 (022511 - color presentation), 68 (*Brayulinea densa* (Humb. & Bonpl.) Small), **85** (022511 - color presentation of dried material), 124 (022511), 140 (Page 282)\*

Anacardiaceae: The Sumac Family

***Rhus aromatica* W. Aiton: Skunkbush Sumac**

SYNONYMY: *Rhus trilobata* T. Nuttall. COMMON NAMES: Acedillo (“Little Sour One” a name listed under *Rhus aromatica*, Spanish: Mexico)140; Agrillas (Hispanic); Agrillo (“Sour One” a name listed under *Rhus aromatica*, Spanish: Durango)140; Agritas <agrito> (“Sour One” a name listed under *Rhus aromatica*, Spanish: Coahuila and Sonora)140; Agrito (Hispanic); Ai’tcĭb [Dit(b), I’tcĭb] (a name listed under *Rhus aromatica*, Uto-Aztecan: Shoshoni)140; Canyon Shrub (Nebraska); Ch’ił Lichíí’ (a name listed under *Rhus aromatica*, Athapascan: Navajo)140; Chascarillo; Chiiłchin <čiłčin, cil cin, tchiiłchin, tsiiłchin> (a name listed under *Rhus aromatica*, Athapascan: Navajo)140; Chínk’ózhé <tsínk’ózhé, nk’oze> (a name listed under *Rhus aromatica*, Athapascan: Western Apache)140; Chiquihuite (a name listed under *Rhus aromatica*, Spanish: California)140; Divi’uka (a name listed under *Rhus aromatica*, Uto-Aztecan: Mountain Pima)140; Fragrant Sumac (also applied to var. *aromatica*); I’iši <‘ici, c’i’ci, cïï, si’ibi> (a name listed under *Rhus aromatica*, Uto-Aztecan: Southern Paiute)140; Iičivɨ (a name listed under *Rhus aromatica*, Uto-Aztecan: Kawaiisu)140; Ill Scented Sumac; Ill-scented Sumac (a name listed under *Rhus aromatica*, English)140; K’įį’ (“To Peel” a name listed under *Rhus aromatica*, Athapascan: Navajo); K'o'se Mowe (Zuni, “salty berries”); KeƟe’é <gith’e> (a name listed under *Rhus aromatica*, Yuman: Walapai)140; Kith-a (Havasupai); Ko’se O’tsi (a name listed under *Rhus aromatica*, Language Isolate: Zuni)140; Lambrisco (“Wormy” a name listed under *Rhus aromatica*, Spanish: Tamaulipas)140; Lantrisco; Lemita (“Little Lemon” a name listed under *Rhus aromatica*, New Mexico)140; Lemon[ade]-berry (a name listed under *Rhus aromatica*, English)140; Lemonade Berry; Lemonade Sumac; Lentisco; Limonita; Lima (“Lime” a name listed under *Rhus aromatica*, Spanish: Mountain Pima)140; Low Sumac (Nebraska); Low Sumach (Nebraska, South Dakota); Motambiäts (a name listed under *Rhus aromatica*, Uto-Aztecan: Ute)140, Pubescent Skunkbush Sumac; Red-fruit Sumac; Red-fruited Sumac; Salidillo (“Little Salty One” a name listed under *Rhus aromatica*, Spanish: Mexico)140; Sapi’in (a name listed under *Rhus aromatica*, Kiowa Tanoan: Tewa)140; Selet <selit, silit> (a name listed under *Rhus aromatica*, Uto-Aztecan: Cahuilla)140; Shu’nay (a name listed under *Rhus aromatica*, Chumash: Barbareño Chumash)140; Shuna’y (a name listed under *Rhus aromatica*, Chumash: Ineseño Chumash)140; Si-l (a name listed under *Rhus aromatica*, Uto-Aztecan: Tübatulabal)140; Sidra (“Cider” a name listed under *Rhus aromatica*, Spanish: Mexico)140; Skunk Bush; Skunk-brush [-bush] (a name listed under *Rhus aromatica*, English)140; Skunk-bush; Skunkbush; Skunkbush Sumac; Squaw Berry; Squaw- [berry] Bush (a name listed under *Rhus aromatica*, English)140; Squaw Bush (Rocky Mountains); Squaw-bush; Squawberry (Rocky Mountains); Squawbush (Rocky Mountains); Stink Bush (Nebraska); Stinkbush (Nebraska); Suuvi <sú:vi> (a name listed under *Rhus aromatica*, Uto-Aztecan: Hopi)140; Sųųvų́, ˀIsívų (a name listed under *Rhus aromatica*, Uto-Aztecan: Ute)140; Sweet Sumac (Montana); Tciłtci (“Smelly Wood” a name listed under *Rhus aromatica*, Athapascan: Chiricahua and Mescalero Apache)140; Three-leaf Sumac (a name listed under *Rhus aromatica*, English: New Mexico)140; Three-leaved Sumac; Three-leaved Sumach; Threeleaf Sumac, Tsiibi <cübi, si:vi> (a name listed under *Rhus aromatica*, Uto-Aztecan: Hopi)140; Yaa (a name listed under *Rhus aromatica*, Keres: Acoma, Laguna)140. DESCRIPTION: Terrestrial perennial deciduous shrub (erect branches 1 to 12 feet in height; one plant was observed and described as being 5 feet in height and 5 feet in width, one plant was observed and described as being 5½ feet in height and 8 feet in width, plants were observed and described as being 6 feet in height and 6 to 8 feet in diameter, one plant was observed and described as being 7 feet in height and 10 feet in width, one plant was observed and described as being 10 feet in height and 7 feet in width, plants reaching 16½ feet in height were reported at one location); the bark is gray or gray-brown; the stems are arching and spreading; the leaves are dark green or yellow-green turning a brilliant yellow to red before dropping in the fall; the flowers may be cream, cream-green, cream-yellow, green-yellow, greenish-white, reddish, white-cream, yellow or yellow-green; flowering generally takes place between late February and early November (additional records: two for early January, four for early February and one for early December); the mature berries are orange, orange-red, light red, bright red or bright reddish-orange. HABITAT: Within the range of this species it has been reported from mountains; mountaintops; rocky-gravelly mountainsides; mesas; plateaus; rim rock, cliff tops; shaded walls of cliffs; rims of canyons; bouldery, bouldery-rocky and rocky canyons; canyon walls; along bouldery-cobbly, rocky, rocky-gravelly, stony and sandy canyon bottoms; talus slopes; crevices in rocks; rocky bluffs; bouldery-sandy, rocky-gravelly-clayey, cindery and gravelly-clayey buttes; cindery knolls; rocky ledges; rocky, rocky-gravelly and sandy ridges; rocky and gravelly-clayey ridgetops; meadows; foothills; hills; bouldery, rocky and gravelly hillsides; rocky escarpments; sandy bases of escarpments; bouldery, bouldery-gravelly, rocky, rocky-loamy-clayey, shaley, cobbly, gravelly, gravelly-loamy, sandy, sandy-silty, loamy and clayey slopes; bouldery and rocky outcrops; amongst boulders and rocks; shaded niches; lava flows; lava beds; sand hills; sand dunes; banks; sandy breaks; prairies; plains; flats; basins; sandy bowls; sandy valleys; along gravelly, gravelly-loamy, gravelly-clayey and sandy roadsides; along and in rocky, rocky-sandy, gravelly and sandy arroyos; bottoms of arroyos; within rocky-gravelly-sandy and sandy draws; sandy-clayey bottoms of draws; within gulches; sandy gullies; along gravelly ravines; sandy bottoms of ravines; springs; along streams; along streambeds; along rocky creeks; creekbeds; along rivers; rocky riverbeds; along and in rocky-gravelly-sandy, gravelly, gravelly-sandy, sandy and silty washes; within gravelly-sandy and sandy drainages; marshy areas; sink holes; along (rocky) banks of draws, streams, creeks and rivers; margins of springs and creeks; (gravelly-sandy) shores of rivers; cobbly and silty benches; sandy terraces; rocky and sandy bottomlands; floodplains; banks of reservoirs; canal banks; along and in ditches; sandy and clayey-loamy riparian areas, and disturbed areas growing in wet and dry bouldery, bouldery-cobbly, bouldery-gravelly, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, shaley, stony, cobbly, cindery, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-clayey loam, gravelly-loamy, gravelly-clayey loam, sandy loam and clayey loam ground; rocky-gravelly clay, rocky-loamy clay, rocky-silty clay, gravelly clay, sandy-loamy clay, sandy clay, silty clay and clay ground, and sandy silty and silty ground, occurring from 500 to 10,500 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, it may form thickets some of which have reached 30 feet in diameter. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food, beverage, spice, fiber (used in basketry and in the making of cradles and hats, it was also used as a sewing material) and/or dye (used in the making of black, blue, red and red-brown dyes, and its ashes were used in setting dyes) crop; it was also noted as having been used as a ceremonial item, as a fuel, in the making of tools (used in making bows, arrows, spear shafts, hoe handles and seed fans), as a drug or medication, as an insecticide (the leaves were used on the body), and the roots were used as a perfume. *Rhus aromatica* of the eastern United States has a pleasant odor, whereas, *Rhus trilobata* (*Rhus aromatica* var. *trilobata*) of the western United States is ill-scented. It may be a useful plant in the re-vegetation of disturbed areas and excellent for use in erosion control. It provides cover for many mammals and birds. CottontailsMule Deer (*Odocoileus hemionus*), White-tailed Deer (*Odocoileus virginianus*), Elk (*Cervus elaphus*), jackrabbits,, Porcupines (*Erethizon dorsatum*), Pronghorn (*Antilocapra americana*), Bighorn Sheep (*Ovis canadensis*) and small mammals feed on the foliage and twigs, and Black Bears (*Ursus americanus*), Bobwhite Quail (*Colinus virginianus*), Gambel’s Quail (*Callipepla gambelii*), prairie chickens, Merriam’s Turkey (*Meleagris gallopavo* subsp. *merriami*), Ruffed Grouse (*Bonasa umbellus*), Sage Grouse (*Centrocercus minimus*), Scaled Quail (*Callipepla squamata*), Sharp-tailed Grouse (*Tympanuchus phasianellus*), California (Valley) Quail (*Callipepla californica*), White-tailed Deer (*Odocoileus virginianus*), songbirds and other birds and small mammals feed on the berries. According to one current treatment of *Rhus aromatica*, all Arizona specimens of this species belong to *Rhus trilobata* T. Nuttall var. *trilobata*. *Rhus aromatica* is native to central and southern North America. \*5, 6, 13 (recorded as *Rhus aromatica* Aiton var. *trilobata* (Nutt.) A. Gray, Pages 141-142), 28 (color photograph 839), 30, 42 (072513), 43 (082910), 44 (122410 - no record of species), 46 (Pages 523-524), 48, 63 (082910 - color presentation), **85** (082910 - *Rhus aromatica* var. *trilobata* (Nutt.) Gray ex S. Wats., color presentation), 115 (color presentation), 124 (122410), 127, 140 (Pages 37-39 - recorded as *Rhus aromatica*; Page 282 - recorded as *Rhus aromatica* Aiton var. *trilobata* (Nuttall ex Torrey & A. Gray) A. Gray [*Rhus trilobata* Nuttall ex Torrey & A. Gray, *Rhus trilobata* Nuttall ex Torrey & A. Gray var. *pilosissima* Engler, *Rhus emoryi* (Greene) Wooton]), **MBJ**/**WTK** (recorded as *Rhus trilobata*, July 9, 2009), **WTK** (recorded as *Rhus trilobata*, September 26, 2005)\*

*Rhus aromatica* (see NOTES under *Rhus aromatica* var. *aromatica*)

***Rhus aromatica* W. Aiton var. *aromatica*: Skunkbush Sumac**

SYNONYMY: *Rhus aromatica* W. Aiton var. *trilobata* (T. Nuttall) A. Gray ex S. Watson; *Rhus trilobata* T. Nuttall var. *trilobata*. COMMON NAMES: Acedillo (“Little Sour One” a name listed under *Rhus aromatica*, Spanish: Mexico)140; Agrillas (Hispanic); Agrillo (“Sour One” a name listed under *Rhus aromatica*, Spanish: Durango)140; Agritas <agrito> (“Sour One” a name listed under *Rhus aromatica*, Spanish: Coahuila and Sonora)140; Agrito (Hispanic); Ai’tcĭb [Dit(b), I’tcĭb] (a name listed under *Rhus aromatica*, Uto-Aztecan: Shoshoni)140; Aromatic Sumac; Chascarillo; Ch’ił Lichíí’ (a name listed under *Rhus aromatica*, Athapascan: Navajo)140; Chascarillo; Chiiłchin <čiłčin, cil cin, tchiiłchin, tsiiłchin> (a name listed under *Rhus aromatica*, Athapascan: Navajo)140; Chínk’ózhé <tsínk’ózhé, nk’oze> (a name listed under *Rhus aromatica*, Athapascan: Western Apache)140; Chiquihuite (a name listed under *Rhus aromatica*, Spanish: California)140; Divi’uka (a name listed under *Rhus aromatica*, Uto-Aztecan: Mountain Pima)140; Fetid Sumac (Nebraska); Fragrant Sumac; Fragrant Sumach; I’iši <‘ici, c’i’ci, cïï, si’ibi> (a name listed under *Rhus aromatica*, Uto-Aztecan: Southern Paiute)140; Iičivɨ (a name listed under *Rhus aromatica*, Uto-Aztecan: Kawaiisu)140; Ill-scented Sumac (a name listed under *Rhus aromatica*, English)140; K’įį’ (“To Peel” a name listed under *Rhus aromatica*, Athapascan: Navajo); KeƟe’é <gith’e> (a name listed under *Rhus aromatica*, Yuman: Walapai)140; Ko’se O’tsi (a name listed under *Rhus aromatica*, Language Isolate: Zuni)140; Lambrisco (“Wormy” a name listed under *Rhus aromatica*, Spanish: Tamaulipas)140; Lantrisco; Lemita (“Little Lemon” a name listed under *Rhus aromatica*, New Mexico)140; Lemon[ade]-berry (a name listed under *Rhus aromatica*, English)140; Lemonade Berry; Lemonade-berry; Lemonade Bush; Lemonade Sumac; Lentisco; Lima (“Lime” a name listed under *Rhus aromatica*, Spanish: Mountain Pima)140; Limonita; Motambiäts (a name listed under *Rhus aromatica*, Uto-Aztecan: Ute)140, Salidillo (“Little Salty One” a name listed under *Rhus aromatica*, Spanish: Mexico)140; Sapi’in (a name listed under *Rhus aromatica*, Kiowa Tanoan: Tewa)140; Selet <selit, silit> (a name listed under *Rhus aromatica*, Uto-Aztecan: Cahuilla)140; Shu’nay (a name listed under *Rhus aromatica*, Chumash: Barbareño Chumash)140; Shuna’y (a name listed under *Rhus aromatica*, Chumash: Ineseño Chumash)140; Si-l (a name listed under *Rhus aromatica*, Uto-Aztecan: Tübatulabal)140; Sidra (“Cider” a name listed under *Rhus aromatica*, Spanish: Mexico)140; Skunk Brush; Skunk-brush [-bush] (a name listed under *Rhus aromatica*, English)140; Skunk Bush; Skunk-bush; Skunkbush (for *Rhus trilobata*); Skunkbush Sumac (for *Rhus trilobata*); Squaw Berry; Squaw- [berry] Bush (a name listed under *Rhus aromatica*, English)140; Squaw Bush; Squaw-bush; Stink-Sumach (for *Rhus trilobata*, German); Stinking Sumac (Oklahoma); Suuvi <sú:vi> (a name listed under *Rhus aromatica*, Uto-Aztecan: Hopi)140; Sųųvų́, ˀIsívų (a name listed under *Rhus aromatica*, Uto-Aztecan: Ute)140; Tciłtci (“Smelly Wood” a name listed under *Rhus aromatica*, Athapascan: Chiricahua and Mescalero Apache)140; Three-leaf Sumac (a name listed under *Rhus aromatica*, English: New Mexico)140; Tsiibi <cübi, si:vi> (a name listed under *Rhus aromatica*, Uto-Aztecan: Hopi)140; Yaa (a name listed under *Rhus aromatica*, Keres: Acoma, Laguna)140. DESCRIPTION: Terrestrial perennial deciduous shrub (2 to 10 feet in height; one plant was observed and described as being 10 feet in height and 6½ feet in width); the bark may be gray or gray-brown; the stems are arching and spreading; the leaves are green, dark green or yellow-green turning a brilliant yellow to red before dropping in the fall; the flowers may be whitish, whitish-green, yellow, yellowish-green or yellowish-white; flowering generally takes place between late February and late October (additional records: one for early January, one for early February and one for mid-November); the mature berries are bright orange, orange-red, red, red-orange or yellowish-orange. HABITAT: Within the range of this species it has been reported from mountains; mountaintops; rocky-sandy and sandy mesas; plateaus; canyon rims; shaley and chalky cliffs; bases of cliffs; talus slopes; clayey walls; along rocky canyons; rocky and stony canyon walls; canyon bottoms; crevices in boulders; rocky, shaley, clayey and silty bluffs; bases of bluffs; rocky-gravelly-clayey, rocky, shaley, stony and chalky buttes; tops of buttes; hogbacks; rocky, stony, gravelly, sandy and chalky knolls; rocky, rocky-gravelly-silty, sandy and clayey ledges; along rocky, rocky-shaley, rocky-gravelly, rocky-sandy, shaley-sandy, stony-sandy, stony-clayey, gravelly-sandy and sandy ridges; rocky, rocky-sandy, rocky-loamy-clayey, shaley, gravelly-clayey and sandy ridgetops; bases of ridges; rocky, stony and sandy meadows; foothills; bouldery, rocky, shaley, stony, cindery, gravelly, sandy, sandy-clayey and chalky hills; rocky and cindery hilltops; rocky, rocky-sandy, sandy and chalky hillsides; bouldery, rocky, rocky-gravelly, rocky-sandy, rocky-sandy-clayey-loamy, rocky-loamy, rocky-clayey, shaley, shaley-sandy, stony, stony-gravelly, stony-sandy, cobbly, cobbly-sandy, gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey, gravelly-clayey-loamy, pebbly, sandy, sandy-loamy, sandy-clayey, sandy-silty, loamy, clayey, clayey-loamy and silty slopes; rocky, shaley, sandy and sandy-clayey outcrops; along bases of rock outcrops; amongst boulders and rocks; bases of boulders; shady alcoves; cindery lava flows; sand dunes; shady niches; rocky banks; shaley, shaley-clayey-loamy, sandy and clayey breaks; moraines; loamy and loamy-clayey prairies; stony, sandy and chalky plains; rocky, stony, cobbly, gravelly, gravelly-loamy and sandy flats; basins; sandy valley floors; valley bottoms; along sandy river valleys; railroad right-of-ways; gravelly, gravelly-loamy, gravelly-clayey and sandy roadsides; along rocky-gravelly-sandy, rocky-sandy, cobbly, gravelly-sandy, sandy and chalky draws; bottoms of draws; within gulches; along sandy and silty-loamy gullies; bottoms of gullies; along rocky, cindery and sandy ravines; sandy bottoms of ravines; seeps; springs; sandy soils along streams; along rocky, gravelly-clayey and sandy streambeds; along and in creeks; along sandy-loamy and loamy creekbeds; in sand along rivers; along and in rocky riverbeds; along and in bedrock & bouldery-sandy, rocky-gravelly-sandy, stony-gravelly, gravelly, gravelly-sandy, sandy and loamy-clayey washes; within rocky, shaley, gravelly, gravelly-sandy, sandy, clayey and silty-loamy drainages; along watercourses; marshes; sandy bowls; silty-loamy depressions; swales; along (bedrock, bouldery-gravelly-sandy, rocky, loamy and loamy-clayey) banks of draws, streams, creeks, rivers, washes and drainages; (sandy) edges of streams, rivers and washes; (sandy) margins of creeks, rivers and lakes; (gravelly, gravelly-sandy, gravelly-clayey, sandy and clayey) shores of creeks and rivers; mudflats; bouldery sandbars; stony-gravelly, cobbly and cobbly-clayey-loamy benches; terraces; sandy bottomlands; floodplains; stock ponds; along banks of reservoirs; canals; canal banks; along ditches; rocky and sandy riparian areas, and disturbed areas growing in wet, moist and dry bouldery, bouldery-gravelly-sandy, bouldery-sandy, rocky, rocky-shaley, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, shaley, shaley-sandy, stony, stony-gravelly, stony-sandy, cobbly, cobbly-sandy, cindery, gravelly, gravelly-sandy, pebbly and sandy ground; rocky loam, rocky-sandy-clayey loam, shaley-clayey loam, cobbly-clayey loam, gravelly loam, gravelly-clayey loam, sandy loam, silty loam and loam ground; rocky-gravelly clay, rocky clay, rocky-silty clay, shaley clay, gravelly clay, sandy clay, loamy clay, silty clay and clay ground; rocky-gravelly silty, sandy silty and silty ground, and chalky ground, occurring from 1,200 to 9,800 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, it may form thickets some of which have reached 30 feet in diameter. Variety *aromatica* is reportedly ill-scented. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food and/or beverage crop; the species, *Rhus aromatica* var. *aromatica* (*Rhus trilobata*) was also noted as having been used as a spice, fiber (used in basketry and making furniture), fuel, for making tools and dyes (black, blue, red, red-brown, and the fruits were used for the mordant effect), for incense and fragrance, as a drug or medication and in the making of ceremonial items. According to one current treatment of *Rhus aromatica*, all Arizona specimens of this species belong to *Rhus aromatica* var. *aromatica* (*Rhus trilobata* T. Nuttall var. *trilobata*). It is may be useful in the re-vegetation of disturbed areas and excellent for use in erosion control. It provides cover for many mammals and birds. Bighorn Sheep (*Ovis canadensis*), cottontails, Elk (*Cervus elaphus*), jackrabbits, Mule Deer (*Odocoileus hemionus*), Porcupines (*Erethizon dorsatum*), Pronghorn (*Antilocapra americana*), White-tailed Deer (*Odocoileus virginianus*) and small mammals feed on the foliage and twigs, and Black Bears (*Ursus americanus*), Bobwhite Quail (*Colinus virginianus*), Gambel’s Quail (*Callipepla gambelii*), prairie chickens, Merriam’s Turkey (*Meleagris gallopavo* subsp. *merriami*), Ruffed Grouse (*Bonasa umbellus*), Sage Grouse (*Centrocercus minimus*), Scaled Quail (*Callipepla squamata*), Sharp-tailed Grouse (*Tympanuchus phasianellus*), California (Valley) Quail (*Callipepla californica*), White-tailed Deer (*Odocoileus virginianus*), songbirds and other birds and small mammals feed on the berries. Calliphorid Flies have been observed visiting the flowers. *Rhus aromatica* var. *aromatica* is native to northwest-central, south-central and southern North America. \*5, 6, 13 (recorded as *Rhus aromatica* Aiton var. *trilobata* (Nutt.) A. Gray), 18, 28 (species, recorded as *Rhus trilobata*, color photograph of species 839), 30 (species), 42 (072313), 43 (081310 - *Rhus trilobata* Nutt.), 44 (022511 - no records listed under Common Names), 46 (species, Pages 523-524), 48 (species), 63 (081310), **85** (081610 - color presentation), 115 (color presentation of species), 124 (022511), 127, 133 (072313 - recorded as *Rhus aromatica* Aiton var. *trilobata* (Nutt.) A. Gray), 140 (Pages 37-39 - recorded as *Rhus aromatica*; Page 282 - recorded as *Rhus aromatica* Aiton var. *trilobata* (Nuttall ex Torrey & A. Gray) A. Gray [*Rhus trilobata* Nuttall ex Torrey & A. Gray, *Rhus trilobata* Nuttall ex Torrey & A. Gray var. *pilosissima* Engler, *Rhus emoryi* (Greene) Wooton])\*

***Rhus aromatica* W. Aiton var. *pilosissima* (H.G. Engler) L.H. Shinners: Pubescent Skunkbush Sumac**

SYNONYMY: *Rhus trilobata* T. Nuttall var. *pilosissima* H.G. Engler. COMMON NAMES: Acedillo (“Little Sour One” a name listed under *Rhus aromatica*, Spanish: Mexico)140; Agrillo (“Sour One” a name listed under *Rhus aromatica*, Spanish: Durango)140; Agritas <agrito> (“Sour One” a name listed under *Rhus aromatica*, Spanish: Coahuila and Sonora)140; Ai’tcĭb [Dit(b), I’tcĭb] (a name listed under *Rhus aromatica*, Uto-Aztecan: Shoshoni)140; Ch’ił Lichíí’ (a name listed under *Rhus aromatica*, Athapascan: Navajo)140; Chascarillo; Chiiłchin <čiłčin, cil cin, tchiiłchin, tsiiłchin> (a name listed under *Rhus aromatica*, Athapascan: Navajo)140; Chínk’ózhé <tsínk’ózhé, nk’oze> (a name listed under *Rhus aromatica*, Athapascan: Western Apache)140; Chiquihuite (a name listed under *Rhus aromatica*, Spanish: California)140; Divi’uka (a name listed under *Rhus aromatica*, Uto-Aztecan: Mountain Pima)140; I’iši <‘ici, c’i’ci, cïï, si’ibi> (a name listed under *Rhus aromatica*, Uto-Aztecan: Southern Paiute)140; Iičivɨ (a name listed under *Rhus aromatica*, Uto-Aztecan: Kawaiisu)140; Ill-scented Sumac (a name listed under *Rhus aromatica*, English)140; K’įį’ (“To Peel” a name listed under *Rhus aromatica*, Athapascan: Navajo); KeƟe’é <gith’e> (a name listed under *Rhus aromatica*, Yuman: Walapai)140; Ko’se O’tsi (a name listed under *Rhus aromatica*, Language Isolate: Zuni)140; Lambrisco (“Wormy” a name listed under *Rhus aromatica*, Spanish: Tamaulipas)140; Lemita (“Little Lemon” a name listed under *Rhus aromatica*, New Mexico)140; Lemon[ade]-berry (a name listed under *Rhus aromatica*, English)140; Lemonade Berry; Lima (“Lime” a name listed under *Rhus aromatica*, Spanish: Mountain Pima)140; Motambiäts (a name listed under *Rhus aromatica*, Uto-Aztecan: Ute)140; Pubescent Skunkbush Sumac; Pubescent Squawbush; Salidillo (“Little Salty One” a name listed under *Rhus aromatica*, Spanish: Mexico)140; Sapi’in (a name listed under *Rhus aromatica*, Kiowa Tanoan: Tewa)140; Selet <selit, silit> (a name listed under *Rhus aromatica*, Uto-Aztecan: Cahuilla)140; Shu’nay (a name listed under *Rhus aromatica*, Chumash: Barbareño Chumash)140; Shuna’y (a name listed under *Rhus aromatica*, Chumash: Ineseño Chumash)140; Si-l (a name listed under *Rhus aromatica*, Uto-Aztecan: Tübatulabal)140; Sidra (“Cider” a name listed under *Rhus aromatica*, Spanish: Mexico)140; Skunk-brush [-bush] (a name listed under *Rhus aromatica*, English)140; Skunk Bush; Skunkbush Sumac; Squaw- [berry] Bush (a name listed under *Rhus aromatica*, English)140; Squawbush; Suuvi <sú:vi> (a name listed under *Rhus aromatica*, Uto-Aztecan: Hopi)140; Sųųvų́, ˀIsívų (a name listed under *Rhus aromatica*, Uto-Aztecan: Ute)140; Tciłtci (“Smelly Wood” a name listed under *Rhus aromatica*, Athapascan: Chiricahua and Mescalero Apache)140; Three-leaf Sumac (a name listed under *Rhus aromatica*, English: New Mexico)140; Tsiibi <cübi, si:vi> (a name listed under *Rhus aromatica*, Uto-Aztecan: Hopi)140; Yaa (a name listed under *Rhus aromatica*, Keres: Acoma, Laguna)140. DESCRIPTION: Terrestrial perennial deciduous shrub (1 to 6½ feet in height); the bark is gray or gray-brown; the stems are arching and spreading; the leaves are green, dark green or yellow-green turning a brilliant yellow to red before dropping in the fall; the flowers may be cream, cream-green, cream-yellow, green, green-yellow, greenish-red, greenish-white, reddish, white-cream, yellow or yellow-green; based on few records located, flowering generally takes place between mid-March and early July (additional records: one for mid-September and one for early November); the fruits are red-orange. HABITAT: Within the range of this species it has been reported from mountains; canyons; rocky-gravelly canyon bottoms; bouldery bases of rock cliffs; bouldery-sandy buttes; foothills; shaley-clayey hills; gravelly hillsides; rocky escarpments; sandy bases of escarpments; gravelly, gravelly-loamy and loamy slopes; rocky outcrops; amongst boulders; lava flows; sand hills; breaks; sandy prairies; plains; flats; valley floors; along gravelly roadsides; within arroyos; bottoms of arroyos; draws; ravines; springs; along streams; along streambeds; benches; along ditches, and sandy riparian areas growing in dry bouldery, bouldery-sandy, rocky, rocky-gravelly, cindery, gravelly, gravelly-sandy and sandy ground; gravelly loam and loam ground, and shaley clay ground, occurring from 1,500 to 8,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, it may form thickets some of which have reached 30 feet in diameter. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food, beverage and/or fiber (stems used in basketry) crop; it was also noted as having been used as a drug or medication. It is a useful plant in the re-vegetation of disturbed areas and excellent for use in erosion control. It provides cover for many mammals and birds. Bighorn Sheep (*Ovis canadensis*), cottontails, Elk (*Cervus elaphus*), jackrabbits, Mule Deer (*Odocoileus hemionus*), Porcupines (*Erethizon dorsatum*), Pronghorn (*Antilocapra americana*), White-tailed Deer (*Odocoileus virginianus*) and small mammals feed on the foliage and twigs, and Black Bears (*Ursus americanus*), Bobwhite Quail (*Colinus virginianus*), Gambel’s Quail (*Callipepla gambelii*), prairie chickens, Merriam’s Turkey (*Meleagris gallopavo* subsp. *merriami*), Ruffed Grouse (*Bonasa umbellus*), Sage Grouse (*Centrocercus minimus*), Scaled Quail (*Callipepla squamata*), Sharp-tailed Grouse (*Tympanuchus phasianellus*), California (Valley) Quail (*Callipepla californica*), White-tailed Deer (*Odocoileus virginianus*), songbirds and other birds and small mammals feed on the berries. *Rhus aromatica* var. *pilosissima* is native to southwest-central North America. \*5, 6, 15, 18 (species), 28 (species, recorded as *Rhus trilobata*, color photograph of species 839), 42 (072313 - *Rhus aromatica* var. *pilosissima* (Engl.) Shinners), 43 (082010 - *Rhus trilobata* Nutt. var. *pilosissima* Engl.), 46 (Pages 523-524), 63 (082010), 77, **85** (082010), 115 (color presentation of species), 127, 133 (072313 - recorded as *Rhus aromatica* Aiton var. *pilosissima* (Engl.) Shinners), 140 (Pages 37-39 - recorded as *Rhus aromatica*; Page 282 - recorded as *Rhus aromatica* Aiton var. *trilobata* (Nuttall ex Torrey & A. Gray) A. Gray [*Rhus trilobata* Nuttall ex Torrey & A. Gray, *Rhus trilobata* Nuttall ex Torrey & A. Gray var. *pilosissima* Engler, *Rhus emoryi* (Greene) Wooton])\*

*Rhus aromatica* var. *trilobata* (see *Rhus aromatica* var. *aromatica*)

*Rhus choriophylla* (see *Rhus virens* var. *choriophylla*)

*Rhus trilobata* (see *Rhus aromatica*)

*Rhus trilobata* var. *trilobata* (see NOTES under *Rhus aromatica* var. *aromatica*)

*Rhus trilobata* var. *trilobata* (see *Rhus aromatica* var. *aromatica*)

*Rhus trilobata* var. *pilosissima* (see *Rhus aromatica* var. *pilosissima*)

***Rhus virens* F.J. Lindheimer ex A. Gray: Evergreen Sumac**

COMMON NAMES: Capulin (var. *choriophylla*, Spanish); Evergreen Sumac (also applied to var. *virens* and var. *choriophylla*); Lambrisco (var. *choriophylla*, Spanish); Lantrisco (var. *choriophylla*, Spanish); Lentisco (var. *choriophylla*, Spanish); Mearns’ Evergreen Sumac (var. *choriophylla*); Mearns Sumac (var. *choriophylla*); New Mexican Evergreen Sumac (var. *choriophylla*); Saladita (var. *choriophylla*, Mexico: Sonota); Tobacco Sumac; Tough-leafed Sumac (var. *choriophylla*); Tough-leaved Sumac (var. *choriophylla*). DESCRIPTION: Terrestrial evergreen shrub or tree (8 inches to 13 feet in height; one record noted plants to be 12 feet in height and width); the bark is gray; the twigs are gray; the stems may be red; the leaves may be dark green or dull or shiny green above, paler beneath; the flowers have been described as being cream, creamy-white or white; flowering generally takes place between late July and late October (additional records: two for early February, one for early March, two for mid-March, four for late March, two for early April, one for mid-April, one for late May and one for mid-November; spring flowering has been reported); the small berrylike fruits may be light orange, orangish, red or red-orange. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky mesas; bases of cliffs; bouldery and rocky canyons; along rocky canyon bottoms; rocky talus slopes; canyons; ledges; bedrock ridges; foothills; gravelly and loamy hills; rocky and rocky-clayey hillsides; rocky, rocky-gravelly, rocky-gravelly-loamy, rocky-loamy, rocky-clayey, rocky-clayey-loamy, rocky-silty-loamy and gravelly slopes; bajadas; rocky outcrops; amongst boulders; flats; along rocky arroyos; bottoms of arroyos; rocky draws; rocky ravines; along and in streams; rocky and gravelly-sandy streambeds; along creeks; creekbeds; riverbeds; along and in rocky-sandy washes; within drainages; banks of arroyos, streams and creeks; edges of arroyos; mesquite bosques; riparian areas, and disturbed areas growing in wet, damp and dry bouldery, rocky, rocky-gravelly, rocky-sandy, gravelly and gravelly-sandy ground; rocky-gravelly loam, rocky-clayey loam, rocky-silty loam and loam ground, and rocky clay and clay ground, occurring from 1,100 to 7,800 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Rhus virens* is native to southwest-central and southern North America. \*5, 6, 18, 26 (*Rhus virens* noted under *Rhus ovata*), 42 (072313), 43 (072313), 44 (072313 - no record of species; genus record), 46 (no record of species, record for *Rhus choriophylla* Woot. & Standl., Page 524), 53, 63 (072313), **85** (072313 - color presntation), 133 (072313), 140 (recorded as *Rhus virens* Lindheimer ex A. Gray [*Rhus virens* var. *choriophylla* (Wooton & Standley) L.D. Benson], *Rhus choriophylla* Wooton & Standley, Page 282)\*

***Rhus virens* F.J. Lindheimer ex A. Gray var. *choriophylla* (E.O. Wooton & P.C. Standley) L.D. Benson: Evergreen Sumac**

SYNONYMY: *Rhus choriophylla* E.O. Wooton & P.C. Standley. COMMON NAMES: Capulin (Spanish); Evergreen Sumac; Lambrisco (Spanish); Lantrisco (Spanish); Lentisco (Spanish); Mearns’ Evergreen Sumac; Mearns Sumac; New Mexican Evergreen Sumac; Saladita (Mexico: Sonota); Tough-leafed Sumac; Tough-leaved Sumac. DESCRIPTION: Terrestrial evergreen shrub or tree (20 inches to 10 feet in height; one plant was observed and described as being 5 feet in height and 6 feet in width with a 2 to 3 inch diameter trunk, plants were observed and described as being 5 feet in height and 10 feet in width); the flowers have been described as being cream or white; flowering generally takes place between late July and late October (additional records: one for early February, one for early March, one for mid-March, three for late March, one for early April, one for mid-April, one for late May and one for mid-November; spring flowering has been reported); the small berrylike fruits may be bright orange, light orange, orangish, red or red-orange. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky mesas; bases of cliffs; bouldery and rocky canyons; along rocky canyon bottoms; rocky talus slopes; bedrock ridges; foothills; hills; rocky and rocky-clayey hillsides; rocky, rocky-gravelly, rocky-gravelly-loamy, rocky-clayey, rocky-silty-loamy and gravelly slopes; bajadas; bases of rocky outcrops; flats; rocky arroyos; bottoms of arroyos; rocky draws; along and in streams; rocky and gravelly-sandy streambeds; along creeks; riverbeds; in rocky-sandy washes; within drainages; along banks of arroyos and streams; edges of arroyos; mesquite bosques; riparian areas, and disturbed areas growing in dry rocky, rocky-gravelly, rocky-sandy, gravelly and gravelly-sandy ground; rocky-gravelly loam and rocky-silty loam ground, and rocky clay and clay ground, occurring from 3,200 to 7,800 feet in elevation in the forest, woodland, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Rhus virens* var. *choriophylla* is native to southwest-central and southern North America. \*5, 6, 13 (Page 143), 15 (recorded as *Rhus virens* Lindheimer ex Gray var. *choriophylla* [Woot. & Standl.] Young), 26 (*Rhus choriophylla* noted under *Rhus ovata*), 28 (color photograph 837), 42 (072313), 43 (072313), 44 (072313 - no record of var. *choriophylla* or species; genus record), 46 (recorded as *Rhus choriophylla* E.O. Woot. & Standl., Page 524), 53, 63 (072313 - color presentation), **85** (072313 - color presntation), 91 recorded as *Rhus choriophylla*), 133 (072313 - no record of variety *choriophylla*; species record), 140 (recorded as *Rhus virens* Lindheimer ex A. Gray [*Rhus virens* var. *choriophylla* (Wooton & Standley) L.D. Benson], *Rhus choriophylla* Wooton & Standley, Page 282), **MBJ**/**WTK** (recorded as *Rhus choriophylla*, July 9, 2009)\*

Apiaceae (Umbelliferae): The Carrot Family

***Bowlesia incana* H. Ruiz Lopez & J.A. Pavon: Hoary Bowlesia**

COMMON NAMES: American Bowlesia; Bowlesia (a name also applied to the genus *Bowlesia*); Hairy Bowlesia; Hairy Bowlesia (English)140; Hoary Bowlesia; Miner’s Lettuce (a name usually applied to another species, English: Arizona)140. DESCRIPTION: Terrestrial annual forb/herb (creeping prostrate, decumbent and/or erect stems to 2 inches in height and 2 to 38 inches in length); the foliage is pale green or green; the inconspicuous flowers are green-whitish, greenish-white, pink, purple, white, white-green or yellowish-green; flowering generally takes place between late January and late May (additional records: one for mid-June and one for early July). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; mesas; plateaus; bases of cliffs; rocky canyons; rocky canyon bottoms; crevices in rocks; buttes; rocky ledges; rocky ridgetops; meadows; foothills; bouldery hills; clayey hilltops; bouldery hillsides; bouldery, rocky, gravelly, gravelly-sandy, sandy-loamy and clayey slopes; gravelly bajadas; rocky outcrops; amongst boulders and rocks; lava fields; shady banks; plains; rocky and gravelly flats; basins; valley floors; along roadsides; sandy arroyos; draws; along gullies; ravines; seeps; along streams; streambeds; along creeks; around creekbeds; along rivers; riverbeds; along and in rocky-sandy, gravelly, gravelly-sandy, sandy and sandy-clayey washes; within rocky-clayey drainages; along and in drainage ways; swampy areas; swales; along (rocky and gravelly-sandy) banks of arroyos, creeks, rivers and washes; borders of washes; sandy benches; loamy bottomlands; floodplains; lowlands; bottoms of stock tanks; along canals; ditches; ditch banks; rocky and sandy riparian areas; waste places, and disturbed areas growing in wet, moist, damp and dry bouldery, rocky, rocky-sandy, gravelly, gravelly-sandy and sandy ground; gravelly-clayey loam, sandy loam, humusy loam and loam ground; rocky clay, sandy clay and clay ground, and gravelly-sandy silty ground often in the shade of boulders, rocks, trees, shrubs and other vegetation, occurring from sea level to 6,100 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formation. NOTES: The Collard Peccary (*Peccari tajacu*) and a Tiger Moth, *Grammia geneura*, feed on the seeds. *Bowlesia incana* is native to southwest-central and southern North America, and central and southern South America. \*5, 6, 15, 16, 42 (072313), 43 (110209), 44 (012912 - color photograph), 46 (Page 609), 58, 63 (012912 - color presentation), 68, 77, **85** (012912 - color presentation), 106 (110209), 115 (color presentation), 124 (012912 - no record of species or genus), 133 (072313), 140 (Pages 40-41, 43 & 282)\*

*Caucalis microcarpa* (see *Yabea microcarpa*)

***Yabea microcarpa* (W.J. Hooker & G.A Arnott) B.M. Koso-Poljansky: False Carrot**

SYNONYMY: *Caucalis microcarpa* W.J. Hooker & G.A. Arnott. COMMON NAMES: California Hedge Parsley; California-hedge-parsley; California Yabea; False Carrot (a name also applied to other species, English: Arizona, New Mexico)140; Falsecarrot (a name also applied to other species); False Hedge Parsley; False Hedge-parsley; Hedge Parsley (a name also applied to other species); [California] Hedge-parsley (English)140; Wild Parsley; Yabea (a name also applied to the genus *Yabea*). DESCRIPTION: Terrestrial annual forb/herb (1 to 16 inches in height); the flowers are white; flowering generally takes place between late February and late May. HABITAT: Within the range of this species it has been reported from mountains; mesas; cliffs; bases of cliffs; rocky, gravelly, gravelly-sandy and sandy canyons; rocky canyon bottoms; talus slopes; buttes; rocky ridges; foothills; rocky hills; rocky and clayey hillsides; bouldery, rocky, rocky-gravelly, gravelly, gravelly-loamy, sandy-loamy, loamy and clayey-loamy slopes; rocky outcrops; amongst rocks; banks; gravelly and sandy flats; basins; along grassy roadsides; gulches; along seeps; along streams; along creeks; rocky creekbeds; along rivers; along rocky and rocky-gravelly washes; along and in drainage ways; along banks of washes; sandy benches; bottomlands; riparian areas, and disturbed areas growing in damp and dry bouldery, rocky, rocky-gravelly, gravelly, gravelly-sandy and sandy ground; cobbly-gravelly loam, gravelly loam, sandy loam, clayey loam and loam ground, and stony clay and clay ground, occurring from sea level to 6,600 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be confused with the American Wild Carrot (*Daucus pusillus*). *Yabea microcarpa* is native to west-central and southern North America. \*5, 6, 15, 16, 42 (072313), 43 (110509 - *Yabea microcarpa* Koso-Pol.), 44 (020112 - color photograph), 46 (*Caucalis microcarpa* Hook. & Arn., Page 612), 58, 63 (020112), 77, **85** (020112 - color presentation), 124 (020112 - no record of species or genus), 133 (072313), 140 (Pages 44-45 & 282)\*

Aristolochiaceae: The Birthwort Family

***Aristolochia watsonii* E.O. Wooton & P.C. Standley: Watson’s Dutchman’s Pipe**

COMMON NAMES: Arizona Snakeroot; Birthwort (a name also applied to the genus *Aristolochia* and the Aristolochiaceae); Dutchman’s Pipe (a name also applied to the genus *Aristolochia*); Dutchman’s Pipevine (a name also applied to the genus *Aristolochia*); Guasena Jubiaria (Uto-Aztecan: Mayo)140; Hatáast an Ihiit (“What Gets Between Your Teeth”, Hokan: Seri)140; Hierba <yerba> de[l] Indio (“Indian Herb”, Spanish: Arizona, Baja California, Sonora)140; Huaco <guaco> (a name also applied to other species, Spanish)140; Indian Root; Indian-root (English: Arizona)140; Indianroot; Pipevine (a name also applied to the genus *Aristolochia* and the Aristolochiaceae); Pipevine Flower; Raiz del Indio; [Arizona] Snake-root (English)140; Snakeroot (a name also applied to the genus *Aristolochia*); Southwestern Pipevine; Watson’s Dutchman’s Pipe (English)140; Watson Indian Root; Yerbalind (Uto-Aztecan: Mountain Pima)140. DESCRIPTION: Terrestrial perennial cold-deciduous forb/herb or vine (prostrate and/or procumbent stems 4 inches to 20 inches in length, stems reaching 5 feet in length have also been reported); the upper surface of the leaves may be blackish, dark brown-purple, dark green, maroon-brown, purple or purple-green with a pale dull green underside; the flowers may be blackish, brown with a yellow spotted throat, brownish, green and brown, green with maroon rim and dots in throat, green with purple spots, brownish-purple, purple, purple-brown, purple-green, purple-green-brown, reddish-brown or yellow-green-dark maroon with brown-purple spots; flowering generally takes place between early March and early October (additional records: one for mid-February, one for late November, one for mid-December and one for late December). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; mesas; cliffs; cliff faces; bases of cliffs; rocky canyons; canyon walls; canyon bottoms; crevices in boulders and rocks; pockets of sandy soil on ridges; rocky foothills; rocky hills; rocky, rocky-gravelly and gravelly hillsides; bases of hillsides; rocky, gravelly-loamy, sandy, sandy-loamy and loamy slopes; bajadas; rocky outcrops; amongst boulders and rocks; plains; gravelly, sandy, sandy-loamy and sandy-silty flats; loamy basins; shady hollows; valley floors; valley bottoms; along sandy roadsides; along and in gravelly, gravelly-sandy and sandy arroyos; bottoms of arroyos; gulches; sandy bottoms of ravines; along streams; streambeds; along creeks; creekbeds; along rivers; gravelly-sandy riverbeds; along and in rocky, gravelly and sandy washes; along drainages; along bouldery drainage ways; ciénegas; swamps; along (bedrock, gravelly and sandy) banks of creeks and washes; borders of washes; along edges of washes; benches; terraces; bottomlands; floodplains; mesquite bosques; bases of levees; around stock tanks; canals; gravelly riparian areas, and disturbed areas growing in moist and dry bouldery, rocky, rocky-gravelly, gravelly, gravelly-sandy and sandy ground, gravelly loam, gravelly-sandy loam, sandy loam, sandy-clayey loam, silty loam and loam ground; clay ground, and sandy silty ground often reported as growing in shaded to heavily shaded areas and less often in full sun,, occurring from 100 to 5,500 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, consider using the Pipevine Flower as a ground cover in heavily shaded areas, note that the flowers might have a fetid or musty odor. The Pipevine Flower is a larval food plant of the Pipevine Swallowtail Butterfly (*Battus philenor*) and the flowers are pollinated by members of the Ceratopogónidae (The Biting Midge, Punkie and No-see-um Family). *Aristolochia watsonii* is native to southwest-central and southern North America. \*5, 6, 15, 16, 42 (072413), 43 (110609), 44 (050211 - no record of species; genus record), 46 (alternate spelling *Aristolochia watsoni*, Page 227), 58, 63 (020112), 77 (color photograph #59), **85** (020212 - color presentation), 106 (071708 - information relating to the Pipevine Swallowtail Butterfly), 115 (color presentation), 124 (050211 - no record of species; genus record), 140 (Pages 50-52 & 282)\*

Asclepiadaceae: The Milkweed Family

***Funastrum cynanchoides* (J. Decaisne) F.R. Schlechter subsp. *cynanchoides* - Not Accepted: Fringed Twinevine**

SYNONYMY: *Funastrum cynanchoides* (J. Decaisne) F.R. Schlechter subsp. *cynanchoides* - Not Accepted (*Funastrum cynanchoides* (J. Decaisne) F.R. Schlechter - Accepted); *Sarcostemma cynanchoides* J. Decaisne - Not Accepted (*Funastrum cynanchoides* (J. Decaisne) F.R. Schlechter - Accepted). COMMON NAMES: Arroyo Twine Vine; Arroyo Twinevine; Climbing Milk Weed; Climbing Milkweed (a name also applied to other species); Climbing Milkweed (English)140; Fringed Climbing Milkweed (a name also applied to the species); Fringed Twine-vine (a name also applied to the species); Fringed Twine-weed [vine] (Arizona, New Mexico)140; Fringed Twinevine (a name also applied to the species); Güichire (Spanish)140; Güirote Lechoso (“Milky ‘Vine’”, Spanish: Sinaloa, Sonora)140; Hexe (Hokan: Seri)140; Hierba Lechosa (“Milky Herb” a name also applied to other species, Spanish: Sonora)140; Huichuri <huichoori> (Uto-Aztecan: Mayo)140; Mata Nene (“Baby Killer”, Spanish: Sonora)140; Platanito (“Little Banana” [literally “flat one”], Spanish: Sonora)140; Sandia de la Pasion (“Watermelon of the Crucifixion”, Spanish: Sonora)140; Vi:bam <vi’ibgam> (Uto-Aztecan: Hiá Ceḍ O’odham)140; Vibam (Uto-Aztecan: Mountain Pima)140; Viibam (“Milk It Has”, Uto-Aztecan: Akimel O’odham)140; Wibam <wi’ibgam> (Uto-Aztecan: Tohono O’odham)140. DESCRIPTION: Terrestrial perennial forb/herb or vine (clambering, climbing, sprawling, trailing and/or twining stems 40 inches to 20 feet in length); the leaves are dark green; the flowers may be brownish-white, cream, cream-white, pale green & white, green, green & maroon & white; greenish-white, maroon, pink, purplish, purplish-white, white, white & green, white & lilac, white & pink, whitish or off white-brownish-purple; flowering generally takes place between mid-March and early November (additional records: one for early February and one for mid-December). HABITAT: Within the range of this species it has been reported from mountains; mesas; rocky and sandy canyons; rocky canyon walls; canyon bottoms; talus; crevices; rocky foothills; hills; hillsides; rocky and sandy slopes; bajadas; bouldery and rocky outcrops; amongst boulders; gravelly plains; sandy flats; along sandy roadsides; along arroyos; seeps; springs; along streams; bouldery and sandy streambeds; gravelly-sandy creeks; rocky-cobbly-sandy riverbeds; along and in bouldery, gravelly-sandy and sandy washes; drainages; within drainage ways; swamps; depressions; along banks of rivers and washes; (gravelly-silty) edges of draws; (sandy) shores of rivers; sandy beaches; benches; sandy terraces; sandy floodplains; mesquite bosques; along ditches; clayey-loamy ditch banks; fencelines; riparian areas, and disturbed areas growing in dry bouldery, rocky, rocky-cobbly-sandy, gravelly-sandy and sandy ground; gravelly loam, clayey loam and loam ground; silty clay ground, and gravelly silty and silty ground, occurring from sea level to 6,900 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, the flowers may be fragrant. Bees, moths and other insects have been observed visiting the flowers. *Funastrum cynanchoides* subsp. *cynanchoides* is native to south-central and southern North America. \*5, 6, 16 (recorded as *Sarcostemma cynanchoides* Decne. var. *cynanchoides*), 28 (color photograph 226), 42 (072413 - recorded *Funastrum cynanchoides* subsp. *cynanchoides* as being a synonym for *Funastrum cynanchoides* (Decne.) Schltr.), 43 (110709), 44 (020412 - no record of subspecies; species and genus records, with Common Names listed under var. *hartwegii* only), 46 (Page 664), 58 (recorded as *Sarcostemma cynanchoides* Decne. ssp. *cynanchoides*), 63 (020412 - color presentation), 68, 77 (recorded as *Sarcostemma cynanchoides* Decne. ssp. *cynanchoides*, color photograph labeled *Sarcostemma cynanchoides* #6), 85 (020412 - color presentation), 86 (color photograph), 115 (color presentation of species), 124 (050211), 140 (recorded as *Funastrum cynanchoides* (Decaisne) Schlechter [*Sarcostemma cynanchoides* Decaisne], Pages 48-49 & 283), **WTK** (September 26, 2005)\*

*Sarcostemma cynanchoides* (see *Funastrum cynanchoides* subsp. *cynanchoides*)

*Sarcostemma cynanchoides* subsp. *cynanchoides* (see footnotes 16 and 85 under *Funastrum cynanchoides* subsp. *cynanchoides*)

*Sarcostemma cynanchoides* var. *cynanchoides* (see *Funastrum cynanchoides* subsp. *cynanchoides*)

Asteraceae (Compositae): The Aster Family

***Acourtia nana* (A. Gray) J.L. Reveal & R.M. King: Dwarf Desertpeony**

SYNONYMY: *Perezia nana* A. Gray. COMMON NAMES: Ban Auppa-ga (Gila River Pima); Desert Holly (a name also applied to other species); Desert-holly; Dwarf Desertpeony. DESCRIPTION: Terrestrial perennial forb/herb (divaricately branching stems 2 to 12 inches in height; plants were observed and described as being 4 to 5 inches in height and 3 to 6 inches in width); the holly-like leaves are pale grayish-green or olive-green; the flower heads may be cream, pale lavender-pink, lavender, lavender-pink, maroon and white, pale pink-lavender, pink, pink-purple, purple, white or white-pink; flowering generally takes place between late March and early July (additional records: one for late January, one for late February, two for late July, one for early August, one for mid-August, one for late August, two for early September, three for late September, one for mid-October, one for mid-November and two for mid-December). HABITAT: Within the range of this species it has been reported from rocky mountains; sandy mesas; gravelly-loamy canyons; talus slopes; bedrock ridges; ridgetops; rocky foothills; rocky and gravelly hills; rocky and gravelly hillsides; bouldery, rocky, stony, gravelly, gravelly-sandy and sandy slopes; bajadas; amongst boulders and rocks; gravelly breaks; gravelly plains; rocky, gravelly, gravelly-sandy, sandy, sandy-loamy and clayey flats; basins; basin bottoms; rocky valley floors; valley bottoms; gravelly-loamy roadsides; arroyos; bottoms of arroyos; rocky gullies; gravelly-loamy creekbeds; riverbeds; within gravelly, gravelly-sandy and sandy-clayey washes; drainage ways; playas; sandy-loamy, sandy-clayey-loamy and clayey-loamy swales; (clayey-loamy) banks of washes; benches; gravelly and sandy terraces; floodplains; mesquite mosques; riparian areas, and disturbed areas growing in dry desert pavement; bouldery, rocky, rocky-sandy, stony, gravelly, gravelly-sandy, pebbly and sandy ground; gravelly loam, sandy loam, sandy-clayey loam, clayey loam, silty loam and loam ground; sandy clay and clay ground, and silty ground often in the shade of trees and shrubs, occurring from 1,200 to 7,100 feet (one record for 8,500 feet) in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. Consider using Desert Holly as a ground cover under larger shrubs and trees. The flowers give off a fragrance similar to that of violets or lilacs. *Acourtia nana* is native to southwest-central and southern North America. \*5, 6, 15, 16, 28 (color photograph 285), 42 (072413), 43 (110809), 44 (020512 - no record of species; genus record), 46 (recorded as *Perezia nana* Gray, Page 957), 58, 63 (020512 - color presentation), 77, **85** (020512 - color presentation), 115 (color presentation), 124 (020512 - no record of species or genus), **WTK** (September 26, 2005**)\***

***Acourtia wrightii* (A. Gray) J.L. Reveal & R.M. King: Brownfoot**

SYNONYMY: *Perezia wrightii* A. Gray. COMMON NAMES: Brownfoot; Desert Holly (a name also applied to other species); Perezia; Pink Perezia; Pink Perezzia; Wright’s Desertpeony. DESCRIPTION: Terrestrial perennial forb/herb (1 to 5 feet in height; one plant was observed and described as being 1 foot in height with a crown 1 foot in width); the holly-like leaves are dark green; the flower heads may be lavender, dark lavender, pink, pink-brown, pink-lavender, pink-purple, light purple, purple, white, white & pink, whitish-maroon or white & purple; flowering generally takes place between early February and early July and sometimes in autumn between early September and early November (additional records: one for mid-August, one for late November and one for early December). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; plateaus; rock cliffs; bases of cliffs; rocky canyons; rocky canyon bottoms; talus slopes; along crevices in boulders and rocks; buttes; along ledges; ridges; ridgetops; crater walls; foothills; rocky, stony-gravelly and sandy hills; rocky and rocky-gravelly-loamy hillsides; bouldery-rocky, rocky, rocky-gravelly, shaley, shaley-gravelly, gravelly, gravelly-clayey and sandy slopes; sandy alluvial fans; gravelly and sandy bajadas; along bedrock and rocky outcrops; amongst boulders and rocks; around bases of boulders; in shaded alcoves; rocky plains; rocky and silty flats; railroad right-of-ways; rocky and gravelly-sandy-clayey-loamy roadsides; along rocky arroyos; rocky draws; gullies; ravines; seeps; rocky springs; along creeks; along rocky, gravelly and sandy washes; along drainage ways; (rocky) banks of ravines, streams and washes; borders of washes; edges of washes; mudflats; beaches; floodplains; mesquite bosques; riparian areas, and disturbed areas growing in dry desert pavement; bouldery, bouldery-rocky, rocky, rocky-gravelly, rocky-sandy, shaley, shaley-gravelly, stony-gravelly, gravelly and sandy ground; rocky-gravelly loam, rocky silty loam, gravelly-sandy-clayey loam, sandy loam, silty-clayey loam and silty loam ground; gravelly clay ground, and silty ground, occurring from 700 to 7,300 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, the flowers are reported to be fragrant. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. *Acourtia wrightii* is native to southwest-central and southern North America. \*5, 6, 15, 16, 28 (color photograph 677), 42 (072513), 43 (110809), 44 (050411 - no record of species; genus record), 46 (recorded as *Perezia wrightii* Gray, Page 957), 58, 63 (020512 - color presentation), 77, 85 (020612 - color presentation), 115 (color presentation), 124 (050411 - no record of species or genus), 127, 140 (Page 283), **MBJ**/**WTK** (November 3, 2009)\*

***Agoseris heterophylla* (T. Nuttall) E.L. Greene var. *quentinii* G.I. Baird: Mountain Dandelion**

COMMON NAMES: Arizona Agoseris; Mountain Dandelion (a name also applied to the species). DESCRIPTION: Terrestrial annual forb/herb; the leaves are spreading to prostrate; the flowers have been described as being yellow; based of few records located flowering for the species generally takes place between late April and mid-May (additional records: flowering beginning as early as March and ending as late as June has been reported). HABITAT: Within the range of this species it has been reported from mountains; canyons; hills; hilltops; slopes; rocky flats; roadsides; gulches; ravines; along streams; along creeks; lowlands, and riparian areas growing in dry rocky ground, occurring from 3,900 to 6,600 in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Agoseris heterophylla* var. *quentinii* is native to southwest-central North America. \*42 (072413), 43 (072413), 44 (072413 - no record of variety *quentinii*; species and genus records), 46 (species, Page 968), 63 (072413), **85** (072413 - color presentation of dried material), 133 (072413), 156 (072413)\*

***Ambrosia artemisiifolia* C. Linnaeus: Annual Ragweed**

COMMON NAMES: Altamisa (also applied to other species, Spanish); Ambrósia (Portuguese: Brazil); Ambrosia de Hojas de Ajenjo (Spanish); Amargosa (Hispanic); Ambroisie Annuelle (French); Annual Rag Weed; Annual Rag-weed; Annual Ragweed; Artemis (Hispanic); Artemisia (Spanish); Artemísia (Portuguese: Brazil); Artemisia de Terra (var. *elatior*, Spanish); Artemisia-leafed Ambrosia; Artemisia-leaved Ambrosia; Bastard Wormwood; Beifußambrosie (German); Beifußblättriges Traubenkraut (German); Bitterweed; Buta-kusa (Japanese R&omacr;maji); Common Ragweed (a name also applied to other species); Conot Weed; Conotweed; Cravorana (Portuguese: Brazil); Cut-leaf Ragweed (var. *elatior*); Cut-leaved Ragweed (var. *elatior*); Doejipul (transcribed Korean); Estafiate (Spanish); False Wormwood; Hay Weed; Hay-weed; Losna-selvagem (Portuguese: Brazil); Low Ragweed; Mugwort-leaf Ambrosia; Mugwort-leaved Ambrosia; Ox-tail; Petit Herbe à Poux (French); Ragweed; Roman Wormwood (a name also applied to other species and the genus *Ambrosia*); Römischer Wermut (German); Short Ragweed; Small Ragweed; Smaller Ragweed; Traubenkraut (German); Tun Cao (transcribed Chinese). DESCRIPTION: Terrestrial annual forb/herb (prostrate and/or erect stems 4 inches to 5 feet in height); the stems are green and marked with red or black; the leaves are green on both sides; the flowers have been described as being greenish, greenish-yellow or yellow; flowering generally takes place between early July and mid-October (additional records: one for mid-November and one for late December). HABITAT: Within the range of this species it has been reported from mountains; sandy mesas; canyons; sandy canyon bottoms; shaley ridges; clayey meadows; hills; gravelly, sandy and loamy slopes; gravelly-sandy terraces; sandy plains; fields; loamy and clayey-loamy flats; rocky uplands; valleys; along railroad right-of-ways; along gravelly-loamy, sandy, sandy-clayey and loamy roadsides; bottoms of arroyos; within draws; bottoms of draws; gulches; sandy ravines; bottoms of ravines; springs; streambeds; along creeks; riverbeds; stony-gravelly channels; marshy areas; within sumps; (gravelly) banks of rivers and lakes; edges of ponds; (gravelly) sides of creeks; shores of lakes; stony-loamy terraces; along clayey fencelines; sandy earthen dams; margins of man-made ponds; margins of reservoirs; along edges of ditches; gravelly riparian areas; waste places, and disturbed areas growing in wet, moist, damp and dry rocky desert pavement; rocky, stony-gravelly, gravelly, gravelly-sandy and sandy ground; stony loam, gravelly loam; sandy loam, clayey loam and loam ground; sandy clay and clay ground, and sandy silty and silty ground, occurring from 300 to 8,700 feet in elevation in the forest, woodland, grassland; desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. The pollen from this plant may bring about an allergic reaction in some people and is considered to be the cause hay fever in many people. Terrestrial birds reportedly use this plant for food and cover. *Ambrosia artemisiifolia* is native to central and southern North America and coastal islands in the Caribbean Sea, and central and southern South America. \*5, 6, 30, 42 (072413), 43 (072413), 44 (072413), 46 (Page 894), 63 (072413 - color presentation), **85** (072613 - color presentation), 127 (072413), 133 (072413), 156 (072413)\*

***Ambrosia confertiflora* A.P. de Candolle: Weakleaf Bur Ragweed**

SYNONYMY: *Franseria confertiflora* (A.P. de Candolle) P.A. Rydberg. COMMON NAMES: Altamisa de Playa; Altamisa [del Campo] (Spanish: Mexico)140; Bur Ragweed (a name also applied to other species and the genus *Ambrosia*); Bur-sage (a name also applied to other species and the genus *Ambrosia*); Bur-weed (a name also applied to other species); Bursage [Field, Weak-leaf Burr] Ragweed (English: New Mexico)140; Ch’ił Diwozh <c’il dahwosi [dohwosi]> (Athapascan: Navajo)140; Chi’ichivo (Yaqui); Chíchibo (Uto-Aztecan: Mayo)140; Estafiate (a name also applied to other species, Spanish: Mountain Pima)140; Estafijate (Mexico: Sonora); Field Ragweed; Istafiate (Mexico: northern Sinaloa); Mexican Ragweed; Mo’o Taḍ <mo’otaḍk, mo’otadk, mo’ostalk, mo’otari> (“To Stick Its Head Out”, Uto-Aztecan: Tohono O’odham)140; Mo’o Taḍk Je:j (“Mother of Broom Rape”, Uto-Aztecan: Akimel O’odham)140; Mo’ostadk (Uto-Aztecan: Hiá Ceḍ O’odham)140; Mo’otatk Juich (Gila River Pima); Musha (Uto-Aztecan: Mountain Pima)140; Ñuñuwĭ Je:j (“Mother of Vultures”, Uto-Aztecan: Tohono O’odham)140; Pawya <pawíya> (Uto-Aztecan: Hopi)140; Paxáaza (Hokan: Seri)140; Ragweed (a name also applied to other species and the genus *Ambrosia*); Slender Ragweed; Slim-leaf [weak-leaf] Bursage (English)140; Slim-leaf Ragweed; Slimleaf Bursage; Slimleaf Ragweed; Tatṣagi <taḍshagi, tatshagi> (Uto-Aztecan - Tohono O’odham)140; Tu’rosip (Uto-Aztecan: Shoshoni)140; Waejoka (Kiowa Tanoan: Tewa)140; Weak-leaf Bur-ragweed; Weak-leaf Burr Ragweed; Weak-leaf Burr-ragweed; Weak-leaf Bur-sage; Weak-leaf Bursage; Weak-leaved Bur-sage; Weak-leaved Bursage; Weak-leaved Burweed; Weakleaf Bur Ragweed; Weakleaf Burbush; Weakleaf Burr Ragweed; Weakleaf Bursage; Yerba del Sapo (“Toad Herb”, Spanish: New Mexico)140. DESCRIPTION: Terrestrial perennial forb/herb (procumbent (rarely observed) and/or erect stems 4 inches to 6 feet in height and up to 7 feet in width); the leaves may be gray, gray-green or whitish; the florets may be greenish, greenish-yellow, tan-yellow, white, yellow, yellow-brown or yellow-green; flowering generally takes place between late April and mid-December (additional records: one for early January, one for mid-March, one for late March and one for early April). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky mesas; bases of cliffs; rocky canyons; along rocky and sandy canyon bottoms; crevices in rock faces; knolls; ridges; rocky ridgetops; sandy meadows; foothills; rocky and rocky-gravelly-loamy hills; hilltops; rocky hillsides; rocky, rocky-loamy, rocky-clayey, gravelly, gravelly-loamy, gravelly-clayey, sandy, sandy-loamy and sandy-clayey slopes; bajadas; piedmonts; shaley-sandy outcrops; terraces; prairies; sandy-silty plains; gravelly, gravelly-sandy, sandy and clayey flats; rocky-silty, gravelly-sandy and sandy valley floors; valley bottoms; coastal plains; coastal beaches; along railroad right-of-ways; along clayey roadsides; along sandy arroyos; bottoms of arroyos; ravines; seeps; springs; along streams; streambeds; along rivers; sandy riverbeds; along and in gravelly, gravelly-sandy, gravelly-sandy-silty and sandy washes; along rocky drainages; within rocky drainage ways; around ponds; around lakes; (drying) lakebeds; playas; ciénegas; depressions; silty swales; along banks of creeks, rivers and washes; borders of washes; (gravelly-sandy) edges of washes and playas; margins of pools; beaches; rocky benches; terraces; bottomlands; floodplains; rocky mesquite bosques; fencerows; around stock tanks (represos); around reservoirs; canal banks; ditches; riparian areas; waste places, and disturbed areas growing in muddy (rarely reported) and moist and dry boulders, rocky, shaley-sandy, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-gravelly loam, gravelly loam, sandy loam and sandy-clayey loam ground; rocky clay, gravelly clay and clay ground, and rocky silty, gravelly silty, gravelly-sandy silty, sandy silty and silty ground, occurring from sea level to 8,800 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: The flowers are reported to be fragrant. *Ambrosia confertiflora* is native to south-central and southern North America. \*5, 6, 15, 16, 42 (072513), 43 (061309), 44 (033011), 46 (recorded as *Franseria confertiflora* (DC.) Rydb., Page 895), 58, 63 (020912), 68, 77, 85 (020912 - color presentation), 115 (color presentation), 124 (033011), 140 (Pages 53-54, 56 & 283), **WTK** (September 26, 2005)\*

***Ambrosia monogyra* (J. Torrey & A. Gray) J.L. Strother & B.G. Baldwin: Singlewhorl Burrobrush**

SYNONYMY: *Hymenoclea monogyra* J. Torrey & A. Gray. COMMON NAMES: Arrow-wood (English)140; Burro Brush (a name also applied to other species and the genus *Ambrosia*); [Single-whorl] Burro-brush [bush] (English)140; Burrobrush (a name also applied to other species and the genus *Ambrosia*); Burrobush (a name also applied to other species); Cheese-bush (a name also applied to other species); Cheese-bush (English)140; Cheeseweed Burrobrush; Hécota <jécota, jejego> (Spanish: Guarijío, Mayo, Onavas Pima)140; Hierba del Pasmo (“Herb for Treating Pasmo”, Spanish: Sonora)140; ‘I:vadhod (Uto-Aztecan: Hiá Ceḍ O’odham); I’ivdag <i’ivdad> (Uto-Aztecan: Onavas Pima)140, Iivdad (Pima Bajo); Iivdat (Gila Pima); Iivdhat (Uto-Aztecan: Akimel O’odham)140; ‘I:wadhoḍ <‘i:watoḍ, i:watodh, iivadhoḍ> (Uto-Aztecan: Tohono O’odham)140; Jeco (Uto-Aztecan: Guarijío, Mayo)140; Jecota; Jécota (Spanish); Jejego (Spanish); Leafy Burrobrush; Leafy Burrobush; O’gach (Yuman: Walapai)140; Mono Burrobrush; Païab (Uto-Aztecan: Southern Paiute)140; Romerillo (a name also applied to other species, Spanish); Romerillo [Dulce] (“[Sweet] Little Rosemary”, Spanish: Baja California, Sinaloa, Sonora)140; Single-whorl Burro-brush; Single-whorl Burrow-brush; Single-whorl Burro-bush; Single-whorl Cheesebush; Singlewhorl Burrobrush; Singlewhorl Burrobush; Singlewhorl Cheesebush; Slender Burro Brush; Slender Burrow-brush; Slender Burrowbrush; <tłeł> (Athapascan: Western Apache)140; White Burrobush (a name also applied to other species); Winged Ragweed (English)140. DESCRIPTION: Terrestrial perennial deciduous subshrub or shrub (erect stems 1 to 13 feet in height; plants were observed and described as being 71 inches in height and 79 inches in width); the foliage may be gray-green, green or olive-green; the flower heads may be cream, light green, greenish-white, white, yellow or yellow-cream; flowering generally takes place between early March and early June and again between early September and mid-December (additional records: two for mid-January, one for mid-March, one for early April, one for mid-May and two for late July; flowering in August has also been reported). HABITAT: Within the range of this species it has been reported from mountains; clayey mesas; bases of cliffs; rocky canyons; along rocky and sandy canyon bottoms; rocky-sandy buttes; foothills; bases of foothills; rocky hills; rocky hillsides; bouldery-gravelly, rocky, rocky-cobbly-gravelly, rocky-clayey and sandy slopes; sand dunes; plains; rocky and gravelly flats; uplands; basins; valley floors; valley bottoms; gravelly banks; sandy flats; valley floors; valley bottoms; coastal sand dunes; coastal plains; along rocky, gravelly-sandy, gravelly-loamy, sandy-loamy and clayey roadsides; along and in rocky, gravelly and sandy arroyos; rocky, gravelly and sandy bottoms of arroyos; gulches; within sandy ravines; springs; along streams; along and in streambeds, along creeks; along and in gravelly-sandy and sandy creekbeds; along rivers; along and in cobbly-sandy, gravelly and sandy riverbeds; along and in rocky, rocky-sandy, cobbly, gravelly, gravelly-sandy, sandy and sandy-clayey washes; along and in gravelly drainages; along watercourses; ciénegas; along (gravelly and gravelly-sandy) banks of rivers and washes; borders of washes; along edges of arroyos and rivers; margins of arroyos, rivers and washes; (sandy) sides of rivers; gravel bars; gravelly-sandy benches; sandy terraces; bottomlands; sandy floodplains; mesquite bosques; within ditches; rocky edges of ditches; along canals; sandy riparian areas, and disturbed areas growing in damp and dry bouldery-gravelly, rocky, rocky-cobbly-gravelly, rocky-sandy, cobbly, cobbly-sandy, cindery-sandy, gravelly, gravelly-sandy and sandy ground; gravelly loam and sandy loam ground, and rocky clay, sandy clay and clay ground, occurring from sea level to 6,100 feet elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, and is useful in controlling erosion. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop. Burrowbrush is a host plant of the Burrobrush Leaf Beetle, *Leptinotarsa lineolata*; rodents, including the Merriam’s Kangaroo Rat (*Dipodomys merriami*), feed on the buds and sprouts. *Ambrosia monogyra* is native to southwest-central and southern North America. \*5, 6, 13 (recorded as *Hymenoclea monogyra* Torrey & Gray, Pages 301-302), 15 (recorded as *Hymenoclea monogyra* Torr. & Gray ex Gray), 42 (092813), 43 (062009), 44 (030912), 46 (recorded as *Hymenoclea monogyra* Torr. & Gray, Page 894), 48 (genus), 58, 63 (092813 - recorded as *Hymenoclea monogyra* Torrey & A. Gray, color presentation of seed), **85** (092813 - color presentation), 91 (recorded as *Hymenoclea monogyra* Torr. & A. Gray ex A. Gray, Page 236), 124 (030812 - no record of species; genus *Ambrosia* L.), 127, 133 (092813), 140 (recorded as *Ambrosia monogyra* (Torrey & A. Gray) Strother & B.G. Baldwin, Pages 55-56, 68,87 & 283), **MBJ/WTK** (July 9, 2009), **WTK** (September 26, 2005)\*

*Aplopappus laricifolius* (see footnote 46 under *Ericameria laricifolia*)

*Aplopappus gracilis* (see footnote 46 under *Xanthisma gracile*)

*Aster exilis* (see *Symphyotrichum divaricatum*)

*Aster subulatus* var. *ligulatus* (see *Symphyotrichum divaricatum*)

*Baccharis* *glutinosa* (see *Baccharis salicifolia*)

***Baccharis salicifolia* (H. Ruiz Lopez & J.A. Pavon) C.H. Persoon: Mule-fat**

SYNONYMY: *Baccharis* *glutinosa* C.H. Persoon. COMMON NAMES: Azumiate (Hispanic); Ba’asham <baashoma> (Uto-Aztecan: Mountain Pima)140; Bacho’ma <bachomo> (Uto-Aztecan: Mayo)140; Bachomo (Hispanic); Baldag Shi (Hispanic); Bašam (Uto-Aztecan: Onavas Pima)140; Batamote (Spanish: Mexico, Sonora); Batamote [Guatamotie] (Spanish: Baja California, California, Sinaloa, Sonora)140; Black Willow (a name also applied to other species, Santa Barbara County, California); Broom Baccharis; Caaöj (Hokan: Seri)140; Čaguši <čagu’ši> (Uto-Aztecan: Tarahumara)140; Chamiso (Hispanic); Chamiso del Rio (Hispanic); Chilca; Cucamoarisha (Cora); Cuerepillo (Hispanic); Dsea Miis Ro (Hispanic); Dsea Miis Tee (Hispanic); False Water Willow; False Water-motie; False Water-wally; False Willow (a name also applied to other species); Gila Water-motie; Gila Water-wally; Gila Water Willow; Gila Willow; Groundsel Tree (a name also applied to the genus *Baccharis*); Groundsel Tree (English)140; Guachomó <uachama> (Uto-Aztecan: mountain Guarijío)140; Guagualuasi (Uto-Aztecan: mountain Guarijío)140); Guamate; Guatamote (Hispanic); Guatemote (Spanish); Guatarote (Hispanic); Hamaséiva (Yuman: Havasupai)140; Hamḍavil (Yuman: Walapai)140; Hanta Veél (Yuman: Mohave and Yuma)140; Hierba del Carbonero (“Charcoal Maker’s Herb”, Spanish: Valley of Mexico)140; Hierba del Pasmo (Spanish); Huamate; Jara (“Arrow”, Spanish: Guanajuato, Texas)140; Jara Amarilla (Hispanic); Jara Mexicana (Hispanic); Jaral (Spanish: Guanajuato, Tamaulipas)140; Jarilla [Jarillo del Río] (Little [River] Arrow”, Spanish: Chihuahua, Durango, Sinaloa, Sonora)140; K’ídzítso Bi’tsiin Łigai <k’iłcoi bicin łagai> (Athapascan: Navajo)140; KáaW (Seri); Mb’axu (Oto-Manguean: Mazahua)140; Mule Fat; Mule-fat; Mule’s Fat (English: Arizona, New Mexico)140; Mule’s-fat; Mulefat; Mulefat Baccharis; Mulesfat; Ñehol (“Servant”, Uto-Aztecan: Tohono O’odham)140; Ñehol (“Servant”, Uto-Aztecan: Tohono O’odham)140; Oágam (“Brains or Marrow”, Uto-Aztecan: Akimel O’odham)140; Paq’ily <paki> (Uto-Aztecan: Cahuilla)140; Pogosɨvɨ (Uto-Aztecan: Kawaiisu)140; Romerello; Rosin Brush; Seep Willow (a name also applied to other species); Seep Willow Baccharis; Seep-willow (a name also applied to other species); Seep-willow (English)140; Seep-willow Baccharis; Seepwillow (a name also applied to other species); Seepwillow Baccharis; Shu’ (Chumash: Barbareño and Ineseño Chumash)140; Sticky Baccharis; Sticky False-willow; Sticky Seep-willow; Ṣu:ṣk Kuasĭ <šu:šk, susk, kuagsig> (Uto-Aztecan: Hiá Ceḍ O’odham, Sonora)140; Ṣuṣk Ku’agi <šu:šk kuagsig> (Uto-Aztecan: Tohono O’odham)140; <tłeł> (Athapascan: Western Apache)140; Tóeejí Béé’ditó <tóˀiɜvi ke~~λ~~’o> (Athapascan: Navajo)140; Togzten (Hispanic); Tu Ta’ Vi (Hispanic); Uachamo (Uto-Aztecan: Mayo, Sonora)140; Vara Dulce (“Sweet Bush”, Spanish: Chihuahua)140; Waˀlurúbisi <waˀerúgesi> (Uto-Aztecan: Guarijío)140; Water Motie; Water-motie; Water-motor (California); Water Wally; Water Willow (a name also applied to other species); [False, Gila] Water Willow [Water-motie, Water-Wally] (English)140; Water-wally; Watermotie; Waterwally; Waterwillow; Willow Groundsel-tree; Willow Leafed Baccharis; Willow-leaf Baccharis; Willow-leaf False-willow; Willow-leafed Baccharis; Willow-leaved Baccharis; Wita’ (Chumash: Ventureño Chumash)140; Xa’tam Mual (Yuman: Paipai)140; Xantavaíly (Yuman: Maricopa)140; Yerba del Pasmo (“Herb for Pasmo” a name also applied to other species, Spanish: Chihuahua)140. DESCRIPTION: Terrestrial perennial deciduous shrub (clustered ascending and/or erect stems 1 to 15 feet in height; plants were observed and described as being 10 feet in height forming clones 6 to 13 feet in width); the bark is gray; the stems are green to tan; the leaves may be gray, green or dark green; the disc florets (no ray florets) may be cream, cream-maroon, cream-maroon-purple, cream-white, grayish-white, off white, white, white-magenta, whitish-yellow or yellow; flowering generally takes place between mid-January and mid-November (additional record: one for late December). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky and sandy mesas; bouldery-rocky, rocky and rocky-sandy canyons; sandy canyon bottoms; along rocky, sandy and sandy-silty canyon bottoms; chasms; talus; bases of cliffs; foothills; hills; rocky hillsides; rocky, gravelly, sandy, sandy-loamy, sandy-clayey-loamy clayey-loamy, loamy and clayey slopes; bajadas; amongst rocks; alcoves; sand dunes; plains; rocky-sandy, sandy and clayey flats; bolsons; valley floors; coastal dunes; along railroad right-of-ways; along gravelly-sandy, sandy and sandy-loamy roadsides; along and in rocky and sandy arroyos; clayey bottoms of arroyos; draws; gullies; ravines (barrancas); seeps; gravelly and sandy springs; seeping springs; silty soils along streams; in bouldery-rocky, rocky and sandy streambeds; along and in bouldery creeks; along and in sandy creekbeds; along rivers; along and in rocky, gravelly, sandy and silty riverbeds; along and in bouldery-sandy, rocky, cobbly, gravelly, gravelly-sandy, sandy and silty washes; along and in bouldery-rocky and rocky-clayey drainages; along and in sandy drainage ways; along watercourses; bases of waterfalls; rock tanks; around and in ponds; lakebeds; playas; ciénegas; freshwater and saltwater marshes; swampy areas; depressions; along (sandy) banks of arroyos, springs, streams, streambeds, creeks, rivers, washes and pools; borders of washes; along (sandy, sandy-silty and clayey) edges of springs, streams, creeks, rivers, washes, ponds, lakes, playas and saltmarshes; along (clayey-loamy) margins of streams, washes and lakes; (rocky-sandy and sandy) shores of rivers and lakes; mudflats; gravel and sand bars; sandbanks; shell-mantled beach ridges; rocky and sandy beaches; sandy benches; bouldery-gravelly-sandy terraces; gravelly and sandy bottomlands; sandy floodplains; lowlands; along dikes; along dam outlets; margins of stock tanks (charcos); reservoirs; along canals; along ditches; muddy, rocky-gravelly-sandy, rocky-sandy and sandy riparian areas, and disturbed areas growing in shallow water and wet, moist, damp and dry ground in bouldery, bouldery-rocky, bouldery-gravelly-sandy, bouldery-sandy, rocky, rocky-gravelly-sandy, rocky-sandy, shaley, cobbly, cobbly-loamy, gravelly, gravelly-sandy and sandy ground; sandy loam, sandy-clayey loam, clayey loam and loam ground; rocky clay, silty clay and clay ground, and sandy silty and silty ground, occurring from sea level to 7,900 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food and/or fiber (used as a building material) crop; it was also noted as having been used in hunting and fishing, as a drug or medication and as a commodity used in personal hygiene (the leaves were used in a hair wash solution to prevent baldness). Seep Willow is useful in controlling watercourse erosion and slowing stream flow. Bees and butterflies have been observed visiting the flowers. *Baccharis salicifolia* is native to southwest-central and southern North America; Central America, and South America. \*5, 6, 13 (recorded as *Baccharis* *glutinosa* Pers., Page 335), 15 (recorded as *Baccharis* *glutinosa* Pers.), 16, 28 (recorded as *Baccharis* *glutinosa*, color photograph 264), 30, 42 (123113), 43 (111209), 44 (051111), 46 (recorded as *Baccharis* *glutinosa* Pers., Page 884), 48 (recorded as *Baccharis* *glutinosa*), 58 (recorded as *Baccharis* *glutinosa* Pers.), 63 (021512 - color presentation), 68, 77, **85** (021612 - color presentation), 115 (color presentation), 124 (051111), 127 (123113), 133 (123113), 134, 140 (Pages 57-59, 60 & 283), 156 (123113)\*

***Baccharis thesioides* K.S. Kunth: Arizona Baccharis**

COMMON NAMES: Arizona Baccharis; Arizona False Willow; Batamote de Monte; Batamote del Monte (Spanish); Broom; Hierba del Pasmo; Mogollon Baccharis; Yerba del Pasmo (Spanish). DESCRIPTION: Terrestrial perennial subshrub (spreading ascending and/or erect stems 1 to 6½ feet in height); the stems (openly branched from the base) may be red; the foliage is dark green; the flowers (dioecious) may be cream, cream-white, pale green or white; flowering generally takes place between late July and mid-November (additional record: one for late April). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky mesas; rocky rims; cliffs; bases of cliffs; rock walls; rocky canyons; canyon bottoms; crevices in rocks; rocky ridges; openings in woodlands; foothills; rocky hillsides; escarpments; bedrock, rocky, rocky-loamy, loamy and clayey-loamy slopes; amongst boulders; on rocks; banks; rocky roadcuts; rocky roadsides; within arroyos; bottoms of arroyos; rocky draws; barrancas; in springs; along streams; along and in bouldery streambeds; along washes; banks of streams; riparian areas, and disturbed areas growing in shallow water and moist and dry bouldery and rocky ground and rocky loam, gravelly loam, clayey loam and loam ground, occurring from 3,500 to 8,500 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTE: *Baccharis thesioides* is native to southwest-central and southern North America. \*5, 6, 15, 42 (072513), 43 (012011), 44 (123113 - no record of species; genus record), 46 (Page 883), 63 (123113), **85** (123113 - color presentation), 133 (072513), 124 (012011 - no record of species; genus record), 127 (1231`13 - no matches found), 133 (072613), 140 (Pages 60 & 283), 156 (123113)\*

***Bahia absinthifolia* G. Bentham: Hairyseed Bahia**

SYNONYMY: *Bahia absinthifolia* G. Bentham var. *absinthifolia*; *Bahia absinthifolia* G. Bentham var. *dealbata* (A. Gray) A. Gray. COMMON NAMES: Bahia (a name also applied to the genus *Bahia*); Dealbata’s Bahia (*Bahia absinthifolia* var. *dealbata* - Not Accepted, *Bahia absinthifolia* - Accepted); Hairy-seed False Goldfields (*Bahia absinthifolia* var. *absinthifolia* - Not Accepted, *Bahia absinthifolia* - Accepted); Hairyseed Bahia; Hairyseed Bahia (*Bahia absinthifolia* var. *absinthifolia* - Not Accepted, *Bahia absinthifolia* - Accepted). DESCRIPTION: Terrestrial perennial forb/herb (erect stems 4 inches to 2 feet in height; plants were observed and described as being 12 to 18 inches in height and width); the herbage may be gray, gray-green, light green, silvery-gray-green or white woolly; the disk florets may be orange, orange-yellow or yellow; the ray florets are yellow; flowering generally takes place between mid-March and mid-November). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; sandy mesas; sandy-loamy plateaus; cliff faces; rocky canyons; talus; shaley ridges; rocky ridgetops; foothills; clayey hills; rocky hillsides; bouldery escarpments; bedrock, rocky, rocky-gravelly, rocky-loamy, gravelly, clayey and silty-clayey slopes; alluvial fans; gravelly and sandy bajadas; gravelly pediment fans; rocky outcrops; amongst creosote bushes; sand dunes; sandy banks; plains; gravelly and sandy flats; basins; rocky and sandy valley floors; along rocky and sandy roadsides; within arroyos; clayey bottoms of arroyos; draws; gullies; within gravelly and sandy washes; swales; banks of ravines; terraces; floodplains; lowlands; riparian areas, and disturbed areas growing in dry rocky desert pavement; bouldery, rocky, rocky-gravelly, shaley, gravelly and sandy ground; rocky loam and sandy loam ground; silty clay and clay ground, and sandy silty ground, occurring from 1,800 to 8,800 feet, in elevation in the woodland, scrub, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Bahia absinthifolia* is native to southwest-central and southern North America. \*5, 6, 16, 28 (color photograph 395), 42 (062713), 43 (062713 - no record for *Bahia absinthifolia* G. Bentham var. *absinthifolia*; *Bahia absinthifolia* var. *dealbata* A. Gray), 44 (051111 - no listing under Common Names), 46 (Page 925), 63 (062713 - recognizes varieties *absinthifolia* and *dealbata*, color presentation), 77 (color photograph #16), **85** (021712 - color presentation including habitat), 115 (color presentation), 124 (051111 - no record of species; genus record), 140 (recorded as *Bahia absinthifolia* var. *dealbata* (A. Gray) A. Gray, Page 283), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

*Bahia absinthifolia* var. *absinthifolia* (see *Bahia absinthifolia*)

*Bahia absinthifolia* var. *dealbata* (see *Bahia absinthifolia*)

***Bahia dissecta* (A. Gray) N.L. Britton: Ragleaf Bahia**

COMMON NAMES: Ragged-leaf False Goldfields; Ragleaf; Ragleaf Bahia; Wild Chrysanthemum; Yellow Ragweed; Yellow-ragweed. DESCRIPTION: Terrestrial annual, biennial or perennial forb/herb (erect stems 1¼ inches to 4 feet in height); the disc flowers are yellow (darker yellow than the ray flowers), the ray flowers are yellow (to ¾ inch in diameter); flowering generally takes place between August and October. HABITAT: Within the range of this species it has been reported from mountains; openings in forests and woodlands; canyons; rocky knolls; rocky and gravelly slopes, and roadsides growing in dry rocky, gravelly and sandy ground, occurring from 5,000 to 9,600 feet in elevation in the forest, woodland and grassland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. *Bahia dissecta* is native to southwest-central and southern North America. \*5, 6, 28 (color photograph 396), 15, 42 (072513), 43 (072513 - *Bahia dissecta* Britton), 44 (072513 - no listings recorded under Common Names; genus records), 46 (Page 924), 63 (072513 - color presentation), **85** (072513 - unable to access records, color presentation), 127 (072513), 133 (072513)\*

***Bebbia juncea* (G. Bentham) E.L. Greene: Sweetbush**

COMMON NAMES: Bebbia (var. *aspera*, a name also applied to the genus *Bebbia*); Chuckwalla Delight; Chuckwalla’s Delight; Chuckwalla’s Delight (var. *aspera*); Junco; Rush Bebbia; Rush Sweet Bush (var. *aspera*); Rush Sweet-bush (var. *aspera*); Rush Sweetbush (var. *aspera*); Sweetbush (a name also applied to the genus *Bebbia*); Sweetbrush Bebbia. DESCRIPTION: Terrestrial perennial subshrub or shrub (16 inches to 5 feet in height; one plant was observed and described as being 16 inches in height and 16 inches in width, one plant was observed and described as being 20 inches in height and 26 inches in width, one plant was observed and described as being 40 inches in height and 40 inches in width); the older stems are brown; the younger stems and leaves may be gray-green or green; the flowers (½ inch in width - disk flowers only, no ray flowers) may be cream, gold, golden-yellow, orange, orange-yellow, yellow or yellow-orange; flowering may take place throughout the year. HABITAT: Within the range of this species it has been reported from mountains; mountain summits; rocky mountainsides; rocky-sandy and sandy mesas; plateaus; cliffs; rocky cliff faces; bases of cliffs; rocky and rocky-sandy canyons; rocky canyon walls; rocky and rocky-sandy canyon bottoms; rocky and gravelly-sandy bluffs; buttes; sandy-loamy ridges; foothills; bouldery and rocky hills; rocky and gravelly hillsides; bedrock, bouldery, bouldery-gravelly, rocky, rocky-gravelly, rocky-sandy, rocky-loamy, rocky-clayey-loamy, shaley, gravelly and sandy slopes; bases of slopes; bouldery-stony-gravelly-sandy alluvial fans; bajadas; bouldery and rocky outcrops; amongst boulders and rocks; lava flows; sand dunes; sandy plains; rocky-cobbly-sandy, gravelly and sandy flats; sandy valley floors; coastal terraces; coastal plains; beach dunes; coastal beaches; rocky roadcuts; along gravelly and sandy roadsides; within rocky-gravelly and sandy arroyos; along rocky and sandy bottoms of arroyos; rocky and sandy draws; within rocky gulches; bottoms of gulches; within rocky gullies; seeps; silty springs; along streams; streambeds; along creeks; in rocky and sandy creekbeds; along rivers; sandy riverbeds; along and in rocky, rocky-sandy, gravelly, gravelly-sandy and sandy washes; within rocky and gravelly drainages; within sandy drainage ways; (bouldery, rocky, stony, gravelly and gravelly-sandy) banks of rivers and washes; borders of washes; (bouldery-sandy) edges of streams, rivers, washes, ponds, lakes and riparian areas; margins of arroyos and washes; (bouldery and sandy) shores of rivers and lakes; sand bars; rocky, rocky-sandy, gravelly and sandy beaches; sandy benches; sandy terraces; sandy-loamy floodplains; rocky-sandy levees; canals; canal banks; rocky riparian areas; recently burned areas, and disturbed areas growing in dry desert pavement; bouldery, bouldery-stony-gravelly-sandy, bouldery-gravelly, bouldery-sandy, rocky, rocky-cobbly-sandy, rocky-gravelly, rocky-sandy, shaley, cobbly, cobbly-sandy, cindery-sandy, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-clayey loam, sandy loam, clayey loam and silty loam ground, and silty ground, occurring from sea level to 6,100 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: The flowers are reportedly sweet-scented. *Bebbia juncea* is native to southwest-central and southern North America. \*5, 6, 13, 16, 42 (050713), 43 (061409), 44 (050713 - color photograph), 46 (Page 912), 63 (050713 - color presentation), **85** (050713 - color presentation), 115 (color presentation), 124 (051111 - no record of genus or species), 140 (Page 85)\*

***Bidens leptocephala* E.E. Sherff: Fewflower Beggarticks**

COMMON NAME: Acahual [Acuahualillo] (Spanish: Mexico)140; Aceitilla (“Little Oily One”, Spanish: Edo. México, San Luis Potosí)140; Bur Marigold (a name also applied to the genus *Bidens*); Bur Marigold (English)140; Bur-marigold (a name also applied to the genus *Bidens*); Ch’il Hosh (Athapascan: Navajo)140; Few-flower Beggar Ticks; Few-flower Beggar-ticks [Fewflower Beggarticks] (a name also applied to other species, English)140; Few-flower Beggarticks; Fewflower Beggarticks; Mozote (a name also applied to other species, Spanish: Mexico)140; Saitilla (Spanish); Tickseed (a name also applied to the genus *Bidens*). DESCRIPTION: Terrestrial annual forb/herb (4 inches to 3 feet in height); the leaves are medium green; the disk florets may be white (rarely), whitish, yellow or yellowish; small ray florets may be white (rarely), whitish, yellow or yellowish; flowering generally takes place between mid-August and early November. HABITAT: Within the range of this species it has been reported from mountains; mesas; rocky canyons; along sandy canyon bottoms; pockets of soil in boulders; meadows; hills; along gravelly hillsides; rocky, gravelly and silty-loamy slopes; bajadas; bedrock outcrops; amongst gravels and sands; gravelly flats; valley floors; along rocky-clayey roadsides; gravelly arroyos; rocky draws; along streams; along streambeds; along creeks; along creekbeds; along rivers; along and in gravelly, gravelly-sandy, sandy and clayey washes; along drainages; swales; (silty) banks of creeks and rivers; (rocky) edges of streams; sand bars; gravelly benches; terraces; floodplains; mesquite bosques; riparian areas, and waste places growing in moist and dry bouldery, rocky, gravelly, gravelly-sandy and sandy ground; sandy loam and silty loam ground; rocky clay and clay ground, and sandy silty and silty ground, occurring from 1,600 to 8,000 feet in elevation in the forest, woodland; scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Bidens leptocephala* is native to southwest-central and southern North America. \*5, 6, 15, 42 (072513), 43 (061409), 44 (021812 - no record of species; genus record), 46 (Page 911), 58, 63 (021812 - color presentation), **85** (021812 - color presentation), 124 (021812 - no record of species; genus record), 140 (Pages 60-61 & 283)\*

***Brickellia betonicifolia* A. Gray: Betonyleaf Brickellbush**

COMMON NAME: Betonyleaf Brickellbush. DESCRIPTION: Terrestrial perennial forb/herb (decumbent, ascending and/or erect stems 1 to 3 feet in height); the stems may be purple; the leaves are dark green; the flowers have been described as having dark reddish disk flowers and yellow ray flowers, off-yellow disk flowers and purple ray flowers, or as being cream, cream-yellow, greenish, greenish-yellow, white or yellow; flowering generally takes place between mid-August and late November (additional records: one for early June and one for mid-July). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; on rock faces; along canyons; rocky canyon bottoms; openings in forests and woodlands; sandy meadows; foothills; rocky hillsides; hillsides; gravelly slopes; amongst boulders and rocks; rocky banks; uplands; valleys; roadcuts; along roadsides; rocky draws; gulches; along streams; bouldery-loamy streambeds; along creeks; along creekbeds; along gravelly washes; along and in drainages; sphagnum bogs; banks of streams; edges of streambeds; cobbly-sandy floodplains, and riparian areas growing in moist and dry rocky, cobbly-sandy, gravelly and sandy ground and bouldery loam ground, occurring from 1,000 to 8,300 feet in elevation in the forest, woodland, scrub and wetland ecological formations. NOTE: *Brickellia betonicifolia* is native to southwest-central and southern North America. \*5, 6, 15, 42 (072513), 43 (072513), 44 (072513 - no record of species; genus record), 46 (recorded as *Brickellia betonicaefolia* Gray, Page 849), 48 (genus), 63 (072513), **85** (072713 - color presentation), 133 (072513), 140 (Page 283)\*

***Brickellia californica* (J. Torrey & A. Gray) A. Gray: California Brickellbush**

SYNONYMY: *Brickellia californica* (J. Torrey & A. Gray) A. Gray var. *californica*; *Brickellia californica* (J. Torrey & A. Gray) A. Gray var. *jepsonii* B.L. Robinson. COMMON NAMES: ‘Azee’ Dich’íízh <ˀazeˀ dičíž> (Athapascan: Navajo)140; Bił Háách’i <bilha.zef’n> (“Its Scent is Carried on the Breeze”, Athapascan: Navajo)140; Brickellbush (a name also applied to the genus *Brickellia*); [California] Bricklebush [Brickellbush] (English)140; California Boneset; California Brickle-bush; California Brickelbush; California Brickell Bush; California Brickell-bush; California Brickellbush; California Brickellbush (var. *californica* - Not Accepted, *Brickellia californica* - Accepted); California Brickellia; California Bricklebush; California Tasselflower; Canyon Bricklebush; Desert Brickellbush (var. *desertorum* - Not Accepted, *Brickellia desertorum* - Accepted); False Boneset (a name also applied to the genus *Brickellia*); False Boneset (English)140; Hamula (“Hooked”, Spanish: Mexico)140); Hierba de la Vaca (Spanish); Hierba <yerba> de la Vaca (“Cow Herb”, Spanish: New Mexico, Mexico, Baja California)140; Jepson’s Brickellbush (var. *jepsonii* - Not Accepted, *Brickellia californica* - Accepted); Kwaq Impal (Yuman: Paipai)140; Pachaba (Hopi); Pachaba (Spanish: Arizona)140; Patcavu (Uto-Aztecan: Hopi)140; Prodigiosa (“Marvelous” a name also applied to other species, Spanish: Mexico)140; Tséghą́ą́’‘adisxas <cek’i.nˀalcizi> (Athapascan: Navajo)140; Yerba de la Vaca (Spanish). DESCRIPTION: Terrestrial perennial subshrub or shrub (decumbent and/or erect stems 1 to 7 feet in height; plants were observed and described as being 28 inches in height and width, plants were observed and described as being 28 inches in height and 5 feet width, plants were observed and described as being 40 inches in height and width, plants were observed and described as being 40 inches in height and 6½ feet in width); the branches (branching from near base) may be gray or white; the leaves may be gray-green, dark green or green tinged with dark purple; the florets have been described as being cream, cream-pink, cream-white, green-yellow, greenish, greenish-yellow, red-purple, white, whitish, yellow, pale yellow, yellow-green, pale yellow-green, pale yellow-greenish or pale yellowish; flowering generally takes place between early July and early December. HABITAT: Within the range of this species it has been reported from mountains; mountaintops; mountainsides; mesas; mesa rims; bases of mesas; plateaus; rocky rims; along rocky cliffs; hanging gardens; bases of cliffs; along bouldery, bouldery-sandy, rocky and gravelly canyons; canyon walls; rocky-sandy canyon sides; rocky bases of canyon walls; along bouldery, rocky, rocky-gravelly and rocky-sandy-silty canyon bottoms; rock clefts; rocky gorges; bouldery and rocky talus slopes; (sandy) crevices in bedrock, boulders and rocks; along bluffs; buttes; rocky ledges; rocky and rocky-clayey ridges; sandy ridgetops; bouldery ridgelines; openings in forests and chaparral; sandy cinder cones; rocky-sandy rims of craters; foothills; rocky hills; rocky, rocky-sandy and gravelly-sandy-loamy hillsides; escarpments; rocky, rocky-clayey, rocky-clayey-loamy, shaley, stony-loamy, cindery, cindery-sandy, gravelly, gravelly-sandy-loamy, gravelly-clayey, sandy, sandy-clayey, sandy-silty-loamy, loamy, clayey and clayey-loamy slopes; sandy alluvial fans; bajadas; bouldery and rocky outcrops; bases of rock outcrops; amongst boulders, rocks and cobbles; bases of rocks; lava flows; lava fields; lava beds; sand dunes; debris flows; rocky banks; cobbly plains; rocky, cindery and sandy flats; uplands; valley floors; valley bottoms; along rocky and rocky-shaley roadsides; along and in gravelly arroyos; rocky bottoms of arroyos; draws; rocky ravines; seeps; bouldery, gravelly, gravelly-sandy and sandy springs; along streams; along and in bouldery-rocky, rocky-cobbly and gravelly streambeds; along creeks; along and in rocky-sandy and sandy creekbeds; along rivers; in gravelly riverbeds; along and in rocky, rocky-sandy, cobbly, gravelly and sandy washes; bouldery, rocky and sandy drainages; along rocky drainage ways; bogs; ciénegas; (rocky) banks of arroyos, ravines, rivers and washes; borders of washes; along (gravelly-sandy) edges of rivers and washes; (sandy) margins of creeks; sides of creeks; gravelly-sandy and sandy beaches; benches; terraces; floodplains; muddy, rocky, sandy and sandy-clayey riparian areas, and disturbed areas growing in muddy and damp and dry bouldery, bouldery-rocky, bouldery-sandy, rocky, rocky-shaley, rocky-cobbly, rocky-gravelly, rocky-sandy, shaley, cobbly, cindery, cindery-sandy, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-clayey loam, stony loam, gravelly loam, gravelly-sandy loam, sandy-silty loam, clayey loam and loam ground; rocky clay, gravelly clay, sandy clay and clay ground, and rocky-sandy silty and sandy silty ground, occurring from sea level to 9,500 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food/beverage crop (the leaves were used as a substitute for tea); it was also noted as having been used as a drug or medication. *Brickellia californica* is native to southwest-central and southern North America. \*5, 6, 13 (Pages 346-347), 15, 16, 42 (010214), 43 (111409), 44 (021912 - color presentation), 46 (Page 849), 48 (genus), 58, 63 (010214 - accepts varieties *californica* and *jepsonii*, color presentation), 77, **85** (010314 - color presentation), 124 (021912), 127 (010214), 133 (010214), 140 (Pages 62-63 & 283), 156 (010214)\*

*Brickellia californica* var. *californica* (see *Brickellia californica*)

*Brickellia californica* var. *jepsonii* (see *Brickellia californica*)

***Brickellia coulteri* A. Gray: Coulter’s Brickellbush**

SYNONYMY: *Brickellia coulteri* A. Gray var. *coulteri*. COMMON NAMES: Brickellbush (a name also applied to the genus *Brickellia*); Coulter Brickellbush; Coulter’s Brickellbush. DESCRIPTION: Terrestrial perennial subshrub or shrub (stems (branched from base) 1 to 5 feet in height); the florets may be cream, cream-maroon-purple, cream-purple, cream-white, cream-yellow, green, greenish-yellow, purplish, purplish-brown, white, yellow, pale yellow-green (often tinged with purple) or yellow-green; flowering generally takes place between late January and late December. HABITAT: Within the range of this species it has been reported from bouldery mountains; rocky and gravelly-sandy mountainsides; mesas; cliffs; cliff faces; bases of rocky cliffs; rocky and rocky-sandy canyons; along rocky canyon bottoms; rocky talus slopes; crevices in rocks; rocky ledges; rocky ridges; clearings in woodlands; foothills; rocky hills; gravelly-clayey-loamy hilltops; rocky hillsides; bedrock, rocky and gravelly slopes; bajadas; rocky outcrops; amongst boulders and rocks; plains; flats; basins; valley floors; roadcuts; along roadsides; rocky, gravelly and sandy arroyos; rocky and sandy bottoms of arroyos; rocky draws; rocky walls of ravines; springs; along streams; along bouldery and bouldery-rocky streambeds; along rivers; riverbeds; along and in rocky, rocky-gravelly, gravelly, gravelly-sandy, gravelly-loamy and sandy washes; rocky and pebbly drainages; bouldery and rocky drainage ways; around waterholes; along (sandy and silty-loamy) banks of streams, washes and drainages; borders of washes; (rocky) edges of rivers, riverbeds and washes; along (rocky and sandy) margins of arroyos; bottomlands; floodplains; mesquite woodlands; rocky and gravelly-sandy riparian areas, and disturbed areas growing in moist and dry bouldery, rocky, rocky-gravelly, rocky-sandy, gravelly, gravelly-sandy, pebbly and sandy ground; gravelly loam, gravelly-clayey loam, sandy loam, silty loam and loam ground, and rocky clay ground, occurring from sea level to 5,000 feet in elevation in the forest, woodland, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. The flowers are reported to be fragrant. *Brickellia coulteri* is native to southwest-central and southern North America. \*5, 6, 13, 15, 16, 28 (color photograph 458), 42 (072513), 43 (111409), 44 (021912 - no record of species; genus record), 46 (Page 849), 48 (genus), 58, 63 (021912), 77, **85** (021912 - color presentation), 115 (color presentation), 124 (021912 - no record of species; genus record), 140 (Pages 63 & 283 - recorded as *Brickellia coulteri* A. Gray var. *coulteri*), **MBJ**/**WTK** (July 9, 2009)\*

*Brickellia coulteri* var. *coulteri* (see *Brickellia coulteri*)

***Brickellia venosa* (E.O. Wooton & P.C. Standley) B.L. Robinson: Veiny Brickellbush**

COMMON NAMES: Veiny Brickellbush. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (ascending and/or erect stems 12 to 40 inches in height); the foliage may be gray-green or whitish-gray; the disk flowers are yellow; the florets are pale yellow sometimes tinged with purple or yellow-green (aging maroon); flowering generally takes place between early September an early November (additional records: one for late March and one for mid-May; flowering beginning as early as August has been reported). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky mesas; cliffs; bases of cliffs; bouldery and rocky canyons; canyon walls; rocky canyon sides; shaded canyon bottoms; crevices in boulders and rocks; knolls; rocky ledges; bedrock and rocky ridges; rocky ridgetops; bouldery ridgelines; rocky hills; rocky hillsides; bouldery, rocky and stony slopes; bajadas; rocky outcrops; amongst boulders and rocks; bases of rocks; gravelly rock terraces; along roadsides; within rocky arroyos; sandy draws; gulches; bouldery springs; along streams; streambeds; along rivers; along gravelly washes; bottomlands; floodplains; in and around stock tanks, and riparian areas growing in dry bouldery, rocky, stony, gravelly and sandy ground; loam ground, and clay ground, occurring from 1,900 to 6,600 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Brickellia venosa* is native to southwest-central and southern North America. \*5, 6, 15, 42 (072513), 43 (072513 - *Brickellia venosa* B.L. Rob.), 44 (072513 - no record of species; genus record), 46 (Page 848), 58, 63 (072513), **85** (072513 - color presentation), 133 (072513), 140 (Page 283)\*

***Carminatia tenuiflora* A.P. de Candolle: Plumeweed**

COMMON NAME: Plumeweed. DESCRIPTION: Terrestrial annual forb/herb (erect stems 5 to 22 inches in height); the flower heads have been described as being cream, whitish or yellow; flowering generally takes place between early August and early November. HABITAT: Within the range of this species it has been reported from mountains; rocky mesas; bouldery, bouldery-rocky and rocky canyons; canyon walls; rocky canyon sides; sandy and sandy-loamy canyon bottoms; rocky talus slopes; crevices in rocks; gravelly pockets of soil in rocks; along rocky ledges; openings in forests; foothills; rocky hills; hillsides; rocky bases of escarpments; rocky, gravelly, sandy-loamy and loamy slopes; rocky outcrops; amongst rocks; bases of rocks; within the shade of and under boulders; shaded banks; loamy uplands; roadcuts; along roadsides; within draws; gravelly bottoms of draws; ravines; seeps; along streams; along creeks; rocky creek beds; along rocky washes; along and in drainages; banks of washes; along edges of creeks; riparian areas, and disturbed areas growing in moist and dry bouldery, bouldery-rocky, rocky and gravelly ground; bouldery loam, sandy loam and loam ground, and rocky clay ground, occurring from 2,100 to 8,900 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTE: *Carminatia tenuiflora* is native to southwest-central and southern North America and Central America. \*5, 6, 15, 42 (072713), 43 (072713), 44 (072713 - no record of species or genus), 46 (Page 844), 58, 63 (072713), **85** (072813), 133 (072713 - no record of species), 140 (Page 284), 156 (072713)\*

***Chaetopappa ericoides* (J. Torrey) G.L. Nesom: Rose Heath**

SYNONYMY: *Aster arenosus* (A.A. Heller) S.F. Blake; *Aster hirtifolius* S.F. Blake; *Leucelene ericoides* (J. Torrey) E.L. Greene. COMMON NAMES: Baby Aster; Baby White Aster; Baby Whiteaster; Heath Least Daisy; Heath Least-daisy; Heath-leaved Chaetopappa; Heath Leastdaisy; Rose Heath; Rose Heath Aster (a name also applied to the genus *Chaetopappa*); Rose-heath; Roseheath; Sand Aster; Sya:yahkya Udeya (“Gnat Flower” and also known as “Snowbird Medicine”, Zuni); Smallflower Aster (a name also applied to other species); White Aster (a name also applied to other species and the genus *Chaetopappa*). DESCRIPTION: Terrestrial perennial forb/herb or subshrub (erect stems 1 to 8 inches in height; plants were observed and reported as being 4 inches in height and width, patches 10 feet in diameter were observed and reported); the foliage is gray-green; the disc florets may be orange or yellow; the ray florets may be blue, pink, pink-purple, pink-white, pinkish-lavender, purple, white or whitish; flowering generally takes place between early March and late October (additional record: flowering ending as late as November has been reported). HABITAT: Within the range of this species it has been reported from rocky mountains; shaley mountaintops; rocky, rocky-clayey, stony, gravelly, sandy, sandy-clayey, sandy-silty, clayey and clayey-loamy mesas; rocky-sandy plateaus; along rocky rims of canyons; bouldery summits of cliffs; rocky-gravelly and shaley cliffs; bases of cliffs; along rocky, cobbly-sandy and sandy canyons; along canyon walls; cobbly-sandy and sandy canyon bottoms; scree slopes; rocky and sandy talus slopes; pockets of sandy soil in bedrock and rocks; rocky, gravelly and pebbly bluffs; rocky-clayey tops of buttes; rocky hogbacks; shaley knolls; ledges; along rocky, gravelly and sandy ridges; rocky ridgetops; clearings and openings in forests and woodlands; meadows; cindery cinder cones; sandy and clayey-loamy foothills; rocky, rocky-sandy-loamy, stony, gravelly and clayey hills; sandy hilltops; rocky, shaley and gravelly-loamy hillsides; gravelly-loamy bases of hills; bouldery escarpments; bouldery-sandy, rocky, rocky-shaley-gravelly-clayey, rocky-gravelly, rocky-sandy, rocky-sandy-clayey, rocky-loamy, rocky-clayey, shaley, shaley-sandy, shaley-clayey, stony, stony-cobbly, stony-cobbly-sandy-clayey, stony-sandy, stony-loamy, cobbly, cindery, gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey, gravelly-silty-loamy, sandy, sandy-loamy, sandy-clayey, sandy-clayey-loamy, loamy, clayey, clayey-loamy and silty slopes; alluvial fans; bajadas; rocky and clayey outcrops; amongst boulders, rocky boulder fields; rocks and gravels; sandy lava flows; lava beds; sand dunes; blow-sand deposits; banks; gravelly and sandy-loamy benches; sandy terraces; rocky mounds; shaley barrens; sandy steppes; rocky, rocky-clayey-loamy, gravelly, gravelly-sandy and sandy prairies; sandy, sandy-loamy, clayey and clayey-loamy plains; stony, cobbly-sandy, cindery-gravelly, cindery-sandy, gravelly, gravelly-clayey, sandy and clayey-loamy flats; uplands; sandy basins; basin bottoms; sandy and silty valley floors; valley bottoms; roadcuts; along rocky, rocky-sandy, rocky-silty, stony, gravelly, gravelly-sandy, gravelly-sandy-loamy, sandy, clayey and clayey-loamy roadsides; within arroyos; along and in rocky-sandy, rocky-clayey-loamy and gravelly draws; gulches; shaley-clayey gullies; seeps; along streams; along sandy streambeds; along and in creeks; sandy creekbeds; riverbeds; along and in rocky-sandy and sandy washes; within rocky-sandy and gravelly-sandy drainages; along rocky drainage ways; (gravelly) banks of washes; edges of draws and rivers; gravel bars; sandy and sandy-loamy benches; breaks; gravelly terraces; sandy bottomlands; cobbly-sandy and cobbly-sandy-silty floodplains; lowlands; fencerows; within ditches; ditch banks; sandy riparian areas; waste places; recently burned areas of woodland, and disturbed areas growing in moist and dry cryptogamic soil; rimrock pavement; gravelly desert pavement; bouldery, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, shaley, shaley-sandy, stony, stony-cobbly, stony-sandy, cobbly, cobbly-sandy, cindery, cindery-gravelly, cindery-sandy, gravelly, gravelly-sandy, pebbly and sandy ground; rocky loam, rocky-sandy loam, rocky-clayey loam, stony loam, gravelly loam, gravelly-sandy loam, gravelly-silty loam, sandy loam, sandy-clayey loam, clayey loam and loam ground; rocky clay, rocky-shaley-gravelly clay, rocky-gravelly-sandy-silty clay, rocky-gravelly clay, rocky-sandy clay, shaley clay, stony-cobbly-sandy clay, cobbly-sandy clay, gravelly clay, sandy clay and clay ground, and rocky silty, cobbly-sandy silty, sandy silty and silty ground, occurring from 1,700 to 8,900 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. *Chaetopappa ericoides* is native to southwest-central and southern North America. \*5, 6, 15 (recorded as *Leucelene ericoides* (Torr.) Greene), 28 (recorded as *Leucelene ericoides*, color photograph 253), 42 (072813), 43 (061509), 44 (022012), 46 (recorded as *Aster arenosus* (Heller) Blake, Page 872 and *Aster hirtifolius* Blake, Page 872), 48 (genus), 58 (recorded as *Leucelene ericoides* (Torr.) Greene), 63 (022012 - color presentation including habitat), 77 (recorded as *Leucelene ericoides* (Torr.) Greene), 80 (Species of Aster are considered to be Rarely Poisonous and Suspected Poisonous Range Plants. “These annual and perennial forbs may act as secondary or facultative selenium absorbers, converters, and indicators and may become toxic to livestock.”), **85** (022312 - color presentation including habitat), 124 (022012), 127\*

***Conoclinium dissectum* A. Gray: Palmleaf Thoroughwort**

SYNONYMY: *Conoclinium greggii* (A. Gray) J.K. Small; *Eupatorium greggii* A. Gray. COMMON NAMES: Blue Mist; Boneset (a name also applied to other species); Gregg Mistflower; Gregg’s Blue Mist Flower; Palm-leaf Mistflower; Palmleaf Mistflower; Palmleaf Thoroughwort. DESCRIPTION: Terrestrial perennial forb/herb (weakly clambering or spreading prostrate-ascending and/or erect stems 16 to 40 inches in height in clumps of stems 2 to 5 feet in width); the florets have been described as being blue, light blue-lavender, pale blue-violet, lavender, lavender-blue, pale lavender-blue, purple or violet; flowering generally takes place between early July and early November (additional records: one for late April, two for early May, one for late May and one for mid-June). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; rocky bases of mountains; mesas; canyons; clearings in forests; foothills; rocky-gravelly and gravelly hills; rocky hillsides; rocky slopes; bajadas; amongst rocks; mesquite-sacaton terraces; plains; flats; valleys; along gravelly-sandy-clayey-loamy roadsides; arroyos; draws; gravelly creekbeds; washes; waterways; depressions; mesquite bosques; ditches, and disturbed areas growing in wet, moist and dry rocky, rocky-gravelly, gravelly and sandy ground; gravelly-sandy-clayey loam, gravelly-clayey loam and clayey loam ground; gravelly clay ground, and chalky ground, occurring from 1,300 to 6,300 feet in elevation in the forest, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. The Palmleaf Thoroughwort attracts and serves as a nectar plant for many species of butterfly. *Conoclinium dissectum* is native to southwest-central and southern North America. \*5, 6, 18 (recorded as *Eupatorium greggii*), 42 (072813), 43 (072813 - *Conoclinium greggii* Small), 44 (072813 - no record of species or genus), 46 (recorded as *Eupatorium greggii* Gray, Page 845), 63 (072813 - *Conoclinium greggii* (A. Gray) Small), **85** (072813 - color presentation), 133 (072813 - no record of species or genus), 156 (072813)\*

*Conoclinium greggii* (see *Conoclinium dissectum*)

***Dieteria asteroides* J. Torrey: Fall Tansyaster**

SYNONYMY: *Dieteria asteroides* J. Torrey var. *asteroides*; (A Gray) Greene; *Machaeranthera asteroides* (J. Torrey) E.L. Greene; *Machaeranthera asteroides* (J. Torrey) E.L. Greene var. *asteroides*. COMMON NAME: Aster (a name also applied to other taxa and the Asteraceae; Emory’s Aster; Fall Tansyaster; Hoary Tansyaster (a name also applied to other taxa); New Mexico Tansy-aster (a name also applied to other taxa); New Mexico Tansyaster (a name also applied to other taxa). DESCRIPTION: Terrestrial perennial forb/herb (erect stems 1 to 4 feet in height); the leaves gray-green; the disk florets may be orange or yellow; the ray florets have been reported to be dark blue, blue-purple, lavender, dark lavender, lavender-blue, purple, purplish, violet, bright violet or violet-purple; flowering generally takes place between early April and mid-November (additional records: one for early January, one for early February, one for mid-February, five for mid-March and 3 for mid-December; flowering year-round has also been reported). HABITAT: Within the range of this species it has been reported from mountains; mesas; rocky plateaus; rocky canyons; gravelly-sandy and sandy canyon bottoms; rocky ledges; ridges; meadows; hillsides; bajadas; rocky, gravelly, gravelly-loamy and loamy slopes; rocky and gypsum outcrops; banks; sandy fields; gravelly-clayey-loamy and sandy flats; sandy valleys; roadcuts; along rocky, gravelly, gravelly-sandy and silty roadsides; draws; within seeps; springs; along streams; along rocky and rocky-sandy streambeds; sandy riverbeds; along and in rocky washes; within drainages; marshes; swales; banks of arroyos, washes and creeks; edges of rivers; margins of lakes; gravel and sand bars; sandy bottomlands; gravelly-sandy-silty and sandy floodplains; within ditches; sandy riparian areas, and disturbed areas growing in moist, damp and dry rocky, rocky-sandy, gravelly, gravelly-sandy and sandy ground; gravelly loam, gravelly-sandy-clayey loam, gravelly-clayey loam, sandy loam, sandy-clayey loam, clayey loam and loam ground; rocky clay, sandy clay and clay ground; gravelly-sandy silty and silty ground, and gypsum ground, occurring from 100 to 9,500 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Dieteria asteroides* is native to southwest-central and southern North America. \*5, 6, 28 (recorded as *Machaeranthera asteroides* var. *asteroides*, color photograph 721), 42 (092913), 43 (092913), 44 (092913), 46 (recorded as *Psilactis asteroides* Gray, Page 867), 63 (092913 - recorded as *Machaeranthera asteroides* (Torr.) Greene var. *asteroides*), 77 (*Machaeranthera asteroides* (Torr.) Greene var. *asteroides* [*Aster tephrodes* (A. Gray) Greene]), 80 (Species of the genus *Machaeranthera* (*Aster* sp.) are listed as a Rarely Poisonous and Suspected Poisonous Range Plant. “Species of this genus are secondary or facultative selenium absorbers and can be dangerous to livestock.”), **85** (093013 - recorded as *Machaeranthera asteroides* (Torrey) Greene var. *asteroides*), 140 (recorded as *Machaeranthera asteroides* (Torrey) Greene, Page 285)\*

*Dieteria asteroides* var. *asteroides* (see *Dieteria asteroides*)

***Ericameria laricifolia* (A. Gray) L.H. Shinners: Turpentine Bush**

SYNONYMY: *Haplopappus* *laricifolius* A. Gray. COMMON NAMES: Ericameria (a name also applied to the genus *Ericameria*); Gold-brush (English)140; Hierba del Pasmo (Herb for Pasmo”, a name also applied to other species, Spanish)140; Larch-leaf [Narrow-leaved] Golden-weed (English)140; Larch-leaf Goldenweed; Narrow-leaved Golden-weed; Roundleaf Rabbitbrush; Turpentine Brush (a name also applied to other species); Turpentine Brush [Bush] (English)140; Turpentine Bush (a name also applied to other species); Turpentine Golden-bush; Turpentine Goldenbush; Turpentine-brush (a name also applied to other species); Turpentine-brush Ericameria; Turpentine-bush (a name also applied to other species); Turpentine-bush Ericameria; Turpentinebush; Xal ShaB U (Yuman: Paipai)140. DESCRIPTION: Terrestrial perennial subshrub or shrub (ascending to erect stems 10 to 50 inches in height; one plant was observed and described as being 1 foot in height and 2 to 3 feet in width, one plant was observed and described as being 16 inches in height and 40 inches in width, one plant was observed and described as being 40 inches in height and 40 inches in width); the young stems are green; the leaves may be gray, gray-green, gray-silver, green or yellow-green; the disk florets may be orange-yellow or yellow, the ray florets may be orange-yellow or yellow; flowering generally takes place between mid-August to late January (additional records: one for mid-February, one for late March, one for late April, two for early May, one for mid-May, four for late May, one for early July and one for late July); the fruits are white. HABITAT: Within the range of this species it has been reported from mountains; bouldery-gravelly mountainsides; mesas; plateaus; rock walls; bouldery bases of cliffs and walls; bouldery and rocky canyons; along bouldery and rocky-clayey canyon bottoms; rocky talus; crevices in rocks; rocky knolls; rocky ledges; rocky and gravelly ridges; stony ridgetops; ridgelines; clearings in woodlands; bouldery foothills; rocky hills; rocky and silty hillsides; bases of hills; bedrock, rocky, rocky-gravelly, gravelly, gravelly-loamy-silty sandy-loamy, loamy-clayey and clayey-loamy slopes; gravelly-sandy bajadas; bouldery and rocky outcrops; amongst boulders and rocks; bases of boulders; bouldery coves; rocky banks; plains; gravelly, gravelly-sandy and sandy flats; rocky basins; valley floors; along rocky, gravelly, gravelly-sandy, sandy and loamy roadsides; along arroyos; draws; gulches; rocky gullies; seeps; along streams; along streambeds; along creekbeds; bouldery-cobbly-sandy riverbeds; along and in bedrock, bouldery and sandy washes; drainage ways; borders of washes; (gravelly-sandy) edges of washes; along (gravelly) margins of arroyos and washes; gravelly terraces; floodplains; riparian areas, and disturbed areas growing in dry rocky desert pavement; bouldery, bouldery-cobbly-sandy, bouldery-gravelly, rocky, rocky-gravelly, rocky-sandy, cobbly, gravelly, gravelly-sandy and sandy ground; rocky-gravelly-sandy loam, gravelly-silty loam, clayey loam and loam ground; rocky clay and gravelly clay ground, and gravelly-loamy silty and silty ground, occurring from 1,000 to 8,000 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. The flowers are visited by many types of insects. *Ericameria laricifolia* is native to southwest-central and southern North America. \*5, 6, 13 (recorded as *Haplopappus* *laricifolius* A. Gray, Pages 330-331), 15, 16, 28 (color photograph 481), 42 (030114), 43 (112109), 44 (022912), 46 (recorded as *Aplopappus laricifolius* Gray, Page 861), 58, 63 (022912 - color presentation including habitat), 77, 85 (030114 - color presentation), 115 (color presentation), 124 (022912 - no record of species; genus record), 140 (Pages 68-70, 87 & 284), **MBJ**/**WTK** (November 3, 2009\*

***Ericameria nauseosa* (P. Simon von Pallas ex F.T. Pursh) G.L. Nesom & G.I. Baird subsp. *nauseosa* var. *latisquamea* (A. Gray) G.L. Nesom & G.I. Baird: Rubber Rabbitbrush**

SYNONYMY: *Chrysothamnus nauseosus* (P. Simon von Pallas ex F.T. Pursh) N.L. Britton var. *latisquameus* (A. Gray) H.M. Hall; *Ericameria nauseosa* (P. Simon von Pallas ex F.T. Pursh) G.L. Nesom & G.I. Baird subsp. *nauseosa* var. *latisquamea* (A. Gray) G.L. Nesom & G.I. Baird. COMMON NAMES: Chamisa; Chamiso Blanco; False Goldenrod; Golden Rabbit Brush; Grey Rabbitbrush; Rabbit Brush; Rabbitbush; Rubber Rabbitbrush. DESCRIPTION: Terrestrial perennial deciduous subshrub or shrub (40 inches to 6½ feet in height); the stems may be silver-gray or white; the twigs are white and woolly; the leaves are grayish-green; the flowers (¼ to ½ inch in diameter) are yellow (disk flowers only, no ray flowers); based on few records located flowering generally takes place between mid-September and late October (additional record: one for late November). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; mesas; rocky canyon sides; gravelly canyon bottoms; rock ledges; foothills; hills; rocky slopes; gypsum dunes; plains; basins; valleys; gravelly-loamy roadsides; along and in sandy arroyos; along streams; along creeks; along and in rocky and gravelly-sandy washes; along drainages; drainage ways; cobbly-gravelly swales; (gravelly) margins of arroyos; sandy bars; terraces; bottomlands, floodplains; riparian areas; waste places, and disturbed areas growing in dry rocky, rocky-pebbly-sandy, cobbly-gravelly, gravelly, gravelly-sandy and sandy ground; gravelly loam ground, and gypsum ground, occurring from 3,900 to 8,000 feet in elevation in the forest, woodland, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat and an excellent plant for use in stabilizing soils and controlling erosion. Rubber Rabbitbrush may be browsed by Mule Deer (*Odocoileus hemionus*), White-tailed Deer (*Odocoileus virginianus*), Elk (*Cervus elaphus*), Black-tailed Jack Rabbits (*Lepus californicus*), Pronghorn (*Antilocapra americana*) and Bighorn Sheep (*Ovis canadensis*), small mammals and birds and it provides good cover, including nesting cover, for some bird species. *Ericameria nauseosa* var. *latisquamea* is native to southwest-central and southern North America. \*5, 6, 13 (recorded as *Chrysothamnus nauseosus* (Pallas) Britton var. *latisquameus* (A. Gray) H.M. Hall), 28 (species, recorded as *Chrysothamnus nauseosus*, color photograph of species 460), 42 (072913), 43 (072913 - *Ericameria nauseosa* (Pursh) G.L. Nesom & G.I. Baird var. *latisquamea* (A. Gray) G.L. Nesom & G.I. Baird, no record of *Ericameria nauseosa* subsp. *nauseosa* var. *latisquamea*), 46 (recorded as *Chrysothamnus nauseosus* (Pall.) Britton var. *latisquameus* (Gray) H.M. Hall, Pages 865 & 866), 48 (species, recorded as *Chrysothamnus nauseosus*), 63 (092013 - recorded as *Ericameria nauseosa* (Pall. ex Pursh) G.L. Nesom & Baird ssp. *nauseosa* var. *latisquamea* (A. Gray) G.L. Nesom & Baird), 68 (species, recorded as *Chrysothamnus nauseosus* (Pallas) Britt.), 80 (This plant (*Chrysothamnus nauseosus*) is listed as a Rarely Poisonous and Suspected Poisonous Range Plant. “Experimental feeding of this shrub has confirmed its poisonous nature but it is unpalatable.”), 85 (061609 - recorded as *Ericameria nauseosa* var. *latisquamea* (A. Gray) G.L. Nesom & Baird, color presentation of dried material), 86 (species, recorded as *Chrysothamnus nauseosus*, color photograph of species,), 101 (species, recorded as *Chrysothamnus nauseosus* (Pallas) Britt., color photograph of species), **MBJ/WTK** (July 9, 2009), **WTK** (September 26, 2005)\*

***Erigeron flagellaris* A. Gray: Trailing Fleabane**

SYNONYMY: *Erigeron nudiflorus* S.B. Buckley. COMMON NAMES: Running Fleabane; Trailing Daisy (a name also applied to other taxa); Trailing Fleabane; Trailing Fleabane Daisy; Trailing Fleabane-daisy; Whiplash Daisy; Whiplash Fleabane Daisy; Whiplash Fleabane-daisy; Whip-lash Fleabane; Whiplash Fleabane; Wild-daisy. DESCRIPTION: Terrestrial biennial forb/herb (erect stems 1 to 12 inches in height [with trailing and spreading prostrate and/or decumbent runners to 16 inches in length] which may form dense mattes); the foliage is gray-green; the stems are greenish; the composite flowers may be ¼ to ½ inch in diameter; the disk florets may be yellow or yellow-green; the ray florets have been described as being blue, light blue, cream, lavender, light lavender, lavender-blue, lavender-blue-white, lavender-cream, lavender-pink-white, lavender-white, pink, pink-purple, purple, light purple, violet, bright violet, white (sometimes reported with pink or purple tips, drying lilac or pink), white & lavender or whitish-lavender; flowering generally takes place between mid-March and late October. HABITAT: Within the range of this species it has been reported from mountains; mountainsides; bases of mountains; rocky mesas; stony plateaus; sandy rims of canyons; rocky cliff tops; rocky cliffs; rock faces; sandy bases of cliffs; bouldery, rocky and sandy canyons; canyon walls; bouldery, gravelly and sandy canyon bottoms; gorges; talus slopes; bases of scree slopes; crevices in rocks; bluffs; rocky hogbacks; rocky ledges; along rocky ridges; rocky ridgetops; along bouldery and rocky ridgelines; bases of ridges; gravelly clearings and openings in forests; bouldery, rocky, stony, gravelly, loamy and clayey meadows; foothills; rocky hills; rocky and sandy hilltops; rocky, stony, stony-clayey and clayey hillsides; along bedrock, bouldery, bouldery-rocky-loamy, bouldery-gravelly, rocky, rocky-sandy, rocky-loamy, rocky-clayey-loamy, shaley, stony, cobbly, cindery-loamy, gravelly, gravelly-loamy, gravelly-silty-loamy, sandy, sandy-loamy, sandy-silty, loamy, clayey, clayey-loamy, silty-loamy and silty-clayey slopes; bases of slopes; bouldery and rocky outcrops; amongst boulders and rocks; bases of rocks; rock fields; rocky moraines; lava flows; rocky and gravelly banks; sandy benches; breaks; prairies; gravelly fields; rocky, gravelly-sandy, sandy, loamy, clayey and clayey-loamy flats; gravelly open areas; clayey uplands; basins; valley floors; valley bottoms; along railroad right-of-ways; roadbeds; gravelly and gravelly-sandy roadcuts; along rocky, shaley-sandy, gravelly, gravelly-clayey and sandy roadsides; two-tracks; along and in arroyos; within rocky draws; along sandy gulches; bottoms of gullies; within clayey ravines; bottoms of ravines; seeps; along streams; along rocky and sandy streambeds; along creeks; sandy and clayey-loamy creekbeds; along rivers; riverbeds; in rocky and gravelly-sandy soil along rivers; along and in gravelly-sandy and sandy washes; along and in rocky drainages; crevices in bedrock bottoms of drainages; bogs; marshes; sinks; sandy swales; along (rocky, stony-sandy and gravelly-sandy) banks of draws, streamlets, streams, creeks and rivers; borders of creeks; edges of streams, ponds and lakes; margins of lakes; shores of lakes; (sandy) sides of streams, creeks and lakes; gravel bars; rocky benches; bouldery, rocky, sandy and clayey-loamy bottomlands; sandy floodplains; lowlands; along sandy fencelines; along ditches; shores of reservoirs; riparian areas; waste places, and disturbed areas growing in muddy ground and wet, moist, damp and dry rimrock; bouldery, bouldery-gravelly, bouldery-sandy, rocky, rocky-sandy, shaley, shaley-sandy, stony, stony-sandy, cobbly, cobbly-sandy, gravelly, gravelly-sandy and sandy ground; bouldery-rocky loam, rocky loam, rocky-clayey loam, cindery loam, gravelly loam, gravelly-silty loam, sandy loam, clayey loam, silty loam and loam ground; rocky clay, stony clay, gravelly clay, silty clay and clay ground; sandy silty and silty ground, and humusy ground, occurring from 3,100 to 12,500 feet in elevation in the in the forest, woodland, scrub, grassland and wetland ecological formation. NOTES: This plant may be an attractive component of a restored native habitat, this plant often forms clonal mats. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial fiber crop; it was also noted as having been used as a drug or medication. *Erigeron flagellaris* is native to west central and southern North America. \*42 (092113), 43 (092113), 44 (092113), 46 (recorded as *Erigeron nudiflorus* Buckl., Pages 879-880), 63 (092113 - color presentation), **85** (092513 - color presentation), 127, 133 (092113)\*

*Erigeron nudiflorus* (see *Erigeron flagellaris*)

***Erigeron oreophilus* J.M. Greenman: Chaparral Fleabane**

COMMON NAME: Chaparral Fleabane; Chaparral Fleabane Daisy; Fleabane (a name also applied to other species and the genera *Conyza* and *Erigeron*). DESCRIPTION: Terrestrial perennial forb/herb (erect stems 3 to 40 inches in height); the leaves may be gray-green or grayish-green; the composite flowers are up to 1” in diameter; the disk florets may be green-yellow, pale green-yellow, orange-yellow or yellow; the ray florets may be white or whitish; flowering generally takes place between late June and mid-October (additional records: one for early January, one for mid-March, one for early April, one for late April, one for mid-May, one for early June, six for early November and one for mid-November). HABITAT: Within the range of this species it has been reported from mountains; mesas; plateaus; cliffs; rocky canyons; along sandy canyon bottoms; bases of gorges; bouldery talus slopes; crevices in bedrock and rocks; rocky knolls; rocky ridges; rocky ridgetops; along rocky ridgelines; rocky clearings in forests; bouldery hills; hilltops; hillsides; bouldery, bouldery-rocky-loamy, rocky, rocky-sandy, rocky-loamy, stony, gravelly and clayey slopes; rocky outcrops; amongst boulders and rocks; uplands; along valley floors; roadcuts; along rocky-clayey roadsides; along arroyos; gulches; along streams; rocky streambeds; in boulders along creeks; pebbly drainages; banks of creeks; edges of washes; sandy benches; bottomlands; ditches; riparian areas, and disturbed areas growing in moist and dry bouldery, rocky, rocky-sandy, shaley, stony, gravelly, pebbly and sandy ground; bouldery-rocky loam and humusy loam ground, and rocky clay ground, occurring from 3,200 to 10,200 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Erigeron oreophilus* is native to southwest-central and southern North America. \*5, 6, 28 (color photograph 250), 15, 42 (092513), 43 (012111), 44 (092513 - no record of species; genus record), 46 (Page 880), 48 (genus), 63 (092513), **85** (092513 - color presentation), 124 (012111 - no record of species; genus record), 140 (Pages 71 & 284)\*

*Eupatorium greggii* (see *Conoclinium dissectum*)

*Franseria confertiflora* (see *Ambrosia confertiflora*)

***Gaillardia pinnatifida* J. Torrey: Red Dome Blanketflower**

COMMON NAMES: Blanket Flower (a name also applied to the genus); Blanket-flower (a name also applied to the genus); Blanketflower (a name also applied to the genus); Indianblanket; Pinnate-leaved Blanketflower; Pinnate-leaved Gaillardia; Red Dome Blanketflower; Red-dome Blanketflower; Reddome Blanketflower; Slender Gaillardia; Yellow Blanketflower. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (erect stems 2 inches to 2 feet in height; plants were observed and described as being 6 to 8 inches in height and 4 to 6 inches in width, plants were observed and described as being 12 to 18 inches in height and width); the leaves are green; the dome-shaped disk florets have been described as being brick-red, brown, brown-purple, brown-red, greenish, maroon, maroon-red, orange, purple, purple-brown, purple-maroon, red, dark red, red-brown, reddish, dark reddish, dark reddish-brown, purple or yellow (rarely); the ray florets have been described as being maroon, maroon with yellow tips, mustard with maroon tips, orange, orange with yellow tips, orange-red, orange-yellow, yellow, light yellow or dark yellow; flowering generally takes place between late March and late October. HABITAT: Within the range of this species it has been reported from mountains; sandy mesas; sandy plateaus; along rims of canyons; canyons; canyon walls; gravelly-sandy, gravelly-sandy-loamy, sandy, sandy-silty and silty canyon bottoms; bouldery-sandy and rocky-sandy talus slopes; ledges; rocky, stony-gravelly and gravelly ridges; gravelly ridgetops; sandy clearings in forests and woodlands; sandy meadows; foothills; rocky, sandy and silty hills; gravelly hilltops; rocky and gravelly hillsides; margins of swells; along sandy escarpments; along sandy bases of escarpments; rocky, rocky-cindery, rocky-gravelly, rocky-sandy, rocky-loamy, cobbly, gravelly, gravelly-sandy, gravelly-sandy-loamy, gravelly-loamy, gravelly-clayey, sandy, sandy-loamy, sandy-silty, loamy, clayey-loamy, silty, silty-loamy and silty-clayey slopes; rocky outcrops; edges of lava flows; sand dunes; blow-sand deposits; sandy outwash; debris fans; rocky, stony-gravelly, gravelly and sandy banks; benches; breaks; sandy steppes; gravelly, gravelly-sandy and sandy prairies; sandy plains; fields; rocky, rocky-cindery, gravelly, gravelly-loamy, sandy and silty flats; shaley esplanades; basins; cindery, gravelly-sandy and sandy valley floors; along railroad right-of- ways; roadcuts; along rocky, rocky-silty-loamy, cindery, gravelly, gravelly-sandy, gravelly-loamy, sandy and sandy-clayey roadsides; sandy arroyos; draws; rocky gulches; along streams; streambeds; creekbeds; along and in gravelly, gravelly-sandy and sandy washes; along and in gravelly-sandy, sandy, sandy-loamy and clayey-loamy drainages; pot holes; sloughs; along (stony-gravelly, gravelly and gravelly-clayey) banks of arroyos, rivers, riverbeds and washes; gravelly benches; gravelly and sandy terraces; sandy and clayey bottomlands; silty floodplains; lowlands; riparian areas, and disturbed areas growing in dry bouldery-sandy, rocky, rocky-cindery, rocky-gravelly, rocky-sandy, shaley, stony-gravelly, cobbly, cindery, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-sandy loam, rocky-silty loam, cindery loam, gravelly loam, gravelly-sandy loam, sandy loam, clayey loam, silty loam and loam ground; rocky clay, cobbly-sandy clay, gravelly clay, sandy clay and clay ground, and sandy silty and silty ground, occurring from 1,800 to 9,800 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formation. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop; it was also noted as having been used as a drug or medication. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop when grown on a limited basis. *Gaillardia pinnatifida* is native to southwest-central and southern North America. \*5, 6, 15, 28 (color photograph 405), 42 (092513), 43 (061609), 44 (092613), 46 (Page 930), 48 (genus), 63 (092513 - color presentation), **85** (092613 - color presentation), 115 (color presentation), 127\*

***Gutierrezia* M. Lagasca y Segura: Snakeweed**

COMMON NAMES: Broom Weed; Brome-weed; Bromeweed; Gutierrezia; Snake-weed; Snakeweed. \*42 (092613), 43 (062310), 44 (010911), 46 (Pages 852-853), 63 (022207), 124 (103010), **MBJ/WTK** (July 9, 2009)**\***

***Gutierrezia microcephala* (A.P. de Candolle) A. Gray: Threadleaf Snakeweed**

COMMON NAMES: Broomweed (a name also applied to other species and the genus *Gutierrezia*); Hair-worm Snakeweed; Little-head Snakeweed; Matchweed (a name also applied to other species); Perennial Snakeweed; Resinweed; Small-head Matchbrush; Small-head Snakeweed; Small-headed Matchweed; Smallhead Snakeweed; Snakeweed (a name also applied to other species and the genus *Gutierrezia*); Sticky Snakeweed (a name also applied to other species); Thread Leaf Snake Weed; Thread Snakeweed; Thread-leaf Snake-weed; Thread-leaf Snakeweed; Thread-leaved Snakeweed; Threadleaf Snakeweed; Turpentineweed (a name also applied to other species). DESCRIPTION: Terrestrial perennial subshrub or shrub (erect stems 2 inches to 4½ feet in height); the lower portion of the stem may be brown with the upper portion of the stem being green or yellow; the leaves are dark gray-green; the disk florets may be gold or yellow; the ray florets are yellow; flowering generally takes place between mid-June and early January, plants may cease flowering during a summer drought (additional records: one for late January, one for late February, one for late March, one for early April, one for mid-April and one for late May; flowering beginning in June and continuing through February has also been reported). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; sandy and sandy-silty mesas; plateaus; rocky rims of canyons and craters; rocky spurs; rocky bases of cliffs; along rocky and gravelly-loamy canyons; rocky canyon walls; along rocky canyon bottoms; rocky gorges; knolls; bedrock and rocky ridges; sandy ridgetops; clearings in forests; glades; meadows; foothills; bouldery, rocky, sandy and silty hills; gravelly-silty hilltops; rocky hillsides; bedrock, bouldery-cobbly-gravelly, rocky, shaley, cobbly, cindery, gravelly, gravelly-loamy, sandy and clayey-loamy slopes; sandy bajadas; rocky outcrops; amongst boulders; alcoves; rocky lava flows; sand hills; sand dunes; clayey benches; stony and sandy plains; gravelly, sandy and silty-loamy flats; basins; rocky valley floors; gravelly-sandy valley bottoms; along rocky railroad right-of-ways; along rocky, gravelly, gravelly-loamy and sandy roadsides; along sandy arroyos; bottoms of arroyos; within gravelly draws; gullies; seeps; springs; along streams; gravelly-loamy streambeds; creekbeds; along rivers; along rocky, gravelly-sandy and sandy washes; within sandy drainages; silty lakebeds; ciénegas; along (gravelly and sandy) banks of streams, creeks, rivers and washes; (sandy) edges of washes and marshes; mudflats; beaches; benches; cobbly terraces; floodplains; mesquite bosques; ditches; sandy riparian areas, and disturbed areas growing in wet (rarely reported) and dry rocky desert pavement; bouldery, bouldery-rocky, bouldery-cobbly-gravelly, rocky, shaley, stony, cobbly, cindery, gravelly, gravelly-sandy and sandy ground; gravelly loam, sandy loam, clayey loam and silty loam ground; rocky clay, shaley clay, gravelly clay, sandy clay and clay ground; gravelly silty, sandy silty and silty ground, and gypsum ground, occurring from 1,200 to 8,700 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication, as a cooking tool and as a decoration on prayer sticks. Threadleaf Snakeweed may live to be 10 to 18 years of age; however, the average lifespan is less than ten years. Threadleaf Snakeweed invades disturbed areas and may serve as an indicator of overgrazed rangelands reducing both native plant diversity and forage values, populations may best be reduced by increasing native grass competition. *Gutierrezia microcephala* is native to southwest-central and southern North America. \*5, 6, 13 (Page 317), 15, 16, 28 (note under *Gutierrezia sarothrae*), 42 (092613), 43 (112909), 44 (052411 - color photograph), 46 (Snake-weeds “are more or less poisonous to sheep and goats when eaten in quantity, but are unpalatable and are seldom grazed. It is said that *G*. *microcephala* absorbs selenium in large quantity on certain soils.”, Page 853), 58, 63 (092613 - color presentation), 68, 77, 80 (This species is listed as a Major Poisonous Range Plant. “The poisonous principal is apparently a saponin. It is most toxic at earlier stages of growth during early leaf development and when growing on sandy soils. ... Livestock apparently eat small amounts of the relatively unpalatable snakeweed without serious consequences. Therefore, range improvement to provide alternate, desirable feed and to reduce snakeweed infestations through grass competition will control most losses.” See text for additional information.), **85** (092613 - color presentation), 86 (note under *Gutierrezia sarothrae*), 124 (052411 - no record of species; genus record), 127, 133 (092613), 140 (pages 73, 74 & 284)\*

*Haplopappus gracilis* (see *Xanthisma gracile*)

*Haplopappus laricifolius* (see *Ericameria laricifolia*)

***Helenium thurberi* A. Gray: Thurber Sneezeweed**

COMMON NAMES: Rosillo (Agua Caliente drainage in Nácori Chico, Sonora, México); Thurber Sneezeweed; Thurber’s Sneezeweed. DESCRIPTION: Terrestrial annual forb/herb (erect stems 16 to 40 inches in height); the foliage is yellow-green; the disk florets may be brown, reddish-brown or yellow-orange; there are no ray florets; flowering generally takes place between early April and late October (additional record: flowering beginning as early as March has been reported). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky and stony canyons; along rocky canyon bottoms; hillsides; rocky slopes; fields; valley floors; gravelly arroyos; bottoms of arroyos; sandy draws; silty bottoms of draws; ravines; seeps; along streams; within sandy streambeds; along creeks; creekbeds; riverbeds; along rocky-sandy and sandy washes; drainages; around ponds; marshy places; along (sandy) banks of rivers; (sandy) edges of streams and creeks; (sandy) margins of creeks; floodplains; silty canal banks; culverts; within ditches; muddy edges of stock tanks, and riparian areas growing in muddy ground and wet, moist, damp and dry rocky, rocky-sandy, stony, gravelly and sandy ground; clay ground, and silty ground, occurring from sea level to 5,900 feet in elevation in the woodland, grassland, desertscrub and wetland ecological formation. NOTE: *Helenium thurberi* is native to southwest-central and southern North America. \*5, 6, 15, 42 (092613), 43 (113009), 44 (052611 - no record of species; genus record), 46 (Page 929), 58, 63 (092613), **85** (092613 - color presentation), 124 (052611 - no record of species; genus record)\*

***Heterosperma pinnatum* A.J. Cavanilles: Wingpetal**

COMMON NAMES: Fineleaf; Wingpetal. DESCRIPTION: Terrestrial annual forb/herb (erect stems 1½ inches to 3 feet in height); the leaves are green; the disk florets may be orange or yellow; the ray florets may be orange, yellow or dark yellow; flowering generally takes place between late July and early November (additional record: flowering beginning as early as June has been reported). HABITAT: Within the range of this species it has been reported from mountains; mountain summits; rocky mesas; plateaus; cliffs; along bases of cliffs; along rocky and gravelly-loamy canyons; canyon walls; canyon bottoms; rocky gorges; talus slopes; crevices in rocks; pockets of soil in rock; ledges; ridges; ridgetops; ridgelines; cindery and gravelly clearings and openings in forests and woodlands; meadows; foothills; hills; hilltops; rocky and gravelly hillsides; rocky, cindery, cindery-clayey, gravelly and clayey slopes; bedrock, bouldery and rocky outcrops; amongst boulders and rocks; rocky-gravelly, rocky-loamy, cindery and clayey flats; valleys; roadcuts; along rocky, gravelly, gravelly-loamy and gravelly-sandy-loamy roadsides; within rocky, stony-sandy and sandy arroyos; shaded draws; along streams; along streambeds; along creeks; along rivers; along and in rocky-gravelly and sandy washes; drainages; lakebeds; depressions; (sandy) banks of arroyos; (rocky) margins of arroyos, pools and ponds; bottomlands; floodplains; in cindery ditches; riparian areas; waste places, and disturbed areas growing in moist and dry bouldery, rocky, rocky-gravelly, stony-sandy, cindery, gravelly and sandy ground; rocky loam, gravelly loam, gravelly-sandy loam and gravelly-clayey loam ground, and cindery clay and clay ground, occurring from 2,900 to 8,900 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Heterosperma pinnatum* is native to southwest-central and southern North America and Central America. \*5, 6, 15, 42 (092613), 43 (061909), 44 (092613 - no record of species or genus), 46 (Page 908), 58, 63 (092613), **85** (092713), 140 (Page 285)\*

*Hymenoclea monogyra* (see *Ambrosia monogyra*)

***Hymenothrix wislizeni* A. Gray: Trans-Pecos Thimblehead**

COMMON NAMES: Burro-brush (English)140; Golden Ragweed; Thimblehead (a name also applied to the genus *Hymenothrix*); [Trans-Pecos] Thimblehead (English: Arizona, California, Texas)140; Trans-Pecos Thimblehead; TransPecos Thimblehead; Wislizen’s Burro-brush (English)140; Wislizenus Beeflower; Yellow Thimblehead. DESCRIPTION: Terrestrial annual or biennial forb/herb (erect stems 8 inches to 5 feet in height); the foliage is green; the disc florets may be creamish to bright yellow; the ray florets may be green-yellow or yellow; the anthers are yellowish; flowering generally takes place between late May and early December (additional record: one for late March). HABITAT: Within the range of this species it has been reported from mountains; mesas; clefts in cliffs; rocky canyons; crevices in lava; buttes; meadows; foothills; rocky and stony-gravelly hills; rocky and gravelly hillsides; escarpments; bouldery-rocky-sandy, rocky, rocky-stony, rocky-clayey-loamy, sandy, sandy-loamy and sandy-clayey slopes; alluvial fans; bajadas; amongst boulders; rocky lava beds; plains; gravelly, sandy and clayey flats; valley floors; valley bottoms; along gravelly, gravelly-sandy-clayey-loamy, gravelly-silty, sandy and sandy-clayey-loamy roadsides; along and in rocky and sandy arroyos; along sandy bottoms of arroyos; springs; sandy streambeds; along creeks; along rivers; sandy riverbeds; along and in rocky, gravelly, gravelly-sandy, sandy and clayey washes; within drainages; (gravelly-sandy and sandy) banks of washes; (sandy) edges of washes; terraces; floodplains; mesquite bosques; around stock tanks, and disturbed areas growing in dry bouldery, bouldery-rocky-sandy, rocky, rocky-stony, rocky-sandy, stony-gravelly, gravelly, gravelly-sandy and sandy ground; rocky-clayey loam, gravelly-sandy-clayey loam, sandy loam, sandy-clayey loam and loam ground; gravelly clay, sandy clay and clay ground, and gravelly silty ground, occurring from 1,200 to 7,600 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: Javelina (*Peccari tajacu*) may browse this plant. Leaf-cutting Ants (*Acromrymex* spp.) and Lesser Goldfinch (*Carduelis psaltria*), House Finch (*Carpodacus mexicanus*) as well as other birds feed on the seed. *Hymenothrix wislizeni* is native to southwest-central and southern North America. \*5, 6, 15, 16, 42 (092913), 43 (062009), 44 (052811 - no species record; genus record), 46 (Page 920), 58, 63 (092913), 77, **85** (092913 - color presentation), 115 (color presentation), 124 (052811 - no record of species or genus), 140 (Pages 76-78 & 285), **WTK** (September 26, 2005)\*

***Isocoma tenuisecta* E.L. Greene: Burroweed**

SYNONYMY: *Haplopappus tenuisectus* (E.L. Greene) S.F. Blake. COMMON NAMES: Bitter-weed (English)140; Burro Weed; Burro-weed (a name also applied to other species); Burro-weed (English)140; Burrow Golden-bush; Burrow Goldenweed; Burroweed (a name also applied to other species); Golden-bush (English)140; Goldenweed (a name also applied to other species); Hierba del Burrow (a name also applied to other species); Shrine Golden-weed (English)140; Shrine Jimmy-weed (English)140; Shrine Jimmyweed; Tatṣagĭ <taḍshagi, tatshagi> (Uto-Aztecan: Tohono O’odham, Arizona)140; Turpentine Bush (a name also applied to other species); Turpentine-bush (English)140. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (erect stems 6 to 40 inches in height and 12 to 40 inches in width); the bark is gray or whitish; the leaves may be gray, green, silvery or yellow-green; the flower heads may be cream, tawny-yellow or yellow; flowering generally takes place between late June and mid-November (additional records: three for early December and two for late December). HABITAT: Within the range of this species it has been reported from rocky mountains; mountainsides; mesas; canyons; along canyon bottoms; ridges; rocky-loamy foothills; rocky hills; rocky and gravelly hillsides; rocky, gravelly, gravelly-loamy, sandy and sandy-clayey slopes; bajadas; rocky outcrops; amongst rocks; edges of boulder fields; dunes; rocky-clayey plains; gravelly, gravelly-clayey, sandy and clayey flats; uplands; valley floors; along railroad right-of-ways; along gravelly roadsides; sandy arroyos; draws; gulches; sandy bottoms of ravines; around streams; along and in sandy and sandy-silty washes; drainages; within clayey drainage ways; clayey playas; swales; (rocky, gravelly-sandy and sandy) banks of arroyos and washes; borders of washes; sides of washes; mudflats; alluvial terraces; gravelly floodplains; mesquite bosques; ditch banks; gravelly-sandy and sandy riparian areas; waste places, and disturbed areas growing in dry rocky, gravelly, gravelly-sandy and sandy ground; rocky loam, gravelly loam and gravelly-sandy loam ground; rocky clay, gravelly clay, sandy clay and clay ground, and sandy silty ground, occurring from 2,000 to 7,300 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat and may live to be from 7 to 20 years of age. The fruits are gathered by a Leaf-cutting Ant (*Acromrymex* sp.). *Isocoma tenuisecta* is native to southwest-central and southern North America. \*5, 6, 13 (recorded as *Haplopappus tenuisectus* (Greene) Blake Pages 327-328) 15, 16, 28 (note under *Isocoma wrightii*), 42 (092913), 43 (062009), 44 (031012 - no record of species; genus record), 46 (recorded as *Aplopappus tenuisectus* (Greene) Blake, Page 862), 58, 63 (092913), 68, 77, 80 (This species is listed as a Major Poisonous Range Plant. “The poisonous principle of burroweed is the alcohol, tremetol. All parts of the plant are poisonous, although the dried flowers are most often eaten. ... Burroweed produces the affliction called “trembles.” Poisoned animals tremble violently when exercised and usually lie down in the normal position. Upon arising, the trembling recurs. Appetite is markedly depressed, and the severely poisoned animal eventually stays down until it dies. Acetonemia, characterized by the odor of acetone in the urine and on the breath, is also a product of burroweed poisoning. ... Burroweed is generally low in palatability, but is eaten in quite large amounts when better forage is not available. Special precautions must be taken with new animals brought into burroweed-infested areas as they are more likely to graze the plants. Native livestock apparently become sickened from eating the plant and tend to avoid it. An adequate supply of good feed during harsh times when livestock might be more prone to consume burroweed, may reduce its consumption.” See text for additional information.), **85** (092913 - color presentation), 115 (color presentation), 124 (031012 - no record of species or genus), 133 (092913), 140 (Pages 78-79 & 285), **MB**J/**WTK** (July 9, 2009), **MB**J/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

*Machaeranthera asteroides* (see *Dieteria asteroides*)

*Machaeranthera asteroides* var. *asteroides* (see *Dieteria asteroides*)

*Machaeranthera gracilis* (see *Xanthisma gracile*)

*Malacothrix clevelandii* var. *stebbinsii* (see *Malacothrix stebbinsii*)

***Malacothrix fendleri* A. Gray: Fendler’s Desertdandelion**

COMMON NAMES: Desert Dandelion (a name also applied to other taxa and the genus *Malacothrix*); Fendler Desert Dandelion; Fendler Desertdandelion; Fendler’s Dandelion; Fendler’s Desert Dandelion; Fendler’s Desertdandelion. DESCRIPTION: Terrestrial annual forb/herb (decumbent or spreading-ascending stems 1¼ to 14 inches in height); the leaves are grayish-green; the flowerheads may be up to to 1 inch in diameter; the disk florets are yellow; the ray flowers may be green, white or yellow; the anthers are yellow; flowering generally takes place between mid-March and early June (additional record: one for mid-July). HABITAT: Within the range of this species it has been reported from mountains; rocky, gravelly and sandy mesas; canyon rims; canyons; along canyonsides; buttes; sandy foothills; rolling hills; rocky hillsides; rocky, gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey and sandy-loamy slopes; gravelly pediment fans; rocky-sandy and sandy alluvial fans; bajadas; sandy lava flows; sand dunes; rocky and gravelly outwash aprons; banks; gentle breaks; sandy plains; sandy, sandy-loamy, sandy-clayey and clayey flats; uplands; sandy valley floors; along gravelly roadbeds; along gravelly, gravelly-sandy, sandy, sandy-loamy and sandy-clayey-loamy roadsides; sandy arroyos; bottoms of arroyos; around springs; sandy creekbeds; riverbeds; along and in gravelly-sandy and sandy washes; within drainages; along (gravelly-loamy) banks of streambeds and creeks; edges of creeks and rivers; along margins of ciénegas; sandy benches; bottomlands; sandy floodplains; sandy mesquite bosques and woodlands; stock tanks; gravelly riparian areas; waste places, and disturbed areas growing in dry desert pavement; rocky, gravelly, gravelly-sandy and sandy ground; gravelly loam, sandy loam, sandy-clayey loam and clayey loam ground; gravelly clay, sandy clay and clay ground, and sandy silty ground occurring from 1,000 to 9,800 feet in elevation in the forest, woodland, grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. *Malacothrix fendleri* is native to southwest-central and southern North America. \*5, 6, 15, 28 (color photograph 451), 42 (093013), 43 (081010), 44 (093013 - no record of species; genus record - unable to access), 46 (Page 963), 58, 63 (093013 - color presentation), 77, **85** (100113 - color presentation), 124 (032712 - no record of species or genus), 127, 133 (100113)\*

***Malacothrix stebbinsii* W.S. Davis & P.H. Raven: Stebbins’ Desertdandelion**

SYNONYMY: *Malacothrix clevelandii* A. Gray var. *stebbinsii* (W.S. Davis & P.H. Raven) A.J. Cronquist. COMMON NAMES: Stebbins Desertdandelion; Stebbins’ Desertdandelion. DESCRIPTION: Terrestrial annual forb/herb (erect stems stems 2 inches to 2 feet in height); the florets (ray florets only was reported) may be white, whitish, yellow or light yellow; flowering generally tally takes place between late February and early June. HABITAT: Within the range of this species it has been reported from mountains; bases of mountains; mesas; bases of cliffs; rocky canyons; under rock overhangs; gravelly hills; bouldery-rocky, rocky and gravelly hillsides; along bouldery, rocky and gravelly slopes; bajadas; amongst boulders; boulder fields; steppes; flats; uplands; gulches; along streams; bouldery stream channels; along creeks; along and in sandy washes; (sandy) banks of washes; (sandy) edges of washes; terraces; along ditches, and riparian areas growing in moist and damp bouldery, bouldery-rocky, rocky and gravelly ground and gravelly clay and clay ground and often reported in shaded and sheltered areas, occurring from 900 to 7,100 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant is reported to have a milky sap. *Malacothrix stebbinsii* is native to Southwest-central and southern North America. \*5, 6, 42 (100113), 43 (100113), 44 (100113 - unable to access records), 46 (no record of species; genus Pages 962-963), 63 (100113), **85** (100113 - color presentation), 124 (032712 - no record of species or genus), 133 (100113 - no record of species), 140 (Page 285)\*

*Melampodium hispidum* (see footnote 46 under *Melampodium strigosum*)

***Melampodium leucanthum* J. Torrey & A. Gray: Plains Blackfoot**

COMMON NAMES: Ash-gray Blackfoot; Black-foot Daisy; Blackfoot; Blackfoot Daisy; Cluster Cups (Arizona, Yavapai County); Desert Daisy; Plains Black Foot; Plains Blackfoot; Plains Blackfoot Daisy. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (ascending and/or erect stems 4 inches to 2 feet in height; plants were observed and described as being 7 inches in height and 6 inches in width; plants were observed and described as being 8 inches in height and 20 inches in width; plants were observed and described as being 8 to 10 inches in height and 12 inches in width; plants were observed and described as being 12 inches in height and 20 inches in width; plants were observed and described as being 16 inches in height and 20 inches in width); the plants are rounded and shrub-like; the herbage has been described as being ash-gray, bright green, dull green or gray-green; the flowerheads are 1 to 1½ inches in diameter; the disk florets may be yellow or yellowish; the ray florets have been described as being cream, cream-white, white with purple or purplish veins, white-lavender-pink, white magenta or white-pink; flowering generally takes place between mid-February and early November (additional records: one for mid-January and one for early December). HABITAT: Within the range of this species it has been reported from mountains; along rocky flanks of mountains; gravelly-sandy-loamy mountainsides; bases of mountains; rocky-clayey, gravelly and clayey mesas; along sandy rims of canyons; bouldery-sandy canyons; canyon walls; bedrock-bouldery-sandy canyon bottoms; talus slopes; crevices in rocks; pockets of soil in bedrock; rocky bluffs; rocky knolls; rocky ledges; rocky ridges; rocky ridgetops; openings in woodlands; meadows; rocky foothills; rocky, gravelly, gravelly-clayey-loamy and clayey hills; hilltops; rocky and rocky-sandy hillsides; escarpments; bedrock, rocky, rocky-sandy-loamy, rocky-clayey, rocky-clayey-loamy, shaley, stony, gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey, sandy, sandy-loamy, sandy-silty, loamy, clayey and clayey-loamy slopes; sandy alluvial fans; bajadas; rocky and sandy outcrops; amongst boulders; sandy lava flows; sand dunes; sand hummocks; rocky and gravelly-clayey banks; sandy benches; clayey breaks; shelves; shaley barrens; sandy steppes; sandy and clayey-loamy prairies sandy plains; cimarróns; fields; rocky, gravelly-loamy, sandy, sandy-loamy, loamy and clayey-loamy flats; uplands; valleys; along railroad right-of-ways; sandy roadcuts; along rocky, gravelly, gravelly-loamy, gravelly-clayey, sandy, clayey, silty and silty-clayey roadsides; within sandy arroyos; bottoms of arroyos; within rocky draws; sandy bottoms of gullies; ravines; along streams; streambeds; along and in creeks; along sandy creekbeds; in sand along rivers; along and in rocky, sandy and clayey washes; along and in rocky-sandy, gravelly-sandy and gravelly-loamy drainages; bedrock fissures in drainages; bases of waterfalls; marshy areas; bases of banks; borders of washes; edges of washes and swales; sides of washes; sandy beaches; bottomlands; sandy floodplains; along sandy fencelines; along and in rocky and sandy ditches; rocky riparian areas, and disturbed areas growing in wet, moist, damp and dry rocky desert pavement; bouldery, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, shaley, stony, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-sandy loam, rocky-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-clayey loam, sandy loam, clayey loam and loam ground; rocky clay, gravelly clay, sandy clay, silty clay and clay ground, and sandy silty and silty ground, occurring from 600 to 9,800 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Melampodium leucanthum* is native to southwest-central and southern North America. \*5, 6, 15, 18, 28 (color photograph 254), 42 (100113 - unable to access), 43 (100113), 44 (100113 - no record of species or genus), 46 (Page 890), 63 (100113 - unable to access), **85** (100313 - color presentation), 86, 115 (color presentation), 133 (100113 - unable to access)\*

***Melampodium strigosum* T.F. Stuessy: Shaggy Blackfoot**

COMMON NAMES: Rough Blackfoot (for *Melampodium hispidum*); Shaggy Blackfoot. DESCRIPTION: Terrestrial annual forb/herb (spreading and erect stems 2 to over 14 inches in height); the disk florets may be yellow or yellow-green; the ray florets may be yellow or yellow-green; flowering generally takes place between mid-August and late October. HABITAT: Within the range of this species it has been reported from mountains; mesas; rocky canyons; gravelly pockets of soil in rock; ridges; openings in forests; meadows; foothills; rocky hills; hilltops; hillsides; rocky and gravelly slopes; rocky outcrops; bases of outcrops; amongst boulders; bases of rocks; fields; flats; uplands; along roadsides; within arroyos; draws; streambeds; along washes; depressions; along (sandy) edges of creeks; bottomlands; within ditches; grassy riparian areas, and disturbed areas growing in wet, moist and dry bouldery, rocky, stony and sandy ground and sandy loam ground, occurring from 3,600 to 8,900 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTE: *Melampodium strigosum* is native to southwest-central and southern North America. \*5, 6, 15 (found in listing of Excluded Species), 30, 42 (100313 - unable to access), 43 (100313), 44 (100313 - no record of species or genus), 46 (recorded as *Melampodium hispidum* H.B.K., Page 890), 63 (062209), **85** (100313 - color presentation)\*

***Packera neomexicana* (A. Gray) W.A. Weber & Á. Löve: New Mexico Groundsel**

SYNONYMY: *Senecio neomexicanus* A. Gray. COMMON NAME: ‘Azee’ T’ááłah <ˀazéˀ lahdilt’ei> (Athapascan: Navajo); Chooyin ‘Azee’ <co’in ˀazéˀ> (Athapascan: Navajo); Groundsel (a name also applied to other taxa and the genus *Senecio*); Koatsĕmsĭtagwĭv (Uto-Aztecan: Ute); Muyitqa <muyítka> (Uto-Aztecan: Hopi); New Mexico Butterweed; New Mexico Groundsel; New Mexico Ragwort; Shash Bi’iiłkóóh <šaš beˀiłkó> (Athapascan: Navajo); Tĭm’pidzanakwo (Uto-Aztecan: Shoshoni); Tóbájí- shchíní Binát’oh <tóbáɜvíščíní binát’oh> (Athapascan: Navajo). DESCRIPTION: Terrestrial perennial forb/herb or subshrub (erect stems 5 to 32 inches in height); the leaves may be gray, gray-green, grayish-green, greenish-purple or purple; the flowerheads may be up to 7/8 of an inch in diameter; the disk florets may be brown, dark gold, golden, orange-yellow, yellow or bright yellow; the ray florets may be golden, yellow or bright yellow; flowering generally takes place between late March and early September (additional records: one for early March, one for late September and one for early October). HABITAT: Within the range of this species it has been reported from mountains; mesas; plateaus; rims of canyons; cliffs; canyons; canyon walls; gravelly and sandy canyon bottoms; rocky gorges; talus slopes; bases of scree slopes; crevices in rocks; sandy bluffs; buttes; rocky knoll; rocky-loamy and rocky-clayey ridges; rocky and gravelly ridgetops; rocky clearings and openings in forests and scrub; sandy-loamy meadows; foothills; rocky-clayey and clayey hills; sandy hilltops; along rocky and gravelly-clayey hillsides; escarpments; bouldery, rocky, rocky-gravelly, rocky-loamy, rocky-clayey, rocky-humusy, gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey, sandy, sandy-loamy, loamy, clayey-loamy, silty and humusy-loamy slopes; bases of slopes; rocky outcrops; amongst rocks; bases of boulders; felsenmeer; sandy banks; breaks; sandy steppes; sandy prairies; plains; sandy-loamy fields; rocky, gravelly, gravelly-silty-loamy and sandy-loamy flats; rocky and gravelly-silty-loamy uplands; shady glens; valley floors; valley bottoms; railroad right-of-ways; roadcuts; along rocky, gravelly and silty roadsides; along shaley two-tracks; draws; gulches; within ravines (barrancas); bottoms of ravines (barrancas); seeps; springs; along streams; streambeds; along creeks; creekbeds; along and in washes; along rocky drainages; bases of waterfalls; around ponds; around bogs; along ciénegas; marshes; along (rocky-silty and sandy) banks of streams, creeks and rivers; edges of streams; (rocky and rocky-sandy) margins of streams, creeks and marshes; sides of streams; benches; bottomlands; floodplains; lowlands; drying stock ponds; rocky, rocky-sandy and sandy riparian areas, and disturbed areas growing in shallow water and wet, moist, damp and dry rimrock; bouldery, bouldery-rocky, rocky, rocky-gravelly, rocky-sandy, shaley, stony, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-sandy loam, gravelly loam, gravelly-clayey loam, gravelly-silty loam, sandy loam, sandy-clayey loam, clayey loam, humusy loam and loam ground; rocky clay, gravelly clay and clay ground; rocky silty and silty ground, and rocky humusy and sandy humusy ground, occurring from 1,400 to 11,900 feet in elevation in the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: Butterflies have been observed visiting the flowers. *Packera neomexicana* is native to southwest-central and southern North America. \*5, 6, 28 (recorded as *Senecio neomexicanus*, color photograph 433), 42 (100313 - unable to access), 43 (100313), 44 (100313 - no record of species; genus record), 46 (recorded as *Senecio neomexicanus* A. Gray, Page 950), 63 (071406), **85** (100613 - color presentation), 140 (Pages 80-82 & 285)\*

***Packera neomexicana* (A. Gray) W.A. Weber & Á. Löve var. *toumeyi* (E.L. Greene) D.K. Trock & T.M. Barkley: Toumey’s Groundsel**

SYNONYMY: *Senecio toumeyi* E.L. Greene. COMMON NAME: Toumey’s Groundsel. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (erect stems 12 to 15 inches in height); the foliage is gray-green; the disk florets are orange-yellow; the ray florets are yellow; flowering generally takes place between mid-April and mid-June (additional records: one for late March; flowering continuing through early July has been reported). HABITAT: Within the range of this species it has been reported from mountains; canyons; canyon floors; hillsides; rocky, rocky-humusy and clayey-loamy slopes; growing in rocky ground; clayey loam ground, and rocky humusy ground, occurring from 2,200 to 8,600 feet in elevation in the forest, woodland and scrub ecological formations. NOTE: *Packera neomexicana* var. *toumeyi* is native to southwest-central North America. \*28 (species, recorded as *Senecio neomexicanus*, color photograph 433), 42 (100313 - unable to access), 43 (100313), 44 (100313 - no record of variety or species; genus record), 46 (*Senecio toumeyi* is recorded as being a synonym of *Senecio neomexicanus* A. Gray, Page 950), **85** (100613 - color presentation)\*

***Pectis longipes* A. Gray: Longstalk Chinchweed**

COMMON NAME: Longstalk Chinchweed; Longstalk Cinchweed; Mat Cinchweed. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (decumbent, ascending and/or erect stems 3 to 10 inches in height); the leaves are dark green; the disk florets may be orange-yellow or yellow; the ray florets may be orange-yellow or yellow; flowering generally takes place between late March and mid-September (additional records: one for late October; flowering continuing through November has also been reported). HABITAT: Within the range of this species it has been reported from mountains; bases of mountains; mesas; bases of cliffs; canyons; along canyon bottoms; crevices in rocks; rocky-gravelly ridges; foothills; gravelly-loamy hills; rocky and gravelly hillsides; rocky, rocky-gravelly, gravelly, gravelly-loamy, sandy and clayey slopes; bajadas; amongst rocks; banks; gravelly-loamy prairies; rocky-gravelly plains; rocky, rocky-sandy, gravelly and sandy flats; gravelly-sandy valleys; rocky roadcuts; roadbeds; along rocky roadsides; gulches; streambeds; along and in rocky creekbeds; within sandy washes; banks of washes and lakes; edges of arroyos and seeps; sandy lowlands; ditches; riparian areas, and disturbed areas growing in dry rocky, rocky-gravelly, rocky-sandy, gravelly, gravelly-sandy and sandy ground; gravelly loam and loam ground, and clay ground, occurring from 900 to 8,000 feet in elevation in the forest, woodland, grassland and wetland ecological formations. NOTES: The plants may be lemon-, oregano- or sage-scented and may form mats. *Pectis longipes* is native to southwest-central and southern North America. \*5, 6, 15, 42 (100613 - unable to access), 43 (100613), 44 (100613 - no record of species; genus record), 46 (Page 935), 58, 63 (062209), **85** (062209 - color presentation), 124 (040112 - no record of species; genus record), 127 (100613 - no records found), 133 (100613 - unable to access)\*

***Pectis prostrata* A.J. Cavanilles: Spreading Chinchweed**

SYNONYMY: *Pectis prostrata* A.J. Cavanilles var. *urceolata* M.L. Fernald. COMMON NAMES: Creeping Pectis; Dwarf Chinchweed; Spreading Chinchweed; Spreading Cinchweed. DESCRIPTION: Terrestrial annual forb/herb (prostrate, decumbent and/or ascending stems ½ inch to 1 foot in height and/or width); the foliage is yellow-green; the flower heads are yellow; flowering generally takes place between mid-July and late October (additional records: one for early April and one for mid-December; flowering ending as late as November has been reported). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; rocky mesas; cliffs; rocky canyons; sandy canyon bottoms; sandy crevices in rock; gravelly pockets of soil in rock; ridges; rocky ridgetops; meadows; rocky foothills; rocky hills; bouldery and rocky-gravelly hilltops; rocky and gravelly-clayey hillsides; rocky, rocky-gravelly, stony, gravelly, sandy-loamy and clayey slopes; alluvial fans; bajadas; rocky outcrops; amongst boulders, volcanic barrens; cobbly and sandy plains; gravelly flats; valley floors; valley bottoms; coastal dunes; gravelly roadbeds; along rocky and gravelly roadsides; along sandy arroyos; along spring seepages; along streams; sandy streambeds; silty creekbeds; along and in gravelly, gravelly-sandy and sandy washes; within shaley drainages; clayey lakebeds; swampy areas; scrapes; swales; (silty) banks of creeks; along (sandy) sides of rivers; benches; alluvial terraces; bottomlands; floodplains; around and in stock tanks; riparian areas, and disturbed areas growing in muddy and wet and dry bouldery, bouldery-gravelly, rocky, rocky-gravelly, shaley, stony, stony-sandy, cobbly, gravelly, gravelly-sandy and sandy ground; sandy loam ground; gravelly clay and clay ground, and gravelly-silty and silty ground, occurring from sea level to 7,400 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant often forms mats. *Pectis prostrata* is native to south-central and southern North America; Central America and coastal islands in the Caribbean Sea, and northern South America. \*5, 6, 15, 42 (100613 - unable to access), 43 (062209), 44 (040112 - no record of species; genus record), 46 (Page 935), 63 (040412), **85** (100713 - color presentation), 124 (040112 - no record of species; genus record), 127 (100613 - no records found), 133 (100613 - unable to access)\*

*Pectis prostrata* var. *urceolata* (see *Pectis prostrata*)

*Perezia nana* (see *Acourtia nana*)

*Perezia wrightii* (see *Acourtia wrightii*)

***Pseudognaphalium jaliscense* (J.M. Greenman) A.A. Anderberg: Jalisco Rabbit-tobacco**

SYNONYMY: *Gnaphalium jaliscense* J.M. Greenman. COMMON NAMES: Jalisco Rabbit-tobacco. DESCRIPTION: Terrestrial perennial forb/herb (stems 12 to 28 inches in height); the flowerheads may be white or yellow; based on few records located flowering generally takes place between early September and early October (additional records: flowering beginning as early as July has been reported). HABITAT: Within the range of this species it has been reported from openings in woodlands; hilltops; hillsides; rocky-clayey slopes; plains; valleys; along roadsides; draws; gravelly stream channels; ciénegas, and disturbed areas growing in rocky and gravelly ground; sandy loam ground, and rocky clay ground, occurring from 4,500 to 7,600 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTES: The plants may be balsam-scented. *Pseudognaphalium jaliscense* is native to southwest-central and southern North America. \*42 (100713 - unable to access), 43 (100713), 44 (100713 - no record of species; genus record), 46 (no record of species, genus *Gnaphalium* Pages 887 -888), 63 (101013), **85** (100713 - color presentation of dried material), 127 (100613 - no records found), 133 (100713 - unable to access)\*

***Sanvitalia aberti* A. Gray: Abert’s Creeping Zinnia**

COMMON NAMES: Abert Creeping Zinnia; Abert Dome; Abert Sanvitalia; Abert’s Creeping Zinnia; Abert’s Dome; Abert’s Sanvitalia; Sanvitalia (a name also applied to the genus *Sanvitalia*). DESCRIPTION: Terrestrial annual forb/herb (erect stems 2 to 24 inches in height; one plant was described as being 24 inches in height and 32 inches in width); the stems are green, sometimes with a reddish tinge; the leaves are green; the disk florets may be pale green, green, greenish-yellow, yellow or yellow-green; the ray florets have been reported as being cream-yellow, greenish-yellow, lemon-yellow, yellow or pale yellow drying cream- or straw-colored; flowering generally takes place between early August and late October (additional record: one for mid-July). HABITAT: Within the range of this species it has been reported from mountains; rocky and clayey mesas; rocky cliffs; rocky canyons; sandy and clayey canyon bottoms; rocky gorges; pockets of soil in rock; rocky ledges; ridges; ridgetops; clearings in forests; meadows; cinder cones; foothills; rocky-sandy and sandy hills; rocky, gravelly and gravelly-clayey hillsides; rocky, cindery, gravelly, gravelly-loamy, gravelly-clayey, sandy, sandy-loamy, sandy-clayey and loamy slopes; bajadas; rocky and clayey outcrops; amongst cobbles; banks; plains; fields; bouldery-sandy, rocky-gravelly, gravelly, sandy and sandy-loamy flats; valley floors; along gravelly-loamy, sandy and sandy-clayey-loamy roadsides; rocky, rocky-sandy, sandy and clayey arroyos; sandy bottoms of arroyos; along draws; springs; along streams; rocky-gravelly streambeds; along creeks; rocky and rocky-sandy creekbeds; along rivers; riverbeds; along and in rocky, cobbly, gravelly, gravelly-sandy, sandy and clayey washes; within drainages; lakebeds; depressions; swales; banks of washes, drainages and lakes; edges of washes; along (gravelly) margins of washes; sandy-loamy terraces; bottomlands; floodplains; lowlands; mesquite bosques; ditches; along sandy and silty riparian areas; waste places, and disturbed areas growing in moist and dry bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, cindery, gravelly, gravelly-sandy and sandy ground; rocky-sandy loam, gravelly loam, sandy loam, sandy-clayey loam and loam ground; sandy clay and clay ground, and sandy-silty and silty ground, occurring from 2,600 to 8,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. *Sanvitalia aberti* is native to southwest-central and southern North America. \*5, 6, 15, 42 (100713 - unable to access), 43 (072009), 44 (100713), 46 (Page 898), 63 (101013 - color presentation), 77, **85** (100913 - color presentation located under *Sanvitalia abertii* and dried materials under *Sanvitalia aberti*, 115 (color presentation), 124 (041612 - no record of species or genus), 127 (100813 - records found under *Sanvitalia abertii* Gray), 133 (100713 - unable to access), 140 (Page 286)\*

***Schkuhria pinnata* (J.B. de Lamarck) C.E. Kuntze ex A. Thellung var. *guatemalensis* (P.A. Rydberg) R. McVaugh: Wislizenus’ False Threadleaf**

SYNONYMY: *Schkuhria pinnata* (J.B. de Lamarck) C.E. Kuntze ex A. Thellung var. *wislizeni* (A. Gray) B.L. Turner; *Schkuhria wislizeni* A. Gray; *Schkuhria wislizeni* A. Gray var. *frustrata* S.F. Blake; *Schkuhria wislizeni* A. Gray var. *wrightii* (A. Gray) S.F. Blake. COMMON NAMES: Pinnate False Threadleaf; Wislizenus False Threadleaf; Wislizenus’ False Threadleaf. DESCRIPTION: Terrestrial annual forb/herb (erect stems 4 to 10 inches in height); the disk florets may be green or white; the ray florets may be white or yellow, sometimes with purple; flowering generally takes place between late August and early October. HABITAT: Within the range of this species it has been reported from mountains; summits of mountains; mountainsides; mesas; cliffs; canyons; sandy canyon bottoms; pockets of gravelly soil in rocks; rocky and gravelly ridges; gravelly ridgetops; foothills; gravelly hills; rocky and gravelly slopes; alluvial fans; bajadas; bouldery outcrops; steppes; plains; rocky, rocky-loamy and rocky-clayey flats; basins; valleys; along gravelly-loamy and gravelly-sandy-loamy roadsides; draws; along ravines (barrancas); along gravelly washes; edges of washes; gravel bars; bottomlands; riparian areas; waste places, and along disturbed areas growing in moist bouldery, rocky, gravelly and sandy round; rocky loam, gravelly loam and gravelly-sandy loam ground, and rocky clay ground, occurring from 4,200 to 8,100 feet in elevation in the woodland, scrub, grassland and desertscrub ecological formations. NOTE: *Schkuhria pinnata* var. *guatemalensis* is native to southwest-central and southern North America and Central America. \*5, 6, 30 (species), 42 (101013 - unable to access), 43 (062309), 44 (101013 - no record of species; no listings recorded under Common Names for genus), 46 (recorded as *Schkuhria wislizeni* Gray, *Schkuhria wislizeni* Gray var. *frustrata* Blake, *Schkuhria wislizeni* Gray var. *wrightii* (Gray) Blake, Pages 918-919), 63 (101013), **85** (101013 - color presentation of dried material), 127 (101013 - no matches found), 133 (101013 - unable to access)\*

*Schkuhria pinnata* var. *wislizeni* (see *Schkuhria pinnata* var. *guatemalensis*)

*Schkuhria wislizeni* (see *Schkuhria pinnata* var. *wislizeni*)

*Schkuhria wislizeni* var. *frustrata* (see *Schkuhria pinnata* var. *wislizeni*)

*Schkuhria wislizeni* var. *wrightii* (see *Schkuhria pinnata* var. *wislizeni*)

*Senecio douglasii* (see *Senecio flaccidus* var. *douglasii*)

*Senecio douglasii* var. *douglasii* (see *Senecio flaccidus* var. *douglasii*)

*Senecio douglasii* var. *longilobus* (see *Senecio flaccidus* var. *flaccidus*)

***Senecio flaccidus* C.F. Lessing var. *douglasii* (A.P. de Candolle) B.L. Turner & T.M. Barkley: Douglas’ Ragwort**

SYNONYMY: *Senecio douglasii* A.P. de Candolle; *Senecio douglasii* A.P. de Candolle var. *douglasii*. COMMON NAMES: Douglas Bush Senecio; Douglas Butterbush; Douglas Butterweed; Douglas Groundsel; Douglas Ragwort; Douglas Sand Wash Groundsel; Douglas Sand-wash Groundsel; Douglas Sandwash Groundsel; Douglas Sandwash Groundsel; Douglas Senecio; Douglas Shrubby Ragwort; Douglas Thread-leaf Groundsel; Douglas Thread-leaved Ragwort; Douglas Threadleaf Groundsel; Douglas' Bush Senecio; Douglas' Butterbush; Douglas' Butterweed; Douglas' Groundsel; Douglas' Ragwort; Douglas' Sand Wash Groundsel; Douglas' Sand-wash Groundsel; Douglas' Sandwash Groundsel; Douglas' Senecio; Douglas' Shrubby Ragwort; Douglas' Thread-leaf Groundsel; Douglas' Thread-leaved Ragwort; Douglas' Threadleaf Groundsel; Douglas's Bush Senecio; Douglas's Butterbush; Douglas's Butterweed; Douglas's Groundsel; Douglas's Ragwort; Douglas's Sand Wash Groundsel; Douglas's Sand-wash Groundsel; Douglas's Sandwash Groundsel; Douglas's Senecio; Douglas's Shrubby Ragwort; Douglas's Thread-leaf Groundsel; Douglas's Thread-leaved Ragwort; Douglas's Threadleaf Groundsel; Groundsel (a name also applied to other taxa); Shrubby Butterweed (a name also applied to the species); Shrubby Douglasii Butterweed; Shrubby Douglasii Butterweed. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (erect stems 1 to 5 feet in height; one plant was observed and described as being 20 inches in height and 12 inches in width, one plant was observed and described as being 3 feet in height and width); the leaves may be gray, gray-green or silvery; the disk florets are yellow; the ray florets are yellow; flowering generally takes place between early March and early December (additional record: one for late January). HABITAT: Within the range of this species it has been reported from mountains; stony and sandy mesas; cliffs; bases of cliffs; rocky, stony and gravelly canyons; canyon walls; along rocky, sandy and sandy-loamy canyon bottoms; rocky-clayey talus slopes; sandy crevices in rocks; ridges; rocky ridgetops; bouldery meadows; foothills; bouldery and rocky hills; rocky and rocky-clayey hillsides; bouldery-sandy, rocky, rocky-gravelly, rocky-clayey-loamy, stony, cindery-gravelly, gravelly, gravelly-sandy, sandy and clayey-loamy slopes; bouldery-stony-gravelly-sandy alluvial fans; bases of outcrops; rocky lava flows; gravelly benchlands; rocky-sandy and sandy steppes; rocky, sandy and sandy-clayey prairies; rocky and gravelly plains; rocky, gravelly and sandy flats; valley floors; valley bottoms; along railroad right-of-ways; along rocky roadcuts; along rocky, rocky-sandy, gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey, sandy and sandy-clayey roadsides; along and in arroyos; sandy bottoms of arroyos; draws; bottoms of draws; rocky gullies; along and in sandy streambeds; along creeks; rocky-sandy creekbeds; riverbeds; along and in rocky-sandy, gravelly, gravelly-sandy and sandy washes; rocky-sandy and sandy drainages; freshwater marshes; depressions; playas; (clayey) banks of arroyos, gulches, rivers and washes; (clayey) edges of creeks; margins of rivers and washes; sides of streams; rocky-sandy beaches; benches; shaley terraces; rocky-sandy and sandy bottomlands; floodplains; stock tanks; clayey riparian areas, and disturbed areas growing in dry bouldery, bouldery-stony-gravelly-sandy bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, shaley, stony, cindery, cindery-gravelly, gravelly, gravelly-sandy and sandy ground; rocky-clayey loam, gravelly loam, gravelly-clay loam, sandy loam, clayey loam and silty loam ground; rocky clay, gravelly clay, sandy clay and clay ground, and rocky-silty, gravelly-sandy silty and sandy silty ground, occurring from 300 to 8,600 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial fiber crop (this plant is used as brooms and brushes to remove spines from cacti); it was also noted as having been used as a drug or medication and as a ceremonial item. *Senecio flaccidus* var. *douglasii* is native to southwest-central and southern North America. \*5, 6, 28 (color photograph 426 labeled Sand Wash Groundsel, *Senecio douglasii* var. *douglasii* (*Senecio monoensis*), Page 289), 42 (101013 - unable to access), 43 (062409), 44 (101013), 46 (no record of variety or species, genus pages 944 to 950), 58, 63 (101013 - color presentation), 80 (The Threadleaf Groundsel, Woolly Groundsel, Senecio (*Senecio longilobus* and others) are listed as Major Poisonous Range Plants. Poisoning by Threadleaf Groundsel has been attributed to the presence of a number of alkaloids. “These alkaloids belong to a single group - the pyrrolizidine alkaloids. Upon hydrolysis, these break into a nitrogen-containing fraction and a mono- or di-carboxylic necic acid. The nitrogen oxides are hepatotoxic, causing liver lesions that are attributed to senecio poisoning. ... Cattle and horses are equally sensitive to senecio poisoning; sheep and goats are less susceptible. ... Also, the consumption of small amounts of the plant over a period of a month or more will have a cumulative effect. ... When possible, livestock should be kept from areas heavily infested with Threadleaf Groundsel, particularly when the range is excessively dry.” See text for additional information.), **85** (101013 - color presentation of dried material), 86, 127 (101013), 133 (101013 - unable to access)

***Senecio flaccidus* C.F. Lessing var. *flaccidus*: Threadleaf Ragwort**

SYNONYMY: *Senecio douglasii* A.P. de Candolle var. *longilobus* (G. Bentham) L.D. Benson, *Senecio longilobus* G. Bentham. COMMON NAMES: Douglas Ragwort (a name also applied to other taxa); Groundsel (a name also applied to other taxa); Hierba Ceniza (Spanish); Old Man; Squaw-weed (not recommended for usage); Typical Bush Groundsel; Typical Bush Ragwort; Typical Bush Senecio; Typical Comb Butterweed; Typical Creek Senecio; Typical Felty Groundsel; Typical Sand Wash Butterweed; Typical Sand Wash Groundsel; Typical Sand-wash Butterweed; Typical Sand-wash Groundsel; Typical Sandwash Groundsel; Typical Sandwash Senecio; Typical Shrubby Butterweed; Typical Shrubby Ragwort; Typical Thread-leaf Groundsel; Typical Thread-leaf Ragwort; Typical Thread-leaved Ragwort; Typical Threadleaf Butterweed; Typical Threadleaf Groundsel; Typical Threadleaf Ragwort; Typical Wash Groundsel; Woolly Groundsel. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (erect stems 20 inches to 6 feet in height; one plant was observed and described as being 3 feet in height and 2 feet in width); the leaves may be gray or gray-green; the disk flowers may be yellow or dark yellow; the ray flowers are yellow; flowering generally takes place between late March and mid-November (additional records: one for early January and two for early December). HABITAT: Within the range of this species it has been reported from mountains; summits of mountains; gravelly-loamy mountainsides; rocky, stony and gravelly mesas; cliffs; rocky, rocky-gravelly, gravelly and sandy canyons; along canyonsides; canyon bottoms; rocky gorges; sandy bluffs; rocky knolls; rocky and sandy ridges; rocky meadows; along rocky and sandy rims of craters; gravelly flanks of craters; rocky foothills; gravelly-loamy and silty hills; rocky and sandy hillsides; bases of hills; escarpments; sandy bases of escarpments; bouldery, rocky, rocky-sandy, rocky-sandy-clayey-loamy, cindery, gravelly, gravelly-sandy-loamy, gravelly-loamy, sandy, sandy-loamy, sandy-clayey-loamy, clayey and clayey-loamy slopes; bajadas; rocky outcrops; amongst boulders; sandy lava flows; lava beds; sand hills; sand dunes; clayey breaks; gravelly benchlands; rocky, stony, gravelly and sandy plains; fields; clayey and clayey-loamy flats; cindeery-gravelly-loamy uplands; valley floors; along rocky railroad right-of-ways; along rocky, rocky-sandy, rocky-sandy-loamy, rocky-sandy-clayey, cobbly, gravelly-loamy, sandy clayey-loamy and silty-loamy roadsides; along gravelly-sandy and sandy arroyos; bottoms of arroyos; within ravines; around and in springs; along streams; streambeds; along creeks; sandy creekbeds; in sand along rivers; riverbeds; along and in gravelly, gravelly-sandy, sandy and sandy-loamy washes; in drainage ways; ciénegas; marshes; banks of streams, rivers and washes; borders of washes; edges of washes; (rocky-sandy) shores of lakes; sandy beaches; gravelly benches; bottomlands; rocky floodplains; sandy dikes; rocky-cobbly riparian areas; waste places, and sandy disturbed areas growing in moist, damp and dry desert pavement; bouldery, rocky, rocky-cobbly, rocky-gravelly, rocky-sandy, stony, cobbly, cindery, cindery-gravelly, gravelly, and sandy ground; rocky-sandy loam, rocky-sandy-clayey loam, cindery-gravelly loam, cindery-gravelly-clayey loam, cindery-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-clayey loam, sandy loam, sandy-clayey loam, clayey loam and silty loam ground; rocky-sandy clay and clay ground, and gravelly-sandy silty and silty ground, occurring from 1,700 to 9,200 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial incense or fragrance crop; it was also noted as having been used as a drug or medication and as a commodity used in personal hygiene. *Senecio flaccidus* var. *flaccidus* is native to southwest-central and southern North America. \*5, 6, 13, 28 (color photograph 427 - labeled Threadleaf Groundsel, *Senecio douglasii* var. *longilobus*), 42 (101013 - unable to access), 43 (062409), 44 (101013 - no record of variety; species and genus records), 46 (*Senecio longilobus* Benth. - “The United States Department of Agriculture has found *S. longilobus* to be one of the most poisonous of the groundsels, especially to cattle and horses, the leaves of the new growth being most toxic.”, Page 947), 58, 63 (101013 - color presentation), 68, 80 (The Threadleaf Groundsel, Woolly Groundsel, Senecio (*Senecio longilobus* and others) are listed as Major Poisonous Range Plants. Poisoning by Threadleaf Groundsel has been attributed to the presence of a number of alkaloids. “These alkaloids belong to a single group - the pyrrolizidine alkaloids. Upon hydrolysis, these break into a nitrogen-containing fraction and a mono- or di-carboxylic necic acid. The nitrogen oxides are hepatotoxic, causing liver lesions that are attributed to senecio poisoning. ... Cattle and horses are equally sensitive to senecio poisoning; sheep and goats are less susceptible. ... Also, the consumption of small amounts of the plant over a period of a month or more will have a cumulative effect. ... When possible, livestock should be kept from areas heavily infested with Threadleaf Groundsel, particularly when the range is excessively dry.” See text for additional information.), **85** (101013 - color presentation), 127 (101013), 133 (101013 - unable to access)\*

*Senecio longilobus* (see *Senecio flaccidus* var. *flaccidus*)

*Senecio neomexicanus* (see *Packera neomexicana*)

*Senecio neomexicanus* var. *toumeyi* (see *Packera neomexicana* var. *toumeyi*)

*Senecio toumeyi* (see *Packera neomexicana* var. *toumeyi*)

***Stephanomeria pauciflora* (J. Torrey) A. Nelson: Brownplume Wirelettuce**

SYNONYMY: *Stephanomeria pauciflora* (J. Torrey) A. Nelson var. *parishii* (W.L. Jepson) P.A. Munz; *Stephanomeria pauciflora* (J. Torrey) A. Nelson var. *pauciflora*. COMMON NAMES: Brown Plume Wire Lettuce; Brown Plume Wire-lettuce; Brown Plume Wirelettuce; Brown-plume Ptiloria; Brown-plume Wire-lettuce (English)140; Brown-plumed Ptiloria; Brownplume Wirelettuce; Chil Do Clezzie, Gil To Chizhee (Hopi); Desert Milk-aster; Desert Milkaster; Desert Straw (a name also applied to other taxa); Desert-straw (a name also applied to other taxa); Desert-straw (English: Arizona)140; Few Flower Wreath-plant; Few Flowered Wire Lettuce; Few-flower Desert-straw; Few-flower Wreath-plant; Few-flower Wire-lettuce; Few-flower Wreath-plant; Few-flowered Stephanomeria; Few-flowered Wire Lettuce; Few-flowered Wire-lettuce; Few-flowered Wirelettuce; Fewflower Wire-lettuce; Fewflower Wirelettuce; Hebe Imixáa (“Rootless Plant”, Yuman: Seri)140; Jay Dochyh. Zhay To Cbizh (“Blue Chew Gum” Navajo); Jeeh Dootł’izh [Ts’oh, Ts’ósí] <jéˀdóy.is, ɜveˀ do~~λ~~’iš [coh, c’o’s]> (Athapascan: Navajo)140; Parish’s Wire-lettuce (var. *parishii*); Piinga <pí:nga> (Uto-Aztecan: Hopi)140; Pionilla (“Little Peonia” a name also applied to other species, Spanish: Mexico)140; Posapátx Camoz (“What Thinks It’s a Sweet-bush”, Hokan: Seri)140; Prairie Skeleton Plant; Prairie Skeleton-plant; Prairie Skeletonplant; Sanako’ogadɨbɨ (Uto-Aztecan: Paiute)140; Skeleton Plant; Skeleton-weed (a name also applied to other taxa and the genus *Stephanomeria*); Skeleton-weed (English)140; Small-flowered Wirelettuce; Wire Lettuce (a name also applied to other taxa and the genus *Stephanomeria*); Wire-lettuce (a name also applied to other taxa and the genus *Stephanomeria*); Wirelettuce (a name also applied to other taxa and the genus *Stephanomeria*). DESCRIPTION: Terrestrial perennial forb/herb or subshrub (stems 4 inches to 5 feet in height; plants were observed and described as being 10 inches in height and 14 inches in width, plants were observed and described as being 20 inches in height and 20 inches in width, plants were observed and described as being 20 inches in height and 28 inches in width); the intricately branched stems may be gray-green, green or light green; the foliage may be blue-green, gray-green, green or pale green; the flowerheads have been reported as being bluish-white, cream, pale & dark gray, lavender, pale lavender, pale lavender-pink, lavender-pink, lilac, orange, pink fading to tan-brown, pale pink, pinkish, pink-lavender, pink-purple, pink-violet, pink-white, purple, pale purple, rose, pale red-lavender, tan, violet, white, dull white, off-white, white & lavender, white-pink or yellow-brown; flowering generally takes between late February and late December (additional records: one for early January, one for mid-January and one for early February). HABITAT: Within the range of this species it has been reported from mountains; rocky mountain summits; cindery mountainsides; bases of mountains; clayey-loamy mesas; rock cliffs; hanging gardens; bouldery, rocky, sandy and sandy-loamy canyons; spurs; crevices in canyon walls; rocky, gravelly-sandy and sandy canyon bottoms; talus; crevices in rocks; sandy knolls; rocky ridges; bouldery ridgetops; rocky ridgelines; shortgrass meadows; tops of cinder cones; crater floors; rocky foothills; bouldery, rocky and clay hills; hilltops; rocky and gravelly hillsides; along bouldery, rocky, rocky-gravelly-loamy, shaley, cobbly, cobbly-sandy-clayey, cindery, gravelly, gravelly-loamy, sandy, sandy-clayey, sandy-silty, loamy, clayey and silty slopes; bases of slopes; alluvial fans; gravelly bajadas; rocky outcrops; amongst rocks; stony mounds; sand hills; sand dunes; rocky-gravelly and sandy outwash fans; rocky-clayey barrens; sandy prairies; stony, gravelly-sandy, sandy and clayey plains; rocky, rocky-sandy, gravelly, gravelly-loamy, sandy and sandy-silty flats; uplands; valley floors; gravelly valley bottoms; sandy coastal dunes; coastal plains; coastal beaches; railroad right-of-ways; along gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey-loamy, sandy, sandy-silty, clayey and silty roadsides; within sandy and clayey-loamy arroyos; gravelly-silty and sandy draws; gulches; within ravines; seeps; around springs; seeping streams; along streams; streambeds; along creeks; sandy creekbeds; bouldery-cobbly-sandy and sandy riverbeds; along and in rocky-sandy, cobbly-sandy, gravelly, gravelly-sandy, pebbly-sandy and sandy washes; along rocky-sandy drainages; along drainage ways; around ponds; (gravelly) banks of arroyos, rivers and washes; borders of washes; (sandy and silty-clayey) edges of arroyos, washes and lakebeds; around fringes of playas; along margins of arroyos and washes; along shores of rivers; gravel bars, rocky beaches; gravelly and sandy benches; rocky and sandy terraces; rocky-sandy bottomlands; floodplains; stock tanks; ditch banks; rocky-sandy, sandy and clayey-loamy riparian areas, and disturbed areas growing in moist, damp and dry desert pavement; bouldery, bouldery-cobbly-sandy, rocky, rocky-gravelly, rocky-sandy, shaley, stony, stony-gravelly-sandy, cobbly, cobbly-sandy, cindery, gravelly, gravelly-sandy, pebbly-sandy and sandy ground; rocky-gravelly loam, rocky loam, gravelly loam, gravelly-sandy loam, gravelly-sandy-clayey loam, gravelly-clayey loam, sandy-clayey loam, sandy-clayey and clayey loam and loam ground; rocky clay, cobbly-sandy clay, sandy clay and clay ground, and gravelly silty, gravelly-sandy silty, sandy silty and silty ground, occurring from sea level to 9,200 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food (candy) crop; it was also noted as having been used as a drug or medication and as a ceremonial item. This plant has a milky sap. Butterflies visit the flowers for their nectar. *Stephanomeria pauciflora* is native to southwest-central and southern North America. \*5, 6, 15, 16, 28 (color photograph 726), 42 (101113 - unable to access), 43 (121909), 44 (061211), 46 (Page 960), 58, 63 (101113 - color presentation), 77 (color photograph #70), **85** (061211 - color presentation), 115 (color presentation), 124 (061211), 127 (101113), 133 (101113 - unable to access), 140 (Pages 84-86 & 286)\*

***Stevia lemmonii* (A. Gray) A. Gray: Lemmon’s Candyleaf**

COMMON NAMES: Lemmon Candyleaf; Lemmon’s Candyleaf; Lemmon Stevia; Lemmon’s Stevia. DESCRIPTION: Terrestrial perennial subshrub or shrub (decumbent and/or erect stems 12 to 40 inches in height); the stems are brownish; the leaves are grayish-green; the flower heads (to 2 inches in width) may be ivory or white; based on few records located flowering generally takes place between late February and mid-May (flowering records: (one for late February, two for mid-March, four for mid-April, four for late April, three for mid-May) and one for late November; September flowering has also been noted). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky cliffs; bases of cliffs; bouldery and rocky canyons; rocky canyon sides; rocky hillsides; rocky slopes; rocky outcrops; rock faces; amongst boulders; bases of rocks; roadcuts; ravines; rocky and sandy streambeds; (bouldery-rocky) edges of washes; sides of streams, and riparian areas growing in moist and dry bouldery, bouldery-rocky, rocky and sandy ground, occurring from 2,400 to 6,000 feet in elevation in the woodland, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Stevia lemmonii* is native to southwest-central and southern North America. \*5, 6, 8, 15, 28 (color photograph 236), 42 (101213 - unable to access), 43 (041012 - *Stevia lemmonii* A. Gray), 44 (101213 - no record of species or genus), 46 (Page 843), 63 (101213), **85** (101213 - color presentation), 127 (101213 - no matches found), 133 (101213 - unable to access), 140 (Page 286)\*

***Symphyotrichum divaricatum* (T. Nuttall) G.L. Nesom: Southern Annual Saltmarsh Aster**

SYNONYMY: *Aster exilis* S. Elliott nom. dub.; *Aster subulatus* A. Michaux var. *ligulatus* L.H. Shinners. COMMON NAMES: Annual Saltmarsh Aster; Lawn American-aster; New Mexico Aster; Panicled Aster; Salt-marsh Aster; Saltmarsh Aster; Slender Aster; Slim Aster; Southern Annual Salt-marsh Aster; Southern Annual Saltmarsh Aster; White Wood Aster. DESCRIPTION: Terrestrial annual or biennial forb/herb (erect stems 14 to 79 inches in height); the disk florets may be green-yellow, whitish or yellow; the ray florets have been described as being lavender, pink, pale pink, pink-white, pinkish-white, purple, light purple, purple-lavender or bright white fading to dark pink; flowering generally takes place between late July and mid-November (additional records: one for mid-February and one for late May). HABITAT: Within the range of this species it has been reported from mountains; along rocky canyons; canyon bottoms; gorges; hillsides; bases of hills; loamy slopes; sand dunes; prairies; sandy flats; valley floors; coastal plains; roadsides; arroyos; silty ravines; along seeps; around and in springs; in sand along streams; along rocky streambeds; along creeks; creekbeds; within washes; along silty-clayey drainages; in clay around and in ponds; cienegas; marshes; silty swales; along (muddy, clayey and silty) banks of arroyos, streams and rivers; (sandy) edges of rivers, riverbeds, ponds and lakes; margins of creeks and riparian areas; sides of seeps; mudflats; sandy terraces; sandy-silty and silty floodplains; clayey stock tanks; along canals; along ditches; ditch banks; sandy-silty and silty riparian areas and disturbed areas growing in muddy and wet, moist, damp and dry rocky, gravelly and sandy ground; loamy ground; silty clay and clay ground, and sandy silty and silty ground, occurring from sea level to 7,000 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. *Symphyotrichum divaricatum* is native to south-central and southern North America. \*5, 6, 16 (recorded as *Aster subulatus* Michx. var. *ligulatus* Shinners), 42 (101113 - unable to access), 43 (121909), 44 (042112 - no listings under Common Names; genus record, color photograph), 46 (recorded as *Aster exilis* Ell., Page 873), 58 (recorded as *Aster subulatus* Michx. var. *ligulatus* Shinners), 63 (101113), 77 (recorded as *Aster subulatus* Michx. var. *ligulatus* Shinners), 80 (Species of the genus *Aster* are considered to be Rarely Poisonous and Suspected Poisonous Range Plants. “These annual and perennial forbs may act as secondary or facultative selenium absorbers, converters, and indicators and may become toxic to livestock."), **85** (101113 - color presentation), 124 (042112), 127 (101113), 133 (101113 - unable to access)\*

***Thymophylla pentachaeta* (A.P. de Candolle) J.K. Small: Fiveneedle Pricklyleaf**

COMMON NAMES: Common Dog Weed; Common Dog-weed; Common Dogweed; Dahlberg Daisy; Dainty Yellow Composite (var. *belenidium*); Dogweed (a name also applied to other taxa); Firehair Dogweed (var. *belenidium*); Five Needle Fetid Marigold; Five Needle Pricklyleaf; Five-needle Dog Weed; Five-needle Dog-weed; Five-needle Dogweed; Five-needle Fetid Marigold; Five-needle Fetid-marigold; Five-needle Parralena; Five-needle Prickly Leaf; Five-needle Prickly-leaf; Five-needle Pricklyleaf; Fiveneedle Pricklyleaf; Five-needled Thymophylla; Golden Dogweed; Golden Dyssodia; Golden Fleece; Hartweg’s Pricklyleaf (var. *hartwegii*); Parralena (a name also applied to other taxa); Parvialena; Scale Glandbush (var. *belenidium*); Stiff-leafed Dogweed; Thurber Dysodia (var. *belenidium*); Thurber’s Dyssodia (var. *belenidium*). DESCRIPTION: Terrestrial perennial forb/herb or subshrub (spreading and/or erect stems 3 to 12 inches to 2 feet in height); the foliage may be grayish, green or dark green; the disk florets may be orange, orange-yellow, yellow or yellow-orange; the ray florets may be orange, orange-yellow, yellow or yellow-orange; flowering generally takes place between mid-February and mid-December (additional records: two for early January and three for mid-January). HABITAT: Within the range of this species it has been reported from mountains; mountaintops; mountainsides; rocky-sandy and gravelly mesas; plateaus; rocky rims of canyons; cliffs; gravelly bases of cliffs; bouldery and rocky canyons; rocky canyon walls; bouldery-gravelly-sandy and rocky canyon bottoms; gorges; rocky talus slopes; crevices in boulders; pockets of soil in bedrock; sandy bluffs; rocky and gypseous-clayey knolls; rocky ledges; ridges; along rocky ridgetops; foothills; rocky, rocky-gravelly, gravelly and sandy hills; rocky, shaley, gravelly and gypsum hillsides; bedrock, bouldery, bouldery-gravelly, rocky, rocky-sandy, gravelly, gravelly-clayey and sandy slopes; rocky alluvial fans; bajadas; rocky outcrops; bases of rock outcrops; amongst boulders; alcoves; lava flows; sand dunes; rocky plains; gravelly, gravelly-clayey and sandy flats; uplands; basins; rocky valley floors; along rocky, gravelly, gravelly-sandy and sandy roadsides; within gravelly arroyos; gulches; rocky gullies; rocky ravines; along and in gravelly streambeds; along and in bouldery, rocky-sandy, stony, cobbly, gravelly and sandy washes; rocky and sandy drainages; sandy depressions; swales; (sandy) banks of rivers; edges of washes; along (rocky) shores of rivers; rocky and cobbly beaches; pebbly benches; shelves; gravelly terraces; sandy bottomlands; rocky-sandy and sandy floodplains; ditches; riparian areas; waste places, and disturbed areas growing in dry desert pavement; bouldery, bouldery-gravelly, bouldery-gravelly-sandy, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, shaley, stony, stony-sandy, cobbly, cindery, gravelly, gravelly-sandy, pebbly and sandy ground; gravelly loam, sandy-clayey loam and clayey loam ground; gravelly clay, sandy-silty clay, silty-clay, chalky clay, gypseous clay and clay ground; gravelly-sandy silty and sandy silty ground, and gypsum, occurring from 100 to 8,300 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant (var. *belenidium* and var. *pentachaeta*) was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication and as a commodity used when hunting deer. This plant is a larval food plant of the Dainty Sulfur (*Nathalis iole*). *Thymophylla pentachaeta* is native to southwest-central and southern North America. \*5, 6, 42 (101213 - unable to access), 43 (122209 - *Thymophylla pentachaeta* Small), 44 (101213), 46 (records for *Dyssodia pentachaeta* (DC.) Robins., Page 933 and *Dyssodia thurberi* (Gray) A. Nels., Page 933), 63 (101213 - color presentation), 82, **85** (101213 - color presentation), 115 (color presentation), 127 (101213), 133 (101213 - unable to access)\*

***Tithonia thurberi* A. Gray: Arizona Sunflowerweed**

COMMON NAME: Arizona Sunflowerweed; Girasol (a name also applied to other species, Mexico, Baja California Sur). DESCRIPTION: Terrestrial annual forb/herb (erect stems 28 inches to 5 feet in height); the disc florets may be orange or yellow; the ray florets may be orange, yellow or dark yellow; flowering generally takes place between mid-August and late September (additional records: one for late July and three for late October). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; rocky canyons; rocky canyon bottoms; rocky slopes; flats; along rocky and clayey roadsides; rocky and sandy arroyos; gravelly bottoms of arroyos; within ravines; along streams; streambeds; sandy riverbeds; along and in washes; along drainages; watercourses; sandy bottomlands; sandy floodplains; mesquite bosques; riparian areas, and disturbed areas growing in dry rocky, gravelly and sandy ground and clay ground, occurring from 900 to 5,200 feet in elevation in the forest, woodland, grassland, desertscrub and wetland ecological formations. NOTE: *Tithonia thurberi* is native to southwest-central and southern North America. \*5, 6, **8**, 42 (101213 - unable to access), 43 (101213), 44 (101213 - no record of species or genus), 46 (Page 900), 58, 63 (101213), **85** (101213 - color presentation), 127 (101213 - no matches found), 133 (101213 - unable to access), 140 (Page 286)\*

***Trixis californica* A. Kellogg: American Threefold**

SYNONYMY: *Trixis californica* A. Kellogg var. *californica*. COMMON NAMES: American Threefold; American [California] Trixis (English)140; Arizona Green Plant; Cachano (Spanish: New Mexico, Chiricahua, Coahuila)140; California Threefold; California Trixis; Cocazn-ootizx (“Rattlesnake’s Foreskin”, Hokan: Seri)140; Hebai Sa’igar <j’bai sa’igar> (Athapascan: Mountain Pima)140; Hierba de Aire (“Air Herb”, Spanish: Sonora)140; Hierba de Pasmo (“Herb for Pasmo”, Spanish: Sonora)140; Hierba del Aire (Spanish); Hierba del Pasmo (Spanish); Ruina (“Ruin”, Spanish: Sonora)140; Santa Lucia (Spanish); Trixis (a name also applied to the genus *Trixis*). DESCRIPTION: Terrestrial perennial (leaves are cold and drought deciduous) subshrub or shrub (10 inches to 6 feet in height); the stems are gray, the leaves may be green, dark green or yellow-green; the disk florets are yellow; the ray florets may be white or yellow; the stigmas are brown; flowering generally takes place year round between early January and late December; the seeds have straw-colored bristles. HABITAT: Within the range of this species it has been reported from mountains; rocky mountaintops; mountainsides; rocky mesas; rocky cliffs; cliff faces; sandy bases of cliffs; rock walls; along rocky canyons; canyon walls; canyon bottoms; rocky gorges; talus slopes; crevices in rocks; gravelly and sandy knolls; rocky ledges; bouldery and rocky ridges; bouldery ridgetops; bouldery and rocky foothills; rocky and gravelly hills; rocky hilltops; rocky and gravelly hillsides; bedrock, bouldery, bouldery-gravelly, rocky, rocky-gravelly, rocky-sandy-clayey, gravelly and loamy slopes; alluvial fans; sandy bajadas; bouldery and rocky outcrops; amongst boulders and rocks; bases of boulders; sandy boulder fields; shady coves; plains; sandy and sandy-clayey-loamy flats; valley floors; along gravelly roadsides; within sandy arroyos; bottoms of arroyos; draws; bottoms of gullies; within ravines; around springs; around seeping streams; along creeks; creekbeds; riverbeds; along and in bouldery, bouldery-gravelly-sandy, rocky, rocky-sandy, stony, gravelly, gravelly-sandy, pebbly and sandy washes; along rocky drainages; within rocky-bedrock drainage ways; rocky bowls; along banks of arroyos, streams, creeks, rivers, washes and drainages; borders of washes; (rocky) edges of arroyos and washes; sandy beaches; bottomlands; floodplains; riparian areas, and disturbed areas growing in moist and dry bouldery, bouldery-rocky, bouldery-gravelly, bouldery-gravelly-sandy, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, stony, gravelly, gravelly-sandy, pebbly and sandy ground; sandy-clayey loam and loam ground, and rocky-sandy clay ground often in the shade of rocks and larger shrubs and trees, occurring from sea level to 7,800 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat and may live to be 40 years of age. This plant is occasionally browsed by Mule Deer (*Odocoileus hemionus*). *Trixis californica* is native to southwest-central and southern North America. \*5, 6, 13 (Page 356), 15, 16, 28 (color photograph 472), 42 (101313 - unable to access), 43 (122309), 44 (101313 - color presentation), 46 (Page 958), 58, 63 (050612 - color presentation), 77, 85 (101313 - color presentation), 86 (color photograph), 91 (Pages 391-392), 106 (122309 - color presentation), 115 (color presentation), 124 (061211 - no record of species or genus), 127 (101313 - no matches found), 133 (101313 - unable to access), 140 (Pages 86-87 & 286), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009)\*

***Verbesina encelioides* (A.J. Cavanilles) G. Bentham & J.D. Hooker f. ex A. Gray (subsp. *exauriculata* (B.L. Robinson & J.M. Greenman) J.R. Coleman is the subspecies reported as occurring in Arizona): Golden Crownbeard**

SYNONYMY: (for subsp. *exauriculata*: *Verbesina encelioides* (A.J. Cavanilles) G. Bentham & J.D. Hooker f. ex A. Gray var. *exauriculata* B.L. Robinson & J.M. Greenman). COMMON NAMES: American Dogweed; Butter Daisy; Butter-daisy; Cow Pasture Daisy; Cow Pen Daisy; Cow-pasture Daisy; Cow-pen Daisy; Cowpen Crownbeard; Cowpen Daisy; Crown Beard Daisy; Crown-beard (a name also applied to the genus *Verbesina*); Crown-beard Daisy; Crownbeard (a name also applied to the genus *Verbesina*); Crownbeard Daisy; Dog-weed (a name also applied to other species); Dogweed (a name also applied to other species); Girasolillo; Golden Crown Beard; Golden Crown-beard; Golden Crownbeard; Hierba de la Bruja; Skunk Daisy Skunk-daisy; Sore-eye; South African Daisy; Wild Sunflower; Yellow Top; Yellow-top; Yellow-top Daisy. DESCRIPTION: Terrestrial annual forb/herb (erect stems 4 inches to 6½ feet in height; plants were observed and recorded as being 8 inches in height and 12 inches in width); the foliage may be bluish-green, gray, gray-green, green, silvery or silvery-green; the disk florets may be gold, deep orange, green-orange, orange-yellow or yellow; the ray florets may be gold, deep orange, orange-yellow, yellow, bright yellow or yellow-orange; flowering generally takes place between mid-February and late December (additional records: one for mid-January and two for late January). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; rocky, rocky-gravelly, sandy, silty and silty-clayey mesas; rocky and sandy canyons; rocky, gravelly and sandy canyon bottoms; talus slopes; bouldery knobs; sandy ridges; sandy ridgetops; openings in woodlands; sandy meadows; crater floors; foothills; stony and clayey hills; hilltops; rocky-sandy hillsides; sandy escarpments; bouldery, rocky, cindery, sandy, sandy-loamy, sandy-clayey-loamy, loamy, clayey-loamy, silty-loamy and silty-clayey slopes; gravelly alluvial fans; gravelly bajadas; rocky outcrops; sand dunes; sandy hummocks; banks; steppes; sandy-loamy, silty and silty-loamy prairies; plains; sandy fields; rocky-gravelly, cindery, gravelly, gravelly-sandy-loamy, gravelly-clayey, sandy, sandy-clayey-loamy, loamy, clayey-loamy, clayey and silty flats; uplands; basin bottoms; valley floors; valley bottoms; sandy coastal dunes; roadcuts; sandy roadbeds; along bouldery, bouldery-gravelly, rocky, cindery, gravelly, gravelly-sandy, gravelly-sandy-clayey-loamy, gravelly-loamy, gravelly-clayey-loamy, sandy, sandy-loamy and sandy-clayey-loamy roadsides; arroyos; along and in gravelly draws; sandy streambeds; along creeks; gravelly creekbeds; along gravelly-sandy rivers; along and in sandy, sandy-loamy and silty riverbeds; along and in rocky-sandy, stony, gravelly-sandy, sandy and clayey washes; along and in sandy drainages; within drainage ways; around ponds and lakes; playas; boggy areas; loamy ciénegas; marshy areas; depressions; sandy swales; (sandy and silty) banks of rivers; along (rocky and gravelly-sandy) edges of rivers, washes and swales; around margins of playas; shorelines of lakes; gravel bars; along sandy beaches; terraces; sandy bottomlands; gravelly and sandy floodplains; lowlands; mesquite bosques; around stock tanks; dry beds of stock tanks; dry beds of reservoirs; along and in ditches; ditch banks; sandy riparian areas; clayey-loamy waste places, and disturbed areas growing in wet, moist, damp and dry bouldery, bouldery-gravelly, rocky, rocky-gravelly, rocky-sandy, cindery, gravelly, gravelly-sandy and sandy ground; rocky loam, gravelly loam, gravelly-sandy loam, gravelly-sandy-clayey loam, gravelly-clayey loam, sandy loam, sandy-clayey loam, clayey loam, silty loam and loam ground; gravelly clay, sandy clay, silty clay and clay ground, and sandy silty and silty ground, occurring from sea level to 10,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant has a rank odor. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop (subsp. *exauriculata*); it was also noted as having been used as a drug or medication, insecticide (subsp. *exauriculata*), protection (subsp. *exauriculata*), ceremonial items (subsp. *exauriculata*) and as a commodity used in personal hygiene (subsp. *exauriculata*). *Verbesina encelioides* is native to south-central and southern North America and coastal islands in the Caribbean Sea, and western and southern South America. \*5, 6, 16, 28 (color photograph 438), 42 (101313 - unable to access), 43 (062409), 44 (050712), 46 (Page 907), 58, 63 (050712 - color presentation), 68 (*Verbesina encelioides* var. *exauriculata* is reported to be an exotic and native to the Old World; however, no other source used reported it as being an exotic.), 77, 80 (This plant is listed as a Rarely Poisonous and Suspected Poisonous Range Plant. This annual forb has been reported to accumulate toxic levels of nitrate.), **85** (101313 - color presentation), 86 (color photograph), 115 (color presentation), 124 (050712), 127 (101313), 133 (101313 - unable to access)\*

*Verbesina encelioides* var. *exauriculata* (see *Verbesina encelioides* subsp. *exauriculata*)

***Verbesina rothrockii* B.L. Robinson & J.M. Greenman: Rothrock’s Crownbeard**

COMMON NAMES: Rothrock Crownbeard; Rothrock’s Crownbeard. DESCRIPTION: Terrestrial perennial forb/herb (erect stems 1 to 2 feet in height); the leaves are green; the disk florets may be golden or yellow; the ray florets may be golden or yellow; flowering generally takes place between early May and early September (additional records: one for mid-October and one for late October). HABITAT: Within the range of this species it has been reported from mountains; mesas; canyons; ridges; ridgetops; foothills; rocky hills; rocky hillsides; rocky and rocky silty slopes; rocky-gravelly bajadas; rocky outcrops; amongst rocks; prairies; along arroyos; within rocky draws; sandy washes; within rocky drainages; depressions; lowlands, and riparian areas growing in dry rocky, rocky-gravelly, stony and sandy ground and rocky silty ground, occurring from 3,700 to 9,200 feet in elevation in the woodland, scrub, grassland and desertscrub ecological formations. NOTE: *Verbesina rothrockii* is native to southwest-central and southern North America. \*15, 42 (101313 - unable to access), 43 (101313), 44 (101313 - no record of species; genus record), 46 (Page 907), 63 (101313), **85** (101313 - color presentation), 127 (101313 - no matches found), 133 (101313 - unable to access)\*

***Viguiera cordifolia* A. Gray: Heartleaf Goldeneye**

COMMON NAME: Heartleaf Goldeneye; Mountain Goldeneye. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (erect stems 14 inches to 5 feet in height); the leaves are green; the disk florets are yellow; the ray florets may be orange-yellow, yellow or dark yellow; flowering generally takes place between late July and late October (additional records: one for mid-May, one for mid-June and one for early July). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; mesas; cliff sides; canyons; along canyon bottoms; along ledges; ridgelines; meadows; foothills; hills; hillsides; rocky, stony, gravelly-clayey, gravelly-silty-loamy and clayey slopes; bajadas; rocky outcrops; amongst rocks; banks; plains; flats; along rocky and gravelly-loamy roadsides; within arroyos; draws; bottoms of draws; along streambeds; along creeks; along creekbeds; along rivers; along washes; (rocky) banks of streams; bottomlands; floodplains, and riparian areas growing in dry rocky, rocky-gravelly, stony and sandy ground; gravelly loam and gravelly-silty loam ground, and gravelly clay and clay ground, occurring from 3,500 to 9,000 feet in elevation in the forest, woodland, grassland and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Viguiera cordifolia* is native to southwest-central and southern North America. \*5, 6, 15, 42 (101313 - unable to access), 43 (101313), 44 (101313 - no record of species; genus record), 46 (Page 901), 63 (101313), **85** (101313 - color presentation), 127 (101313 - no matches found), 133 (101313 - unable to access)\*

***Viguiera dentata* (A.J. Cavanilles) C.P. Sprengel: Toothleaf Goldeneye**

COMMON NAMES: Girasol (a name also applied to other species); Goldeneye (a name also applied to other species and the genus *Viguiera*); Lanceleaf Goldeneye; Sunflower Golden-eye; Sunflower Goldeneye; Tooth-leaf Goldeneye; Toothleaf Goldeneye. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (erect stems 1 to 6½ feet in height); the brittle stems are often reported as much-branched sprawling-ascending stems from base; the foliage may be gray-green, green or dark green; the disk florets have been described as being dark brown-purple, deep gold, golden-yellow, green-yellow, orange, orange-yellow or yellow; the ray florets have been described as being golden, golden-yellow, orange-yellow, yellow, dark yellow or yellow-orange; flowering generally takes place between late February and early December (additional records: four for mid-January and one for late January). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; rocky mesas; cliffs; bases of cliffs; rocky and gravelly-loamy canyons; along rocky and gravelly canyon bottoms; talus slopes; rocky ridges; rocky and gravelly ridgetops; meadows; foothills; rocky hills; bouldery hilltops; rocky, rocky-cobbly-gravelly, rocky-gravelly-silty, rocky-clayey and shaley hillsides; rocky, gravelly, sandy and clayey loam slopes; amongst boulders; sandy lava flows; alluvial fans; bajadas; rockslides; banks; llanos; plains; stony flats; rocky uplands; gravelly-sandy valleys; railroad beds; rocky railroad right-of-ways; roadcuts; along roadways; along rocky, gravelly and gravelly-sandy roadsides; along rocky arroyos; gravelly bottoms of arroyos; draws; ravines (barrancas); springs; bedrock rivulets; along streams; streambeds; creekbeds; along rivers; sandy riverbeds; rocky, gravelly-sandy and sandy washes; along rocky drainages; watersheds; depressions; along banks of streams, creeks, rivers, washes and drainages; borders of washes; along (rocky) edges of arroyos, streams and lakes; (gravelly-sandy) sides of creeks; terraces; sandy bottomlands; rocky floodplains; mesquite bosques; around and in stock tanks; ditches; ditch banks; gravelly and sandy riparian areas, and disturbed areas growing in dry bouldery, rocky, rocky-cobbly-gravelly, shaley, stony, gravelly, gravelly-sandy and sandy ground; gravelly loam and clayey loam ground; rocky clay and sandy clay ground, and rocky-gravelly silty ground, occurring from sea level to 8,500 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Viguiera dentata* is native to southwest-central and southern North America and islands in the Caribbean Sea.\*5, 6, 15, 42 (101413- unable to access), 43 (062509), 44 (101413 - no record of species; genus record), 46 (Page 901), 58, 63 (101413 - color presentation), **85** (101413), 106 (101413 - no record of species; genus record including a listing of species, color presentation), 127 (101413 - no matches found), 133 (101413 - unable to access)\*

***Xanthisma gracile* (T. Nuttall) D.R. Morgan & R.L. Hartman: Slender Goldenweed**

SYNONYMY: *Haplopappus gracilis* (T. Nuttall) A. Gray; *Machaeranthera gracilis* (T. Nuttall) L.H. Shinners. COMMON NAMES: Annual Bristleweed; Goldenweed (a name also applied to other taxa); Grass-leaf Tansy-aster; Grassleaf Tansy-aster; Slender Goldenbush; Slender Goldenweed; Slender Sleep-daisy; Slender Sleepy-daisy; Slender Spine-aster (New Mexico); Tabacote (Spanish); Yellow Daisy (a name also applied to other taxa); Yellow Spiny Daisy (a name also applied to other taxa). DESCRIPTION: Terrestrial annual forb/herb (prostrate, decumbent, ascending and/or erect stems 2 to 28 inches in height); the foliage may be gray-green or yellow-green; the disk florets may be gold, yellow or yellow-orange; the ray florets may be gold, yellow or yellow-orange; flowering generally takes place between early March and mid-November (additional records: one for early January, one for late January, two for early February and three for early December). HABITAT: Within the range of this species it has been reported from mountains; mountain summits; mountainsides; bases of mountains; mesas; sandy bases of cliffs; rocky canyons; gravelly-sandy and sandy canyon bottoms; bouldery and sandy ridges; rocky ridgetops; clearings in forests and woodlands; sandy meadows; foothills; rocky, stony, gravelly, sandy and sandy-clayey hills; rocky, gravelly-clayey, sandy-clayey and clayey hillsides; rocky, rocky-stony, rocky-silty, gravelly, gravelly-loamy, silty-loamy, sandy, sandy-clayey-loamy, clayey and clayey-loamy slopes; bajadas; amongst boulders; sand dunes; outwash; gravelly banks; plains; rocky, gravelly, sandy, sandy-clayey-loamy and clayey flats; valley floors; valley bottoms; along railroad right-of-ways; along rocky, gravelly, gravelly-sandy, sandy and clayey roadsides; arroyos; bottoms of arroyos; draws; along streams; streambeds; along gravelly-sandy creeks; rocky creekbeds; along rivers; bouldery-cobbly-sandy and sandy riverbeds; along and in bouldery, rocky, stony, gravelly, gravelly-sandy, sandy and clayey washes; within drainages; bouldery and gravelly-sandy-loamy drainage ways; within swales; along lakes; bog-like areas; (sandy and silty) banks of streams, creeks and lakes; edges of ciénegas; shores of lakes; sides of arroyos and creekbeds; beaches; sandy benches; sandy and loamy bottomlands; sandy floodplains; lowlands; around and in stock tanks; along ditches; gravelly and sandy riparian areas; waste places, and disturbed areas growing in moist and dry bouldery, bouldery-cobbly-sandy, rocky, rocky-stony, rocky-sandy, stony, cindery, gravelly, gravelly-sandy and sandy ground; rocky-clayey loam, gravelly loam, gravelly-sandy loam, sandy loam, sandy-clayey-loamy, clayey loam, silty loam and loam ground; gravelly clay, sandy clay and clay ground, and rocky silty and powdery silty ground, occurring from 900 to 8,900 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop; it was also noted as having been used as a drug or medication. *Xanthisma gracilis* is native to south-central and southern North America. \*5, 6, 15 (recorded as *Machaeranthera gracilis* (Nutt.) Shinners [*Halopappus gracilis* (Nutt.) Gray]), 16 (recorded as *Machaeranthera gracilis* (Nutt.) Shinners), 28 (recorded as *Machaeranthera gracilis*, color photograph 419), 42 (093013), 43 (093013), 44 (093013 - color photograph), 46 (recorded as *Aplopappus gracilis* (Nutt.) Gray, Page 860), 58 (recorded as *Machaeranthera gracilis* (Nutt.) Shinners [*Aplopappus gracilis* (Nutt.) Gray in ‘Arizona Flora”]), 63 (093013 - recorded as *Machaeranthera gracilis* (Nutt.) Shinners, color presentation), 77 (recorded as *Machaeranthera gracilis* (Nutt.) Shinners [*Haplopappus gracilis* (Nutt.) Gray]), 80 (Species of the genus *Machaeranthera* (*Aster* sp.) are listed as a Rarely Poisonous and Suspected Poisonous Range Plant. “Species of this genus are secondary or facultative selenium absorbers and can be dangerous to livestock.”), **85** (093013 - color presentation), 124 (031812 - no record of species; genus record), 127, 133 (093013), 140 (Page 285)\*

***Zinnia acerosa* (A.P. de Candolle) A. Gray: Desert Zinnia**

SYNONYMY: *Zinnia pumila* A. Gray. COMMON NAMES: Cmajíic Ihásaquim (“What Women Brush Their Hair With”, Hokan: Seri)140; Desert Zinnia; Desert [White] Zinnia (English)140; Hierba del Burro (Spanish); Mojépe Ihásaquim Cmaam (“Female Saguaro Hairbrush”, Hokan: Seri)140; Saapom Ipémt (“What Purple Prickly-pear is Rubbed With”, Hokan: Seri)140; Spinyleaf Zinnia; White Zinnia; Wild Zinnia; Zinia (a name also applied to other species, Spanish); Zinia del Desierto (“Desert Zinnia”, Spanish: Sonora)140. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (stems 3 to 20 inches in height and up to 2 feet in width with a flat or rounded crown; plants were observed and described as being 8 inches in height and width); the stems may be gray or greenish; the leaves may be gray or gray-green; the disk florets may be green-yellow, yellow or yellow-orange; the ray florets may be cream, cream-white, white, white-cream, pale yellow, yellow or yellow-white; flowering generally takes place between early March and early December. HABITAT: Within the range of this species it has been reported from mountains; gravelly, sandy and sandy-loamy mesas; sandy-loamy plateaus; canyons; canyon bottoms; crevices in bedrock; along bedrock, rocky and stony ridges; rocky ridgetops; gravelly foothills; rocky and stony hills; rocky and gravelly hillsides; bases of hills; bedrock, bouldery, rocky, rocky-gravelly-sandy, gravelly, gravelly-sandy, gravelly-sandy-loamy, gravelly-loamy, sandy, sandy-loamy and loamy slopes; rocky, gravelly, gravelly-sandy, sandy and clayey bajadas; rocky outcrops; stony and sand hills; sand dunes; plains; rocky-gravelly-sandy, rocky-sandy, gravelly and gravelly-sandy-clayey flats; rocky valley floors; gravelly-silty and gravelly-silty-loamy valley bottoms; along gravelly-sandy-clayey-loamy roadsides; arroyos; sandy bottoms of arroyos; washes; rocky and sandy drainages; along ponds; (gravelly-sandy) banks of washes; edges of swales; sandy benches; terraces; floodplains; sandy lowlands; riparian areas; waste places, and disturbed areas growing in damp and dry desert pavement; bouldery, rocky, rocky-gravelly-sandy, rocky-sandy, stony, gravelly, gravelly-sandy and sandy ground; gravelly loam, gravelly-sandy loam, gravelly-sandy-clayey loam, gravelly-silty loam, sandy loam and loam ground; gravelly-sandy clay and clay ground, gravelly silty ground, and chalky ground, occurring from 1,400 to 6,300 feet in elevation in the woodland, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. *Zinnia acerosa* is native to southwest-central and southern North America. \*5, 6, 13 (Page 297), 15, 16, 18, 28 (color photograph 257), 42 (101413 - unable to access), 43 (062609 - *Zinnia acerosa* A. Gray), 44 (050912 - no record of species or genus), 46 (recorded as *Zinnia pumila* Gray, Page 897), 48 (genus), 58, 63 (050912 - color presentation), 77 (color photograph #71), 85 (101513 - color presentation), 115 (color presentation), 124 (050912 - no record of species; genus record), 127 (101413), 133 (101413 - unable to access), 140 (Pages 88-90 & 286), **WTK** (September 26, 2005)\*

*Zinnia pumila* (see *Zinnia acerosa*)

Berberidaceae: The Barberry Family

***Berberis wilcoxii* T.H. Kearney: Wilcox’s Barberry**

COMMON NAMES: Barberry (a name also applied to other species and the genus *Berberis*); Holly Leaf Grape; Palo Amarillo (Spanish); Wilcox Barberry; Wilcox Hollygrape; Wilcox’s Barberry; Wilcox’s Hollygrape. DESCRIPTION: Terrestrial perennial evergreen shrub (8 inches to 7 feet in height); the leaves are glossy green above (adaxially) and dull green below (abaxially) with a rachis tinged purple; the flowers may be yellow or bright yellow; based on few records located flowering generally takes place between mid-March and late April (additional records: three for mid-May and one for mid-July); the fruits are have been described as being blue, dark blue, bluish-purple or purple. HABITAT: Within the range of this species it has been reported from mountains; mountainsides; rocky canyons; canyon bottoms; hillsides; sandy and loamy slopes; grassy flats; uplands; rocky roadsides; along rocky draws; gulches; sandy bottoms of ravines; springs; along and in streambeds; along creeks; along sandy creekbeds; along washes; along banks of creeks, and sandy riparian areas growing in moist, damp and dry rocky, gravelly and sandy ground and loam ground, occurring from 3,700 to 8,300 feet in elevation in the forest, woodland, scrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, the flowers are reportedly fragrant. This plant may be a secondary host of the black stem rust of cereal grains. This plant is reputed to be sometimes poisonous to livestock. *Berberis wilcoxii* is native to Southwest-central and southern North America. \*5, 6, 15, 28 (noted under Creeping Barberry, color photograph 393), 42 (101813), 43 (101513), 44 (101513 - no record of species; genus record), 46 (Page 321), 63 (101513), **85** (101513 - color presentation), 127 (101513 - no matches found for the species; one match found for the genus), 133 (101813), 140 (Page 286), 156 (101513)\*

Bignoniaceae: The Trumpet-creeper Family

***Chilopsis linearis* (A.J. Cavanilles) R. Sweet: Desert Willow**

COMMON NAMES: Bow Willow; Catalpa Willow (Texas); Desert Catalpa; Desert Willow (a name also applied to other species); Desert-willow (a name also applied to the genus *Chilopsis*); Desertwillow (a name also applied to the genus *Chilopsis*); False-willow (a name also applied to other species); Flor de Mimbre (a name also applied to other species); Flowering Willow; Flowering-willow; Jano (Spanish); Janos (Spanish); Mimbres (Spanish); Ökentrumpet (Swedish); Texas Desert Willow; Willow-leaved Catalpa; Willowleaf Catalpa. DESCRIPTION: Terrestrial perennial (cold-deciduous) shrub or tree (5 to 33 feet in height; plants were observed and described as being 10 to 13 feet in height with spreading crowns to 33 feet in width, one plant was observed and described as being 15 feet in height with a crown 20 feet in width, plants were observed and described as being 18 feet in height with crowns 20 feet in width, plants were observed and described as being 22 feet in height with crowns 25 feet in width); the bark is dark brown or dark gray-brown; the light green leaves may be straight (subsp. *linearis* and roughly to 12 inches in length and 3/8 inch in width) or curved (subsp. *arcuata* and roughly 3 to 5½ in length and 1/8 to 1/4 inch in width); the flowers may be light lavender, lavender, lavender-white, pale pink, pink, pink-lavender, pink-lavender-magenta with a white throat, pinkish-white, purple, purple-white, purple with yellow markings, reddish-purple, rose, violet, white, whitish, white with a pink tint or white with pink or purple lines; flowering generally takes place between mid-April and mid-October (additional records: two for late March, two for late October and one for mid-December); the seeds are dispersed from slender pods (4 to 12 inches in length). HABITAT: Within the range of this species it has been reported from mountains; mudstone mesas; bases of cliffs; rocky and sandy canyons; rocky canyon bottoms; rocky and sandy talus slopes; ledges; foothills; talus hills; gravelly-sandy hillsides; rocky, gravelly, gravelly-sandy, sandy, sandy-loamy and loamy slopes; sandy bajadas; amongst rocks; sand dunes; plains; sandy and sandy-loamy flats; silty valley floors; along gravelly, gravelly-sandy and gravelly-sandy-clayey-loamy roadsides; along and in gravelly-sandy, sandy and clayey-loamy arroyos; bottoms of arroyos; gulches; ravines; along sandy springs; along streams; rocky and gravelly-sandy streambeds; in sandy soil along creeks; along and in sandy creekbeds; sandy riverbeds; along and in rocky, rocky-sandy, gravelly, gravelly-sandy and sandy washes; rocky and sandy-loamy drainages; drainage ways; sandy and silty depressions; along (rocky, rocky-sandy, gravelly-sandy and sandy) banks of streams, creeks, washes and water courses; borders of washes; edges of washes; along margins of washes; sand bars; bottomlands; sandy floodplains; mesquite bosques; along canals; sandy and clayey-loamy riparian areas and disturbed areas growing in dry bouldery-cobbly-sandy, rocky, rocky-sandy, gravelly, gravelly-sandy and sandy ground; rocky-gravelly loam, gravelly-sandy-clayey loam, sandy loam, clayey loam and loam ground, and silty ground, occurring from sea level to 6,600 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, the flowers may be fragrant. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food (blossoms and seed pods) and/or fiber (used in sewing and in making clothing, furniture, baskets, cordage and as a tool) crop; it was also noted that the wood was used to make bows. The Desert Willow may be useful in controlling erosion. The bee, *Bombus sonorus*, is a pollinator, and hummingbirds are attracted to the flowers and feed on the nectar. *Chilopsis linearis* is native to south-central and southern North America. \*5, 6, 13 Pages 214-215), 15, 18, 26 (color photographs), 28 (color photograph 55), 42 (101813), 43 (062609 - *Chilopsis linearis* Sweet), 44 (061411), 46 (Page 794), 48, 52 (color photograph), 53, 63 (050912 - color presentation), 74, 77, **85** (051012 - color presentation), 86 (color photograph), 91 (Pages 160-163), 115 (color presentation), 124 (061211), 127 (121913), 133 (121913), 156 (121913)\*

***Chilopsis linearis* (A.J. Cavanilles) R. Sweet subsp. *arcuata* (F.R. Fosberg) J.S. Henrickson: Desert Willow**

SYNONYMY: *Chilopsis linearis* (A.J. Cavanilles) R. Sweet var. *arcuata* F.R. Fosberg. COMMON NAMES: Bow Willow (a name also applied to the species); Catalpa Willow (a name also applied to the species, Texas); Desert Catalpa (a name also applied to the species); Desert Willow (a name also applied to the species and to other species); Desert-willow (a name also applied to the species and the genus *Chilopsis*); Desertwillow (a name also applied to the species and the genus *Chilopsis*); False-willow (a name also applied to the species and to other species); Flor de Mimbre (a name also applied to the species and to other species); Flowering Willow (a name also applied to the species); Flowering-willow (a name also applied to the species); Hairy Clematis; Jano (a name also applied to the species, Spanish); Mimbres (a name also applied to the species, Spanish); Texas Desert Willow (a name also applied to the species); Western Desert Willow; Western Desert-willow; Western Desertwillow; Willow-leaved Catalpa (a name also applied to the species); Willowleaf Catalpa (a name also applied to the species). DESCRIPTION: Terrestrial perennial (cold deciduous) shrub or tree (5 to 33 feet in height; one plant was observed and described as being 13 feet in height with a crown 13 feet in width); the leaves are curved and roughly 3 to 5½ in length and 1/8 to 1/4 inch in width; the flowers may be pink, pale pink, pink & white, purple, violet with yellow markings, white, white with maroon-purple or yellow & magenta lines or whitish tinged with lavender and yellow; flowering generally takes place between mid-April and early October (additional record: one for late October); the seeds are dispersed from slender pods (4 to 12 inches in length). HABITAT: Within the range of this species it has been reported from mountains; mesas; canyons; foothills; rocky hills; bedrock, rocky, rocky-sandy, gravelly-sandy and sandy-silty-loamy slopes; sandy bajadas; amongst rocks; sand dunes; breaks; plains; sandy-silty flats; valley floors; along sandy-loamy roadsides; along arroyos; draws; along streams; along sandy streambeds; along rocky creeks, along and in rocky, gravelly, gravelly-sandy and sandy washes; drainages; (sandy) banks of washes and watercourses; (sandy) edges of washes; margins of washes; sides of streams, washes and drainages; sand bars; benches; terraces; floodplains, and riparian areas growing in moist and dry rocky, rocky-sandy, gravelly, gravelly-sandy and sandy ground; rocky-gravelly loam, sandy loam and sandy-silty loam ground, and sandy silty ground, occurring from sea level to 6,200 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. The species, *Chilopsis linearis*, was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial fiber crop. The Desert Willow may be useful in controlling erosion. The bee, *Bombus sonorus*, is a pollinator, and hummingbirds are attracted to the flowers and feed on the nectar. *Chilopsis linearis* subsp. *arcuata* is native to southwest-central and southern North America. \*5, 6, 13 (Page 215, color photograph: Plate P.2., Page 402; “The desert willows have been used widely as ornamentals. They are prized for their graceful habit and large, attractive, sweet-scented flowers.”), 18 (species), 26 (species, color photographs of species), 28 (species, color photograph 55), 42 (101813), 43 (062609), 44 (061411 - color photograph), 46 (Page 794), 48 (species), 52 (species, color photograph of species), 53, 58, 63 (101613 - color presentation), 74 (species), 85 (101613 - color presentation of dried material), 86 (species, color photograph of species), 91 (species, Pages 160-163), 115 (color presentation of species), 124 (061211 - no record of subspecies; species record), 127 (species), 133 (101813), **MBJ**/**WTK** (July 9, 2009), **WTK** (September 26, 2005)\*

*Chilopsis linearis* var. *arcuata* (see *Chilopsis linearis* subsp. *arcuata*)

Bixaceae: The Lipsticktree Family

***Amoreuxia gonzalezii* T.A. Sprague & L.A. Riley: Santa Rita Mountain Yellowshow**

COMMON NAMES: Saiy (Spanish); Saiya (Spanish); Saya (Spanish); Santa Rita Throw-up Weed; Santa Rita Throwup Weed; Santa Rita Mountain Yellowshow; Zaya (Spanish: Mexico, Sinaloa). DESCRIPTION: Terrestrial perennial forb/herb (erect stems 6 to 12+ inches in height); the flowers (2¾ to 3 inches in length and 2½ to 3 inches in width) may be pale cream-salmon, deep salmon tinged with maroon or pale yellow-salmon with pale maroon or pale maroonish basal spots; the upper set of anthers may be cream, pale cream or light maroon and the lower set of anthers may be cream, pale cream or pale maroon; based on few records located flowering generally takes place between early July and late August (additional records: flowering into September has also been reported, blooming in June has been reported for plants under cultivation). HABITAT: Within the range of this species it has been reported from mountains; rocky canyons; talus slopes; rocky and gravelly ridgetops; foothills; rocky hillsides; rocky, cobbly and gravelly slopes; rocky outcrops; bases of rock outcrops; roadsides, and disturbed areas growing in dry rocky, cobbly, gravelly and sandy ground, occurring from 500 to 4,600 feet in elevation in the forest, woodland, scrub, grassland, and desertscrub ecological formations. This plant may be an attractive component of a restored native habitat. NOTES: This plant may be an attractive component of a restored native habitat. *Amoreuxia gonzalezii* is native to southwest-central and southern North America. \*5, 6, **8**, 9, 42 (101713), 43 (101613), 44 (101613 - no record of species or genus), 46 (Page 558), 63 (101613), 85 (101613- color presentation), 127 (101613), 133 (101813), 140 (placed in the Cochlospermaceae, Page 289), 156 (101613 - no record of species or genus)\*

***Amoreuxia palmatifida* A.P. de Candolle: Mexican Yellowshow**

COMMON NAMES: Mexican Yellowshow; Saiy (Spanish); Saiya (Spanish); Saya (Spanish: Mexico, Sonora); Te Maqui (Mexico, Sonora Huachinera); Throwup Weed; Zaya (Spanish). DESCRIPTION: Terrestrial perennial forb/herb (erect stems 4 to 46 inches in height); the flowers (1¼ to 2½ inches in length and 1¾ to 2½ inches in width) may be orange, pale orange, orange-red, orange-salmon, orange-yellow, salmon-maroon, salmon-orange, yellow or yellow-orange with a dark maroon or red basal spot; the anthers may be dark maroon, purple, red or yellow; flowering generally takes place between late June and late September (additional records: one for early January, one for mid-April, one for early June, one for mid-October and one for late October). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky mesas; rocky canyons; canyon bottoms; gravelly ridgetops; foothills; rocky hills; hilltops; rocky hillsides; rocky, rocky-gravelly-loamy and gravelly slopes; rocky outcrops; amongst rocks; llanos; cobbly plains; rocky flats; sandy valleys; coastal flats; grassy roadbanks; rocky-clayey roadcuts; along clayey roadsides; rocky arroyos; gravelly bottoms of arroyos; rocky draws; sandy streambeds; creekbeds; along washes; within drainages; banks of washes; edges of creeks and lakes; floodplains; mesquite bosques; ditches; riparian areas, and disturbed areas growing in dry rocky, cobbly, gravelly and sandy ground; rocky-gravelly loam ground, and rocky clay, gravelly clay and clay ground, occurring from sea level to 5,600 feet in elevation in the forest, woodland, scrub, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, the flowers may be fragrant. A Sonoran Bumblebee (*Bombus sonorus*) has been observed visiting the flowers. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop; it was also noted that the roots were used as a cash crop for trade. *Amoreuxia palmatifida* is native to southwest-central and southern North America and Central America. \*5, 6, 15, 42 (101713), 43 (101713), 44 (101713 - no record of species or genus), 46 (Page 558), 63 (101713 - recorded as *Amoreuxia palmatifida* Moc. & Sessé DC., color presentation), **85** (101713 - color presentation), 127 (101713), 133 (101813), 140 (placed in the Cochlospermaceae, Page 289), **MBJ**/**WTK** (July 9, 2009)\*

Boraginaceae: The Borage Family

***Hackelia ursina* (E.L. Greene ex A. Gray) I.M. Johnston: Chihuahuan Stickseed**

COMMON NAME: Chihuahuan Stickseed. DESCRIPTION: Terrestrial biennial or perennial forb/herb (erect stems 3 to 4 feet in height); the flowers may be cream-white or white sometimes with a yellowish center; based on few records located flowering generally takes place between early July and mid-September (additional records: two for mid-June; flowering beginning as early as May has also been reported). HABITAT: Within the range of this species it has been reported from mountains; rocky-gravelly canyons; rocky canyon bottoms; talus slopes; sandy loamy soil in crevices in rock; pockets of soil; rocky ridges meadows; sandy-clayey-loamy slopes; along and in streambeds; along washes, and gravelly-sandy riparian areas growing in moist and dry rocky, rocky-gravelly and gravelly-sandy ground and gravelly loam, sandy loam and sandy-clayey loam ground, occurring from 5,000 to 8,800 feet in elevation in the forest, woodland, scrub and wetland ecological formations. NOTES: *Hackelia ursina* is native to southwest-central and southern North America. \*5, 6, **8**, 42 (101813), 43 (101813 - *Hackelia ursina* I.M. Johnst.), 44 (101813 - no record of species; genus record), 46 (Page 713), 63 (101813), 85 (101813 - color presentation), 127 (101813 - no matches found), 133 (101813 - no record for this species), 156 (101813 - no record of species)\*

Brassicaceae (Cruciferae): The Mustard Family

***Descurainia pinnata* (T. Walter) N.L. Britton subsp. *halictorum* (T.D. Cockerell) L.E. Detling: Western Tansymustard**

SYNONYMY: *Descurainia pinnata* (T. Walter) N.L. Britton var. *osmiarum* (T.D. Cockerell) L.H. Shinners - an alternate spelling of *osmiarum* (*osmiarium*) was observed. COMMON NAME: Alkali Western Tansy-mustard; Alkali Western Tansymustard; Tansy Mustard (a name also applied to the species and the genus *Descurainia*); Tansy-mustard (a name also applied to the species, to other species and to the genus *Descurainia*); Western Tansy Mustard (a name also applied to the species); Western Tansymustard (a name also applied to the species). DESCRIPTION: Terrestrial annual, biennial or perennial forb/herb (erect stems 13 to 32 inches in height); the flowers may be pink, white, yellow, pale yellow or yellowish; flowering generally takes place between early March and mid-August (additional record: one for mid-January). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; sandy mesas; plateaus; rocky canyon rims; canyons; canyon bottoms; clayey bluffs; buttes; knolls; rocky ledges; rocky ridges; cobbly and clayey ridgetops; meadows; clayey foothills; hilltops; shaley, gravelly-sandy-loamy, sandy and clayey hills; hilltops; rocky, rocky-sandy, rocky-sandy-clayey, shaley, shaley-gravelly, stony-clayey, cobbly, cobbly-gravelly, gravelly, gravelly-sandy, sandy, sandy-clayey and clayey slopes; bajadas; rocky outcrops; sand dunes; sandy-silty hummocks; sandy benches; breaks; gravelly-sandy steppes; prairies; rocky-sandy, sandy and sandy-clayey plains; shaley, cobbly-gravelly, sandy, sandy-clayey and clayey flats; sandy basins; sandy valley floors; valley bottoms; sandy and clayey coastal bluffs; along railroad right-of-ways; roadcuts; along gravelly roadsides; within sandy-loamy arroyos; sandy draws; ravines; seeps; springs; along streams; streambeds; riverbeds; along creeks; within rocky-sandy, gravelly and sandy washes; sandy-clayey drainages; waterfalls; within playas; (sandy) banks of creeks and rivers; (gravelly-loamy) borders of rivers; (rocky) edges of washes; margins of arroyos; (mucky) shorelines; sand bars; shaley and sandy benches; sandy bottomlands; floodplains; sandy and clayey lowlands; sandy mesquite woodlands; fencerows; margins of reservoirs; along ditches; riparian areas; waste places, and disturbed areas growing in mucky and dry cryptogamic; rocky, rocky-sandy, shaley, shaley-gravelly, shaley-sandy, stony, cobbly, cobbly-gravelly, cobbly-sandy, cindery, gravelly, gravelly-sandy and sandy ground; gravelly-loam, gravelly-sandy loam, sandy loam and silty loam ground; rocky-sandy clay, stony clay, sandy clay and clay ground; sandy silty ground, and gypsum, occurring from sea level to 11,800 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop; it was also noted as having been used as a preservative and a fertilizer. This plant is a larval food plant of the Desert Orangetip Butterfly (*Anthocharis cethura*) and is sometimes planted in butterfly gardens to attract Orangetip, Checkered White and White Cabbage Butterflies. Black-tailed Jack Rabbits (*Lepus californicus*), Pronghorn (*Antilocapra americana*) and Rocky Mountain Mule Deer (*Odocoileus hemionus hemionus*) feed on this plant, and the Ord’s Kangaroo Rat (*Dipodomys ordii*), Spotted Ground Squirrel (*Spermophilus spilosoma*), Townsend Ground Squirrel (*Spermophilus townsendii*) and Northern Grasshopper Mice (*Onychomys leucogaster*) feed on the seeds. *Descurainia pinnata* subsp. *halictorum* is native to west-central and southern North America. \*5, 6, 42 (101913), 43 (010510), 44 (120710), 46 (Page 349), 58, 63 (101913), 68 (species), 80 (The species is listed as a Secondary Poisonous Range Plant. “Symptoms of poisoning are similar to the “blind staggers” disease caused by selenium, but the principle is unknown. Large quantities of the plant must be eaten for a considerably long time before symptoms appear. Consumption of toxic amounts is most likely to occur during the blossoming period in the spring. Poisoned cattle become partially or completely blind and wander aimlessly about until exhausted, or stand pushing against some solid object for hours. Animals lose their ability to use their tongue in swallowing and cannot eat or drink. They eventually die if neglected. As a result a popular term for the disease is “paralyzed tongue”. ... Analysis of plants in Arizona shows that tansy mustard also may accumulate toxic levels of nitrate. Poisoning may be prevented by deferring heavily infested pastures during the spring-growth period, or by providing more desirable forage to reduce mustard consumption.” See text for additional information.), **85** (101913 - color presentation of dried material), 124 (061811), 127 (101913), 133 (101913), 156 (101913 - no record of subspecies *halictorum*; species record)\*

*Descurainia pinnata* var. *osmiarum* (see *Descurainia pinnata* subsp. *halictorum*)

***Draba cuneifolia* T. Nuttall ex J. Torrey & A. Gray var. *integrifolia* S. Watson: Wedgeleaf Draba**

COMMON NAMES: Draba Primaveral (“Spring Draba”, Spanish: Mexico)140; Gasa (Spanish: Mexico)140; Sanguinaria Menor (“Litltle Bloody One”, Spanish: Mexico)140; Wedge-leaf Draba (a name also applied to the species); Wedge-leaf Draba (English)140; Wedgeleaf Draba (a name also applied to the species); Wedgeleaf Whitlow Grass (a name also applied to the species); Wedgeleaf Whitlowgrass (a name also applied to the species); Whitlow Grass (a name also applied to the species and the genus *Draba*); Whitlow-grass (a name also applied to the species and the genus *Draba*); [Wedge-leaf] Whitlow-grass (English)140; Whitlow-wort (a name also applied to the species, other species and to the genus *Draba*). DESCRIPTION: Terrestrial annual forb/herb (erect stems 1 to 15 inches in height; one plant was observed and described as being 1¼ to 2¾ inches in height and 1¼ to 1½ inches in width); the flowers are white; flowering generally takes place between mid-January and late April (additional records: one for mid-May, one for late May, one for June, one for early December and one for late December). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; cliffs; cliff walls; rocky canyons; rocky canyon bottoms; bases of cliffs; ledges; openings in chaparral; foothills; sandy hills; rocky-gravelly hillsides; rocky, rocky-gravelly-sandy, rocky-sandy, rocky-clayey, gravelly, gravelly, gravelly-silty-clayey-loamy and silty-clayey slopes; sandy bajadas; bouldery and rocky outcrops; amongst rocks; in the shade of rocks and shrubs; lava flows; benches; plains; rocky, gravelly, sandy and clayey flats; basins; sandy coastal flats; along roadsides; along arroyos; draws; seeps; along streams; along creekbeds; along rivers; along and in rocky, rocky-sandy, gravelly-sandy and sandy washes; gravelly drainages; (gravelly-sandy, sandy and silty) banks of washes; borders of washes; edges of washes and drainages; bars; gravelly benches; loamy bottomlands; loamy floodplains; mesquite bosques; shores of reservoirs; riparian areas; recently burned areas in woodlands, and disturbed areas growing in moist and dry bouldery, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, gravelly, gravelly-sandy and sandy ground; rocky-sandy loam, rocky-clayey loam, gravelly-sandy loam, gravelly-silty-clayey loam and loam ground; rocky clay, silty clay and clay ground, and silty ground, occurring from sea level to 7,400 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Draba cuneifolia* var. *integrifolia* is native to southwest-central and southern North America. \*5, 6, 15, 42 (101913), 43 (010710), 44 (052812 - no listings recorded under Common Names; species and genus records), 46 (Pages 347-348), 63 (052812 - color presentation), **85** (101913 - color presentation of dried material), 115 (color presentation of species), 124 (052812 - no record of variety; genus and species records), 127 (101913 - no matches found), 133 (101913), 140 (Pages 95, 96 & 287 - recorded as *Draba cuneifolia* Nuttall ex Torrey & A. Gray [*Draba cuneifolia* Nuttall ex Torrey & A. Gray var. *integrifolia* S. Watson, *Draba cuneifolia* Nuttall ex Torrey & A. Gray var. *platycarpa* (Torrey & A. Gray) S. Watson, *Draba platycarpa* (Torrey & A. Gray]), 156 (101913)\*

***Erysimum capitatum* (D. Douglas ex W.J. Hooker) E.L. Greene: Sanddune Wallflower**

COMMON NAMES: Coast Blistercress (a name also applied to other species); Coast Erysimum (a name also applied to other species); Coast Wallflower (a name also applied to other species); Contra Costa Wallflower (for var. *angustatum*); Desert Wallflower; Douglas Wallflower; Douglas’ Wallflower; Douglas’s Wallflower; False Wallflower; Prairie Rocket (for var. *capitatum*); Pursh’s Wallflower (for var. *purshii*); San Luis Obispo Wallflower (for var. *lompocense* - not accepted, *E*.*c*. var. *capitatum* - accepted); Sand Dune Wall Flower; Sand Dune Wallflower; Sand-dune Wall Flower; Sand-dune Wall-flower; Sand-dune Wallflower; Sanddune Wallflower; Tall Wallflower; Wall Flower; Western Wallflower (a name also applied to other species); Western-wallflower (a name also applied to other species). DESCRIPTION: Terrestrial biennial or perennial forb/herb or subshrub (erect stems 2 inches to 5 feet in height); the stem is green; the leaves may be dark gray-green, grayish-green, green or dark green; the flowers (¾ inch in diameter in dense terminal racemes) have been described as being deep brown, burnt orange, canary yellow, gold, golden, golden-yellow, lavender (rarely reported), orange, bright orange, orange-maroon, orange-red, orange-yellow, orangish, purplish (rare), rose, red & orange, rust-orange, yellow, dark yellow, yellow-gold, pale yellow-orange, yellow-orange or yellowish-orange; flowering generally takes place between early February and early November (additional records: one for early January, one for early December and two for mid-December). HABITAT: Within the range of this species it has been reported from mountains; along rocky mountaintops; rocky and gravelly-loamy mountainsides; rocky toe slopes; rocky-silty bases of mountains; rocky, rocky-gravelly-silty, rocky-sandy, gravelly-sandy and sandy mesas; plateaus; along rocky rims; along rimrock; cliffs; rocky-gravelly hanging gardens; bases of cliffs; rocky canyons; rocky canyon walls; canyon sides; along rocky-sandy, sandy and sandy-loamy canyon bottoms; gorges; bouldery and rocky scree slopes; bases of scree slopes; along rocky talus slopes; bases of talus slopes; avalanche chutes; rocky rock-slides; crevices in rocks; sandy and loamy pockets of soil in rocks; rocky, shaley, gravelly and sandy bluffs; rocky, rocky-gravelly, rocky-gravelly-loamy, rocky-gravelly-clayey, gravelly-sandy, gravelly-clayey, gravelly-silty-loamy and sandy-silty-clayey buttes; gravelly and gravelly-sandy tops of buttes; hogbacks; rocky knobs; rocky, stony and sandy knolls; rocky, rocky-gravelly-silty and sandy ledges; along rocky, rocky-gravelly, rocky-sandy, shaley, cindery (scoria), gravelly, gravelly-sandy and sandy ridges; along bouldery, rocky, rocky-gravelly-silty, rocky-sandy, rocky-sandy-loamy-clayey, stony, sandy, sandy-loamy and clayey ridgetops; rocky ridgelines; ridge sides; clearings and openings in forests and scrub; rocky, stony, gravelly-loamy-clayey, sandy and loamy meadows; foothills; rocky, shaley, stony, gravelly, sandy, sandy-loamy and sandy-chalky hills; bouldery, rocky, rocky-sandy, stony-gravelly, cindery (scoria), gravelly-silty-loamy and sandy hilltops; rocky, rocky-gravelly, gravelly-loamy, sandy and clayey hillsides; rocky-sandy escarpments; bouldery, rocky, rocky-gravelly, rocky-sandy, rocky-loamy, rocky-clayey, rocky-clayey-loamy, shaley, shaley-silty, stony, stony-gravelly, stony-clayey, cobbly, cindery, cindery (scoria), gravelly, gravelly-sandy, gravelly-loamy, gravelly-silty, sandy, sandy-loamy, sandy-clayey, sandy-clayey-loamy, loamy, loamy-clayey, clayey, clayey-loamy, silty-sandy-loamy and silty-clayey slopes; bases of slopes; rocky-sandy alluvial fans; bajadas; bedrock, bouldery, rocky and shaley outcrops; around rock outcrops; amongst boulders and rocks; rock piles; boulder fields and rock fields; fellfields; rocky moraines; rocky-gravelly-sandy, rocky-clayey, rocky-silty-clayey, sandy-clayey, clayey and silty rock beds; sand hills; sand dunes; sandy side banks of dunes; gravelly-clayey and pebbly-silty outwash; silty-loamy slumps; rocky, stony, gravelly, loamy, loamy-clayey and clayey banks; sandy breaks; clayey shelves; clayey steppes; gravelly-silty-loamy, sandy, loamy, loamy-clayey, clayey-loamy, silty, silty-loamy and silty-clayey prairies; stony and sandy plains; mudstone, rocky, cindery, sandy, sandy-loamy, sandy-clayey, sandy-silty, loamy, clayey and clayey-loamy flats; rocky, gravelly-sandy, gravelly-silty-loamy, sandy, sandy-loamy, loamy, loamy-clayey, clayey, clayey-loamy, silty, silty-loamy and silty-clayey uplands; basins; within cirques; bouldery, gravelly and sandy valley floors; valley bottoms; along railroad right-of-ways; along abandoned roadways; shaley, gravelly, gravelly-sandy and sandy roadcuts; along rocky, stony, gravelly, gravelly-sandy-loamy, gravelly-loamy, sandy, sandy-loamy, silty and silty-loamy roadsides; two-tracks; along muddy and gravelly, gravelly-clayey-loamy and pebbly-sandy arroyos; sandy bottoms of arroyos; rocky and sandy draws; clayey-silty bottoms of draws; along sandy gulches; sandy bottoms of gulches; along sandy and silty-loamy gullies; sandy ravines; along sandy and sandy-loamy bottoms of ravines; seeps; springs; gravelly and sandy soils along streams; along and in rocky, gravelly and sandy streambeds; along and in creeks; along and in silty creekbeds; along rivers; riverbeds; along and in gravelly and sandy washes; along and in rocky, rocky-clayey, gravelly-sandy, sandy, clayey and silty-loamy drainages; boggy areas; cienegas; marshy areas; sandy blow-outs; rocky and silty-loamy depressions; potholes; sloughs; within sumps; rocky swales; along (draw-down mud, shaley, cobbly-sandy, sandy, clayey, silty and silty-clayey) banks of draws, streams, creeks, rivers, washes, drainage cuts and lakes; edges of coulees, rivers, washes and drainages; along margins of streams and washes; (clayey) sides of streams, creeks, rivers and lakes; shores of streams, ponds and lakes; cobbly and sandy beaches; rocky-silty, stony, gravelly and sandy benches; gravelly and sandy terraces; bouldery, rocky, stony-clayey and sandy bottomlands; along clayey floodplains; sandy lowlands; fencerows; along dams; clayey catchments; stock tanks; along canals; gravelly-clayey-loamy ditches; bouldery, gravelly, gravelly-sandy-loamy and sandy riparian areas; loamy waste places; recently burned areas in forests and scrub, and disturbed areas growing in mud (rarely reported) and wet (rarely reported), moist, damp and dry cryptogrammic soil; rimrock pavement; bouldery, bouldery-gravelly, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, shaley, shaley-sandy, stony, stony-gravelly, cobbly, cobbly-sandy, cindery, gravelly, gravelly-sandy, pebbly-sandy and sandy ground; rocky loam, rocky-gravelly loam, rocky-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-clayey loam, gravelly-silty loam, sandy loam, sandy-clayey loam, clayey loam, silty loam, silty-sandy loam and loam ground; rocky clay, rocky-gravelly clay, rocky-sandy clay, rocky-sandy-loamy clay, stony clay, gravelly clay, gravelly-loamy clay, sandy clay, sandy-silty clay, loamy clay, silty clay and clay ground; rocky silty, rocky-gravelly silty, shaley silty, gravelly silty, sandy silty, pebbly silty, clayey silty and silty ground; sandy chalky and chalky ground; peat-like soils, and gypsum, occurring from sea level (though the species is usually found at much higher elevations) to 14,000 feet in elevation in the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat; it was often reported as growing with grasses, the flowers may be fragrant. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a paint (ground flowers used as a yellow paint), as a drug or medication, and as a ceremonial medicine (emetic). *Erysimum capitatum* is native to northwest-central, south-central and southern North America. \*5, 6, 28 (color photograph 325), 42 (101913), 43 (012311), 44 (012311 - color presentation), 46 (Page 354), 63 (012311 - color presentation), **85** (102113 - color presentation), 86 (color photograph), 124 (012311), 127 (101913), 133 (101913), 140 (Page 287), 156 (101913)\*

Cactaceae: The Cactus Family

*Coryphantha aggregata* (see footnote 119 under *Escobaria vivipara* var. *bisbeeana*)

*Coryphantha vivipara* var. *bisbeeana* (see *Escobaria vivipara* var. *bisbeeana*)

***Cylindropuntia leptocaulis* (A.P. de Candolle) F.M. Knuthx *Cylindropuntia spinosior* (G. Engelmann) F.M. Knuth: Cholla**

COMMON NAMES: Cholla. DESCRIPTION: Terrestrial perennial stem-succulent shrub (20 inches to 6 feet in height; one plant was observed and described as being 20 inches in height and 5 feet in width, one plant was observed and described as being 32 inches in height and 40 inches in width, one plant was observed and described as being 6 feet in height and 6½ feet in width); the stems are dull green-purple; the flowers may be pinkish-orange or purplish-pink; based on few records flowering generally takes place between mid-May and mid-June (additional records: one for early March and one for mid-July); the fruits may be green with a yellow or orange tinge, purple-brown, red-orange, reddish-orange or yellowish. HABITAT: Within the range of this hybrid it has been reported from mountains; mesas; rims of canyons; canyon bottoms; bedrock ridges; foothills; rocky and rocky-gravelly hills; hillsides; rocky slopes; rocky-loamy bajadas; terraces; plains; rocky flats; uplands; valley floors; bases of banks; floodplains growing in dry rocky and rocky-gravelly ground and rocky loam and gravelly-sandy loam ground, occurring from 2,100 to 5,100 feet in elevation in the scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Cylindropuntia leptocaulis* x *Cylindropuntia spinosior* is native to southwest-central North America. \*42 (102113 - no record for hybrid; records for species), 43 (102113 - no record for hybrid), 44 (102113 - no record for hybrid or species; genus record), 63 (102113 - no record for hybrid; records for species), **85** (102113 - color presentation)\*

***Cylindropuntia spinosior* (G. Engelmann) F.M. Knuth: Walkingstick Cactus**

SYNONYMY: *Opuntia spinosior* (G. Engelmann) J.W. Toumey. COMMON NAMES: Atáta (Yuman: Havasupai); Atót (Yuman: Maricopa); Cac Qwˀi:š (Yuman: Cocopa); Cane Cholla; Cane [Handlegrip] Cholla <choya> (“Cholla” is Spanish for “skull” or “head” in allusion to the fruits ..., English)140; Cardenche; Ceolim <ciolim, cialim, tci’orim> (Uto-Aztecan: Tohono O’odham)140; ‘Chi’odima’ (Uto-Aztecan: Hiá Ceḍ O’odham)140; Choa (Uto-Aztecan: Yaqui)140; Ḍaqwi:s (Yuman: Walapai); Hanam <hánam> (Uto-Aztecan: Tohono O’odham)140; Handgrip Cholla; Handlegrip Cholla; Hosh ‘Aditsahiitsoh <hosh ‘aditsahii, xwoctítshahiih> (Athapascan: Navajo)140; Hosh Ńchaagi <k’intsǫǫze> (Athapascan: Western Apache)140; Spiny Cholla; Ösö <ˀöso, ɜsɜ’> (Uto-Aztecan: Hopi)140; Siviri <sivili> (Uto-Aztecan: Cahita)140; Tasajo (Spanish: Arizona, New Mexico, Chihuahua, Sonora)140; Tourney-cane Cholla (Arizona); Ušil <ˀusi-l> (Uto-Aztecan: Tübatulabal)140; Úunvat (Uto-Aztecan: Luiseño, Juaneño dialect)140; Walking Stick Cholla; Walking-stick Cactus (English: New Mexico)140; Walkingstick Cactus; Wehcábori [Wehcapó] (Uto-Aztecan: Guarijío)140; Wiyattampü (Uto-Aztecan: Panamint)140. DESCRIPTION: Terrestrial perennial stem-succulent shrub (erect stems 16 inches to 10 feet in height; one plant was observed and described as being 6½ feet in height with a crown 5 to 6½ feet in width, one plant was observed and described as being 6½ feet in height with a crown 10 feet in width); the stems may be brown-green, dark gray-green, grayish-maroon, grayish-purple, green, dark green, purple or purplish-green; the spines may be brown, gray, pale pink, pink, pinkish, purplish-gray, red-brown, reddish-gray, pale tan, tan or yellowish; the glochids may be tan, yellow or yellowish-white aging to gray; the flowers (1¾ to 2 inches in diameter) have been described as being bronze-purple, brown, greenish-yellow, magenta, magenta-red, maroon, orange, pink, dark pink, pink-lavender,purple, light purple, purple-pink, red, dark red, red-purple, red & yellow, saffron, salmon-pink, terra-cotta, white or yellow; the anthers are yellow or pale yellow; the stigma lobes are cream to white; flowering generally takes place between early April and early August (additional records: three for early January, two for early February and one for late September); the fleshy ripe fruits (1 to 1¾ inches in length and ¾ to 1 inch in diameter) may be bright lemon-yellow, yellow, pale yellow, yellow-green or yellowish-green sometimes with a purple-brown, red, reddish or purple cast. HABITAT: Within the range of this species it has been reported from mountains; mountaintops; rocky mountainsides; mesas; cliffs; rocky canyons; rocky canyon bottoms; talus, bedrock ridges; rocky ridgetops; ridgelines; foothills; rocky hills; hilltops; rocky hillsides; along bedrock, rocky, rocky-sandy, gravelly and sandy slopes; bajadas; rock outcrops; amongst rocks; plains; gravelly, gravelly-sandy and silty flats; silty valley floors; coastal plains; coastal beaches; roadsides; arroyos; bottoms of arroyos; rocky draws; springs; along creeks; creekbeds; along and in sandy washes; drainages; along drainage ways; banks of washes; terraces; sandy flood channels; floodplains; mesquite bosques; riparian areas, and disturbed areas growing in dry rocky, rocky-sandy, gravelly, gravelly-sandy and sandy ground; silty-clayey loam, silty loam and loam ground, and silty ground, occurring from sea level to 7,200 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop. The Cactus Wren (*Campylorhynchus brunneicapillus*) nests in the branches. *Cylindropuntia spinosior* is native to southwest-central and southern North America. \*5, 6, 12 (recorded as *Opuntia spinosior* (Engelm.) Toumey, Pages 39-43; color photograph: Plate 1.17, Page 43), 15 (recorded as *Opuntia spinosior* (Engelm.) Toumey), 16 (recorded as *Opuntia spinosior* (Engelm.) Toumey), 26 (genus, recorded as *Opuntia*), 27 (Page 14, color photograph: Plate 12, Page 96), 28 (color photograph 117), 42 (102213), 43 (063009), 44 (040111 - no record of species; genus record), 45 (color photographs), 46 (recorded as *Opuntia spinosior* (Engelm. & Bigel.) Toumey, Page 585), 48 (genus, recorded as *Opuntia*), 53, 58 (recorded as *Opuntia spinosior* (Engelm.) Toumey), 63 (070412 - color presentation), 77 (recorded as *Opuntia spinosior* (Engelm.) Toumey), 85 (102213 - color presentation, reduced recovery), 115 (color presentation), 119, 124 (070512 - no record of species or genus, “chollas” are included under the genus *Opuntia*), 127 (102213 - records located under *Opuntia spinosior*), 133 (102213), 140 (Pages 102-103 & 288), 156 (102213), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

*Echinocactus wislizeni* (see *Ferocactus wislizeni*)

***Echinocereus fasciculatus* (G. Engelmann ex B.D. Jackson) L.D. Benson: Pinkflower Hedgehog Cactus**

SYNONYMY: *Echinocereus fasciculatus* (G. Engelmann) L.D. Bensonvar. *fasciculatus*; *Echinocereus fendleri* (G. Engelmann) F. Sencke ex J.N. Haage var. *fasciculatus* (G. Engelmann ex B.D. Jackson) N.P. Taylor; *Echinocereus fendleri* (G. Engelmann) F. Sencke ex J.N. Haage var. *robustus* (R.H. Peebles) L.D. Benson; *Mammillaria fasciculata* G. Engelmann ex B.D. Jackson (possibly incorrectly applied). COMMON NAMES: Bundle Hedgehog; Bundle Hedgehog Cactus; Bundle-spine Hedgehog; Magenta-flower Hedgehog Cactus; Órgano-pequeño de Manojos (Spanish); Pinkflower Hedgehog Cactus (a name also applied to other species); Robust Hedgehog; Robust Hedgehog Cactus; Short-spine Strawberry Cactus; Strawberry Cactus (a name also applied to other species). DESCRIPTION: Terrestrial perennial stem-succulent shrub (ascending to erect stems 2 to 18 inches in height and 1½ to 3 inches in width, single or in clusters of up to 30 stems; one plant was reported to have 150 stems); the stems may be green or dark green; the spines often having zones of differing colors including black, gray, grayish-black-purplish, reddish-brown, whitish or yellowish turning gray with age; the flowers (2 to 3 inches in diameter) have been described as being cerise, lavender-pink, magenta, pale magenta, dark magenta, magenta-maroon, magenta-pink, magenta-purple, magenta-red, pink, light pink, pink-purple, purple, reddish-purple, rose-magenta, rose-pink or white; the anthers may be cream-white, light cream-yellow, yellow or light yellow-cream; the stigma lobes may be green, dark green, forest green or olive green; flowering generally takes place between mid-March and late June (additional records: one for early October, one for mid-October, one for late October, two for early November and one for early December); fruiting generally takes place between May and July, the mature fruits (¾ to 1¼ inches in length and ½ to 1 inch in diameter) may be orange-red or bright red. HABITAT: Within the range of this species it has been reported from mountains; mountainsides; mesas; rocky cliffs; bases of cliffs; canyons; canyonsides; buttes; knolls; ledges; ridges; along rocky, stony and sandy-loamy ridgetops; foothills; rocky, gravelly and sandy hills; rocky hilltops; rocky and sandy hillsides; rocky, stony and gravelly slopes; bajadas; rocky outcrops; amongst rocks and gravels; rocky and sandy banks; plains; gravelly flats; valley floors; along cobbly creeks; along and in washes, and floodplains growing in dry rocky, rocky-gravelly, stony, cobbly, gravelly and sandy ground and sandy loam ground, occurring from sea level to 6,300 feet in elevation in the woodland, scrub, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. The species *Echinocereus fendleri* was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop. The fruits are eaten by birds and other animals. *Echinocereus fasciculatus* is native to southwest-central and southern North America. \*5, 6, 8, 12 (recorded as *Echinocereus fasciculatus* (Engelm.) L. Bensonvar. *fasciculatus*, Pages 132-135; color photograph: Plate 3.11 (var. *fasciculatus*), Page 135), 15 (recorded as *Echinocereus fasciculatus* (Engelm.) L. Benson var. *fasciculatus*), 16 (recorded as *Echinocereus fasciculatus* (Engelm.) L. Benson), 27 (Page 81; color photograph: Plate 50, Page 104), 42 (102313), 43 (101510 - *Echinocereus fendleri* var. *fasciculatus* (Engelm. ex B.D. Jacks.) N.P. Taylor, *Echinocereus fendleri* var. *robustus* (Peebles) L.D. Benson), 44 (070512 - no record of species; genus record), 45 (color photograph), 46 (recorded as *Echinocereus fendleri* (Engelm.) Rümpler var. *robustus* (Peebles) L. Benson, Page 572 and *Echinocereus fendleri* (Engelm.) Rümpler var. *robustus* (Peebles) L. Benson, Page 572), 48 (genus), 58 (recorded as *Echinocereus fasciculatus* (Engelm.) L. Benson var. *fasciculatus*), 63 (070512), 77 (recorded as *Echinocereus fasciculatus* (Engelm.) L. Benson, color photograph #64), 85 (102313 - color presentation), 115 (color presentation), 119 (species, recorded as *Echinocereus fendleri* (Engelm.) Rümpler), 124 (070512 - no record of species; genus record), 127 (102313 - records located for the species *Echinocereus fendleri*), 133 (102313), 140 (recorded as *Echinocereus fendleri* (Engelmann) F. Seitz var. *fasciculatus* (Engelmann ex B.D. Jackson) N.P. Taylor, Page 288), 156 (102313), **MBJ**/**WTK** (July 9, 2009)\*

*Echinocereus fasciculatus* var. *fasciculatus* (see *Echinocereus fasciculatus*)

*Echinocereus fendleri* var. *fasciculatus* (see *Echinocereus fasciculatus*)

***Echinocereus fendleri* (G. Engelmann) F. Sencke ex J.N. Haage subsp. *rectispinus* (R.H. Peebles) N.P. Taylor: Pinkflower Hedgehog Cactus**

SYNONYMY: *Echinocereus fendleri* (G. Engelmann) F. Sencke ex J.N. Haage var. *rectispinus* (R.H. Peebles) L.D. Benson; *Echinocereus rectispinus* R.H. Peebles. COMMON NAMES: Fendler Needle-spine Hedgehog; Pinkflower Hedgehog Cactus; Pitahayita (Mexico: Sonora); Right-angled Spine Hedgehog; Straight-spined Hedgehog Cactus. DESCRIPTION: Terrestrial perennial stem-succulent shrub (ascending to erect stems are 4 to 10 inches in height and to 2½ inches in width in clusters of 3 to 5 stems); the stem is gray-green or dark green; the spines are reddish-brown, white tipped with black or soft yellow; the flowers (2 to 2½ inches in diameter) may be lavender, light pink, magenta or purple; the stigma lobes are green; flowering generally takes between early March and mid-May; fruiting generally takes place between June and August, the mature fruits (¾ to 1¼ inch in length and ½ to 1 inch in diameter) are red. HABITAT: Within the range of this species it has been reported from mountains; rocky canyons; bedrock ridges; rocky ridgetops; amongst oaks; foothills; rocky hills; hilltops; rocky and gravelly-sandy hillsides; bases of hills; rocky, cobbly-gravelly and gravelly slopes; bajadas; rocky outcrops; rocky plains; gravelly flats; along and in arroyos; along gullies, and in washes growing in dry rocky, cobbly-gravelly, gravelly, gravelly-sandy and sandy ground, occurring from 1,800 to 8,000 feet in elevation in the woodland, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. The species *Echinocereus fendleri* was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop. *Echinocereus fendleri* subsp. *rectispinus* is native to southwest-central and southern North America. \*5, 6, 12 (*Echinocereus fendleri* Engelm.var. *rectispinus* (Peebles) L. Benson, Pages 130-131), 15, 27 (color photograph - *Echinocereus fendleri* Engelmann ex Rümpler var. *rectispinus* (Peebles) L. Benson, Pages 80 &104), 42 (102313), 43 (012210 - *Echinocereus fendleri* Small subsp. *rectispinus* (Peebles) N.P. Taylor, *Echinocereus fendleri* var. *rectispinus* (Peebles) L.D. Benson), 44 (102313 - no record of subspecies or species; genus record), 45 (color photograph of species), 46 (*Echinocereus fendleri* (Engelm.) Rümpler var. *rectispinus* (Peebles) Benson, Page 572), 48 (genus), 58, 63 (102413 - color presentation), **85** (102413 - color presentation), 127 (102313 - records for *Echinocereus fendleri* (Engelm.) F. Seitz), 133 (102313 - recorded as *Echinocereus fendleri* (Engelm.) Rümpler var. *rectispinus* (Peebles) N.P. Taylor), 140 (recorded as *Echinocereus fendleri* (Engelmann) F. Seitz var. *rectispinus* (Peebles) L.D. Benson, Page 288), 156 (102313 - record for *Echinocereus fendleri*), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

*Echinocereus fendleri* var. *rectispinus* (see *Echinocereus fendleri* subsp. *rectispinus*)

*Echinocereus fendleri* var. *robustus* (see *Echinocereus fasciculatus*)

*Echinocereus pectinatus* var. *rigidissimus* (see *Echinocereus rigidissimus*)

*Echinocereus rectispinus* (see *Echinocereus fendleri* subsp. *rectispinus*)

***Echinocereus rigidissimus* (G. Engelmann) hort. ex F. Haage: Rainbow Hedgehog Cactus**

SYNONYMY: *Echinocereus pectinatus* (M.J. Scheidweiler) G. Engelmann var. *rigidissimus* (G. Engelmann) K.T. Rümpler. COMMON NAMES: Arizona Rainbow Cactus; Arizona Rainbow Hedgehog Cactus; Cabeza de Viejo (Spanish); Rain-bow Cactus; Rainbow Echinocereus; Rainbow Hedgehog; Rainbow Hedgehog Cactus; Sonoran Rainbow Cactus. DESCRIPTION: Terrestrial perennial stem-succulent shrub (erect stems 2¼ to 18 inches in height and 3 to 6 inches in width); the stems are green but covered by dense spines (mostly radial) which generally have alternating bands of shades of pale gray, pink, bright pink, pink & white, red, white, pale yellow and/or yellow spines with other plants having pale pink or white spines with little or no bands; the flowers (2 to 3½ inches in diameter) have been described as being cerise-purple, lavender, lavender-pink, magenta, magenta with a white throat, magenta-pink, pink, purple-pink, rose pink or bright rose-pink; the anthers may be orange or yellow; the stigma lobes may be green, dark green, forest green or lime green; flowering generally takes place between early May and late June (additional records: one for early April and one for late October, flowering may continue into August); the spiny fruits (1 inch in length and ¾ inch in diameter) maturing about 3 months after flowering may be green, greenish, purple or dark purplish-brownish. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky mesas; rocky canyons; rocky canyon walls; canyon sides; rocky canyon bottoms; rocky ledges; rocky, rocky-gravelly and gravelly ridges; rocky ridgetops; foothills; rocky, gravelly and gravelly-sandy hills; hilltops; rocky hillsides; rocky and gravelly slopes; bedrock and rocky outcrops; amongst rocks; flats; roadcuts; rocky arroyos; streambeds; along creekbeds; bottomlands, and riparian areas growing in dry rocky, rocky-gravelly, gravelly and gravelly-sandy ground, occurring from 2,600 to 7,500 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, but may be difficult to grow anywhere other than within its native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop. *Echinocereus rigidissimus* is native to southwest-central and southern North America. \*5, 6, 12 (recorded as *Echinocereus pectinatus* (Scheidw.) Engelm. var. *rigidissimus* (Engelm.) Engelm. ex Rümpler, Pages 143 &145), 15 (recorded as *Echinocereus pectinatus* (Scheidw.) Engelm. var. *rigidissimus* (Engelm.) Engelm. ex Rümpler), 27 (recorded as *Echinocereus pectinatus* Scheidweiler var. *rigidissimus* (Engelmann) Engelmann ex Rümpler, Page 77; color photograph: Plate 47, Page 103), 28 (color photograph 123), 42 (102513), 43 (063009 - *Echinocereus rigidissimus* (Engelm.) Rose, *Echinocereus pectinatus* (Scheidw.) Engelm. var. *rigidissimus* (Engelm.) Rümpler in C.F. Först.), 44 (102513 - no record of species; genus record), 45 (color photograph), 46 (recorded as *Echinocereus pectinatus* (Scheidw.) Engelm. var. *rigidissimus* (Engelm.) Engelm., Page 571), 48 (genus), 58 (recorded as *Echinocereus pectinatus* (Scheidw.) Engelm. var. *rigidissimus* (Engelm.) Engelm. ex Rümpler), 63 (010211), **85** (102613 - color presentation), 115 (color presentation), 119 (recorded as *Echinocereus rigidissimus* (G. Engelm.) Rose), 124 (010211 - no record of species; genus record), 127 (102313), 133 (102513), 140 (Page 288), 156 (102513), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

*Echinomastus intertextus* (see *Sclerocactus intertextus*)

***Escobaria vivipara* (T. Nuttall) F. Buxbaum var. *bisbeeana* (C.R. Orcutt) D.R. Hunt: Bisbee Spinystar**

SYNONYMY: *Coryphantha vivipara* (T. Nuttall) N.L. Britton & J.N. Rose var. *bisbeeana* (C.R. Orcutt) L.D. Benson. COMMON NAMES: Beehive Cactus; Bisbee Beehive Cactus; Bisbee Spinystar; Cushion Cactus; Spinystar (a name also applied to the species); Spiny Star Cactus. DESCRIPTION: Terrestrial perennial stem-succulent shrub (erect stems 2 to 3 inches in height and 2 to 2¾ inches in width forming clustered mounds containing up to 50 or more heads and reaching 1 to 2 feet in height and up to 2 feet in width); the stems are green; the radial spines may be brown or white; the central spines may be brown or gray with brown or pink tips; the flowers (1 to 2 inches in diameter) may be lavender, magenta or pink; based on few records located flowering generally takes place between mid-April and mid-August; the fruits (1/2 to 1 inch in length and 3/8 to 5/8 inch in diameter) are green with a purple tinge. HABITAT: Within the range of this species it has been reported from mountains; canyons; ridgetops; hills; hillsides; slopes; bajadas; rocky outcrops; plains; flats; sandy floodplains; within rock culverts, and riparian areas growing in dry rocky and sandy ground and gravelly loam ground, occurring from 3,000 to 8,000 feet in elevation in the forest, woodland, scrub, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Escobaria vivipara* var. *bisbeeana* is native to southwest-central and southern North America. \*5, 6, 12 (recorded as *Coryphantha vivipara* (Nutt.) Britton & Rose var. *bisbeeana* (Orcutt) L. Benson, Page 197; color photograph: Plate 11.7, Page 201), 15 (recorded as *Coryphantha vivipara* (Nutt.) Britton & Rose var. *bisbeeana* (Orcutt) L. Benson), 18 (species), 27 (recorded as *Escobaria vivipara* (Nuttall) Britton & Rose var. *bisbeeana* (Orcutt) L. Benson, Page 152; color photograph: Plate 81, Page 111), 42 (102713 - var. *bisbeeana*, as well as other recorded varieties, is considered to be a synonym of *Escobaria vivipara*), 43 (102713 - considered to be a synonym of *Coryphantha vivipara* 063009), 44 (102713 - no records listed under Common Names for the variety, species or genus; a listing of Common Names for the species was located under *Coryphantha vivipara*, color picture), 45 (recorded as *Escobaria vivipara*, color photograph), 46 (recorded as *Mammillaria aggregata* Engelm., Page 577), 58 (recorded as *Coryphantha vivipara* (Nutt.) Britton & Rose var. *bisbeeana* (Orcutt) Benson), 63 (102713), 85 (062111 - included under *Coryphantha vivipara* var. *vivipara*), 86 (species), 115 (color presentation of species), 119 (recorded as *Coryphantha aggregata* (Engelm.) B. & R.), 124 (062111 - no record of variety; genus and species records), 127 (102713), 133 (102713 - no varietal records), 156 (102713 - records found under *Coryphantha vivipara*, var. *bisbeeana* as well as other recorded varieties are considered to be synonyms of *Coryphantha vivipara*), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009)\*

***Ferocactus wislizeni* (G. Engelmann) N.L. Britton & J.N. Rose: Candy Barrelcactus**

SYNONYMY: *Echinocactus wislizeni* G. Engelmann. COMMON NAMES: Arizona Barrel Cactus; Arizona [Fish-hook, Candy] Barrel Cactus (English)140; Barrel Cactus (a name also applied to other species and the genus *Ferocactus*); Bisnaga, Biznaga; Biznaga [de Agua, Gigantesca, Hembra] (“[Water, Giant, Female] Barrel Cactus’, Spanish)140; Biznaga de Agua (Spanish); Biznaga-barril de Nuevo México (Spanish); Biznagre; Candy Barrel; Candy Barrel Cactus; Candy Barrelcactus; Chiávul (Uto-Aztecan: Akimel O’odham)140; Compass Barrel (a name also applied to other species); Compass Plant (a name also applied to other species); Fish-hook Barrel; Fishhook Barrel Cactus; Fishhook Cactus; Hisil <hísely> (“Cholla”, Uto-Aztecan: Mountain Pima)140; Hosh Tsał <hosh chaal> (Athapascan: Western Apache)140; Hosh Sidáhí (Athapascan: Navajo)140; Ibávoli (Uto-Aztecan: Northern Tepehuan)140; Jiavul (Uto-Aztecan: Hiá Ceḍ O’odham)140; Jiavuli <jiawul, tciaur, tjedvoli> (Uto-Aztecan: Tohono O’odham)140; Kïče’apïl (Uto-Aztecan: Tübatulabal)140; Miltát <milḍaḍ> (Yuman: Walapai)140; Miltót (Yuman: Maricopa)140; Multát (Yuman: Havasupai)140; Mułycác (Yuman: Cocopa)140; Nookwi’a(pi) (Uto-Aztecan: Panamint)140; Ono’e (Uto-Aztecan: Yaqui)140; Siml <simláa> (“True Barrel Cactus”, Hokan: Seri)140; Southwest Barrel Cactus; Southwestern Barrel Cactus; Táci (Uto-Aztecan: Southern Paiute)140; Teˀíwe (Uto-Aztecan: Guarijío)140; Visnaga; Viznaga Hembra (Spanish); Wislizenus Barrel; Yellow-spined Barrel Cactus. DESCRIPTION: Terrestrial perennial stem-succulent shrub or tree (erect stems 8 inches to 11 feet [one record at 20 feet] in height and 8 to 40 inches in diameter; one plant was observed and described as being 2½ feet in height and 1½ feet in width); the stem may be blue-gray-green or green; the central spines and larger radial spines are ashy gray, gray, dull pink, reddish, reddish-brown or tan; the smaller radial spines are white; the flowers (1½ to 2½ inches in diameter) may be orange, orange-yellow, orange-red, orange-yellow, parchment, pinkish-orange, pinkish-red, red-orange, reddish, reddish-orange, tomato-colored, yellow or yellow-orange; the anthers may be yellow or light yellow; the stigma lobes may be cream blushed with magenta, cream-pink, orange, light orange, orange-pink, orange-red, pink, pink with yellow-cream margins; pink-cream, pink-cream with yellowish tips, red, yellow or yellow-orange; flowering generally takes place between mid-July and mid-October (additional records: one for early January, three for early March, five for mid-March, two for late March, three for early April, one for mid-April, one for late April and two for early June); the mature fruits (1¼ to 2 inches in length and 1 to 1½ inches in diameter) may be greenish-brown, yellow or yellow-green and may remain on the plant until the next flowering period. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; mesas; rocky, gravelly and sandy canyons; canyon walls; rocky and sandy canyon bottoms; bluffs; ridges; foothills; bouldery, rocky, gravelly and sandy hills; hillsides; rocky, cobbly, gravelly, sandy-loamy and clayey-loamy slopes; rocky, gravelly and sandy alluvial fans; bajadas; rocky outcrops; amongst rocks; sand dunes; plains; rocky, gravelly, sandy and sandy-loamy flats; valley floors; along roadsides; arroyos; sandy bottoms of arroyos; along and in washes; within drainages; (rocky, gravelly and sandy) borders of washes; margins of washes; floodplains; mesquite bosques, and riparian areas growing in dry desert pavement; bouldery, rocky, cobbly, gravelly and sandy ground; sandy loam, sandy-clayey loam and clayey loam ground, and gravelly clay ground, occurring from 200 to 5,600 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food, candy and/or beverage crop; it was also noted as having been used as a tool (the spines were heated and used to make fishing hooks). Fishhook Barrel Cacti are very slow to establish. A 4 year old plant may be no more than 1½ inches in height and 2 inches in width, and an 8 year old plant may be no more that 4¼ inches in height and 4¾ inches in width. The growth rate of propagated and cultivated barrel cacti may be much faster. The life-span of Fishhook Barrel Cactus has been reported to be from 50 to over 130 years of age. Some plants tend to lean to the south with age. Cristate forms have been reported. The Cactus Beetle (*Moneilema gigas*) feeds on this plant, the flowers are pollinated by Cactus Bees of the genus *Lithurge*; the fruits are eaten by Javelina (*Peccari tajacu*), Mule Deer (*Odocoileus hemionus*), Rock Squirrels (*Spermophilus variegatus*) and other animals, and the seeds are eaten by birds and rodents. *Ferocactus wislizeni* is native to southwest-central and southern North America. \*5, 6, 12 (Pages 166-170; color photograph: Plate 5.5, Page 169), 15, 16, 18, 26 (genus, color photograph of genus), 27 (Page 120; color photographs: Plates 60, 60A, 60B & 60C Pages 106), 28 (color photograph 125), 42 (102713), 43 (063009 - *Ferocactus wislizeni* Britton & Rose), 44 (102713 - no record of species; genus record), 45 (color photograph), 46 (Page 573), 48 (genus), 58, 63 (070612 - color presentation), 77 (color photograph #10), 85 (102813 - color presentation), 91 (Pages 215-216), 106 (110110), 115 (color presentation), 119, 124 (040111 - no record of species or genus), 127 (102713), 133 (102713), 135 (110110 - *Moneilema gigas*), 140 (Pages 103-105 & 288), 156 (102713), 2009), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

*Mammillaria aggregata* (see footnote 46 under *Escobaria vivipara* var. *bisbeeana*)

*Mammillaria fasciculata* (see *Echinocereus fasciculatus* and/or *Mammillaria thornberi*)

*Mammillaria gummifera* var. *macdougalii* (see *Mammillaria heyderi* subsp. *macdougalii*)

***Mammillaria heyderi* F. Müehlenpfordt subsp. *macdougalii* (J.N. Rose) D.R. Hunt: MacDougal’s Nipple Cactus**

SYNONYMY: *Mammillaria gummifera* G. Engelmann var. *macdougalii* (J.N. Rose) L.D. Benson; *Mammillaria heyderi* F. Müehlenpfordt var. *macdougalii* (J.N. Rose) L.D. Benson*; Mammillaria macdougalii* J.N. Rose. COMMON NAMES: Biznaga de Chilitos (Spanish); Biznaguita (Spanish); Cabeza de Viejo (Spanish); Cream Cactus; MacDougal Nipple Cactus; MacDougal Pincushion Cactus; MacDougal’s Nipple Cactus; MacDougal’s Pincushion Cactus; Pincushion Cactus (a name also applied to other species). DESCRIPTION: Terrestrial perennial stem-succulent shrub (1½ to 8 inches in height and up to 4 to 12 inches in diameter); the stems are deep green; the central spines may be whitish, yellowish or yellowish-tan sometimes reported with brown tips; the radial spines may be straw yellow, white or yellowish; the flowers (1 to 1¼ inches in diameter) may be cream, pale green, greenish-white or greenish-yellow; the stigma lobes may be cream, pale green, yellow or yellow-green; based on few records located flowering generally takes place between mid-March and late March (additional records: one for late July and two for mid-August, flowering ending as late as May has also been reported); fruiting generally takes place between October and March, the fruits (1 to 1 1/8 inches in length and ½ inch in diameter) may be pale green, red, rose-purple or whitish. HABITAT: Within the range of this species it has been reported from mountains; mountain valleys; rocky ridges; hillsides; rocky slopes; plains; flats, and amongst grasses and under small shrubs growing in dry rocky and gravelly ground, occurring from 3,000 to 6,000 feet in elevation in the woodland to grassland ecotones, scrub, scrub to desertscrub ecotones, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant has a milky sap. The fruits are fed on by birds and rodents. *Mammillaria heyderi* subsp. *macdougalii* is native to southwest-central and southern North America. \*5, 6, 12 (recorded as *Mammillaria gummifera* var. *macdougalii*, Pages 150-151), 15 (color photograph Page 93), 18 (genus), 27 (recorded as *Mammillaria gummifera* var. *macdougalii*, Page 170, color photograph: Plate #93), 42 (102913), 43 (102913), 44 (041112 - no record of variety of species; genus record), 45 (color photograph), 46 (recorded as *Mammillaria macdougalii* Rose, Page 578), 48 (genus), 58, 63 (102913 -- recorded as *Mammillaria heyderi* Müehlenpf. var. *macdougalii* (Rose) L.D. Benson), 85 (110113 - color presentation), 115 (color presentation), 124 (041112 - no record of variety; genus and species records), 127 (102913 - no matches found), 133 (102913 - *Mammillaria heyderi* Müehlenpf. subsp. *macdougalii* (Rose) D.R. Hunt considered to be a synonym of *Mammillaria macdougalii* Rose), 140 (recorded as *Mammillaria macdougalii* Rose, Page 288), 156 (102913 - recorded as *Mammillaria macdougalii* Rose), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009)\*

*Mammillaria heyderi* var. *macdougalii* (see *Mammillaria heyderi* subsp. *macdougalii*)

*Mammillaria macdougalii* (see *Mammillaria heyderi* subsp. *macdougalii*)

*Neolloydia intertexta* (see *Sclerocactus intertextus*)

*Neolloydia intertexta* var. *dasyacantha* (see *Sclerocactus intertextus*)

*Opuntia arizonica* (see *Opuntia phaeacantha*)

***Opuntia chlorotica* G. Engelmann & J.M. Bigelow: Dollarjoint Pricklypear**

COMMON NAMES: Clock Face Prickly-pear; Clock Face Prickly Pear; Clock-face Prickly-pear; Clock-face Pricklypear; Clock-face Pricklypear Cactus; Clockface Prickly Pear; Clockface Prickly-pear; Dollar-joint Prickly-pear; Dollarjoint Prickly Pear; Dollarjoint Pricklypear; Duraznilla (Mexico, Sonora, Arizpe); Flap Jack Prickly Pear; Flapjack Prickly Pear; Flapjack Prickly-pear; Nopal (a name also applied to other species and the genus *Opuntia*); Nopal Rastrera; Nopal Verdoso (Spanish); Pancake Pear; Pancake Pear Cactus; Pancake Prickly Pear; Pancake Prickly Pear Cactus; Pancake Prickly-pear; Pancake Pricklypear; Pancake Pricklypear Cactus; Pancake-pear; Santa Rita Pricklypear (*Opuntia chlorotica* var. *santa-rita* - Not Accepted, *Opuntia santa-rita* - Accepted); Silver-dollar Cactus (a name also applied to other species); Smooth Clock-face Pricklypear; Verdoso; Violet Pricklypear (*Opuntia chlorotica* var. *gosseliniana* - Not Accepted, *Opuntia gosseliniana* - Accepted). DESCRIPTION: Terrestrial perennial stem-succulent shrub (erect stems 2 to 10 feet in height with a definite trunk to 12 inches in height and 3 to 8 inches in width); the orbicular paddle-shaped stems (4 to 8 inches in diameter) may be blue-green, bluish, bluish-green, green or gray-green; the glochids may be golden, straw, light yellow, yellow (aging blackish, brown, grayish and/or reddish-brown), or pale yellow-brown; the spines may be golden, straw, light yellow, yellow (aging blackish, brown, grayish and/or reddish-brown), yellowish, or pale yellow-brown; the flowers (1½ to 2½ inches in diameter) may be orangish-yellow, yellow with a light green mid-stripe, yellow with a pink tint, pale yellow, pale yellow-green, yellow-green, yellow-orange, yellow with a reddish flush or yellowish; the anthers may be cream, light cream, light cream-yellow, cream-white, pale green, white, light yellow, light yellow-cream or yellow-green; the stigma lobes may be chartreuse, light chartreuse-green, light chartreuse-green-cream, pale green, white, whitish or yellow-green; flowering generally takes place between early April and mid-July (additional records: one for late August and one for mid-September); the ripe barrel-shaped fruits (1½ to 2½ inches in length and ¾ to 1½ inches in diameter) may be dull bluish, green-gray flushed with red, dusky pink, purple, purple-rose-maroon or red aging bluish or grayish tinged with purple or red. HABITAT: Within the range of this species it has been reported from mountains; mountaintops; rocky mountainsides; clayey-loamy mesas; cliffs; bases of cliffs; rocky canyons; canyon bottoms; ledges; bedrock and rocky ridges; rocky ridgetops; foothills; bouldery-rocky and rocky hills; hilltops; rocky hillsides; bouldery, bouldery-rocky-gravelly, rocky, shaley, gravelly and gravelly-sandy slopes; cobbly-sandy alluvial fans; bajadas; rocky outcrops; amongst rocks; lava flows; sandy flats; valley floors; roadcuts; along rocky and gravelly roadsides; rocky arroyos; draws; rocky ravines; seeps; springs; streambeds; creekbeds; along rivers; drainages; borders of washes; edges of washes; bottomlands; sandy floodplains, and riparian areas growing in dry bouldery, bouldery-rocky, bouldery-rocky-gravelly, rocky, shaley, cobbly-sandy, gravelly, gravelly-sandy and sandy ground; clayey loam ground, and silty ground, occurring from 900 to 9,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat and is occasionally grown as an ornamental, the fruit is reportedly tasty and has the odor of red raspberries.. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop. Solitary bees and Sap Beetles have been observed visiting the flowers. *Opuntia chlorotica* is native to southwest-central and southern North America. \*5, 6, 12 (Pages 103&105-106), 15, 26 (genus), 27 (Page 69; color photograph: Plate 35, Page 101), 42 (110113), 43 (110113 - *Opuntia chlorotica* Engelm. & J.M. Bigelow), 44 (062311 - color photograph), 45 (color photograph), 46 (Page 582), 48 (genus *Opuntia*), 63 (110113 - color presentation), 77, 85 (110113 - color presentation), 91 (Pages 286-287), 119, 124 (062311 - no record of species; genus record), 127 (110113), 133 (110113), 140 (Pages 106 & 288), 156 (110113), **WTK** (September 26, 2005)\*

*Opuntia discata* (see *Opuntia engelmannii* var. *engelmannii*)

***Opuntia engelmannii* J.F. Salm-Reifferscheid-Dyck ex G. Engelmann var. *engelmannii*: Cactus Apple**

SYNONYMY: *Opuntia discata* D. Griffiths; *Opuntia phaeacantha* G. Engelmann var. *discata* (D. Griffiths) L.D. Benson & D.L. Walkington. COMMON NAMES: Á’láva <alav> (Yuman: Walapai)140; Abrojo; Ai’gwobi (Uto-Aztecan: Shoshoni)140; Ăláva (Yuman: Havasupai)140; Cactus Apple (a name also applied to the species and to other species); Cactus-apple (a name also applied to the species and to other species); Coyonoxtle <joconostle> (Spanish: Náhuatl)140; Cuija (Spanish)140; Desert Pricklypear Cactus (a name also applied to the species and to other species); Discus Prickly Pear; Ekupittsi (Uto-Aztecan: Panamint)140; Engelmann Prickly Pear; Engelmann Prickly Pear Cactus; Engelmann Prickly-pear; Engelmann Pricklypear; Engelmann’s Prickly Pear; Engelmann’s Prickly Pear Cactus; Engelmann’s Prickly-pear; Engelmann’s Prickly-pear Cactus; Engelmann’s Pricklypear; Flaming Prickly-pear; Gołtcide <gułtcide> (Athapascan: Chiricahua and Mescalero Apache)140; Heel Hayéen Ipáii (“Prickly-pear Used for Face Painting”, Hokan: Seri)140; Hosh Nteelí <hwos> (Athapascan: Navajo)140; Hosh Nteelí [ts’osé] (Athapascan: Western Apache)140; Huichacame <huichanabo> (Spanish: Sonora)140; I:bai <Ibai> (Uto-Aztecan: Onavas Pima)140; ‘I:bhai <iibhai> (“Fruit”, Uto-Aztecan: Akimel O’odham and Hiá Ceḍ O’odham)140; I:bhai (“Fruit”, Uto-Aztecan: Tohono O’odham)140; Ila’ (Uto-Aztecan: Guarijío)140; Irá [Ira-ka, Rihuirí] (Uto-Aztecan: Tarahumara)140; Їyal <i’yal> (Uto-Aztecan: Tübatulabal)140; Joconostle; Kal Yap (Yuman: Maricopa)140; Naavo (Uto-Aztecan: Yaqui)140; Náavut (Uto-Aztecan: Luiseño)140; Nabo <nacoó> (Uto-Aztecan: Cahita)140; Nabu (Uto-Aztecan: Northern Paiute)140; Napó (Uto-Aztecan: Tarahumara)140; Nav (Uto-Aztecan: Hiá Ceḍ O’odham)140; Nava (Uto-Aztecan: Mountain Pima)140; Navet <náve-t, navit> (Uto-Aztecan: Cahuilla)140; Navĭ <naf, naw, nohwi> (“the Plant”, Uto-Aztecan: Akimel O’odham and Tohono O’odham)140; Návoi (Uto-Aztecan: Northern Tepehuan)140; Návu (“the Plant”, Uto-Aztecan: Hopi)140; Navú-c (Uto-Aztecan - Eudeve)140; Návūt (Uto-Aztecan: Cupeño, Luiseño)140; Nopal [Cuixo] (“[Lizard] Prickly-pear”, Spanish: Sonora)140; Nopal de Engelmann; Prickly Pear (a name also applied to this species, to other species and to the genus *Opuntia*); Prickly Pear Cactus (a name also applied to the species, to other species and to the genus *Opuntia*); Prickly-pear (a name also applied to the species, to other species and to the genus *Opuntia*); Prickly-pear (English)140; Pricklypear (a name also applied to the species, to other species and to the genus *Opuntia*); Sae (Kiowa Tanoan: Tewa)140; Tach Pa (Yuman: Yuma)140; Tuna [Cuija] (“[Lizard] Prickly-pear”, Spanish: Sonora)140; Vela de Coyote (“Coyote’s Candle”, Spanish)140; Xpa: (Yuman: Cocopa)140; Xté (Yuman: Paipai)140; Yöngö <yüñü, yɜ́:ngu> (“the Fruit”, Uto-Aztecan: Hopi)140. DESCRIPTION: Terrestrial perennial stem-succulent shrub (forms sprawling clumps with prostrate, decumbent, ascending and/or erect stems 20 inches to 8 feet in height and 20 inches to 10 feet or more in width; one plant was observed and described as being 20 inches in height and 8¼ feet in width, one plant was observed and described as being 3 feet in height and 4½ feet in width, one plant was observed and described as being 3 feet in height and 6 width and 12 feet in length, one plant was observed and described as being 3 feet in height and 8 feet in width, one plant was observed and described as being 40 inches in height and 79 inches in width, one plant was observed and described as being 40 inches in height and 10 feet in width); the paddle-shaped stems (8 to 16 inches in length and 6½ to 12 inches in width) may be bluish-gray, bluish-green, gray-green, green, light green, dark green or yellow-green; the spines may be brown-red, chalky-white, pale straw, off white, yellow, pale yellow-brown usually with red or red-brown bases or yellowish aging to black or gray; the glochids are reddish or yellow; the flowers (2¼ to 3½ in diameter) may be pink, pink-red, red-orange, red-pink, rose-red, salmon, yellow, lemon yellow, tannish yellow, yellow-orange, light yellow-orange or yellow-peach turning to orange, orange-yellow or pink-orange with age; the anthers may be yellow or light yellow; the stigma lobes may be green, bright green, lime green or olive green; flowering generally takes place between early March and late July (additional records: one for early January, two for mid-February, two for mid-August, one for early September, six for mid-September, four for early October and one for late December); the mature fruits also known as tunas are 2½ to 3¼ in length and 1¼ inches in diameter have been described as being magenta-rose, maroon, dark maroon, maroon-green, purple, red, dark red, red-purple, reddish, reddish-purple or dark rose-magenta. HABITAT: Within the range of this species it has been reported from mountains; mountaintops; sandy mountainsides; bedrock mesas; edges of cliffs; bouldery canyons; canyon bottoms; talus slopes; ledges; ridges; rocky ridgetops; rocky hills; bouldery, rocky and gravelly hillsides; bouldery, rocky, rocky-gravelly and sandy slopes; bajadas; rocky outcrops; amongst boulders and rocks; lava beds; breaks; steppes; plains; rocky, gravelly and sandy and silty flats; basins; valley floors; along roadsides; along and in gravelly and gravelly-humusy arroyos; gullies; along streams; along creeks; creekbeds; along and in washes; along and in rocky-sandy and gravelly-sandy drainages; banks of rivers; beaches; sandy benches; shelves; terraces; sandy floodplains; amongst mesquites; ditches, and gravelly-sandy and sandy riparian areas growing in dry bouldery, rocky, rocky-gravelly, rocky-sandy, shaley, gravelly, gravelly-sandy and sandy ground; rocky-gravelly loam ground; clay ground; silty ground, and gravelly humusy ground, occurring from 100 to 7,500 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, the fruits reportedly taste like watermelon. The species, *Opuntia engelmannii*, was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food, beverage, cooking agent or paint crop; it was also noted as having been used as a tool, as a lubricant (var. *engelmannii*) and as a drug or medication. The flowers open around 8 AM and remaining open for one or two days, and may live to be 30 or more years of age. The juicy fruits (tunas) with edible pulp are fed on by many browsing animals, including Black Bear (*Ursus americanus* *amblyceps*), Coyote (*Canis latrans* *mearnsi*), Javelina (*Peccari tajacu* *sonoriensis*) and Desert Tortoise (*Gopherus agassizi*) among others, and birds. The plant provides cover for many desert animals. *Opuntia engelmannii* var. *engelmannii* is native to southwest-central and southern North America. \*5, 6, 12 (recorded as *Opuntia phaeacantha* Engelm. var. *discata* (Griffiths) Benson & Walkington “This is the largest and, in especially southern Arizona, one of the best-known native prickly pears of the Southwestern Deserts of the United States. It is variable in habit of growth, shape and size of joints, and size and distribution of spines. It is almost always found growing with var. *major*, which has longer brown spines restricted largely to the upper part of the narrower joint. Almost everywhere there are intergrading forms with many character recombinations. Var. *discata* is rarely stable but apparently a fringe-population extreme tied in closely with the more abundant and wide-ranging var. *major*.”, Pages 99 & 101-103; color photographs: Plate 1.74, Page 102), 15 (recorded as *Opuntia phaeacantha* Engelm. var. *discata* (Griffiths) Benson & Walkington), 16 (recorded as *Opuntia phaeacantha* Engelmann var. *discata* (Griffiths) L. Benson - “Rocky slopes and gravelly flats; common; intergrading with *O*. *p*. var. *major*.”), 26 (species), 27 (recorded as *Opuntia phaeacantha* Engelmann var. *discata* (Griffiths) L. Benson, Pages 53 & 99-100; color photographs: Plates 30 & 30A, Pages 99 & 100), 28 (recorded as *Opuntia phaeacantha* var. *discata*, color photograph 135 A&B), 42 (110113), 43 (063009), 44 (062311), 45 (species, color photograph), 46 (species, Page 583), 48 (genus), 58 (recorded as *Opuntia phaeacantha* Engelm. var. *discata* (Griffiths) Benson & Walk.), 63 (070812 - color presentation), 77 (recorded as *Opuntia phaeacantha* var. *discata* (Griffiths) Benson & Walkington, color photograph #14 labeled as *Opuntia phaeacantha*), 85 (110213 - color presentation, reduced recovery), 91 (recorded together with *Opuntia engelmannii* Salm-Dyck. *Opuntia phaeacantha* var. *discata* (Griffiths) L.D. Benson & Walkington / *Opuntia phaeacantha* var. *major* Engelmann: “Both species are sympatric throughout much of their range and often can be found together.”, Pages 291-293), 115 (color presentation of the species), 119 (recorded as *Opuntia discata* Griffiths), 124 (062311 - no record of variety; genus and species record), 127 (110113), 133 (110113), 140 (reported as *Opuntia engelmannii* Salm-Dyck [*Opuntia phaeacantha* var. *discata* (Griffiths) Benson & Walkington], Pages 105-106 & 288), 156 (110113), **MBJ**/**WTK** (April 20, 2006?), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

*Opuntia gilvescens* (see *Opuntia phaeacantha*)

***Opuntia phaeacantha* G. Engelmann: Tulip Pricklypear**

SYNONYMY: *Opuntia arizonica* D. Griffiths; *Opuntia gilvescens* D. Griffiths; *Opuntia phaeacantha* G. Engelmann var. *camanchica* (G. Engelmann & J.M. Bigelow) L.D. Benson; *Opuntia phaeacantha* G. Engelmann var. *major* G. Engelmann; *Opuntia phaeacantha* G. Engelmann var. *phaeacantha*; *Opuntia phaeacantha* G. Engelmann var. *superbospina* (D. Griffith) L.D. Benson. COMMON NAMES: Abrojo; Berry Prickly Pear; Berry Prickly Pear Cactus; Berry Pricklypear; Blåopuntia (Swedish); Brown Spine Prickly-pear Cactus; Brown Spined Prickly Pear; Brown Spined Prickly Pear Cactus; Brown-spine Prickly-pear; Brown-spine Prickly-pear Cactus; Brown-spine Pricklypear; Brown-spined Prickly Pear; Brown-spined Prickly Pear Cactus; Brown-spined Prickly-pear; Brown-spined Pricklypear; Brownspine Prickly Pear; Brownspine Prickly-pear; Brownspine Pricklypear (*O*.*p*. var. *camanchica*, a name also applied to the species); Brownspined Prickly Pear; Brownspined Prickly-pear; Brownspined Pricklypear; Dense-spine Prickly-pear; Densely Spined Prickly Pear; Desert Prickly-pear (a name also applied to other species); Figuier de Barbarie à Fruits Violets (French); Great Pricklypear (*O*.*p*. var. *major*); Great Pricklypear Cactus; Joconostle; Major Prickly Pear, Major Prickly-pear; Major Pricklypear; Major Pricklypear Cactus; Mojave Prickly-pear (a name also applied to other species); Mojave Pricklypear (*O*.*p*. var. *major*, a name also applied to other species); Mojave Tuna; New Mexico Prickly-pear (a name also applied to other species); Nopal (a name also applied to other species and the genus *Opuntia*, Spanish); Nopal Pardo (Spanish); Plains Pricky-pear140; Prickly Pear (a name also applied to other species and the genus *Opuntia*); Prickly-pear (a name also applied to other species and the genus *Opuntia*); Pricklypear (a name also applied to other species and the genus *Opuntia*); Purple-fruit Prickly-pear (a name also applied to other species); Smooth Pricklypear (*O*.*p*. var. *laevis*); Sprawling Prickly Pear (a name also applied to other species); Tulip Prickly Pear; Tulip Prickly Pear Cactus; Tulip Prickly-pear; Tulip Pricklypear (*O*.*p*. var. *camanchica*, var. *laevis* and var. *phaeacantha*, a name also applied to the species); Vela de Coyote; Wooton’s Pricklypear (*Opuntia phaeacantha* var. *wootonii* - Not Accepted, *Opuntia phaeacantha* - Accepted); Yellow Pricklypear; Yellow-spine Prickly-pear (a name also applied to other species). DESCRIPTION: Terrestrial perennial stem-succulent shrub (sprawling or trailing prostrate, decumbent, sub-erect and/or erect stems 10 inches to 7 feet in height and 3 to 10 feet in width sometimes forming clumps up to 75 feet in width; one plant was observed and described as being 10 inches in height and 40 inches in width, one plant was observed and described as being 1 foot in height and 3 feet in width, one plant was observed and described as being 14 inches in height and 52 inches in width, plants were observed and described as being 16 inches in height and 40 inches in width, one plant was observed and described as being 16 inches in height and 48 inches in width, one plant was observed and described as being 16 inches in height and 60 inches in width, one plant was observed and described as being 18 inches in height and 8 to 10 feet in width, one plant was observed and described as being 20 inches in height and 13 feet in width, one plant was observed and described as being 2 feet in height and 5 to 6 feet in width, one plant was observed and described as being 30 inches in height and 5 feet in width, plants were observed and described as being 3 feet in height and 4 to 10 feet in width); may develop a trunk; the paddle-shaped stems (4 to 10 inches in length and 3 to 8 inches in width) have been described as being bluish-green, gray-brown, gray-green, green, dark green, dull green, greenish-yellow, green with a maroon tinge, maroon-olive green, purple, purplish, reddish or yellow-gray-green; the spines may be blackish, bone, brown, charcoal, gray, reddish, red-brown, white, yellow, yellow-brown or yellow-tan; the glochids may be golden, red-brown, reddish-brown or tan; the flowers (1½ to 3 inches in diameter) have been described as being golden-apricot with yellow-green mid-stripes, lavender, orange, orange-yellow, peach, pink (rarely), pink-purple, red (rarely), red-pink, yellow, yellow fading to red, pale yellow, yellow with an orange or red center or with brown, greenish, greenish-brown or red mid-stripes, or yellow-orange aging to red-orange; the anthers may be cream, light cream-yellow, cream-yellow, cream-light yellow, yellow, light yellow or light yellow-cream; the stigma lobes may be chartreuse-green, light chartreuse-green, dark chartreuse-green, green, light green, light green-chartreuse, lime green or yellow-green; flowering generally takes place between mid-March to early October (additional records: one for early January, one for late January and one for early February); the mature pear-shaped fruits (1¼ to 3½ inches in length and 1 to 1¼ inches in width) have been described as being beet red, dusty magenta, maroon, dark maroon, maroon-green, maroon-red, orange-green, purple, purple-red, red, dark red, dull red, brick red-purple, red-brown, rose-maroon, wine-red or light yellow-green-maroon. HABITAT: Within the range of this species it has been reported from mountains; mountainsides; mesas; plateaus; bedrock canyon rims; cliffs; bases of cliffs; bouldery, rocky and gravelly-sandy-loamy canyons; canyon walls; sandy canyon sides; rocky and sandy-silty canyon bottoms; rocky rincons; talus slopes; rocky-clayey crevices in rocks; bluffs; rocky-gravelly-sandy buttes; knolls; rocky ledges; bedrock ridges; rocky and sandy-loamy ridgetops; meadows; foothills; rocky, gravelly and silty hills; cobbly and sandy hilltops; bouldery, rocky, gravelly, gravelly-sandy-loamy and clayey hillsides; bases of hills; bedrock, bouldery, rocky, rocky-gravelly, rocky-cobbly-gravelly, stony-cobbly-clayey, gravelly, gravelly-clayey, sandy, sandy-loamy, silty and silty-loamy slopes; gravelly bajadas; rocky outcrops, amongst rocks and cobbles; on boulders and rocks; lava beds; blow-sand deposits; benches; rocky-sandy shelves; prairies; sandy llanos; plains; rocky, shaley, cindery and sandy flats; sandy uplands; sandy valley floors; along sandy roadsides; within rocky and sandy arroyos; bottoms of arroyos; rocky draws; silty ravines; springs; sandy streambeds; along creeks; along creekbeds; along and in sandy riverbeds; along and in bedrock-bouldery-sandy, gravelly and sandy washes; within bouldery-rocky-sandy and sandy drainages; silty-loamy and silty-clayey-loamy dry lakebeds; along (sandy) banks of rivers; borders of washes; edges of washes; cobbly-sandy-silty, gravelly and gravelly-sandy terraces; sandy-loamy bottomlands; sandy floodplains; mesquite bosques; fencerows; riparian areas, and disturbed areas growing in dry cryptogamic soil; rimrock pavement; bouldery, bouldery-rocky-sandy, bouldery-sandy, rocky, rocky-cobbly-gravelly, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, shaley, cobbly, cindery, gravelly, gravelly-sandy and sandy ground; gravelly-sandy loam, sandy loam, sandy-clayey loam, clayey loam, silty loam and silty-clayey loam ground; rocky clay, stony-cobbly clay, gravelly-sandy clay, gravelly clay and clay ground; cobbly-sandy silty, sandy silty and silty ground, and humusy ground, occurring from 600 to 8,800 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial beverage, candy, cooking agent and/or food crop; it was also noted as having been used for tools, in pottery making and as a drug or medication. This plant provides cover for many desert animals. Deer, Javelina (*Peccari tajacu* *sonoriensis*) and rodents feed on the stems, and the fruits are eaten by deer, grasshoppers, Javelina and other desert animals (including grasshoppers). Cristate forms have been reported. The change in nomenclature in USDA NRCS has not been recognized in BONAP, varieties remain as varieties of *Opuntia phaeacantha* (accessed 041806). *Opuntia phaeacantha* is native to southwest-central and southern North America. \*5, 6, 12 (recorded as *Opuntia phaeacantha* Engelm., Pages 95-101, *Opuntia phaeacantha* Engelm. var. *major* Engelm., Pages 99-101 and *Opuntia phaeacantha* Engelm. var. *phaeacantha*, Pages 97-98), 15 (recorded as *Opuntia phaeacantha* var. *major* Engelm., color photograph which includes habitat and associated species, Page 77), 16 (recorded as *Opuntia phaeacantha* Engelm. var. *major* Engelm.), 26 (color photograph), 27 (recorded as *Opuntia phaeacantha* Engelmann, Page 50, *Opuntia phaeacantha* Engelmann var. *major* Engelmann, Page 51 and *Opuntia phaeacantha* Engelmann var. *superbospina* (Griffith) L. Benson, Page 54; color photographs: Plate 28, Page 99, Plate 29, Page 99 and Plate 31, Page 100), 42 (110213 - recognizes var. *camanchica*, var. *laevis*, var. *major* and var. *phaeacantha* as being accepted varieties of *Opuntia phaeacantha*), 43 (110213), 44 (062411 - color photograph), 45 (color photograph), 46 (recorded as *Opuntia phaeacantha* Engelm., Page 583 and *Opuntia gilvescens* Griffiths, Page 583), 48 (genus - recorded as *Opuntia*), 58 (recorded as *Opuntia phaeacantha* Engelm. var. *major* Engelm.), 63 (071212 - includes var. *camanchica*, var. *major*, var. *phaeacantha* and var. *superbospina* along with other named ‘varieties’ as being synonyms of *Opuntia phaeacantha*, color presentation), 77 (recorded as *Opuntia phaeacantha* Engelm. var. *major* Engelm., color photograph #14 labeled as *Opuntia phaeacantha*), **85** (110213 - color presentation), 91 (recorded together with *Opuntia engelmannii* Salm-Dyck. (*Opuntia phaeacantha* var. *discata* (Griffiths) Benson & Walkington) / *Opuntia phaeacantha* var. *major* Engelmann - “Both species are sympatric throughout much of their range and often can be found together.”, Pages 291-293), 119, 124 (062411), 127 (110213), 133 (110213), 140 (recorded as *Opuntia phaeacantha* Engelmann var. *major* Engelmann, Pages 105, 106 & 288), 156 (110213), **MBJ**/**WTK** (April 20, 2006? - recorded as *Opuntia phaeacantha* var. *major* - recorded as *Opuntia phaeacantha* var. *major*), **MBJ**/**WTK** (July 9, 2009 - recorded as *Opuntia phaeacantha* var. *major*), **MBJ**/**WTK** (November 3, 2009 - recorded as *Opuntia phaeacantha* var. *major*)\*

*Opuntia phaeacantha* var. *camanchica* (see *Opuntia phaeacantha*)

*Opuntia phaeacantha* var. *major* (see *Opuntia phaeacantha*)

*Opuntia phaeacantha* var. *phaeacantha* (see *Opuntia phaeacantha*)

*Opuntia phaeacantha* var. *superbospina* (see *Opuntia phaeacantha*)

*Opuntia spinosior* (see *Cylindropuntia spinosior*)

***Sclerocactus intertextus* (G. Engelmann) N.P. Taylor: White Fishhook Cactus**

SYNONYMY: *Echinomastus intertextus* (G. Engelmann) N.L. Britton & J.N. Rose; *Neolloydia intertexta* (G. Engelmann) L.D. Benson; *Neolloydia intertexta* (G. Engelmann) L.D. Benson var. *dasyacantha* (G. Engelmann) L.D. Benson; *Sclerocactus intertextus* (G. Engelmann) N.P. Taylor var. *dasyacanthus* (G. Engelmann) N.P. Taylor; *Sclerocactus intertextus* (G. Engelmann) N.P. Taylor var. *intertextus*. COMMON NAMES: Biznaga-bola Entretejida (Spanish); Early Bloomer; White Fish-hook Cactus; White Fishhook Cactus; Woven-spine Pineapple Cactus. DESCRIPTION: Terrestrial perennial stem-succulent shrub (erect stem 2 to 8 inches in height and 1¼ to 4 inches in diameter; one plant was observed and described as being 8 inches in height and 3 inches in width); the stems are dull green; the central spines may be dull gray, grayish-straw, pinkish, reddish-brown, dull tan or dull white; the interwoven radial spines are white; the flowers (1 to 1¼ inches in diameter) may be pale lavender-pink, pale pink, pale pinkish-white, silvery-white or white; the stigma lobes may be pink, magenta, bright red or white (rarely); flowering generally takes place between early March and mid-April (additional record: one for mid-May, one for early July and one for early September). HABITAT: Within the range of this species it has been reported from mountains; rocky mountaintops; mesas; rocky and gravelly canyons; gravelly hogbacks; along bedrock and rocky-gravelly ridges; foothills; rocky and gravelly hills; hilltops; bedrock, rocky-gravelly and shaley hillsides; bases of hills; rocky, gravelly and sandy-loamy slopes; bajadas; rocky outcrops; amongst gravels; prairie; rocky plains; flats; uplands; gravelly roadsides, and within arroyos growing in dry desert pavement; rocky, rocky-gravelly, shaley, gravelly and sandy ground; sandy loam ground, and rocky-gravelly silty ground, occurring from 3,600 to 9,500 feet in elevation in the woodland, scrub, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, it has been reported that the flowers have a fragrance similar to that of coconut. This is a PERIPHERAL POPULATION. *Sclerocactus intertextus* is native to southwest-central and southern North America. \*5, 6, 12 (recorded as *Neolloydia intertexta* (Engelm.) L. Benson, Page 191), 27 (recorded as *Neolloydia intertexta* (Engelmann) L. Benson, Page 145; color photograph: Plate 77, Page 110), 42 (102613 - reported that the currently accepted name is *Sclerocactus intertextus* (Engelm.) N.P. Taylor), 43 (070109), 44 (102613 - no record of species; genus (*Sclerocactus*) listing), 45 (color photograph), 46 (recorded as *Echinomastus intertextus* (Engelm.) Britt. & Rose, Page 574), 63 (102613 - recorded as *Echinomastus intertextus* (Engelm.) Britton & Rose, color presentation), 85 (102713), 119, 127 (102613 - no matches found), 133 (102613 - no record of species), 156 (102613 - recorded as *Echinomastus intertextus* (Engelmann) Britton & Rose), **MBJ**/**WTK** (April 20, 2006?)\*

*Sclerocactus intertextus* var. *dasyacanthus* (see *Sclerocactus intertextus*)

*Sclerocactus intertextus* var. *intertextus* (see *Sclerocactus intertextus*)

Capparaceae (Capparidaceae): The Caper Family

***Polanisia dodecandra* (C. Linnaeus) A.P. de Candolle subsp. *trachysperma* (J. Torrey & A. Gray) H.H. Iltis: Sandyseed Clammyweed**

SYNONYMY: *Polanisia dodecandra* (C. Linnaeus) A.P. de Candolle var. *trachysperma* (J. Torrey & A. Gray) H.H. Iltis; *Polanisia trachysperma* J. Torrey & A. Gray. COMMON NAMES: Clammy Weed (a name also applied to the genus *Polanisia*); Clammy-weed (a name also applied to the genus *Polanisia*); Clammyweed (a name also applied to the genus *Polanisia*); Common Clammy Weed (a name also applied to the species); Common Clammy-weed (a name also applied to the species); Common Clammyweed (a name also applied to the species); Large Clammy Weed; Large Clammy-weed; Large Clammyweed; Large-flower Clammyweed; Large-flowered Clammy Weed; Large-flowered Clammy Weed; Large-flowered Clammy-weed; Large-flowered Clammyweed; Polansia (a name also applied to the genus *Polanisia*, Iowa); Red-whisker Clammyweed (a name also applied to the species); Red-whisker Clammy-weed (a name also applied to the species); Red-whisker Clammyweed (a name also applied to the species); Redwhisker Clammyweed (a name also applied to the species); Rough-seed Clammy-weed (a name also applied to the species); Rough-seed Clammyweed (a name also applied to the species); Roughseed Clammyweed (a name also applied to the species); Sandy-seed Clammy-weed; Sandyseed Clammyweed; Stinking Clammy-weed (a name also applied to the species); Stinking Clammyweed (a name also applied to the species); Stinkweed (Iowa, a name also applied to other species); Western Clammy-weed; Western Clammyweed; Western Trachysperma Clammyweed. DESCRIPTION: Terrestrial annual forb/herb (erect stems 4 to 40 inches in height); the stems are hairy and sticky; the leaves are dark green; the flowers may be cream, lavender, light pink, pink-purple, purple, purple & cream, purple & white, white, white tinged with purple, white-yellow or yellowish; the anthers may be red or yellow; the stigma is purple; flowering generally takes place between early May and late November (additional record: one for early January). HABITAT: Within the range of this species it has been reported from mountains; gravelly and sandy mesas; plateaus; rocky canyons; canyonsides; along gravelly and sandy canyon bottoms; talus slopes; bluffs; cindery buttes; ledges; shaley ridgetops; meadows; rocky foothills; bouldery-cindery, rocky, stony, cindery, cindery-clayey, gravelly and sandy hills; gravelly-sandy hilltops; rocky and cindery hillsides; bouldery, rocky, rocky-sandy, shaley, stony-sandy, cindery, gravelly, gravelly-loamy, sandy, clayey and clayey-loamy slopes; bajadas; rocky outcrops; amongst rocks; sand hills; sand dunes; around and in ant hills; sandy terraces; prairies; gravelly and sandy plains; rocky-sandy uplands; gravelly and sandy flats; rocky uplands; basins; gravelly-sandy valley floors; valley bottoms; along railroad right-of-ways; gravelly roadbanks; roadcuts; along rocky, rocky-sandy-loamy, gravelly and sandy roadsides; within sandy arroyos; along sandy and sandy-silty bottoms of arroyos; silty draws; gravelly-sandy and sandy bottoms of draws; gulches; gullies; ravines; springs; along sandy streams; along and in rocky, rocky-sandy, cobbly-gravelly, gravelly and gravelly-sandy streambeds; along creeks; along and in stony-cobbly-gravelly, gravelly-sandy and sandy creekbeds; in sand along rivers; along and in rocky, gravelly-sandy and sandy riverbeds; along and in rocky, rocky-gravelly-sandy, gravelly, gravelly-sandy, sandy and clayey washes; drainage ways; sandy bowls; depressions; along (muddy, rocky, gravelly, gravelly-sandy and sandy) banks of streams, creeks, rivers and washes; (gravelly and sandy) edges of arroyos, streams and rivers; margins of rivers; (sandy) sides of brooks and streams; mudflats; rocky-sand, shaley, stony-cobbly-gravel, stony-sand, gravel, gravelly-sand and sand bars; sandy beaches; sandy-clayey benches; terraces; bottomlands; rocky-sandy-clayey and sandy floodplains; lowlands; fencerows; banks of reservoirs; within sandy ditches; bouldery-cobbly-sandy, cobbly-sandy and sandy riparian areas; waste places, and disturbed areas growing in mucky, muddy and wet, moist and dry bouldery, bouldery-cobbly-sandy, bouldery-cindery, rocky, rocky-cindery, rocky-gravelly-sandy, rocky-sandy, stony, stony-cobbly-gravelly, stony-sandy, cobbly-gravelly, cobbly-sandy, cindery, gravelly, gravelly-sandy and sandy ground; rocky-sandy loam, gravelly loam, clayey loam and loam ground; rocky-sandy clay, cindery clay, sandy clay and clay ground, and sandy silty and silty ground, occurring from 300 to 7,800 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, the crushed or bruised stems give off an odor that may be objectionable. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop; it was also noted as having been used as a ceremonial item. *Polanisia dodecandra* subsp. *trachysperma* is native to central and southern North America. \*5, 6, 15, 16 (recorded as *Polanisia dodecandra* (L.) DC. var. *trachysperma* (Torr. & Gray) Iltis, placed in the Cleomaceae), 28 (recorded as *Polanisia dodecandra*, color photograph 162), 42 (110313), 43 (070209), 44 (062511 - color picture), 46 (recorded as *Polanisia trachysperma* J. Torrey & A. Gray - placed in the Capparidaceae: The Caper Family, Page 358), 58, 63 (071412 - color presentation), 68 (recorded as *Polanisia trachysperma* Torr. & Gray), 77, **85** (110313 - color presentation), 86 (recorded as *Polanisia dodecandra*, color photograph), 115 (color presentation of the species), 124 (062511), 127 (110313), 133 (110313), 156 (110313), **WTK** (September 26, 2005)\*

*Polanisia dodecandra* var. *trachysperma* (see *Polanisia dodecandra* subsp. *trachysperma*)

*Polanisia trachysperma* (see *Polanisia dodecandra* subsp. *trachysperma*)

Chenopodiaceae: The Goosefoot Family

*Chenopodium arizonicum* (see *Chenopodium neomexicanum* var. *neomexicanum*)

***Chenopodium fremontii* S. Watson: Fremont’s Goosefoot**

COMMON NAMES: Fremont Goosefoot; Frémont Goosefoot; Fremont’s Goosefoot; Frémont’s Goosefoot; Goose-foot (a name also applied to the genus *Chenopodium* and the Chenopodiaceae); Mealy Goosefoot (*Chenopodium fremontii* var. *incanum* - Not Accepted, *Chenopodium incanum* var. *incanum* - Accepted); Pinyon Goosefoot (*Chenopodium fremontii* var. *atrovirens* - Not Accepted, *Chenopodium atrovirens* - Accepted); Pringle’s Goosefoot (*Chenopodium fremontii* var. *pringlei* - Not Accepted, *Chenopodium fremontii* - Accepted). DESCRIPTION: Terrestrial annual forb/herb (spreading erect stems 4 to 64 inches in height); the stems are often purple or red; the foliage is grayish, green or yellow-green; the inconspicuous flowers have been described as being green, greenish, greenish-white, greenish-yellow or white; flowering generally takes place between mid-May and late October (additional record: one for mid-April); fruiting generally takes place between late summer and fall. HABITAT: Within the range of this species it has been reported from mountains; mountaintops; rocky mountainsides; sandy mesas; rocky plateaus; along canyon rims; cliffs; bases of cliffs; along sandy canyons; along sandy canyon bottoms; scree; talus slopes; crevices in rocks; ridges; loamy ridgetops; sandy openings in forests; meadows; foothills; clayey hills; rocky hillsides; along bouldery, bouldery-sandy, rocky, rocky, rocky-sandy, cindery, gravelly, gravelly-clayey-loamy, sandy and sandy-loamy slopes; sandy alluvial fans; bajadas; rocky outcrops; amongst boulders and rocks; rocky lava flows; sand dunes; benches; gravelly-sandy terraces; plains; gravelly and sandy flats; basins; stony-loamy hollows; rocky roadcuts; along rocky, stony-loamy, gravelly-sandy and sandy roadsides; two-tracks; within rocky and sandy arroyos; sandy, sandy-silty and clayey bottoms of arroyos; sandy draws; gulches; gullies; within rocky ravines; springs; along streams; along and in bouldery-rocky and sandy streambeds; in sand along creeks; sandy creekbeds; along rivers; along riverbeds; along and in gravelly, sandy and clayey washes; within rocky, loamy and clayey drainages; rocky drainage ways; lakebeds; boggy areas; along (sandy) banks of streams, creeks and rivers; (sandy) edges of streams, creeks, washes, drainages, drainage ways, marshes, swales and riparian areas; margins of rivers; benches; oxbows; gravelly-sandy and sandy terraces; bottomlands; silty floodplains; lowlands; mesquite bosques; along ditches; sandy-humusy riparian areas, and disturbed areas growing in wet, moist and dry bouldery, bouldery-rocky, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, cobbly-pebbly-sandy, cindery, gravelly, gravelly-sandy and sandy ground; stony loam, gravelly loam, gravelly-clayey loam, gravelly-silty loam, sandy loam, clayey loam, silty loam and loam ground; sandy clay and clay ground; bouldery-silty, sandy-silty and silty ground, and sandy humusy ground, occurring from 2,100 to 10,200 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food and/or spice crop; it was also noted as having been used as a cooking agent. *Chenopodium fremontii* is native to west-central and southern North America. \*5, 6, 15, 16, 42 (110513), 43 (070209), 44 (090412), 46 (Page 253-254), 63 (110513), **85** (110513 - color presentation), 124 (090412), 127 (110513), 133 (110513), 140 (Page 289), 156 (110513)\*

***Chenopodium neomexicanum* P.C. Standley (var. *neomexicanum* is the variety reported as occurring in Arizona): New Mexico Goosefoot**

SYNONYMY: (for var. *neomexicanum*: *Chenopodium arizonicum* P.C. Standley). COMMON NAMES: Choal (Spanish); Chual (Spanish); Fishy Goosefoot; Goosefoot (a name also applied to the genus *Chenopodium* and the Chenopodiaceae); New Mexico Goosefoot; New Mexico Goosefoot (*Chenopodium neomexicanum* var. *neomexicanum* - Not Accepted, *Chenopodium neomexicanum* - Accepted); Palmer’s Goosefoot (*Chenopodium neomexicanum* var. *palmeri* - Not Accepted, *Chenopodium neomexicanum* - Accepted); Quelite Apestoso (Mexico: Sonora). DESCRIPTION: Terrestrial annual forb/herb (ascending and/or erect stems 4 inches to 5 feet in height); the stems are often reddish; the inconspicuous flowers are green; based on few records located, flowering generally takes place between mid-August and late October (additional records: one for mid-July, one for late July and one for late November). HABITAT: Within the range of this species it has been reported from mountains; mountaintops; mountainsides; bases of cliffs; rocky canyons; rocky canyon bottoms; ridgetops; meadows; edges of meadows; foothills; rocky hills; rocky hillsides; rocky, cindery and sandy slopes; rocky bajadas; amongst boulders and rocks; boulder fields; cobbly plains; fields; gravelly and gravelly-sandy flats; valleys; silty coastal plains; cindery roadbanks; along roadsides; along rocky and sandy arroyos; bottoms of arroyos; ravines; springs; streambeds; along creeks; along and in stony-sandy and sandy washes; lakebeds; ciénegas; bottomlands; sandy floodplains; mesquite bosques; ditches, and riparian areas growing in moist and dry bouldery, rocky, stony-sandy, cobbly, cindery, gravelly, gravelly-sandy and sandy ground; loam ground, and bouldery silty and silty ground, occurring from 500 to 8,700 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may have a strong odor, similar to that of sardines or rotting fish. *Chenopodium neomexicanum* is native to southwest-central and southern North America. \*5, 6, 42 (110513 - considers variety *neomexicanum* and variety *palmeri* to be synonyms of *Chenopodium neomexicanum*), 43 (013010), 44 (090812 - no record of species; genus record), 46 (*Chenopodium arizonicum* Standl., Page 253), 63 (110513), 77, **85** (110513 - color presentation), 124 (090812 - no record of species; genus record), 127 (110513 - no matches found), 133 (110513), 140 (Page 289), 156 (110513)\*

*Salsola australis* (see *Salsola tragus*)

*Salsola iberica* (see *Salsola tragus*)

*Salsola kali* (see *Salsola tragus*)

*Salsola kali* subsp. *tenuifolia* (see *Salsola tragus*)

*Salsola kali* subsp. *tragus* (see *Salsola tragus*)

*Salsola kali* var. *tenuifolia* (see *Salsola tragus*)

***Salsola tragus* C. Linnaeus: Prickly Russian Thistle**

SYNONYMY: *Salsola australis* R. Brown; *Salsola iberica* (f. Sennen & C. Pau) V.P. Botschantzev ex S.K. Czerepanov; *Salsola kali* C. Linnaeus; *Salsola kali* C. Linnaeus subsp. *tenuifolia* C.H. Moquis-Tandon; *Salsola kali* C. Linnaeus var. *tenuifolia* I.F. Tausch; *Salsola kali* C. Linnaeus subsp. *tragus* (C. Linnaeus) L.J. Čelakovský. COMMON NAMES: Cardo Ruso; Chamiso; Chamiso Valador; Ci Sha Peng (transcribed Chinese); Coast Saltwort; Common Russian Thistle (a name also applied to other species); Common Russian Thistle Tumbleweed; Hari Hijikii (Japanese Rōmaji); Leap the Field; Prickly Russian Thistle (a name also applied to other species); Russian Cactus (a name also applied to other species); Russian-cactus; Russian Thistle (a name also applied to the genus *Salsola*); Russian-thistle (a name also applied to the genus *Salsola*); Russian Tumble Weed; Russian Tumble-weed; Russian Tumbleweed (a name also applied to the genus *Salsola*); Rysk Sodaört (Swedish); Soude Épineuse (French); Soude Roulante (French); Spineless Saltwort; Tumbleweed (a name also applied to other species); Tumbling Thistle; Ukraine Salzkraut (German); Volador; Wind Witch; Wind-witch; Windwitch. DESCRIPTION: Terrestrial annual forb/herb (ascending (rarely) and/or erect stems 2 inches to 7 feet in height; plants were observed and described as being 4 feet in height and 3 feet in width); the stems may be bluish-green, gray-green with purple longitudinal stripes or dark green; the foliage may be blue-green, gray-green, grayish-green, green, purple or red striped, reddish-purple or yellow-green; the inconspicuous flowers (without petals) have been described as being brown, green, pale green, green-red, greenish & pale red, pink, pinkish-green, red-purple, white, whitish, whitish-green, white-pink, white-yellow or yellowish-green; flowering generally takes place between early April and mid-November (additional records: one for early February, one for mid-February, one for mid-March and one for early December); the fruit is a reddish top-shaped pod with papery wings. HABITAT: Within the range of this species it has been reported from mountains; gravelly mountainsides; sandy bases of mountains; sandy mesas; plateaus; canyon rims; chalky cliffs; bases of cliffs; rocky and sandy canyons; bouldery-gravelly-sandy, rocky and sandy canyon bottoms; bluffs; cindery (scoria) buttes; sandy knolls; rocky- rocky, sandy and sandy-loamy ridges; sandy rims of craters; rocky-clayey foothills; rocky, sandy and clayey hills; rocky, gravelly and sandy hillsides; sandy bases of escarpments; bouldery, rocky, rocky-gravelly, rocky-sandy-loamy, shaley, cindery, gravelly, gravelly-loamy, gravelly-sandy-loamy, sandy, sandy-loamy, loamy, clayey, clayey-loamy and silty slopes; alluvial fans; bajadas; rocky and shaley outcrops; sand ridges; sand hills; sand dunes; mudflows; sandy berms; sandy-clayey breaks; sandy breaklands; steppes; prairies; sandy plains; fields; gravelly, gravelly-sandy-clayey, gravelly-clayey, sandy, sandy-loamy, sandy-silty, clayey and silty flats; sandy uplands; basins; gravelly, gravelly-sandy and sandy valley floors; silty-clayey-loamy valley bottoms; coastal dunes; coastal plains; along sandy coastal beaches; coastal salt marshes; along gravelly-clayey railroad right-of-ways; gravelly roadbeds; sandy roadcuts; along rocky-sandy, rocky-silty, shaley-clayey-loamy, gravelly, gravelly-sandy, gravelly-clayey, sandy, sandy-loamy, sandy-clayey, sandy-silty-loamy and clayey roadsides; sandy arroyos; bottoms of arroyos; rocky-sandy, sandy, loamy and loamy-clayey draws; bottoms of draws; gravelly gullies; seeps; sandy springs; along streams; along sandy streambeds; along creeks; along cobbly-loamy, sandy and sandy-silty creekbeds; along rivers; along rocky, rocky-sandy, sandy, sandy-clayey and clayey riverbeds; along and in bouldery, sandy, sandy-loamy and sandy-clayey washes; within gravelly-clayey, sandy, sandy-loamy, clayey and silty drainages; pondbeds; around lakes; lakebeds; sandy-loamy playas; ciénegas; marshes; depressions; sloughs; gravelly and gravelly-sandy swales; (sandy, clayey and clayey-loamy) banks of springs, streams, rivers and washes; borders of washes; (sandy) edges of creeks, marshes and lakes; margins of streams and rivers; (sandy and clayey-loamy) shorelines of rivers and lakes; mudflats; cobble, sand and silt bars; sandy and sandy-clayey beaches; sandy and clayey benches; cobbly-gravelly and gravelly terraces; sandy-clayey bottomlands; along gravelly, sandy, sandy-clayey and clayey floodplains; mesquite bosques; along fencelines; around and in (dry) stock tanks; along banks and shores of reservoirs; along canals; along sandy ditches; along sandy ditch banks; bouldery-cobbly-sandy, gravelly, sandy and silty-loamy riparian areas; sandy waste places, and disturbed areas growing in wet and dry desert pavement; bouldery, bouldery-cobbly-sandy, bouldery-gravelly-sandy, rocky, rocky-sandy, stony, cobbly-gravelly, cindery, gravelly, gravelly-pebbly, gravelly-sandy and sandy ground; rocky-sandy loam, shaley-clayey loam, cobbly loam, gravelly loam, gravelly-sandy loam, sandy loam, sandy-clayey loam, clayey loam, silty loam, silty-clayey loam and loam ground; rocky clay, gravelly clay, gravelly-sandy clay, sandy clay, loamy clay and clay ground; rocky silty, sandy silty and silty ground, and chalky ground, occurring from sea level to 9,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: EXOTIC Invasive Plant. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used for food, fodder and as a drug or medication. Russian Thistle is a host plant of the Beet Leafhopper which transmits the Curly Top Virus to Sugarbeets *Salsola tragus* is native to northern, central, eastern and southern Europe; Asia, and northern Africa. \*5, 6, 15 (recorded as *Salsola iberica* Sennen & Pau), 16 (recorded as *Salsola iberica* Sennen & Pau), 28 (recorded as *Salsola iberica*, color photograph), 43 (070309), 44 (070611), 46 (recorded as *Salsola kali* L. and *Salsola kali* L.var. *tenuifolia* Tausch, Page 264), 58 (recorded as *Salsola iberica* Sennen & Pau), 63 (090912 - color presentation), 68(of *Salsola kali* L.var. *tenuifolia* Tausch, “It is a host plant for the sugarbeet leafhopper which carries the virus causing curly top in beets. It is also the source of “blight” in other crop plants such as tomatoes, spinach and beans. ... May store toxic amounts of nitrates after periods of fast growth.”), 77 (recorded as *Salsola australis* R. Br.), 80 (*Salsola kali* L.var. *tenuifolia* is listed as a Major Poisonous Range Plant. “Russian thistle is capable of storing up toxic quantities of nitrate, particularly during the flush period of growth. *Salsola* has also been suspected of causing oxalate poisoning in Australia. ... Large-scale control can best be accomplished through range improvement to replace the thistle with grass.” See text for additional information.), 85 (030214 - color presentation, J.J. Thornber reported on August 8, 1913, that Russian Thistle (*Salsola kali* L.) was recently introduced and rapidly spreading at a population observed in the Rillito bottomlands east of Tucson,), 101 (recorded as *Salsola iberica* Sennen, color photograph), 115 (color presentation), 124 (070611), 127, 140 (Page 289), **MBJ**/**WTK** (November 3, 2009)\*

Convolvulaceae: The Morning-glory Family

***Evolvulus arizonicus* A. Gray: Wild Dwarf Morning-glory**

SYNONYMY: *Evolvulus arizonicus* A. Gray var. *arizonicus*; *Evolvulus arizonicus* Gray var. *laetus* (A. Gray) S.J. van Ooststroom; *Evolvulus laetus* A. Gray. COMMON NAMES: Arizona Blue Eyes; Arizona Blue-eyes; Arizona Evolvulus; Evolvulus (a name also applied to the genus *Evolvulus*); Hairy Evolvulus; Oreja de Ratón (Spanish); Wild Dwarf Morning-glory; Wild Dwarf Morningglory; Wild Morning Glory; Wild Morning-glory. DESCRIPTION: Terrestrial perennial forb/herb (sprawling decumbent, ascending or erect stems 4 to 18 inches in height); the leaves may be gray-green, grayish-green, green or greenish-gray; the flowers (½ to ¾ inch in diameter) have been described as being blue, light blue, deep blue, blue with white stripes, blue with white throats, blue with a yellow center, blue-purple, bright blue-purple, sky-blue, deep sky blue, lavender with white throats, purple, dark purple, purple and cream, or white; the anthers are white; flowering generally takes place between mid-March and late October. HABITAT: Within the range of this species it has been reported from mountains; mesas; rocky cliffs; rocky canyons; crevices in rocks; pockets of soil; rocky ridges; ridgetops; meadows; foothills; rocky hills; bouldery-rocky, rocky and sandy-loamy hillsides; rocky, gravelly, gravelly-sandy, gravelly-sandy-loamy, gravelly-loamy, sandy, sandy-clayey, sandy-silty-clayey, loamy and silty-loamy slopes; bajadas; gravelly pediment fans; rocky outcrops; amongst rocks; benches; stony prairies; plains; sandy-clayey flats; uplands; basins; valley floors; roadbeds; roadcuts; along gravelly and sandy roadsides; sandy gullies; springs; along streams; along and in rocky streambeds; along creeks; cobbly-sandy creekbeds; riverbeds; along and in gravelly and sandy washes; rocky, rocky-gravelly-sandy and rocky-sandy drainages; (gravelly) edges of streams and lakes; benches; terraces; around and in stock tanks; sandy riparian areas, and disturbed areas growing in moist and dry bouldery-rocky, rocky, rocky-gravelly-sandy, rocky-sandy, stony, cobbly-sandy, gravelly and sandy ground; gravelly loam, gravelly-sandy loam, sandy loam, silty loam and loam ground, and gravelly clay, sandy clay and sandy-silty clay ground, occurring from 800 to 6,500 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, and is considered to be one of Arizona’s most beautiful wild flowers. This plant may be browsed by Whitetail Deer and quail. *Evolvulus arizonicus* is native to southwest-central and southern North America and southeastern South America. \*5, 6, 15 (recorded as *Evolvulus arizonicus* Gray var. *arizonicus* and *Evolvulus arizonicus* Gray var. *laetus* (Gray) van Ooststr.), 28 (color photograph 691), 43 (110513), 44 (110513 - no record of species or genus), 46 (Page 673), 48, 58, 63 (110513 - color presentation), **85** (110613 - color presentation), 86 (color photograph), 115 (color presentation), 124 (111810 - no record of species; genus record), 127 (110513 - no matches found), 133 (110513 - no record of species), 140 (Pages 119 & 289), 156 (110513 - no record of species)\*

*Evolvulus arizonicus* var. *arizonicus* (see *Evolvulus arizonicus*)

*Evolvulus arizonicus* var. *laetus* (see *Evolvulus arizonicus*)

*Evolvulus laetus* (see *Evolvulus arizonicus*)

Cucurbitaceae: The Cucumber Family

***Apodanthera undulata* A. Gray: Melon Loco**

COMMON NAMES: Calabaza Amarga (a name also applied to other taxa, Spanish); Calabaza de Coyote (Spanish); Crazy Melon; Melon de Coyote (a name also applied to other taxa); Loco-melon; Melon Loco; Melón Loco (Spanish); Melon-loco. DESCRIPTION: Terrestrial perennial forb/herb or vine (creeping, sprawling and/or trailing prostrate stems 2 to 10 feet in length; one plant was observed and described as being 12 inches in height and 6½ feet in width); the spreading stems arise from a thick root; the leaves (8 to 12 inches in height) are grayish or dark green; the flowers (to 1½ inches in diameter) are greenish-yellow, yellow, bright yellow, yellowish-cream, yellowish-green or white; flowering generally takes place between mid-May and mid-October (additional records: one for early April and one for late December); the oval, ribbed fruit (2½ to 4 inches in length) is green. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; mesas; bases of cliffs; rocky canyons; canyon walls; ridges; ridgetops; meadows; foothills; hills; rocky hillsides; rocky slopes; clayey bajadas; rocky lava beds; sand dunes; terraces; plains; bouldery-sandy, gravelly and sandy-silty flats; valley floors; valley bottoms; in roadbeds; along rocky, gravelly-loamy, gravelly-sandy-clayey-loamy and gravelly-sandy-silty roadsides; rocky arroyos; along and in washes; sandy depressions; along swales; edges of arroyos; along margins of arroyos; terraces; floodplains; mesquite woodlands; ditches, and disturbed areas growing in dry bouldery-sandy, rocky, gravelly and sandy ground; gravelly loam, gravelly-sandy loam and gravelly-sandy-clayey loam ground; clay ground, and gravelly-sandy silty and sandy-silty ground, occurring from 1,500 to 8,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: Melon Loco has a rank odor. *Apodanthera undulata* is native to southwest-central and southern North America. \*5, 6, 15, 16, 42 (021214), 43 (070409), 44 (091612 - no record of species or genus), 46 (Page 821), 58, 63 (021214 - color presentation), 77, **85** (021214 - color presentation), 86 (color photograph), 115 (color presentation), 124 (091612 - no record of species or genus), 127 (021214 - no matches found), 133 (021214), 140 (Pages 124 & 290), 156 (021214 - no taxa found), **MBJ**/**WTK** (July 9, 2009)\*

***Cucurbita digitata* A. Gray: Fingerleaf Gourd**

COMMON NAMES: A:ḍ (Uto-Aztecan: Tohono O’odham)140; ‘Ad (Uto-Aztecan: Hiá Ceḍ O’odham, Arizona, Sonora)140; ‘Adavĭ (Uto-Aztecan: Akimel O’odham, Arizona)140; Adawĭ (Uto-Aztecan: Hiá Ceḍ O’odham)140; Aḍawĭ (Uto-Aztecan: Tohono O’odham)140; Aláwe (Uto-Aztecan: Guarijío)140; Ara (Uto-Aztecan: Mountain Pima)140; Be’iłkan Dee’é [Joołlé] (Athapascan: Western Apache)140; Calabacilla (Spanish); Calabacilla (“Little Gourd”, Spanish: Arizona, Sonora)140; Calabaza Amarga (a name also applied to other species, Spanish); Calabaza Amarga (“Bitter Gourd”, Spanish: Arizona, Sonora)140; Chichi Coyota (Spanish); Chichicayote (Spanish); Chichicoyote <chichicayote, chichi coyota> (“Coyote’s Breasts”, Spanish: Sonora)140; Chichicoyotli (a word that refers to a practice used to discourage breast feeding, Uto-Aztecan: Náhuatl, Mexico); Coyote Gourd (a name also applied to other species); Coyote Gourd (English)140; Coyote Melon (a name also applied to other species); Finger Leaf Gourd; Finger-leaf Gourd; Finger Leafed Gourd; Finger Leaved Gourd; Finger-leaf Gourd; Finger-leafed Gourd (English: New Mexico)140; Finger-leaved Gourd; Fingerleaf Gourd; Melon de Coyote (“Coyote Melon”, Spanish: Arizona, Sonora)140; Melón de Coyote (Spanish); Meloncillo (Spanish); Meloncillo (“Little Melon”, Spanish: Arizona)140; Mösipatnga (Uto-Aztecan: Hopi)140; Naadołkal <nat dil kaali> (“Gourd”, Athapascan: Western Apache)140; Ndilkal (Athapascan: Navajo for *Cucurbita*)140; Nekhish <nekish> (Uto-Aztecan: Cahuilla)140; Patnga (Uto-Aztecan: Hopi)140; Teta’ahao (Uto-Aztecan: Yaqui)140; Whsáraaĝanápų (Uto-Aztecan: Ute)140; Xa:más (Yuman: Cocopa)140; Xamach (Yuman: Paipai)140; Ziix Is Cmasol (“Yellow-fruited Thing”, Hokan: Seri)140. DESCRIPTION: Terrestrial perennial forb/herb or vine (climbing, sprawling, spreading and/or trailing prostrate stems 3 to 40 feet in length); the stems arise from a thick root; the palmate leaves may be dark blue-green, gray-green, grayish-green or green; the large funnel-shaped flowers (2¾ to 4 inches in diameter and 1½ to 2 inches in length) may be greenish-yellow, orange, yellow or pale yellow; flowering generally takes place between mid-May and mid-November (additional record: one for mid-February); the striped gourd-like fruits (2 to 3¾ inches in diameter) are green aging to pale yellow or yellowish-green. HABITAT: Within the range of this species it has been reported from mountains; mesas; bases of cliffs; rocky canyons; rocky canyon bottoms; foothills; hills; sandy hilltops; hillsides; rocky slopes; bajadas; banks; plains; fields; gravelly and sandy flats; basins; gravelly-sandy valley floors; valley bottoms; along gravelly, gravelly-sandy-silty and sandy roadsides; along and in rocky and sandy arroyos; gravelly bottoms of arroyos; gulches; along streambeds; sandy creekbeds; along rivers; sandy riverbeds; along and in gravelly-sandy, gravelly-loamy, sandy and silty washes; (sandy) banks of arroyos, rivers and washes; borders of washes; sandy benches; sandy terraces; sandy bottomlands; floodplains; mesquite bosques; along fencelines; along canal banks; along riparian areas; waste places, and disturbed areas growing in dry rocky, rocky-sandy, stony, gravelly, gravelly-sandy and sandy ground; gravelly loam ground, and gravelly-sandy silty and silty ground, occurring from 100 to 6,300 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop. One record reported that the flowers opened at dawn and closed in the afternoon, another reported that the flowers were closed by 10:00 a.m. The flowers are pollinated by “Digger-bees” and Gourd-bees” in the genera *Peponapis* and *Xenoglossa*. The Coyote (*Canis latrans*) feeds on the fruit pulp and seeds of this plant. *Cucurbita digitata* is native to southwest-central and southern North America. \*5, 6, 15, 16, 28 (color photograph 371), 42 (021014), 43 (070409), 44 (120310), 46 (Page 822), 48 (genus), 58, 63 (021014 - color presentation of seed), 68, 77, **85** (021014 - color presentation), 115 (color presentation), 124 (110410 - no record of species; genus record), 127 (021014),133 (021014), 140 (Pages 123-124 & 290), 156 (021014 - no taxa found)\*

Euphorbiaceae: The Spurge Family

***Acalypha neomexicana* J. Müller Argoviensis: New Mexico Copperleaf**

COMMON NAMES: Hierba de Cáncer (Spanish: Mexico)140; New Mexican Copper-leaf (English)140; New Mexican Copperleaf; New Mexico Copperleaf; Three-seeded Mercury (a name also applied to the genus *Acalypha*); Three-seeded Mercury (English)140. DESCRIPTION: Terrestrial annual forb/herb (prostrate, ascending and/or erect stems 3 to 28 inches in height); the foliage is green; the staminate and pistillate flower spikes have been described as being green, greenish, pale pink-purple, purplish or reddish; flowering generally takes place between late July and mid-November (additional records: two for early March, one for late June and one for early July). HABITAT: Within the range of this species it has been reported from mountains; mesas; along bases of cliffs; along rocky canyons; canyon bottoms; gravelly pockets of soil; rocky knolls; along ridges; meadows; foothills; rocky-gravelly hills; bouldery and rocky hillsides; rocky, rocky-gravelly, stony, cindery, gravelly, gravelly-loamy, sandy and sandy-loamy slopes; alluvial fans; bajadas; rocky outcrops; on boulders; amongst rocks; cobbly plains; gravelly and sandy flats; uplands; sandy valley floors; along roadsides; gravelly arroyos; bottoms of arroyos; rocky gullies; ravines; springs; sandy soils along streams; along streambeds; sandy soils along creeks; creekbeds; along rivers; riverbeds; along and in stony, gravelly and sandy washes; gravelly-sandy-loamy and sandy drainages; cienegas; swales; (rocky-gravelly and silty) banks of arroyos and creeks; edges of washes; margins of ponds; along sides of rivers; shores of lakes; sandy terraces; bottomlands; floodplains; mesquite bosques; around catchments; bouldery and sandy riparian areas; waste places, and disturbed areas growing in wet, moist and dry bouldery, rocky, rocky-gravelly, stony, cobbly, gravelly and sandy ground; gravelly loam, gravelly-sandy loam and sandy loam ground, and silty ground often reported growing in shaded areas, occurring from 1,000 to 8,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Acalypha neomexicana* is native to southwest-central and southern North America. \*5, 6, 15, 42 (110613), 43 (070509), 44 (110613 - no record of species; genus record), 46 (Page 507), 58, 63 (110613), 68, 77, **85** (110613 - color presentation), 127 (110613 - no matches found), 133 (110613 - no record of species), 140 (Page 131-133 & 291), 156 (110613 - no record of species)\*

***Chamaesyce hirta* (C. Linnaeus) C.F. Millspaugh: Pillpod Sandmat**

SYNONYMY: *Euphorbia hirta* C. Linnaeus; *Euphorbia hirta* C. Linnaeus var. *typica* L.C. Wheeler. COMMON NAMES: Fei Yang Cao (Chinese); Golondrina (“Swallow” a name also applied to other species; applied to the genus, Spanish); Pillpod Euphorbia; Pillpod Sandmat; Small Pod Sandmat. DESCRIPTION: Terrestrial annual forb/herb (spreading prostrate, ascending and/or erect stems 4 to 28 inches in height); the leaves are green to red adaxially usually with a purple blotch, abaxially the leaves are gray-green; the flower-like cups have red glands and pink, reddish to white petaloid appendages; based on few records located flowering generally takes place between June (early August and early November (additional records: one for early January, one for mid-January, one for late January, one for late February (southern hemisphere), one for mid-March, two for late March, one for early April, two for late June, one for early July, one for late November, two for mid-December and one for late December). HABITAT: Within the range of this species it has been reported from rocky mountainsides; bases of mountains; mesas; rocky canyons; canyon walls; rocky canyon bottoms; crevices in rocks; ridges; openings in forests; meadows; hills; hilltops; rocky hillsides; rocky, sandy and clayey slopes; rocky outcrops; sand dunes; benches; fields; clayey flats; sandy valleys; along roads; along roadsides; along rocky, stony and sandy arroyos; sandy bottoms of arroyos; along streams; in streambeds; along and in rocky creekbeds; along and in riverbeds; along and in rocky, gravelly-sandy and sandy washes; (silty) banks of creeks; along margins of pools and ciénegas; along sides of washes; gravelly benches; bottomlands; floodplains; mesquite woodlands; around and in stock tanks; riparian areas; waste places, and disturbed areas growing in wet, moist and dry rocky, stony, gravelly, gravelly-sandy and sandy ground; sandy loam ground; clay ground, and silty ground, occurring from 100 to 7,400 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTES: The stems have a milky sap. Quail may browse this plant. *Chamaesyce hirta* is native to south-central and southern North America; Central America and coastal islands in the Caribbean Sea, and South America. \*5, 6, 15, 18 (“All euphorbias have milky white sap that is irritating on contact or toxic, if ingested, (degree of irritation or toxicity varies, depending on the species).”), 30, 42 (110613 - recognizes *Euphorbia hirta* L. as being the accepted scientific name), 43 (110613), 44 (110613 - no listings recorded under Common Names *Chamaesyce hirta*, no listings recorded under Common Names *Euphorbia hirta*; genus records), 46 (recorded as *Euphorbia hirta* L., Page 518), 58, 63 (110613), 68 (see: Poisonous Properties of Spurges, Page 202), 80 (Species of the genus *Euphorbia* are considered to be Secondary Poisonous Range Plants. “The milky juice of Spurge is considered poisonous. Plants may cause skin irritation, diarrhea, photosensitization, and cyanogenetic poisoning. Cattle, horses, sheep, and humans may be affected. The green plants are generally unpalatable but the dried plants in hay are more palatable and remain toxic. ... Poisoning may be prevented by keeping animals off areas heavily infested with spurge when other desirable feed is unavailable, and by not feeding contaminated hay. Range improvement will both reduce spurge infestations through grass competition, and decrease consumption by making more desirable forage available.” See text for additional information.), **85** (110713 - color presentation), 86 (“Most members of the family (Euphorbiaceae) are poisonous, and their milky sap will irritate the membranes of the eyes and mouth.”), 127 (110613 - no matches found), 133 (110613 - recognizes *Euphorbia hirta* L. as being the accepted scientific name), 140 (Page 291), 156 (110613)\*

***Chamaesyce hyssopifolia* (C. Linnaeus) J.K. Small: Hyssopleaf Sandmat**

SYNONYMY: *Euphorbia hyssopifolia* C. Linnaeus. COMMON NAMES: Burra Leitera (“Donkey’s Milk”, Portuguese: Brazil)140; Erva de Leite (“Milk Herb”, Portuguese: Brazil)140; Erva de Santa Luzia (“St. Lucia’s Herb”, Portuguese: Brazil)140; Golondrina (“Swallow”, Spanish: Mexico)140; Hyssop Spurge (English)140; Hyssopleaf Euphorbia; Hyssopleaf Sandmat; Hyssopleaf Spurge; Leafy Spurge (a name also applied to other species); Pau de Leite (“Milk Tree”, Portuguese: Brazil)140; [Hyssop-leaf] Sandmat (English: Arizona, Florida, New Mexico)140; Tripa de Pollo (Spanish); Vipgam (“It Has Much Milk”, Uto-Aztecan: Onavas Pima)140; Wi:bkam (“It Has Much Milk”, Uto-Aztecan: Tohono O’odham)140. DESCRIPTION: Terrestrial annual or perennial forb/herb (spreading prostrate, ascending and/or erect stems 4 inches to 2 feet in height/length); the stems are red or reddish; the leaves are green; the inconspicuous flower-like cups have maroon or pink glands with pink, purplish reddish, white or white-pink petaloid appendages; flowering generally takes place between early July and mid-November (additional records: one for early January, one for mid-January, one for late January, one for mid-March, one for mid-April, one for early May, two for early June, one for mid-December and three for late December). HABITAT: Within the range of this species it has been reported from bouldery mountains; bases of mountains; rocky mesas; cliffs; rocky canyons; rocky canyon bottoms; gorges; pockets of soil in bedrock; ridges; rocky ridge crests; sandy-loamy meadows; rocky foothills; rocky hills; rocky hillsides; bouldery, rocky, gravelly, sandy, sandy-loamy and clayey slopes; alluvial fans; gravelly bajadas; bedrock and rocky outcrops; amongst boulders and rocks; sandy berms; terraces; fields; cobbly plains; bouldery-sandy, gravelly, sandy and clayey flats; sandy valley floors; along railroad right-of-ways; in roadbeds; roadcuts; along rocky-sandy, gravelly, gravelly-sandy-loamy and gravelly-sandy-clayey-loamy roadsides; along and in rocky, rocky-gravelly, stony and sandy arroyos; sandy bottoms of arroyos; draws; gulches; within gullies; ravines; gravelly seeps; springs; rocky soils along streams; along and in rocky, cobbly and gravelly-silty-loamy streambeds; in rocks along and in creeks; creekbeds; sandy-clayey soils along rivers; gravelly-sandy and sandy-clayey riverbeds; along and in rocky, stony, gravelly, gravelly-sandy, sandy and clayey washes; within sandy drainages; along sandy drainage ways; playas; bogs; ciénegas; clayey swales; along (sandy and silty) banks of arroyos, streams, creeks, rivers and lakes; edges of washes; margins of streams; sand and sandy-clayey bars; rocky-sandy benches; rocky shelves; terraces; bottomlands; floodplains; mesquite bosques; mesquite woodlands; bottoms of dry stock tanks (charcos); along and in muddy and sandy ditches; sandy-clayey ditch banks; cobbly-gravelly-sandy, gravelly and sandy riparian areas; waste places, and disturbed areas growing in muddy and wet, moist, damp and dry (seasonally wet, reportedly this plant will soon wither and die as the soil dries out) bouldery, bouldery-sandy, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, stony, cobbly, cobbly-gravelly-sandy, gravelly, gravelly-sandy and sandy ground; gravelly-sandy loam, gravelly-sandy-clayey loam, gravelly-silty loam and sandy loam ground, and gravelly clay, sandy clay and clay ground, occurring from sea level to 8,600 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: The stems have a milky sap. *Chamaesyce hyssopifolia* is native to south-central and southern North America and coastal islands in the Atlantic Ocean; Central America and coastal islands in the Caribbean Sea and North Atlantic Ocean, and northern, western, central and eastern South America. \*5, 6, 15, 16 (recorded as *Euphorbia hyssopifolia* L.), 18 (“All euphorbias have milky white sap that is irritating on contact or toxic, if ingested, (degree of irritation or toxicity varies, depending on the species).”), 42 (110713 - recognizes *Euphorbia hyssopifolia* L. as being the accepted scientific name), 43 (070509), 44 (110713 - no record of species; genus record), 46 (recorded as *Euphorbia hyssopifolia* L., Page 518), 58, 63 (012811 - color presentation), 68 (recorded as *Euphorbia hyssopifolia* L. - see: Poisonous Properties of Spurges, Page 202), 77 (recorded as *Euphorbia hyssopifolia* L.), 80 (Species of the genus *Euphorbia* are considered to be Secondary Poisonous Range Plants. “The milky juice of Spurge is considered poisonous. Plants may cause skin irritation, diarrhea, photosensitization, and cyanogenetic poisoning. Cattle, horses, sheep, and humans may be affected. The green plants are generally unpalatable but the dried plants in hay are more palatable and remain toxic. ... Poisoning may be prevented by keeping animals off areas heavily infested with spurge when other desirable feed is unavailable, and by not feeding contaminated hay. Range improvement will both reduce spurge infestations through grass competition, and decrease consumption by making more desirable forage available.” See text for additional information.), **85** (110813 - color presentation), 86 (“Most members of the family (Euphorbiaceae) are poisonous, and their milky sap will irritate the membranes of the eyes and mouth.”), 115 (color presentation), 124 (071111 - redirected to *Chamaesyce nutans* (Lag.) Small, common names not included in this listing), 127 (110713 - no matches found), 133 (110713 - recognizes *Euphorbia hyssopifolia* L. as being the accepted scientific name), 140 (Pages 134-135 & 291), 156 (110713 - no taxa found)\*

***Chamaesyce pediculifera* (G. Engelmann) J.N. Rose & P.C. Standley: Carrizo Mountain Sandmat**

SYNONYMY: *Euphorbia pediculifera* G. Engelmann. COMMON NAMES: Carrizo Mountain Sandmat; Carrizo Mountain Spurge; Carrizo Spurge; Golondrina (“Swallow” a name also applied to other species; used for the genus, Spanish); Louse Broomspurge; Louse Spurge; Spurge (a name also applied to other species, the genus *Euphorbia* and to the Euphorbiaceae). DESCRIPTION: Terrestrial perennial forb/herb (sprawling and spreading prostrate, ascending and/or erect stems 4 to 16 inches in height and 4 to 16 inches in length); the stems are red or reddish; the leaves are gray-green or green; the flower-like cups have dark red-purple glands with white petaloid appendages; flowering generally takes place year-round between early January and late December; the white seeds are ringed with 4 to 5 ridges. HABITAT: Within the range of this species it has been reported from mountains; mountainsides; cliffs; talus slopes; rocky canyons; bouldery, rocky and gravelly canyon bottoms; rocky gorges; crevices in rocks; rocky ledges; ridge crests; cinder cones; rims of cinder cones; rocky foothills; rocky, rocky-sandy and gravelly hills; rocky and gravelly hillsides; clayey bases of hills; bluffs; rocky and sandy-clayey slopes; alluvial fans; sandy bajadas; amongst boulders, rocks and cobbles; boulder fields; sand dunes; plains; gravelly, sandy and silty flats; valley floors; coastal plains; coastal flats; sandy coastal beaches; railroad right-of-ways; along gravelly and sandy roadsides; rocky arroyos; along gravelly and sandy bottoms of arroyos; gravelly-sandy-loamy draws; rocky bottoms of ravines; along streams; cobbly-sandy and gravelly-sandy streambeds; along creeks; creekbeds; along rivers; riverbeds; along and in rocky, stony, gravelly, gravelly-sandy and sandy washes; rocky drainages; playas; coves; banks of washes; along (cobbly and sandy) edges of washes; (sandy) margins of washes; mudflats; sand bars; sandy beaches; benches; sandy strands; bottomlands; sandy floodplains; mesquite bosques; dry bottoms of charcos (stock tanks); mesquite bosques; sandy riparian areas, and disturbed areas growing in wet, moist and dry desert pavement; bouldery, rocky, rocky-sandy, stony, cobbly, cobbly-sandy, gravelly, gravelly-sandy and sandy ground; gravelly-sandy loam and sandy loam ground; rocky clay, sandy clay, gypsum clay and clay ground, and bouldery silty and silty ground, occurring from sea level to 4,800 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: The stems have a milky sap. *Chamaesyce pediculifera* is native to southwest-central and southern North America. \*5, 6, 15, 16 (recorded as *Euphorbia pediculifera* Engelm.), 18 (“All euphorbias have milky white sap that is irritating on contact or toxic, if ingested, (degree of irritation or toxicity varies, depending on the species).”), 42 (110813 - recognizes *Euphorbia pediculifera* Engelm. as being the accepted scientific name), 43 (020510), 44 (021511), 46 (recorded as *Euphorbia pediculifera* Engelm., Page 519), 58, 63 (092912), 68 (see: Poisonous Properties of Spurges, Page 202), 77 (recorded as *Euphorbia pediculifera* Engelm.), 80 (Species of the genus *Euphorbia* are considered to be Secondary Poisonous Range Plants. “The milky juice of Spurge is considered poisonous. Plants may cause skin irritation, diarrhea, photosensitization, and cyanogenetic poisoning. Cattle, horses, sheep, and humans may be affected. The green plants are generally unpalatable but the dried plants in hay are more palatable and remain toxic. ... Poisoning may be prevented by keeping animals off areas heavily infested with spurge when other desirable feed is unavailable, and by not feeding contaminated hay. Range improvement will both reduce spurge infestations through grass competition, and decrease consumption by making more desirable forage available.” See text for additional information.), **85** (110813 - color presentation), 86 (“Most members of the family (Euphorbiaceae) are poisonous, and their milky sap will irritate the membranes of the eyes and mouth.”), 124 (092912 - no record of species; genus record), 127 (110813 - no matches found), 133 (110813 - no record of species), 156 (110813 - no taxa found)\*

***Chamaesyce serpyllifolia* (C.H. Persoon) J.K. Small subsp. *serpyllifolia*: Thymeleaf Sandmat**

SYNONYMY: *Euphorbia serpyllifolia* C.H. Persoon; *Euphorbia serpyllifolia* C.H. Persoon subsp. *serpyllifolia*; *Euphorbia serpyllifolia* C.H. Persoon var. *serpyllifolia* Pers. COMMON NAMES: Naze-ni Pezhi (Omaha-Ponca, Milkweed); Spurge (a name also applied to other species, the genus *Euphorbia* and to the Euphorbiaceae); Thyme Leafed Spurge; Thyme Leaved Sandmat; Thyme Leaved Spurge; Thyme-leaf Broomspurge; Thyme-leaf Euphorbia; Thyme-leaf Sandmat; Thyme-leaf Spurge; Thyme-leafed Spurge; Thyme-leaved Sandmat; Thyme-leaved Spurge; Thymeleaf Broomspurge; Thymeleaf Euphorbia; Thymeleaf Spurge; Thymeleaf Sandmat; White-stemmed Spurge. DESCRIPTION: Terrestrial annual forb/herb (prostrate, ascending and/or erect stems 4 to 6 inches in length); the stems are purple-red or reddish; the leaves may be green or reddish; the inconspicuous flower-like cups have red glands with white petaloid appendages, flowering generally takes place between early April and early November (additional records: one for late November and one early December). HABITAT: Within the range of this species it has been reported from mountains; rocky-gravelly mountainsides; mesas; along rims of gorges; cliffs; sandy canyons; rocky, sandy and sandy-loamy canyon bottoms; among rocky talus; gravelly knolls; ridges; meadows; foothills; hilltops; rocky hillsides; rocky, cindery, gravelly, gravelly-loamy, sandy-loamy, clayey and silty-loamy slopes; rocky-sandy-loamy and gravelly-sandy alluvial fans; bajadas; sandy outwash fans; prairies; gravelly-sandy plains; sandy-clayey fields; rocky, gravelly, gravelly-sandy, sandy and clayey flats; sandy uplands; valley floors; along railroad right-of-ways; along sandy roadbeds; along gravelly, sandy and clayey roadsides; draws; seeps; springs; along streams; sandy streambeds; along sandy creeks; along rivers; rocky-sandy and sandy riverbeds; along and in bouldery-gravelly, gravelly-sandy and sandy washes; drainages; along cindery drainage ways; lakebeds; freshwater marshes; depressions; sumps; (rocky and sandy) banks of seeps, creeks and washes; edges of ponds; margins of ponds and lakes; shores of lakes; clayey mudflats; sandy benches; sandy and sandy-loamy terraces; bottomlands; silty-loamy floodplains; lowlands; mesquite bosques; margins of reservoirs; within ditches; riparian areas, and disturbed areas growing in wet, moist and dry bouldery-gravelly, rocky, rocky-gravelly, cindery, gravelly, gravelly-sandy and sandy ground; rocky-gravelly loam, rocky-sandy loam, gravelly loam, sandy loam, clayey loam and silty loam ground; rocky clay, sandy clay and clay ground, and silty ground, occurring from sea level to 8,300 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial beverage, candy, cooking agent and/or food crop; it was also noted as having been used as a drug or medication. The stems have a milky sap. *Chamaesyce serpyllifolia* subsp. *serpyllifolia* is native to west-central and southern North America. \*5, 6, 18 (“All euphorbias have milky white sap that is irritating on contact or toxic, if ingested, (degree of irritation or toxicity varies, depending on the species).”), 42 (110813 - recognizes *Euphorbia serpyllifolia* var. *serpyllifolia* Pers. as being the accepted scientific name), 43 (020510), 44 (093012), 46 (recorded as *Euphorbia serpyllifolia* Pers., Page 520), 58, 63 (110813 - color presentation), 68 (see: Poisonous Properties of Spurges, Page 202), 80 (Species of the genus *Euphorbia* are considered to be Secondary Poisonous Range Plants. “The milky juice of Spurge is considered poisonous. Plants may cause skin irritation, diarrhea, photosensitization, and cyanogenetic poisoning. Cattle, horses, sheep, and humans may be affected. The green plants are generally unpalatable but the dried plants in hay are more palatable and remain toxic. ... Poisoning may be prevented by keeping animals off areas heavily infested with spurge when other desirable feed is unavailable, and by not feeding contaminated hay. Range improvement will both reduce spurge infestations through grass competition, and decrease consumption by making more desirable forage available.” See text for additional information.), **85** (110813 - color presentation of dried material), 86 (“Most members of the family (Euphorbiaceae) are poisonous, and their milky sap will irritate the membranes of the eyes and mouth.”), 124 (093012), 127 (110813), 133 (110813 - recognizes *Euphorbia serpyllifolia* Pers. as being the accepted scientific name, neither subspecies *serpyllifolia* Pers. nor variety *serpyllifolia* Pers. was recognized), 156 (110813 - no taxa found)\*

***Chamaesyce serrula* (G. Engelmann) E.O. Wooton & P.C. Standley: Sawtooth Sandmat**

SYNONYMY: *Euphorbia serrula* G. Engelmann. COMMON NAMES: Sawtooth Euphorbia; Saw-tooth Sandmat; Sawtooth Sandmat; Sawtooth Spurge. DESCRIPTION: Terrestrial annual forb/herb (spreading prostrate and/or ascending stems 3 to 6 inches in length); the stems are red; the leaves may be green or red; the inconspicuous flower-like cups have green perianths and white petaloid appendages; flowering generally takes place between late June and early October (additional records: one for early May, one for late October and one for early November). HABITAT: Within the range of this species it has been reported from mountains; mesas; cliffs; crevices in rocks; sandy pockets of soil in rocks; ridges; clearings in woodlands; meadows; sandy foothills; rocky hills; escarpments; rocky, rocky-gravelly, gravelly, sandy and sandy-clayey slopes; alluvial fans; sandy-clayey bajadas; plains; gravelly-clayey, sandy, sandy-clayey and clayey flats; valley floors; roadbeds; along gravelly roadsides; two-tracks; draws; along and in sandy washes; bogs; banks of washes, drainages and drainage ways; edges of washes; margins of rivers; loamy terraces; sandy-silty floodplains; edges of stock tanks; ditches; riparian areas; waste places, and disturbed areas growing in moist, damp and dry desert pavement; rocky, rocky-gravelly, gravelly, gravelly-sandy and sandy ground; loam ground; gravelly clay, sandy clay and clay ground, and sandy silty and silty ground, occurring from 2,400 to 8,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: The stems have a milky sap and may form mats. *Chamaesyce serrula* is native to southwest-central and southern North America. \*5, 6, 16 (recorded as *Euphorbia serrula* Engelm.), 18 (“All euphorbias have milky white sap that is irritating on contact or toxic, if ingested, (degree of irritation or toxicity varies, depending on the species).”), 42 (110913 - recognizes *Euphorbia serrula* Engelm. as being the accepted scientific name), 43 (020510), 44 (100112 - no record of species; genus record), 46 (recorded as *Euphorbia serrula* Engelm., Page 520), 63 (100112), 68 (recorded as *Euphorbia serrula* Engelm. - see: Poisonous Properties of Spurges, Page 202), 77 (recorded as *Euphorbia serrula* Engelm.), 80 (Species of the genus *Euphorbia* are considered to be Secondary Poisonous Range Plants. “The milky juice of Spurge is considered poisonous. Plants may cause skin irritation, diarrhea, photosensitization, and cyanogenetic poisoning. Cattle, horses, sheep, and humans may be affected. The green plants are generally unpalatable but the dried plants in hay are more palatable and remain toxic. ... Poisoning may be prevented by keeping animals off areas heavily infested with spurge when other desirable feed is unavailable, and by not feeding contaminated hay. Range improvement will both reduce spurge infestations through grass competition, and decrease consumption by making more desirable forage available.” See text for additional information.), **85** (110913 - color presentation), 86 (“Most members of the family (Euphorbiaceae) are poisonous, and their milky sap will irritate the membranes of the eyes and mouth.”), 124 (100112 - no record of species; genus record), 127 (110913 - no matches found), 133(110913 - no record of species), 156 (110913 - no taxa found)\*

*Croton corymbulosus* (see *Croton pottsii* var. *pottsii*)

***Croton pottsii* (J.F. Klotzsch) J. Müller Argoviensis var. *pottsii*: Leatherweed**

SYNONYMY: *Croton corymbulosus* G. Engelmann. COMMON NAMES: Encinilla; Leather Croton; Leather Weed Croton; Leather-weed (a name also applied to the species); Leather-weed Croton (a name also applied to the species); Leatherweed (a name also applied to the species); Leatherweed Croton; Pott’s Leatherweed. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (erect stems 8 to 18 inches in height); the stems may be orange; the leaves are green and may be hairy gray on the underside; the flowers may be green, greenish-white, silvery-white or white; flowering generally takes place between early May and early November (additional record: one for mid-April). HABITAT: Within the range of this species it has been reported from mountains; mesas; rocky escarpments; cliffs; canyons; crevices in rocks; bluffs; ridges; foothills; rocky hills; rocky and gravelly hillsides; bases of hills; bouldery-rocky-sand, bouldery-gravelly, rocky, gravelly, gravelly-loamy, sandy-loamy, sandy-clayey-loamy, sandy-silty, loamy and clayey slopes; gravelly and loamy alluvial fans; bajadas; piedmonts; rocky outcrops; amongst boulders; gravelly outwash; benches; plains; sandy-clayey and clayey flats; rocky valley floors; rocky roadcuts; along rocky-sandy, rocky-clayey, gravelly, gravelly-sandy-loamy, gravelly-clayey-loamy, sandy, sandy-clayey and clayey roadsides; within arroyos; draws; within clayey washes; playas; clayey lowlands, and disturbed areas growing in dry desert pavement; bouldery-rocky-sandy, bouldery-gravelly, rocky, rocky-sandy, gravelly and sandy ground; gravelly loam, gravelly-sandy loam, gravelly-clayey loam, sandy loam, sandy-clayey loam and loam ground, and rocky clay, sandy clay and clay ground, occurring from 900 to 7,500 feet in elevation in the woodland, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. *Croton pottsii* var. *pottsii* is native to southwest-central and southern North America. \*5, 6, 15, 42 (110913), 43 (070609 - *Croton corymbulosus* Rothr.), 44 (021511 - no record of variety or species; genus record), 46 (recorded as *Croton corymbulosus* Engelm., Page 504), 58 (recorded as *Croton pottsii* (Klotzsch) J. Müll.-Arg., *Croton corymbulosus* Engelm. in “Arizona Flora”), 63 (110913), **85** (110913 - color presentation of dried material), 124 (021511 - no record of variety; species and genus records), 127 (110913), 133 (110913 - no record of variety *pottsii*; species record), 156 (110913 - no taxa found)\*

***Euphorbia dentata* A. Michaux: Toothed Spurge**

COMMON NAMES: David’s Spurge (*Euphorbia dentata* auct non Mich. - Not Accepted:  *Euphorbia davidii* - Accepted; *Euphorbia dentata* var. *gracillima* - Not Accepted: *Euphorbia davidii* - Accepted; *Euphorbia dentata* var. *lancifolia* - Not Accepted: *Euphorbia davidii* - Accepted); Eastern Toothed Spurge; Green Poinsettia; Hairy-fruit Spurge (*Euphorbia dentata* var. *cuphosperma* - Not Accepted: *Euphorbia cuphosperma* - Accepted ); Spurge (a name also applied to other species, the genus *Euphorbia* and to the Euphorbiaceae); Toothed Euphorbia; Toothed Poinsettia; Toothed Spurge (a name also applied to other taxa); Toothed Spurge (*Euphorbia dentata* var. *dentata* - Not Accepted: *Euphorbia dentata* - Accepted; *Euphorbia dentata* var. *lasiocarpa* - Not Accepted: *Euphorbia dentata* - Accepted); Toothed-leaf Poinsettia; Toothedleaf Poinsettia (*Euphorbia dentata* var. *dentata* - Not Accepted: *Euphorbia dentata* - Accepted; *Euphorbia dentata* var. *lasiocarpa* - Not Accepted: *Euphorbia dentata* - Accepted); Toothleaf Poinsettia. DESCRIPTION: Terrestrial annual forb/herb (branching decumbent to erect stems 8 inches to 2 feet in height); the stems sometimes have a reddish tint; the leaves may be green or dark green; the glands may be green, greenish or yellowish, the petaloid appendages are absent; based on few records located flowering generally takes place between early July and early October (additional records: one for mid-January and two for late October). HABITAT: Within the range of this species it has been reported from mountains; mesas; canyons; canyon sides; canyon bottoms; sandy bluffs; bases of bluffs; sandy ridges; rocky ridgetops; foothills; rocky hillsides; rocky, gravelly-loamy, sandy, sandy-loamy, clayey and silty-loamy slopes; sand hills; dunes; sandy banks; rocky prairies; sandy plains; sandy fields; clayey flats; clayey-loamy uplands; in rocks and cinders along railroad right-of-ways; rocky roadbeds; roadcuts; along sandy roadsides; within sandy arroyos; bottoms of arroyos; bottoms of gulches; along ravines; streambeds; creekbeds; along rivers; within rocky, sandy and clayey washes; along and in drainages; within depressions; within swales; banks of rivers; along (gravelly) edges of wet meadows and creeks; sides of rivers; margins of ponds; shores of lakes; sandy terraces; bottomlands; sandy floodplains; along fencerows; gravelly bases of dams; sandy dikes; in sandy soil along ditches; along ditch banks; gravelly riparian areas; waste places; recently burned areas in scrub, and disturbed area growing in moist and dry rocky, stony, cindery, gravelly and sandy ground; gravelly loam, sandy loam, clayey loam and silty loam ground, and cobbly-sandy clay and clay ground, occurring from sea level to 8,400 feet in elevation in the forest, woodland, grassland, desertscrub and wetland ecological formations. NOTES: This plant has a milky sap that is found in all plant parts. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. *Euphorbia dentata* is native to south-central and southern North America. \*18 (“All euphorbias have milky white sap that is irritating on contact or toxic, if ingested, (degree of irritation or toxicity varies, depending on the species).”), 42 (110913), 43 (110913), 44 (110913), 46 (Pages 515-516), 63 (110913 - color presentation), 68 (see: Poisonous Properties of Spurges, Page 202), 80 (Species of the genus *Euphorbia* are considered to be Secondary Poisonous Range Plants. “The milky juice of Spurge is considered poisonous. Plants may cause skin irritation, diarrhea, photosensitization, and cyanogenetic poisoning. Cattle, horses, sheep, and humans may be affected. The green plants are generally unpalatable but the dried plants in hay are more palatable and remain toxic. ... Poisoning may be prevented by keeping animals off areas heavily infested with spurge when other desirable feed is unavailable, and by not feeding contaminated hay. Range improvement will both reduce spurge infestations through grass competition, and decrease consumption by making more desirable forage available.” See text for additional information.), **85** (110913 - color presentation), 86 (“Most members of the family (Euphorbiaceae) are poisonous, and their milky sap will irritate the membranes of the eyes and mouth.”), 101 (color photographs), 127 (110913), 133 (110913), 156 (110913 - no taxa found)\*

***Euphorbia exstipulata* G. Engelmann: Squareseed Spurge**

SYNONYMY: *Euphorbia exstipulata* G. Engelmann var. *exstipulata*; *Euphorbia exstipulata* G. Engelmann var. *lata* B.H. Warnock & M.C. Johnston. COMMON NAMES: Clark Mountain Spurge (*Euphorbia exstipulata* var. *exstipulata* - Not Accepted: *Euphorbia exstipulata* - Accepted); Square-seed Spurge; Square-seeded Spurge; Squareseed Spurge (also applied to *Euphorbia exstipulata* var. *exstipulata* - Not Accepted: *Euphorbia exstipulata* - Accepted; *Euphorbia exstipulata* var. *lata* - Not Accepted: *Euphorbia exstipulata* - Accepted). DESCRIPTION: Terrestrial annual forb/herb (prostrate and/or erect stems 3 to 12 inches in height; one plant was described as being 3 inches in height and 1½ inches in width); the foliage is dark green; the flowers are green with white petaloid appendages; flowering generally takes place between early August and late October. HABITAT: Within the range of this species it has been reported from mountains; mesas; along rims of gorges; bases of cliffs; canyons; canyon bottoms; stony ledges; ridges; sandy meadows; foothills; hills; hilltops; rocky hillsides; rocky, gravelly, gravelly-loamy and clayey-loamy slopes; sandy bajadas; piedmonts; rocky and clayey outcrops; bouldery-gravelly bases of outcrops; amongst boulders; sandy benches; terraces; sandy plains; gravelly-clayey and clayey-loamy flats; sandy uplands; rocky roadcuts; along gravelly-loamy roadsides; within sandy arroyos; bottoms of arroyos; along streams; along and in riverbeds; along and in gravelly washes; (sandy) within drainages; edges of washes; along margins of washes; sandy benches; floodplains; ditches; riparian areas, and disturbed areas growing in moist and dry desert pavement; bouldery, bouldery-gravelly, rocky, stony, gravelly and sandy ground; gravelly loam and clayey loam ground; gravelly clay, sandy clay and clay ground, and gravelly-sandy silty ground, occurring from 3,300 to 7,800 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formation. NOTES: This plant has a milky sap. *Euphorbia exstipulata* is native to southwest-central and southern North America. \*5, 6, 15, 18 (“All euphorbias have milky white sap that is irritating on contact or toxic, if ingested, (degree of irritation or toxicity varies, depending on the species).”), 42 (110913), 43 (110913, 44 (110913), 46 (Page 517), 58. 63 (111013 - color presentation), 68 (see: Poisonous Properties of Spurges, Page 202), 80 (Species of the genus *Euphorbia* are considered to be Secondary Poisonous Range Plants. “The milky juice of Spurge is considered poisonous. Plants may cause skin irritation, diarrhea, photosensitization, and cyanogenetic poisoning. Cattle, horses, sheep, and humans may be affected. The green plants are generally unpalatable but the dried plants in hay are more palatable and remain toxic. ... Poisoning may be prevented by keeping animals off areas heavily infested with spurge when other desirable feed is unavailable, and by not feeding contaminated hay. Range improvement will both reduce spurge infestations through grass competition, and decrease consumption by making more desirable forage available.” See text for additional information.), 77, **85** (111013 - color presentation), 86 (“Most members of the family (Euphorbiaceae) are poisonous, and their milky sap will irritate the membranes of the eyes and mouth.”), 127 (110913 - no matches found), 133 (110913 - no record of species), 140 (Page 291), 156 (110913 - no taxa found)\*

*Euphorbia exstipulata* var. *exstipulata* (see *Euphorbia exstipulata*)

*Euphorbia exstipulata* var. *lata* (see *Euphorbia exstipulata*)

***Euphorbia heterophylla* C. Linnaeus: Mexican Fireplant**

SYNONYMY: *Poinsettia* *heterophylla* (C. Linnaeus) J.F. Klotzsch & C.A. Garcke. COMMON NAMES: Adeus-Brazil (Portuguese: Brazil); Amendoim-bravo (Portuguese: Brazil); Caca Poule (French); Café-do-diabo (Portuguese: Brazil); Catalina; Fiddler’s Spurge; Flor-do-poeta (Portuguese); Golondrina (“Swallow” a name also applied to other species; also used for the genus *Euphorbia*, Spanish); Hierba de Leche (Spanish); Japanese Poinsettia; Laban el-Homara (Arabic); Labeinah (Arabic); Lechosa (Spanish); Leiteira (Portuguese: Brazil); Mexican Fireplant; Mexican-fireplant; Milkweed (a name also applied to other taxa including the genus *Asclepias* and the Asclepiadaceae); Painted Euphorbia; Painted Leaf; Painted Spurge; Painted-leaf; Paintedleaf; Picachalih (Spanish); Pascuilla (Spanish); Picachalih (Spanish); Poinsettien-Wolfmilch (German); Summer Poinsettia; Wild Poinsettia. DESCRIPTION: Terrestrial annual or perennial forb/herb (branching ascending and/or erect stems 8 inches to 5 feet in height); the stems are green; the leaves are green; the floral bracts (below the flowering cluster) may be colored light green, pink, red, bright red, white or yellow; the flowers are cream, light green, green, white or white & green; the cup-shaped glands are yellow, petaloid appendages are absent; flowering generally takes place between early August and late October (additional records: one for early January, one for mid-January, one for mid-March, two for mid-July and one for late November); the ripe fruits are reddish. HABITAT: Within the range of this species it has been reported from rocky mountains; mountainsides; rocky canyons; rocky and sandy canyon bottoms; ridges; bouldery-rocky and sandy-clayey meadows; foothills; rocky hillsides; rocky, stony, gravelly, sandy-clayey and clayey slopes; gravelly bajadas; along rocky outcrops; amongst rocks and cobbles, bases of rocks; cobbly plains; fields; gravelly and clayey flats; valley floors; along railroad right-of-ways; along roadsides; within rocky and sandy arroyos; bottoms of arroyos; gulches; ravines; along streams; cobbly and sandy streambeds; along creeks; sandy creekbeds; riverbeds; along and in washes; within drainage ways; ciénegas; marshes; along (sandy) banks of rivers and washes; edges of washes; margins of arroyos; terraces; bottomlands; sandy floodplains; mesquite bosques and woodlands; ditches; grassy riparian areas; waste places, and disturbed areas growing in wet, moist, damp and dry bouldery-rocky, rocky, stony, cobbly, gravelly and sandy ground and sandy clay and clay ground, occurring from sea level to 7,600 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant has a milky sap. *Euphorbia heterophylla* is native to south-central and southern North America and coastal islands in the North Atlantic Ocean; Central America and coastal islands in the Caribbean Sea, and northern, western and eastern South America; however, the exact native range in the neotropics is obscure. \*5, 6, 15, 16, 18 (“All euphorbias have milky white sap that is irritating on contact or toxic, if ingested, (degree of irritation or toxicity varies, depending on the species).”), 42 (111013), 43 (012811 - *Poinsettia* *heterophylla* Klotzsch & Garcke), 44 (071311 - no listings recorded under Common Names; genus record), 46 (Page 519), 58, 63 (100312 - color presentation), 68 (see: Poisonous Properties of Spurges, Page 202), 77, 80 (Species of the genus *Euphorbia* are considered to be Secondary Poisonous Range Plants. “The milky juice of Spurge is considered poisonous. Plants may cause skin irritation, diarrhea, photosensitization, and cyanogenetic poisoning. Cattle, horses, sheep, and humans may be affected. The green plants are generally unpalatable but the dried plants in hay are more palatable and remain toxic. ... Poisoning may be prevented by keeping animals off areas heavily infested with spurge when other desirable feed is unavailable, and by not feeding contaminated hay. Range improvement will both reduce spurge infestations through grass competition, and decrease consumption by making more desirable forage available.” See text for additional information.), **85** (111013 - color presentation), 86 (“Most members of the family (Euphorbiaceae) are poisonous, and their milky sap will irritate the membranes of the eyes and mouth.”), 124 (071311 - redirected to *Euphorbia cyathophora* Murray), 127 (111013 - no matches found), 133 (111013), 140 (recorded as *Poinsettia* *heterophylla* (Linnaeus) Klotzsch & Garcke, Page 291), 156 (111013 - no taxa found)\*

*Euphorbia hirta* (see *Chamaesyce hirta*)

*Euphorbia hirta* var. *typica* (see *Chamaesyce hirta*)

*Euphorbia hyssopifolia* (see *Chamaesyce hyssopifolia*)

*Euphorbia pediculifera* (see *Chamaesyce pediculifera*)

***Euphorbia radians* G. Bentham: Sun Spurge**

SYNONYMY: *Poinsettia* *radians* (G. Bentham) J.F. Klotzsch & C.A. Garcke. COMMON NAMES: Quelite (Hispanic); Sun Spurge. DESCRIPTION: Terrestrial perennial forb/herb (decumbent to erect stems 2¼ to 10 inches in height); the leaves are green; the flowering bracts may be greenish, pink, pinkish-white, white or white tinged with pink, the flowers are white; the anthers are yellow; based on few records located flowering generally takes place between mid-March and late May (additional record: one for late October). HABITAT: Within the range of this species it has been reported from mountains; canyons; rocky-sandy ridgetops; rocky hills; along hillsides; rocky and rocky-sandy-loamy slopes; amongst grasses; along rocky and clayey roadsides; within arroyos; drainages; shores of ciénegas, and disturbed areas growing in rocky and rocky-sandy ground; rocky-sandy loam ground, and clay ground, occurring from 3,700 to 6,800 feet in elevation in the woodland, grassland and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Euphorbia radians* is native to southwest-central and southern North America. \*5, 6, 18 (“All euphorbias have milky white sap that is irritating on contact or toxic, if ingested, (degree of irritation or toxicity varies, depending on the species).”), 30, 42 (111113), 43 (111113 - *Poinsettia* *radians* Klotzsch & Garcke), 44 (111113 - no record of species; genus record), 46 (Page 515), 63 (111113), 68 (see: Poisonous Properties of Spurges, Page 202), 80 (Species of the genus *Euphorbia* are considered to be Secondary Poisonous Range Plants. “The milky juice of Spurge is considered poisonous. Plants may cause skin irritation, diarrhea, photosensitization, and cyanogenetic poisoning. Cattle, horses, sheep, and humans may be affected. The green plants are generally unpalatable but the dried plants in hay are more palatable and remain toxic. ... Poisoning may be prevented by keeping animals off areas heavily infested with spurge when other desirable feed is unavailable, and by not feeding contaminated hay. Range improvement will both reduce spurge infestations through grass competition, and decrease consumption by making more desirable forage available.” See text for additional information.), **85** (111113 - color presentation), 86 (“Most members of the family (Euphorbiaceae) are poisonous, and their milky sap will irritate the membranes of the eyes and mouth.”), 127 (111113 - no matches found), 133 (111113), 156 (111113 - no taxa found)\*

*Euphorbia serpyllifolia* (see *Chamaesyce serpyllifolia* subsp. *serpyllifolia*)

*Euphorbia serpyllifolia* subsp. *serpyllifolia* (see *Chamaesyce serpyllifolia* subsp. *serpyllifolia*)

*Euphorbia serpyllifolia* var. *serpyllifolia* (see footnote 42 under *Chamaesyce serpyllifolia* subsp. *serpyllifolia*)

*Euphorbia serrula* (see *Chamaesyce serrula*)

***Jatropha macrorhiza* G. Bentham (var. *septemfida* G. Engelmann is the variety reported as occurring in Arizona): Ragged Nettlespurge**

COMMON NAME: Bahada (Spanish); Jicamilla (Spanish); Jirawilla (Spanish); Ragged Jatropha; Ragged Nettlespurge; Sycamore-leafed Limberbush. DESCRIPTION: Terrestrial perennial forb/herb (erect stems 12 to 26 inches in height); the palmately leaves may be green or reddish-green; the flowers may be pink, light pink, pink with red veins, pinkish, pinkish-white, white, white with pink veins, white-maroon or whitish-pink; flowering generally takes place between mid-May and late September (additional record: one for late October). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; sandy mesas; gravelly-sandy canyons; rocky canyon bottoms; crevices in rock; pockets of soil in rock; rocky ridges; meadows; rolling hills; bouldery, rocky, rocky-clayey and gravelly hillsides; bases of hills; rocky, stony, gravelly, gravelly-sandy-loamy, sandy-clayey, silty and silty-clayey slopes; alluvial fans; sandy bajadas; rocky outcrops; amongst rocks; prairies; rocky, gravelly and sandy-clayey plains; gravelly and clayey flats; valleys; gravelly, gravelly-sandy-clayey-loamy, sandy and sandy-clayey-loamy roadsides; arroyos; springs; along streams; along and in rocky washes; around ponds; depressions; edges of creeks; benches; terraces; floodplains, and disturbed areas growing in dry bouldery, rocky, stony, gravelly, gravelly-sandy and sandy ground; gravelly-sandy loam, gravelly-sandy-clayey loam, humusy loam and loam ground, and rocky clay, sandy clay, silty clay and clay ground, occurring from 700 to 7,500 feet in elevation in the forest, woodland, woodland to grassland transitions, scrub; grassland and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Jatropha macrorhiza* is native to southwest-central and southern North America. \*5, 6, 42 (111113 - recorded *Jatropha macrorhiza* var. *septemfida* Engelm. as being a synonym of *Jatropha macrorhiza*), 43 (072009), 44 (111113 - no record of species or genus), 46 (recorded as *Jatropha macrorhiza* Benth. var. *septemfida* Engelm. as being the variety occurring in Arizona, Page 509), 58, 63 (111113), 80 (Species of the genus *Jatropha* are considered to be Rarely Poisonous and Suspected Poisonous Range Plants. “Seeds of several species of *Jatropha* are toxic to humans and livestock but no poisoning has been reported from Arizona.”), **85** (111113 - color presentation), 115 (color presentation), 124 (030711 - no record of species), 127 (111113 - no matches found), 133 (111113), 140 (Page 291), 156 (111113 - no taxa found), **MBJ**/**WTK** (July 9, 2009), **WTK** (September 26, 2005)\*

***Manihot angustiloba* (J. Torrey) J. Müller Argoviensis: Desertmountain Manihot**

COMMON NAMES: Confite (Spanish); Desert Mountain Manihot (English: Arizona, New Mexico)140; Desertmountain Manihot; Huacamote (Spanish); Narrow-leaf Cassava; Narrow-leaved Cassava (English)140; Pata de Gallo (Spanish); Pato de Gallo (“Rooster Foot”, Spanish: Chihuahua)140; Yuca (Spanish); Yuca del Cerro (“Wild [Mountain] Manioc”, Spanish: Chihuahua, Sonora)140. DESCRIPTION: Terrestrial perennial shrub (sprawling stems 1 to 6½ feet in height; one plant was observed and described as being 20 inches in height and 10 feet in width); the leaves are dark green; the flowers have been described as being green, pale green, greenish, greenish-yellow, light yellow, yellowish or yellowish-green; flowering generally takes place between early July and early September (additional records: flowering beginning as early as June has also been reported). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; rocky mesas; cliffs; bases of cliffs; rocky canyons; bouldery and rocky canyon sides; crevices in rocks; silty pockets of soil; knolls; rocky ledges; rocky ridges; rocky ridgetops; foothills; hills; rocky hilltops; hillsides; rocky slopes; rocky outcrops; amongst rocks; rock piles; rocky banks; uplands; rocky and sandy arroyos; borders of washes, and riparian areas growing in bouldery, rocky and sandy ground and silty ground, occurring from 500 to 5,900 feet in elevation in the woodland, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, the flowers may give off a sweet fragrance. The herbage has a milky sap. *Manihot angustiloba* is native to southwest-central and southern North America. \*5, 6, 13 (Pages 115-116), 15, 42 (111113), 43 (111113), 44 (111113 - no record of species or genus), 46 (Page 510), 58, 63 (111113), 80 (Species of the genus *Manihot* are considered to be Rarely Poisonous and Suspected Poisonous Range Plants. The raw roots of these rare forbs may contain concentrations of hydrocyanic acid lethal to livestock and man.), **85** (111113 - color presentation), 127 (111113 - no matches found), 133 (111113), 140 (Pages 135-136 & 291), 156 (111113 - no taxa found), **MBJ**/**WTK** (July 9, 2009)\*

***Tragia laciniata* (J. Torrey) J. Müller Argoviensis: Sonoita Noseburn**

COMMON NAMES: Sonoita Noseburn; Sonoran Noseburn. DESCRIPTION: Terrestrial perennial forb/herb or vine (sprawling ascending and/or erect stems approximately 8 to 18 inches in height); based on few records located flowering generally takes place between late July and late October (additional record: one for late May). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky canyons; canyon walls; along rocky canyon bottoms; crevices; rolling hills; hillsides; rocky, gravelly and sandy slopes; amongst boulders; valleys; roadcuts; within ravines; along streams; rocky creekbeds; along and in washes; along edges of lakes; sides of streams, and riparian areas growing in dry bouldery, rocky, stony, gravelly and sandy ground, occurring from 3,500 to 8,100 feet in elevation in the forest, woodland, grassland and wetland ecological formations. NOTES: *Tragia laciniata* is native to southwest-central and southern North America. \*5, 6, **8**, 42 (111113), 43 (111113), 44 (111113 - no record of species; genus record), 46 (Page 508), 63 (111113), **85** (111213 - color presentation of dried material), 127 (111113 - no matches found), 133 (111113 - no record of species), 140 (Page 291), 156 (111113 - no taxa found)\*

*Poinsettia* *heterophylla* (see *Euphorbia heterophylla*)

*Poinsettia* *radians* (see *Euphorbia radians*)

Fabaceae (Leguminosae): The Pea Family

*Acacia constricta* (see *Vachellia constricta*)

*Acacia constricta* var. *constricta* (see *Vachellia constricta*)

*Acacia constricta* var. *paucispina* (see *Vachellia constricta*)

*Acacia greggii* (see *Senegalia* *greggii*)

*Acacia greggii* var. *arizonica* (see *Senegalia* *greggii*)

*Acacia greggii* var. *greggii* (see *Senegalia* *greggii*)

*Acacia greggii* var. *wrightii* (see *Senegalia* *greggii*)

*Acacia wrightii* (see *Senegalia* *greggii*)

***Acmispon greenei* (E.O. Wooten & P.C. Standley) L. Brouilett: Greene’s Bird’s-foot Trefoil**

SYNONYMY: *Lotus greenei* A.M. Ottley in T.H. Kearney & R.H. Peebles; *Lotus neomexicanus* E.L. Greene. COMMON NAMES: Deer Vetch (a name also applied to other species and the genus *Lotus*); Deer-vetch (a name also applied to other species and the genus *Lotus*); Deervetch (a name also applied to other species and the genus ); Greene Birdfoot Trefoil; Greene Bird’s-foot Trefoil; Greene’s Bird’s-foot Trefoil; Greene’s Birdsfoot Trefoil; Green’s Lotus. DESCRIPTION: Terrestrial perennial forb/herb (creeping, sprawling, spreading or trailing prostrate, decumbent and/or erect stems 3 to 8 inches in height); the leaves are grayish-green; the flowers have been described as being orange & yellow, dark orange-dark yellow, pink & yellow, reddish-yellow, yellow (fading red or rose), pale yellow, yellow-orange, yellow with orange or pinkish-orange on the banner, yellow & pink, yellow & red, yellow with red on bottom, yellow tinged with red, yellow & rose, yellow with a rose tint or yellowish-orange; flowering generally takes place between early March and late June (additional records: one for early February, one for mid-February, two for late July, one for early August, three for mid-August, one for late August, two for mid-September, one for early October and one for late November). HABITAT: Within the range of this species it has been reported from mountains; mountaintops; bases of mountains; mesas; rocky canyons; talus slopes; pockets of soil; rocky ledges; ridgetops; amongst oaks and grasses; foothills; rocky hills; hilltops; rocky, rocky-gravelly and rocky-clayey hillsides; bouldery, rocky, rocky-gravelly, rocky-gravelly-loamy, stony-silty, cindery, gravelly, gravelly-loamy, gravelly-clayey, sandy and sandy-loamy slopes; bases of slopes; rocky outcrops; amongst boulders; sandy banks; berms; prairies; plains; flats; along rocky-gravelly, stony, gravelly and gravelly-sandy roadsides; sandy-loamy arroyos; rocky sides of draws; gulches; gullies; along streams; along streambeds; gravelly and sandy washes; along watercourses; along (gravelly-sandy, gravelly-loamy and sandy) banks of arroyos, streambeds, rivers and washes; edges of streams; margins of lakes; (sandy) shores of creeks; bottomlands; floodplains; sandy mesquite woodlands; stony ditches; riparian areas, and disturbed areas growing in dry (including seasonally wet) bouldery, rocky, rocky-gravelly, stony, cindery, gravelly, gravelly-sandy and sandy ground; rocky-gravelly loam, rocky-sandy loam, gravelly loam and sandy loam ground; rocky clay and gravelly clay ground, and stony silty ground, occurring from 2,500 to 8,500 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. The seeds of this plant are used as food by Mule Deer (*Odocoileus hemionus*), quail and Bighorn Sheep (*Ovis canadensis*). *Acmispon greenei* is native to southwest-central and southern North America. \*5, 6, 15 (recorded as *Lotus greenei* (Woot. & Standl.) Ottley ex Kearney & Peebles), 28 (recorded as *Lotus greenei*, color photograph 503), 42 (111813), 43 (111813 - *Lotus greenei* (Wooton & Standl.) Ottley in Kearney & Peebles), 44 (111813 - no record of species; genus record), 46 (recorded as *Lotus greenei* (Woot. & Standl.) Ottley, Page 428), 48 (genus), 58 (recorded as *Lotus greenei* (Woot. & Standl.) Ottley), 63 (111813 - records located under *Lotus greenei* Ottley ex Kearney & Peebles, color presentation), 77 (recorded as *Lotus greenei* (Woot. & Standl.) Ottley), **85** (111813 - color presentation), 124 (030811 - no record of species; genus record), 127 (111813 - no matches found), 133 (111813 - records located under *Lotus greenei* Ottley ex Kearney & Peebles), 156 (111813 - no taxa found)\*

***Acmispon humistratus* (G. Bentham) D.D.Sokoloff: Foothill Deervetch**

SYNONYMY: *Hosackia brachycarpa* G. Bentham; *Lotus humistratus* E.L. Greene. COMMON NAMES: Bird’s Foot Lotus; Colchita; Deer Vetch (a name also applied to the genus *Lotus*); Deer-vetch (a name also applied to the genus *Lotus*); Foothill Deervetch; Hill Deervetch; Hill Locust; Foothill Deervetch; Maresfat; Short Podded Lotus. DESCRIPTION: Terrestrial annual forb/herb (spreading prostrate and/or ascending stems 4 to 18 inches in height/length); the leaves may be gray-green or green; the flowers may be lemon yellow, orange, orange-yellow, yellow, yellow-orange, yellow & orange-red and yellow & red; flowering generally takes place between late January and late June (additional records: one for early August, one for late August and one for early October); the mature pods are brown. HABITAT: Within the range of this species it has been reported from mountains; mountaintops; sandy mesas; plateaus; cliffs; rocky, rocky-gravelly and stony canyons; sandy-loamy canyon bottoms; scree; rocky talus slopes; bluffs; rocky and clayey-loamy ridges; rocky and clayey ridgetops; ridgelines; rocky-sandy meadows; foothills; bases of foothills; bedrock, rocky and clayey hills; clayey hilltops; rocky, rocky-gravelly-loamy, rocky-pebbly-sandy-silty, rocky-clayey-loamy, gravelly-clayey-loamy, stony, cobbly-sandy-loamy, gravelly and clayey hillsides; rocky, rocky-gravelly, rocky-sandy, rocky-clayey-loamy, cobbly-sandy-loamy, gravelly, clayey, clayey-loamy and silty slopes; bases of slopes; rocky-sandy and sandy alluvial fans; gravelly bajadas; rocky outcrops; amongst rocks; rocky banks; benchlands; clay lenses; sandy-silty plains; rocky-sandy, gravelly, gravelly-sandy, sandy and clayey flats; clayey basins; gravelly-sandy-loamy, sandy and clayey valley floors; valley bottoms; coastal prairies; along rocky and gravelly roadsides; along and in rocky and sandy arroyos; bottoms of arroyos; within draws; gulches; gullies; along seeping washes; springs; along streams; sandy soils along creeks; bouldery-rocky, stony, cobbly, gravelly, gravelly-sandy and sandy creekbeds; sandy soils along rivers; sandy riverbeds; along and in cobbly-gravelly-sandy, gravelly, gravelly-sandy, gravelly-loamy, sandy and clayey washes; within drainages; along (rocky-silty, gravelly-loamy and sandy) banks of streams, streambeds, rivers and washes; gravel bars; clayey benches; terraces; sandy and loamy bottomlands; cobbly-sandy and sandy floodplains; along canals; rocky, gravelly-sandy and sandy riparian areas; recently burned areas in scrub, and disturbed areas growing in wet, moist, damp and dry gravelly-sandy-silty-clayey desert pavement; bouldery-rocky, rocky, rocky-gravelly, rocky-sandy, stony, cobbly, cobbly-gravelly-sandy, cobbly-sandy, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-gravelly loam, rocky-sandy loam, rocky-clayey loam, cobbly-sandy loam, gravelly-sandy loam, gravelly-clayey loam, sandy loam, clayey loam, silty loam and loam ground; gravelly-sandy-silty clay and clay ground, and rocky-pebbly-sandy silty, rocky silty, sandy silty and silty ground, occurring from sea level to 6,200 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. *Acmispon humistratus* is native to southwest-central and southern North America. \*5, 6, 15 (recorded as *Lotus humistratus* Greene), 16 (recorded as *Lotus humistratus* Greene), 42 (111813), 43 (111813 - no record for *Acmispon humistratus*), 44 (111813 - no record of species; genus record), 46 (Page 427), 48 (genus), 58 (recorded as *Lotus humistratus* Greene), 63 (111813 - records located under *Lotus humistratus*, color presentation of seed), 77 (recorded as *Lotus humistratus* Greene), **85** (111913 - color presentation), 86 (color photograph), 115 (color presentation), 124 (110112 - no record of species; genus record), 127 (111813 - recorded under *Lotus humistratus*), 133 (111813 - record located under *Lotus humistratus*), 140 (Page 292), 156 (111813 - no taxa found)\*

***Astragalus allochrous* A. Gray: Halfmoon Milkvetch**

SYNONYMY: *Astragalus allochrous* A. Gray var. *allochrous*. COMMON NAMES: Cascabelillo (applied to *Astragalus allochrous* var. *playanus* - Not Accepted; *Astragalus wootonii* - Accepted, Spanish); Cascabelito (applied to *Astragalus allochrous* var. *playanus* - Not Accepted; *Astragalus wootonii* - Accepted, Spanish: also applied to other taxa); Crazyweed; Garbancillo (applied to *Astragalus allochrous* var. *playanus* - Not Accepted; *Astragalus wootonii* - Accepted, Spanish: also applied to other taxa); Half Moon Loco; Half Moon Milkvetch; Half-moon Loco; Half-moon Locoweed; Half-moon Milkvetch; Halfmoon Loco; Halfmoon Loco-weed; Halfmoon Locoweed; Halfmoon Milk-vetch; Halfmoon Milkvetch; Hierba Loca (generic, applied to *Astragalus allochrous* var. *playanus* - Not Accepted; *Astragalus wootonii* - Accepted, Spanish: also applied to other taxa); Loco (a name also applied to other species and the genus *Astragalus*); Loco Weed (a name also applied to other species and the genus *Astragalus*); Locoweed (a name also applied to other species and the genus *Astragalus*); Playa Milk Vetch (applied to *Astragalus allochrous* var. *playanus* - Not Accepted; *Astragalus wootonii* - Accepted); Playa Milk-vetch (applied to *Astragalus allochrous* var. *playanus* - Not Accepted; *Astragalus wootonii* - Accepted); Playa Milkvetch (applied to *Astragalus allochrous* var. *playanus* - Not Accepted; *Astragalus wootonii* - Accepted); Playanus Locoweed (applied to *Astragalus allochrous* var. *playanus* - Not Accepted; *Astragalus wootonii* - Accepted); Poisonvetch (a name also applied to genus *Astragalus*); Rattle Weed (a name also applied to genus *Astragalus*); Rattleweed (a name also applied to genus *Astragalus*); Tronador (applied to *Astragalus allochrous* var. *playanus* - Not Accepted; *Astragalus wootonii* - Accepted, Spanish). DESCRIPTION: Terrestrial annual or perennial forb/herb (spreading prostrate stems 10 inches to 2 feet in length); the stems may be dull red or red; the leaves may be gray-green, green or dark gray-green; the flowers may be blue, blue-purple, blue-violet, creamy, lavender-white, bright magenta, magenta-purple, magenta-violet, magenta & white, purple, purple & whitish-yellow, pale red-violet, red-violet or yellowish; flowering generally takes place between early March and late May (additional records: two for mid-June, one for late June, two for mid-July, one for early August, two for mid-September, two for mid-October and one for early December); The fruits may be pale yellow with a green tinge. HABITAT: Within the range of this species it has been reported from mountains; mesas; along rocky canyons; sandy canyon bottoms; bluffs; bouldery and cindery ridges; sandy clearings in woodlands; sandy cinder cones; bouldery, rocky-sandy and cindery ridges; sandy cinder cones; foothills; hills; rocky hilltops; bouldery-rocky and gravelly hillsides; rocky, cindery, gravelly and clayey slopes; amongst rocks; sandy lava flows; benches; breaks; plains; cindery and sandy flats; valley floors; valley bottoms; roadcuts; along rocky, gravelly, gravelly-sandy, gravelly-sandy-loamy, gravelly-loamy, sandy and sandy-loamy roadsides; within sandy arroyos; springs; around and in sandy streams; along creeks; along gravelly-sandy creekbeds; along rivers; within cobbly-sandy, gravelly and sandy washes; along ciénegas; (sandy) banks of streams, rivers and washes; benches; sandy and loamy bottomlands; sandy and sandy-loamy floodplains; cobbly-sandy, gravelly-sandy and sandy riparian areas, and disturbed areas growing in moist, damp and dry bouldery, bouldery-rocky, rocky, rocky-sandy, cobbly-sandy, cindery, gravelly, gravelly-sandy and sandy ground; gravelly loam, gravelly-sandy loam and sandy loam ground; clayey ground, and silty ground, occurring from 1,500 to 9,200 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication and as a ceremonial item. *Astragalus allochrous* is native to southwest-central and southern North America. \*5, 6, 42 (111413), 43 (020810), 44 (111413), 46 (Page 463), 58, 63 (111413 - recognizes *Astragalus allochrous* varieties *allochrous* and *playanus*, color presentation), 68, 80 (This species is listed as a Major Poisonous Range Plant. “Poisonings by *Astragalus* and *Oxytropis* are similar and are of three types. Some species cause typical loco poisoning. Others pick up poisonous minerals, such as selenium, and cause mineral poisoning. A third type of poisoning causes respiratory problems, in addition to other loco symptoms, and death by asphyxiation. The toxic principle of typical loco poisoning has never been specifically isolated, though an alkaloid-like substance given the name of “locoine” has been proven to cause typical symptoms. ... Animals ordinarily will not eat loco unless feed is scarce, but animals forced to eat the plants become addicted and will eat the loco plants even when good forage is available.” See text for additional information.), **85** (102112 - recorded as *Astragalus allochrous* var. *allochrous*, color presentation), 124 (102112 - no record of species; genus record), 127 (111413), 133 (111413), 156 (111413 - no taxa found)\*

*Astragalus allochrous* var. *allochrous* (see *Astragalus allochrous*)

***Astragalus arizonicus* A. Gray: Arizona Milkvetch**

COMMON NAMES: Arizona Locoweed; Arizona Milkvetch; Locoweed (a name also applied to other species and the genus *Astragalus*). DESCRIPTION: Terrestrial perennial forb/herb (sprawling prostrate, ascending and/or erect stems 3 to 10 inches in height and 10 to 18 inches in length); the foliage may be gray-green, grayish, silvery, silvery-gray or silvery-gray-green; the flowers have been described as being blue, blue & cream, blue-purple, blue-white-cream, green-white, pale lavender-blue, lavender & white, magenta-violet, pink-purple, purple, pale purple, dark purple, dingy-purple, purplish, purple-blue, purple & green, red-purple, reddish-purple, red-violet fading to blue, pale violet, violet fading to blue, dark violet, white with blue margins, white & pink, bright yellow or yellowish with lavender tips; flowering generally takes place between late February and mid-June (additional records: one for late July and one for late August). HABITAT: Within the range of this species it has been reported from mountains; mesas; canyons; sandy canyon bottoms; ridges; foothills; gravelly hills; hillsides; bouldery, rocky, rocky-sandy and gravelly slopes; bajadas; rocky outcrops; banks; plains; flats; valleys; railroad right-of-ways; along rocky, gravelly and sandy roadsides; sandy arroyos; along streams; streambeds; along creeks; along stony, gravelly-sandy and sandy washes; along (gravelly-sandy) banks of streams; borders of washes; benches; bottomlands; sandy-clayey lowlands; riparian areas, and disturbed areas growing in moist and dry bouldery, rocky, rocky-sandy, stony, gravelly, gravelly-sandy and sandy ground; gravelly-sandy loam ground, and sandy clay and clay ground, occurring from 1,100 to 7,000 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Astragalus arizonicus* is native to southwest-central and southern North America. \*5, 6, 15, 42 (111413), 43 (081610), 44 (111413 - no record of species; genus record), 46 (this plant probably causes loco disease, but this has not been experimentally proven, Page 468), 58, 63 (111413 - color presentation of seed), 77, **85** (111413 - color presentation), 124 (110410 - no record of species; genus record), 127 (111413 - no matches found), 133 (111413), 140 (Page 291), 156 (111413 - no taxa found)\*

***Astragalus nuttallianus* A.P. de Candolle: Smallflowered Milkvetch**

COMMON NAMES: Annual Astragalus (Oklahoma); Cascabelito (Spanish: applied to var. *austrinus* and other taxa); Cedros Island Milkvetch (var. *cedrosensis*); Coliche Milkvetch (var. *imperfectus*); Edwards Plateau Milkvetch (var. *pleianthus*); Hairypod Milkvetch (var. *trichocarpus*); Hierba Loca (Spanish: applied to var. *austrinus* and other taxa); Imperfect Milkvetch (var. *imperfectus*); Locoweed (a name also applied to other taxa including the genus *Astragalus*); Loredo Milkvetch (var. *zapatanus*); Montezuma Milkvetch (var. *micranthiformis*); Nuttall Locoweed (a name also applied to other taxa); Nuttall Milkvetch (a name also applied to other taxa); Rattleweed (a name also applied to other taxa including the genus *Astragalus*); Richland Milkvetch (var. *pleianthus*), Rio Fronteras Milkvetch (var. *austrinus*); Scammon’s Milkvetch (var. *cedrosensis*); Small Flower Milk-vetch; Small Flowered Milk-vetch; Small Flowered Milkvetch; Small Milkvetch (var. *macilentus*); Small-flower Milk-vetch; Small-flower Milkvetch; Smallflower Milkvetch; Small-flowered Milk Vetch; Small-flowered Milk-vetch; Small-flowered Milkvetch; Smallflowered Milkvetch; Smallflowered Milkvetch (var. *austrinus*; var. *nuttallianus*); Sonora Rattle-weed (var. *austrinus*); Southern Small Flowered Milk Vetch (var. *austrinus*); Southern Small-flowered Milk-vetch (var. *austrinus*); Texas-pea (a name also applied to other taxa); Turkey Peas (var. *cedrosensis*; var. *imperfectus*; var. *micranthiformis*, and var. *trichocarpus*); Turkeypeas (var. *cedrosensis*; var. *imperfectus*; var. *macilentus*; var. *micranthiformis*; var. *trichocarpus*; var. *zapatanus*, and a name also applied to other taxa). DESCRIPTION: Terrestrial annual or perennial forb/herb (spreading prostrate, procumbent and/or weakly ascending stems 2 to 4 inches in height with stems 1½ to 21 inches in length; one plant was observed and described as being 4 inches in height and 12 inches in width, plants were observed and described as being 4 inches in height and 16 inches in width); the foliage is grayish; the flowers may be pale blue, blue, pale bluish, blue-indigo, blue-lavender, blue & purple, blue-violet, blue-white, cream-bluish, lavender, pale lavender, lavender & white, pale lavender & white, lavender-rose, maroon-lavender; pink, purple, light purple, purple-blue, purple-red, purple & white, red-violet, pale violet, violet & white, white, white tinged with lavender, white tinged with purple or whitish; flowering generally takes place between late January and early July (additional records: one for early January, one for late January, one for early August, one for mid-August, one for early September, two for early October, one for mid-October, three for late October and one for late November). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky, gravelly and sandy-silty mesas; plateaus; along loamy canyon rims; rock cliffs; stony-gravelly bases of cliffs; along rocky canyons; gravelly and sandy canyon bottoms; rocky-gravelly and gravelly scree; rocky talus slopes; pockets of sandy soil; chalky bluffs; bases of hogbacks; rocky knolls; rocky ledges; rocky ridges; rocky ridgetops; rocky meadows; volcanic cones; foothills; rocky, stony-gravelly, rocky-clayey and clayey hills; rocky and sandy hillsides; rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, rocky-sandy-loamy, rocky-clayey, gravelly, gravelly-sandy-silty, sandy, sandy-loamy, sandy-clayey and loamy slopes; rocky and sandy alluvial fans; gravelly bajadas; cobbly pediments; rocky and clayey outcrops; bases of outcrops; amongst boulders, rocks and cobbles; on rocks; sandy lava flows; lava fields; sand hills; sand dunes; sand sheets; benches; shaley-sandy bases of dikes; clayey-loamy prairies; shaley-sandy, sandy and sandy-silty plains; rocky, cindery, gravelly, gravelly-sandy, pebbly-sandy, sandy-clayey and sandy-clayey-loamy flats; sandy uplands; basins; sandy-silty and silty valleys; along sandy railroad right-of-ways; roadbeds; roadcuts; along rocky, gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey-loamy, sandy and sandy-silty roadsides; along two-tracks; within rocky, gravelly and sandy arroyos; gravelly bottoms of arroyos; along bouldery draws; bottoms of draws; gulches; springs; seeps; along streams; streambeds; along creeks; along and in gravelly and gravelly-sandy creekbeds; along rivers; riverbeds; along and in rocky, rocky-sandy, cobbly, gravelly, gravelly-sandy, sandy and sandy-clayey washes; gravelly and sandy drainages; sandy drainage ways; drip walls; silty lakebeds; gravelly and sandy depressions; sandy-clayey swales; (gravelly-sandy, sandy and silty-loamy) banks of creeks, rivers and washes; edges of rivers; (sandy) margins of washes; (gravelly-sandy) sides of washes; gravel and gravelly-sand bars; gravelly and sandy beaches; rocky and sandy benches; ledges; shorelines; rocky shelves; terraces; gravelly and sandy bottomlands; cobbly-gravelly-sandy and sandy floodplains; mesquite bosques; around stock tanks; clayey ditches; gravelly-sandy and sandy riparian areas; waste places, and sandy disturbed areas growing in moist, damp and dry rimrock; desert pavement; bouldery, bouldery-gravelly, bouldery-sandy, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, shaley-sandy, stony, stony-gravelly, cindery, cobbly, cobbly-gravelly-sandy gravelly, gravelly-sandy, pebbly-sandy and sandy ground; rocky-gravelly loam, rocky-sandy loam, gravelly loam, gravelly-clay loam, sandy loam, sandy-clay loam, clayey loam, silty loam, humusy loam and loam ground; rocky clay, rocky-loamy clay, rocky-silty clay, sandy clay and clay ground; gravelly-sandy silty, sandy silty and silty ground, and chalky ground, occurring from sea level to 9,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Astragalus nuttallianus* is native to south-central and southern North America. \*5, 6, 16, 42 (111413), 43 (070709), 44 (102312), 46 (Page 468), 58, 63 (111413 - color presentation), 68, **85** (111513 - color presentation), **89** (reported as being a winter annual herb located on the Mesa-like Mountain Slopes), 124 (102312), 127 (111413 - no matches found), 133 (111413), 140 (Page 292), 156 (111413 - no taxa found)\*

***Calliandra eriophylla* G. Bentham: Fairyduster**

SYNONYMY: *Calliandra eriophylla* G. Bentham var. *eriophylla*. COMMON NAMES: Bastard Catclaw; Bastard Mesquite; Brasilillo (“Little Brazil-wood”, Spanish: New Mexico, Chihuahua)140; Cabellito [Cabellos, Pelo de Ángel] (“Little [Angel] Hair”, Spanish: Mexico)140; Cabeza de Ángel (Spanish); Cabeza [de] Ángel (“Angel Head”, Spanish: Baja California)140; Cabelleto de Angel; Charresquillo (“Little Thicket”, Spanish: San Louis Potosí)140; Cosahui (Spanish); Cósahui [del Norte] (Spanish: Sonora)140; Cu:wĭ Wuipo <cu:wi wu:pui> (“Jack-rabbit Eyes”, Uto-Aztecan: Tohono O’odham)140; Desert Fairy Duster; Desert Fairy-duster; Desert Fairyduster; Fairy Duster (a name also applied to the genus *Calliandra*); Fairy Duster [Fairy-duster] (English)140; Fairy Duster False Mesquite; Fairy-duster (a name also applied to the genus *Calliandra*); Fairy-duster False-mesquite; Fairy-duster Mesquitilla; Fairyduster (a name also applied to the genus *Calliandra*); Fairyduster Mesquitilla; False Catclaw; False Mesquite; False [Bastard, Mock] Mesquite [Catclaw] (English)140; False Mesquite Calliandra (a name also applied to other species); False-mesquite Calliandra; Gatillo (Spanish); Guajillo; Hairy-leafed Calliandra; Hairy-leaved Calliandra; Haxz Iztim (“Dog’s Hipbone”, Hokan: Seri)140; Huajillo <guajillo> (Spanish: Mexico)140; Mautillo (Mexico, Sonora); Mesquitella (Spanish); Mesquitilla (a name also applied to other species); Mezquitilla (“Little Mesquite”, Spanish: Mexico)140; Mezquitillo (Spanish); Mock Catclaw; Mock Mesquite (a name also applied to the genus *Calliandra*); Pelo de Ángel (Spanish); Pink Fairy Duster; Pink Fairy-duster; Pink Fairyduster; Pink False Mesquite; Plumita (“Little Plume”, Spanish: Mexico)140; Rama Mansa (Spanish); Taaseyueylalá <ta-a-sey-ueylalá> (Uto-Aztecan: Guarijío)140. DESCRIPTION: Terrestrial perennial deciduous subshrub or shrub (4 inches to 6½ feet in height; one plant was observed and described as being 3 feet in height with a crown 5 feet in width, one plant was observed and described as being 40 inches in height with a crown 80 inches in width); the stems may be bluish, light gray, gray, whitish or white-gray; the leaves may be grayish, dark green or red; the flowers may be cream-white, pink, pink-red, pink-white, pinkish, light purple, purple, red, red and white, reddish-purple, rose, violet-red or white; flowering may take place year-round between early January and late December. HABITAT: Within the range of this species it has been reported from mountains; rocky peaks; mountainsides; gravelly mesas; plateaus; rocky canyons; along rocky canyon bottoms; buttes; knolls; bedrock, rocky and sandy ridges; rocky, gravelly and sandy-loamy ridgetops; rocky, shaley-sandy and gravelly-clayey-loamy foothills; rocky hills; hilltops; rocky hillsides; along bedrock, bouldery, rocky, rocky-cobbly-gravelly, rocky-gravelly, rocky-loamy, rocky-clayey, gravelly, gravelly-sandy, gravelly-sandy-loamy, gravelly-loamy and clayey slopes; rocky-gravelly-sandy and gravelly bajadas; rocky outcrops; amongst boulders and rocks; boulderfields; lava hills; interior dunes; stony banks; gravelly terraces; plains; rocky, gravelly, sandy and clayey-loamy flats; uplands; basins; valley floors; along rocky, gravelly-sandy, rocky-sandy, sandy and sandy-loamy roadsides; along rocky, rocky-sandy and sandy arroyos; within gullies; around seeps; around springs; around seeping streams; streambeds; along and in gravelly and sandy washes; drainages; within bouldery drainage ways; along watercourses; (rocky) banks of arroyos and lakes; borders of washes; edges of washes and drainage ways; margins of washes; shores of lakes; gravelly terraces; bottomlands; mesquite woodlands; ditches; riparian areas, and disturbed areas growing in dry desert pavement; bouldery, rocky, rocky-cobbly-gravelly, rocky-gravelly-sandy, rocky-sandy, shaley-sandy, stony, gravelly and sandy ground; rocky loam, gravelly loam, gravelly-sandy loam, gravelly-clayey loam, pebbly-clayey loam, sandy loam and clayey loam ground, and rocky clay and clay ground, occurring from sea level to 7,300 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat and is sold as an ornamental; it is considered to be a soil binder. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. Hummingbirds and White-lined Sphinx Moths (*Hyles lineata*) have been observed visiting the flowers, the plant is browsed by wildlife with Mule Deer (*Odocoileus hemionus*) and White-tailed Deer (*Odocoileus virginianus*) finding it highly palatable, and birds may feed on the seeds. *Calliandra eriophylla* is native to southwest-central and southern North America. \*5, 6, 13 (Pages 230-231), 15, 16, 18, 28 (color photograph 653), 42 (111513), 43 (080409), 44 (071611 - color photograph), 46 (Page 397), 48, 58, 63 (111513 - color presentation), 77 (color photograph #32), **85** (111613 - color presentation), 86 (color photograph), 91 (Pages 142-143), 115 (color presentation), 124 (071611 - no record of genus or species), 127 (111513), 133 (111513), 140 (Pages 138-139 & 292), 156 (111513 - no taxa found), **MBJ**/**WTK** (April 20, 2006?), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

*Calliandra eriophylla* var. *eriophylla* (see *Calliandra eriophylla*)

*Cassia leptocarpa* (see *Senna hirsuta* var. *leptocarpa*)

***Dalea* C. Linnaeus: Prairie Clover**

COMMON NAMES: Dalea; Indigo Bush; Prairie Clover; Prairie-clover; Prairieclover; Prairieclovers. \*42 (030114), 43 (030114), 44 (030114), 46 (Pages 432-439), 63 (023114), 106 (030114), **MBJ**/**WTK** (November 3, 2009)\*

***Dalea albiflora* A. Gray: Whiteflower Prairie Clover**

SYNONYMY: *Dalea ordiae* A. Gray; *Petalostemon pilosulus* P.A. Rydberg. COMMON NAMES: Ord’s Prairie Clover; Pea Bush; Scruffy Prairie Clover; White Dalea; White Flower Dalea; Whiteflower Prairie Clover; Whiteflower Prairieclover. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (sub-erect to erect stems 3 to 40 inches in height); the stems and leaves are hairy; the stems may be a dull red; the leaves are dark gray-green or grayish-green; the flowers (1½ inches in length and ½ inch in diameter in dense terminal spikes) have been described as being cream, cream-white, bright pink drying bluish, white, whitish white-cream, white-pale yellow or pale yellow; the anthers may be pale yellow or yellow; flowering generally takes place between late April and early November (additional record: one for early December). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; walls; bases of cliffs; canyons; sandy canyon bottoms; rocky and gravelly ridges; bouldery ridgetops; clearings and openings in forests; meadows; foothills; rocky and stony hills; rocky, rocky-gravelly-loamy, rocky-clayey and gravelly-loamy hillsides; escarpments; bouldery, rocky, gravelly, gravelly-sandy, gravelly-loamy and sandy slopes; piedmonts; amongst boulders and rocks; bases of outcrops; terraces; prairies; sandy-loamy plains; grassy fields; silty-clayey flats; sandy-loamy valleys; roadbeds; along rocky, rocky-gravelly, rocky-gravelly-sandy-loamy, rocky-gravelly-loamy, rocky-gravelly-clayey-loamy, gravelly, gravelly-sandy-loamy, gravelly-sandy-clayey-loamy, gravelly-loamy and sandy roadsides; sandy draws; gulches; seeps; springs; along streams; along streambeds; gravelly-sandy soils along creeks; creekbeds; within rocky-gravelly-loamy, cobbly and sandy washes; sandy drainages; sphagnum bogs; depressions; (rocky-cindery) edges of drainages; sand bars; sandy benches; bottomlands; sandy floodplains; sandy mesquite woodlands; ditches; riparian areas, and disturbed areas growing in moist and dry bouldery, rocky, rocky-cindery, rocky-gravelly, stony, cobbly, gravelly, gravelly-sandy and sandy ground; rocky-gravelly loam, rocky-gravelly-sandy loam, rocky-gravelly-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-sandy-clayey loam, gravelly-clayey loam, sandy loam, sandy-clayey loam, humusy loam and loam ground; rocky clay, silty clay and clay ground, and humusy ground, occurring from 3,200 to 8,900 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, the flowers may be fragrant. *Dalea albiflora* is native to southwest-central and southern North America. \*5, 6, 15, 18 (genus), 28 (color photograph 300), 42 (111613), 43 (111613), 46 (Page 439), 63 (111613 - color presentation), **85** (111613 - color presntation), 86 (note under White Prairie Clover), 115 (color presentation), 127 (111613 - no matches found), 133 (111613), 140 (Page 272), 156 (111613 - no taxa found)\*

*Dalea ordiae* (see *Dalea albiflora*)

***Dalea pogonathera* A. Gray var. *pogonathera*: Bearded Prairie Clover**

COMMON NAMES: Bearded Dalea (a name also applied to the species); Bearded Prairie Clover (a name also applied to the species); Bearded Prairieclover (a name also applied to the species); Herba del Corazon (a name also applied to the species); Heirba del Corazo (a name also applied to the species); Pea-bush. DESCRIPTION: Terrestrial perennial forb/herb (stems 8 inches to 2 feet in height); the flowers (a spike 2 to 4 inches in length) may be pale brown, lavender, pink, purple or white; flowering generally takes place between mid-March and late September (additional record: one for early December). HABITAT: Within the range of this species it has been reported from mountains; bases of mountains; rocky-sandy, gravelly and sandy mesas; canyons; crevices in rocks; ridges; gravelly and clayey hills; rocky, stony and cobbly hillsides; rocky and gravelly slopes; bajadas; rocky and gravelly piedmonts; amongst rocks; stony flats; loamy uplands; along rocky and gravelly roadsides; gravelly-sandy-loamy and sandy-loamy arroyos; along gravelly washes; grassy lowlands, and disturbed areas growing in dry rocky, rocky-sandy, stony, cobbly, gravelly and sandy ground; gravelly-sandy loam, sandy loam and loam ground, and clay ground, occurring from 2,400 to 6,000 feet in elevation in the woodland, grassland and desertscrub ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Dalea pogonathera* var. *pogonathera* is native to southwest-central and southern North America. \*5, 6, 18 (genus), 42 (111613), 43 (111613 - species, *Dalea pogonathera* A. Gray), 44 (111613 - no record of variety or species; genus record), 46 (species, Page 438), 63 (111613 - color presentation), **85** (111613 - color presentation of dried material), 124 (102912 - no record of variety or species; genus record), 127 (111613 - no matches found), 133 (111613), 156 (111613 - no taxa found)\*

***Dalea versicolor* J.G. Zuccarini: Oakwoods Prairie Clover**

COMMON NAMES: Hawikuk (not sure about the application of this word, there is a Zuni word, Hawikku, meaning “gum leaves”, New Mexico, Socorro - applied to var. *sessilis*, a Zuni basket plant)85, 106; ndigo Bush (a name also applied to other species); Mangle (applied to var. *sessilis*, Spanish); Oakwoods Dalea; Oakwoods Prairie Clover; Oakwoods Prairieclover; Wislizenus Dalea (applied to var. *sessilis*). DESCRIPTION: Terrestrial perennial subshrub or shrub (sprawling prostrate, decumbent, ascending and/or erect stems 8 inches to 7 feet in height/length; one shrub was observed and described as being 20 inches in height and 4¼ feet in width, one shrub was observed and described as being 2 feet in height and 3 feet in width, one plant was observed and described as being 28 inches in height and 40 inches in width); the leaflets are dark green; the flowers have been described as being blue & yellow, lavender & white & yellow, pale lavender, lavender-pink & yellow, lavender-purple & cream, lilac, pink, pink & yellow, bright pink & yellow, pink-lavender & yellow, dark pink-rose & yellow, pink-purple, purple, purple & white, purple & whitish, pale purple & yellow, dark purple & yellow, purplish-pink, bright red-violet & yellow, reddish-purple, reddish-purple & white, reddish-purple & yellow, rose-pink, rose-pink & yellow, rose-purple, rose & yellow, white with purple veins, yellow or yellow & maroon; flowering generally takes place between mid-March and late May and again between late July and early November (additional records: one for mid-February, two for mid-June, one for late June, one for late November and one for early December). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; cliffs; bases of rock walls; bouldery-rocky-gravelly, rocky and sandy canyons; along rocky canyon bottoms; rocky ridges; ridgetops; gravelly-sandy foothills; rocky hills; hilltops; rocky and stony hillsides; bouldery-gravelly, rocky, rocky-gravelly-loamy, rocky-clayey, gravelly, sandy-loamy, sandy-clayey-loamy, clayey and silty-loamy slopes; amongst boulders and rocks; roadcuts; rocky and sandy roadsides; along rocky arroyos; ravines (barrancas); along bottoms of ravines; rocky streams; washes; along water courses; sphagnum bogs; (rocky) edges of streams and drainages; benches; riparian areas; waste places, and disturbed areas growing in moist and dry bouldery, bouldery-rocky-gravelly, bouldery-gravelly, rocky, stony, gravelly, gravelly-sandy and sandy ground; rocky-gravelly loam, rocky-clayey loam, sandy loam, sandy-clayey loam and silty loam ground, and clay ground, occurring from 300 to 8,100 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, the crushed herbage may be fragrant. Consider using this plant as a ground cover. This plant is a larval food plant for the Ceraunus Blue (*Hemigarus ceraunus*) and Southern Dogface (*Colias cesonia*). *Dalea versicolor* is native to southwest-central and southern North America and Central America. \*5, 6, 13 (recorded as *Dalea versicolor* Zucc. var. *sessilis* (A. Gray) Barneby, Page 266), 15 (recorded as *Dalea versicolor* Zucc. subsp. *versicolor* var. *sessilis* (Gray) Barneby), 18 (genus), 30, 42 (111713), 43 (111713 - no record for *Dalea wislizeni* var. *sanctae-crucis*), 44 (111713 - no record of species; genus record), 46 (recorded as *Dalea wislizeni* Gray; *Dalea wislizeni* Gray var. *sanctae-crucis* (Rydb.) Kearney & Peebles; *Dalea wislizeni* Gray var. *sessilis* Gray, Page 438), 63 (111713 - color presentation), 82 (recorded as *Dalea versicolor* J.G. Zuccarini var. *sessilis* (A. Gray) R.C. Barneby), **85** (111713 - color presentation), 91 (recorded as *Dalea versicolor* Zucc. var. *sessilis* (A. Gray) Barneby), 106 (111713 - Hawikku), 127 (111713 - no matches found), 133 (111713), 140 (recorded as *Dalea versicolor* Zuccarini, Page 292), 156 (111713 - no taxa found)\*

***Erythrina flabelliformis* T.H. Kearney: Coralbean**

COMMON NAMES: Ba:wui (“Bean”, Uto-Aztecan: Tohono O’odham)140; Baowi <bavul, bawi> (“Bean”, Uto-Aztecan: Onavas Pima)140; Bawui (Uto-Aztecan: Akimel O’odham)140; Caposí (Uto-Aztecan: Tarahumara)140; Chijol (Spanish)140; Chilicoot (Pima: Sonora), Chilicote (Spanish: Chihuahua, Durango, Sonora)140; Chiloko’ot (Uto-Aztecan: Mountain Pima)140; Chirikote (Uto-Aztecan: Yaqui)140; Coral Bean; Coral Tree; Coral-tree (English)140; Coralbean; Colorín (“Red One”, Spanish: Chihuahua, Durango, Sonora, south)140; Coralina (“Little Red One”, Spanish: Baja California)140; Corcho (“Cork”, Spanish: Sonora)140; Frijolillo (“Little Bean”, Spanish: Chihuahua)140; Guaposi (Spanish: Mexico)140; Indian Bean (English)140; Indian-bean; Jévero (Uto-Aztecan: Mayo); Kaposí <apoši, apošiki> (Uto-Aztecan: Tarahumara)140, Peonía [Pieoneo] (a word also applied to other species, Spanish: Chihuahua, Sonora)140; Pionilla (“Little Peony”, Spanish)140; Southwestern Coral Bean; Southwestern Coralbean (English)140; Tristesa (“Sadness”, Spanish: Chihuahua)140; Tzinacancuáhuitl (Uto-Aztecan: Náhuatl)140; Waspósi (Uto-Aztecan: Guarijío)140; Western Coral Bean; Western Coral-bean; Xloolcö (Hokan: Seri)140; Xoloco (Uto-Aztecan: Náhuatl)140; Zompantle <tzompantle, zumpanilla> (Spanish)140; Zumpantla. DESCRIPTION: Terrestrial perennial deciduous to nearly evergreen shrub or tree (2 to 30 feet in height); the smooth bark is gray; the stems may be light gray, gray-green or light tan; the leaves are light green; the flowers (1 to 2 inches in length and ¼ inch in diameter) have been described as being be orange-red, dark orange-red, red, bright red, scarlet or scarlet-red; flowering generally takes place between early May and early August (additional records: one for early March, one for late March, two for early April and one for mid-April; flowering beginning as early as February has been reported). HABITAT: Within the range of this species it has been reported from mountains; mountaintops; rocky mountainsides; bases of mountains; rocky mesas; rocky cliffs; along rock walls; bouldery, rocky and stony canyons; rocky canyon walls; rocky canyon bottoms; crevices in boulders; rocky bluffs; bouldery ridges; ridgetops; foothills; rocky hills; rocky hilltops; rocky and rocky-gravelly-loamy hillsides; rocky, rocky-gravelly-loamy, rocky-sandy, rocky-clayey and gravelly slopes; bajadas; rocky outcrops; on rocks; amongst boulders and rocks; bases of boulders; on volcanic ash; bouldery and rocky banks; rocky shelves; sandy plains; rocky roadsides; along and in bouldery and rocky arroyos; draws; along streams; along and in bouldery streambeds; along creeks; creekbeds; along riverbeds; in bouldery-rocky and sandy washes; drainages; banks of arroyos and streams; borders of washes; bottomlands; around and in stock tanks; rocky riparian areas, and disturbed areas growing in dry bouldery, rocky, rocky-sandy, stony, gravelly and sandy ground; rocky-gravelly loam, rocky-clayey loam and gravelly-sandy-clayey loam ground, and rocky clay ground, occurring from sea level to 8,400 feet in elevation in forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, but is very sensitive to frosts and its presence on slopes in large numbers serves as an indicator of a warm belt. The flowers are visited by Hummingbirds. The seeds of this plant are potentially toxic. *Erythrina flabelliformis* is native to southwest-central and southern North America. \*5, 6, 13 (Page 253, color photograph: Plate U.1., Page 406), 15 (color photograph Page 93), 28 (color photograph 546), 42 (030114), 43 (100810), 44 (030114 - no record of species or genus), 46 (Page 480), 48, 53, 58, 63 (010311 - color presentation), 80 (This species is listed as a Rarely Poisonous and Suspected Poisonous Range Plant. “This thorny, colorful shrub has terminal clusters of brilliant red flowers and pods filled with bright red beans that are frequently used as beads. The beans contain alkaloids poisonous to both humans and livestock. The stems also have been reported poisonous.”), 85 (030114 - color presentation), 86, 91 (Pages 199-201), 115 (color presentation), 124 (010311 - no record), 134, 140 (Pages 140-142 & 292), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009)\*

***Galactia wrightii* A. Gray: Wright Milkpea**

COMMON NAMES: Cliff Bean; Wright Milkpea; Wright’s Milkpea. DESCRIPTION: Terrestrial perennial forb/herb or vine (climbing, scrambling, sprawling, trailing or twining prostrate stems 20 inches to 2 feet in height); the stems are green; the leaves are dark green above and gray-green below; the flowers have been described as being blue, pale blue, cream-yellow, greenish-yellow, lavender, light lavender & yellowish-cream, lavender-purple, magenta-rose, pink, pink-lavender, pink & white, pink with yellow markings, pinkish-purple, purple, pale purple, purplish, purplish-pink, red-purple, rose, rose-pink, rose-purple, white, yellow-orange and yellow-purple; flowering generally takes place between early June and late October (additional records: one for late January and two for late April). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; rocky mesas; cliffsides; bases of cliffs; rocky and rocky-sandy canyons; along rocky canyon bottoms; crevices in boulders; stony ledges; along rocky ridges; rocky and gravelly ridgetops; rocky crests of ridges; rocky-sandy meadows; rocky hilltops; rocky, rocky-gravelly-loamy and rocky-clayey hillsides; bouldery-rocky, rocky, rocky-gravelly, rocky-silty, shaley, stony and clayey-loamy slopes; rocky-sandy bases of slopes; rocky outcrops; amongst boulders and rocks; along rocky banks; plains; open flats; along rocky-gravelly-loamy and gravelly roadsides; bottoms of ravines; along and in streams; within rocky streambeds; along creeks; along and in bouldery and rocky washes; along and in rocky-gravelly-sandy drainages; (bouldery-cobbly-sandy and rocky) banks of gullies, creeks, rivers and drainages; riparian areas, and recently burned areas in grasslands growing in moist and dry bouldery, bouldery-rocky, bouldery-cobbly-sandy, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, shaley and gravelly ground; rocky-gravelly loam, gravelly-sandy-clayey loam and clayey loam ground; rocky clay ground, rocky-silty and sandy silty ground, occurring from 100 to 7,600 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Galactia wrightii* is native to southwest-central and southern North America. \*5, 6, 15, 42 (111713), 43 (071910), 44 (111713 - no record of species or genus), 46 (Page 480), 58, 63 (111713), 77, **85** (111813 - color presentation), 124 (111210 - no record of species or genus), 127 (111713 - no matches found), 133 (111713), 140 (Page 292), 156 (111713 - no taxa found)\*

*Hosackia brachycarpa* (see *Acmispon humistratus*)

*Lotus greenei* (see *Acmispon greenei*)

*Lotus humistratus* (see *Acmispon humistratus*)

*Lotus neomexicanus* (see *Acmispon greenei*)

***Lupinus concinnus* J.G. Agardh: Bajada Lupine**

COMMON NAMES: Agardh Lupine (var. *agardhianus* - Invalid; *Lupinus* *agardhianus* - Valid); Agardh’s Lupine (var. *agardhianus* - Invalid; *Lupinus* *agardhianus* - Valid); Annual Lupine; Bajada Bluebonnet; Bajada Lupin; Bajada Lupine; Bajada Lupine (var. *concinnus*, var. *optatus*); Bluebonnet (Blue Bonnet is a name that is applied to the genus *Lupinus*); Concinnus Annual Lupine; Elegant Lupine (a name also applied to other taxa); Lupine (Blue Bonnet is a name that is applied to the genus *Lupinus*); Lupino (a name also applied to other species, Spanish); Orcutt Bajada Lupine (subsp. *orcuttii*); Orcutt Lupine (subsp. *orcuttii*); Orcutt’s Bajada Lupine (subsp. *orcuttii*); Orcutt’s Lupine (subsp. *orcuttii*); Scarlet Lupine; Scarlet Lupine (var. *concinnus*, var. *optatus*); Trébola (a name also applied to other species, Spanish). DESCRIPTION: Terrestrial annual forb/herb (decumbent and/or erect stems 2 to 18 inches in height); the stems may be red; the woolly herbage may be grayish or gray-green; the flowers have been described as being blue, blue-magenta, blue-purple, blue &white, blue & light yellow, deep blue-purple & white, blue violet with a yellowish banner, cream & purple, cream & rose-purple, pale lavender, dark lavender, lavender-pink, lavender-purple, lavender-rose, lavender & white, magenta-lavender, pink, dark pink, pink-lavender, pink-purple & white-cream, pink-purple &white tinged with lavender, pink & white, pinkish-blue, pinkish-purple, purple, bright purple, light purple & yellow, purple-blue, purple-lavender, purple-magenta, purple-magenta & white, purple-pink, purple & white, purple & yellow, purplish, red-purple, reddish-purple, violet, white rimed with pink, yellow & pink or yellowish-purplish; flowering generally takes place between late February and late June (additional records: one for early January and one for late mid-September). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky, gravelly, sandy and sandy-clayey-loamy mesas; bases of cliffs; rocky canyons; bouldery-sandy, rocky and sandy canyon bottoms; chasms; bouldery, gravelly and clayey ridges; sandy ridgetops; ridgelines; openings in forests; sandy foothills; rocky, gravelly and clayey hills; sandy hillsides; along bouldery, rocky, rocky-gravelly-sandy, rocky-sandy-loamy, rocky clay, gravelly, gravelly-sandy, gravelly-loamy, sandy, sandy-loamy, clayey-loamy and clayey slopes; bases of slopes; rocky and rocky-sandy alluvial fans; bajadas; amongst boulders and rocks; boulder fields; sand dunes; blow-sand deposits; sandy banks; berms; sandy and sandy-silty plains; sandy fields; gravelly, sandy and sandy-loamy flats; basins; sandy-silty valley floors; valley bottoms; along rocky, gravelly, gravelly-sandy and sandy roadsides; silty-loamy two-tracks; within arroyos; gulches; ravines; around streams; rocky streambeds; along creeks; along and in gravelly-sandy and gravelly-silty creekbeds; along rivers; sandy riverbeds; along and in rocky-sandy, gravelly, gravelly-sandy and sandy washes; within rocky and gravelly drainages; (rocky, gravelly, gravelly-sandy and sandy) banks of arroyos, creeks, rivers and washes; borders of washes; along (cobbly) edges of rivers and washes; along margins of washes; (sandy) sides of washes; gravelly and sandy benches; sandy terraces; gravelly and loamy bottomlands; rocky-sandy, cobbly-sandy, gravelly, sandy and loamy floodplains; lowlands; along fencelines; along ditches; along gravelly-clayey-loamy banks of ditches; rocky-sandy, gravelly-sandy and sandy riparian areas; waste places; recently burned areas in woodlands and scrubs, and disturbed areas growing in dry bouldery, bouldery-sandy, rocky, rocky-gravelly-sandy, rocky-sandy, cobbly, cobbly-sandy, gravelly, gravelly-sandy and sandy ground; rocky-sandy loam, gravelly-sandy loam, gravelly loam, gravelly-clayey loam, sandy loam, sandy-clayey loam, clayey loam, silty loam and loam ground; rocky clay, cobbly clay, sandy clay, loamy clay and clay ground, and gravelly silty and sandy silty ground, occurring from 100 to 8,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Lupinus concinnus* is native to southwest-central and southern North America. \*5, 6, 16, 18 (genus), 28 (color photograph 765), 42 (111913), 43 (021110), 44 (110812 - color photograph), 46 (Page 417), 48 (genus), 58, 63 (111913 - color presentation), 77 (color photograph #80), 80 (Some, but not all, species of the genus *Lupinus* are considered to be Secondary Poisonous Range Plants. “The lupines contain numerous poisonous alkaloids. They are mostly dangerous to sheep but cattle, goats, horses, hogs and deer have also been poisoned. The seeds and pods are most poisonous but both young and dried plants may be dangerous. However, not all species are poisonous and some may furnish moderately palatable and nutritious forage for sheep. ... Animals will seldom eat a toxic dose if desirable forage is available. Losses can generally be avoided by good range management to improve forage, by keeping animals away from dense lupine patches (particularly in late summer or on the trail), or by grazing with cattle.” See text for additional information.), 85 (111913 - color presentation), 115 (color presentation), 124 (110812 - no record of species; genus record), 127 (111913 - no matches found), 133 (111913), 140 (Page 292), 156 (111913 - no taxa found)\*

***Mimosa aculeaticarpa* C.G. de Ortega var. *biuncifera* (G. Bentham) R.C. Barneby: Catclaw Mimosa**

SYNONYMY: *Mimosa biuncifera* G. Bentham. COMMON NAMES: Brenales (Spanish: Mexico)140; Cat Claw; Cat-claw; Catclaw Mimosa (a name also applied to the species); Cat’s Claw (English)140; Cat’s-claw (Texas); Cats Claw; Catsclaw; Catsclaw Mimosa; Ch’il Yíjish <ch’il gojiza> (Athapascan: Western Apache)140; Chaparro (“Thicket’, Spanish: Oaxaca; for other species)140; Garabatillo [Garavatillo] (“Little Hook”, Spanish: Aguascalientes; for other species)140; Garruño (Spanish); Gato (a name also applied to other species, Spanish); Gato (“Cat”, Spanish: Sonora)140; Gatuña (Spanish: Mexico, Sonora); Gatuño (a name also applied to other species); Gatuño [Garroño] (“Cat Claw”, Spanish: Chihuahua)140; Mimosa (a name also applied to the species and to the genus *Mimosa*); Mimosa (English: New Mexico)140; Raspillas (“Scratcher”, Spanish: Tamaulipas; for other species)140; Uña de Gato (“Cat’s Claw”, Spanish: Arizona, New Mexico, Chihuahua)140; Wait a Bit; Wait-a-bit [minute] (English)140; Wait-a-minute; Wait-a-Minute Bush. DESCRIPTION: Terrestrial perennial deciduous shrub or tree (1 to 10 feet in height with a somewhat rounded crown; one plant was observed and described as being 1 foot in height and 40 inches in width, one plant was observed and described as being 30 inches in height and width, one plant was observed and described as being 6 feet in height and 6½ feet in width, one plant was observed and described as being 6½ feet in height and 5 feet in width); the bark is red-gray-brown; the small leaflets may be dark green or yellow-green; the flowers (in button-like clusters of about ½ inch in diameter) have been described as being cream-white, cream-yellow, green-yellow, green-white, lavender, pink, pale pink, pink & white, pinkish, pinkish-white, white, white-cream, whitish, whitish-cream, yellow or light yellow; the anthers may be yellow or pale yellow; flowering generally takes place between early May and mid-September (additional records: one for late February, one for early March, one for mid-March, two for late March, one for early April, two for mid-April and one for mid-October); the seedpods (1 1/4 to 1 5/8 inches in length and 1/6 to 1/8 inches in width) may be brown or reddish-brown. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; mesas; edges of cliffs and gorges; cliffs; along rocky canyons; along rocky and gravelly canyon bottoms; rocky ledges; stony ridges; clearings in forests; meadows; rocky-gravelly-loamy foothills; rocky and gravelly hills; bouldery, rocky, rocky-gravelly, rocky-clayey, rocky-clayey-loamy and gravelly-sandy-loamy hillsides; rocky bases of hillsides; rocky, rocky-gravelly, rocky-sandy-loamy, rocky-loamy, gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey, sandy and clayey-loamy slopes; bases of slopes; bajadas; rocky outcrops; amongst boulders; bases of rocks; sandy steppes; high plains; rocky-sandy, gravelly, gravelly-sandy, sandy and clayey-loamy flats; basins; rocky-sandy valley floors; roadcuts; along rocky-gravelly, rocky-gravelly-loamy, gravelly-sandy-loamy, gravelly-sandy-clayey-loamy, gravelly-loamy, gravelly-clayey-loamy and sandy roadsides; within rocky, gravelly and sandy arroyos; bottoms of arroyos; draws; rocky gullies; springs; runnels; along streams; rocky-gravelly-sandy-loamy and gravelly-sandy streambeds; along bouldery creeks; creekbeds; along rivers; along and in rocky, gravelly, gravelly-clayey, sandy and sandy-clayey washes; sandy-clayey drainages; sphagnum bogs; along (bouldery-sandy, gravelly-sandy and sandy) banks of arroyos, springs, streams, streambeds, creeks and washes; borders of washes; (cobbly) edges of rivers and riverbeds and lakes; sides of springs; gravel and sand bars; grassy terraces; bottomlands; sandy floodplains; mesquite bosques; along canals; gravelly and sandy riparian areas, and disturbed areas growing in wet and dry bouldery, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, cobbly, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-gravelly loam, rocky-gravelly-sandy loam, rocky-sandy loam, rocky-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-sandy-clayey loam, gravelly-clayey loam and clayey loam ground, and bouldery clay, rocky clay, gravelly clay and sandy clay ground, occurring from sea level to 7,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, and it may be useful in controlling erosion. Catclaw Mimosa is truly a very nasty little shrubbery that has recurved thorns or prickles (sometimes paired) on the stems, branches, leaves and margins of the seedpods many of which are very capable of tearing flesh, it often forms dense thickets. The flowers are reported to be fragrant. This plant provides food and cover for wildlife, food for quail and forage for Mule Deer (*Odocoileus hemionus*) and White-tailed Deer (*Odocoileus virginianus*). *Mimosa aculeaticarpa* var. *biuncifera* is native to southwest-central and southern North America. \*5, 6, 13 (recorded as *Mimosa biuncifera* Bentham, Pages 232-233), 15 (recorded as *Mimosa biuncifera* (Benth.) Britt. & Rose), 28 (recorded as *Mimosa biuncifera*, color photographs 297 A & B), 42 (112213), 43 (071509), 44 (112910 - no record of species), 46 (recorded as *Mimosa biuncifera* Benth., Page 400), 48 (recorded as *Mimosa biuncifera*), 58 (recorded as *Mimosa biuncifera* (Benth.) Britt. & Rose), 63 (112213 - color presentation of seed), 77, 85 (112313 - color presentation), 91 (recorded as *Mimosa aculeaticarpa* (Gomez) Ort.), 115 (color presentation), 124 (112010), 127 (112213 - no matches found), 133 (112213), 140 (Pages 143-144 & 293), 156 (112213 - no taxa found), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009)\*

*Mimosa biuncifera* (see *Mimosa aculeaticarpa* var. *biuncifera*)

***Mimosa dysocarpa* G. Bentham: Velvetpod Mimosa**

SYNONYMY: *Mimosa dysocarpa* G. Bentham var. *wrightii* (A. Gray) T.H. Kearney & R.H. Peebles. COMMON NAMES: Garároa (Tarahumara); Gato (a name also applied to other species, Spanish); Gatuño (a name also applied to other species); Velvet-pod Mimosa; Velvetpod Mimosa. DESCRIPTION: Terrestrial perennial deciduous shrub (18 inches to 13 feet in height); the prickly stems may be purple; the leaflets are green; the long flowering spikes (½ to 3 inches in length and ½ inch in diameter) have been described as being lavender, pink (fading to white), light pink, bright pink, dark pink, pink-lavender, pink-purple, bright pink-purple, purple, purplish-pink, rose-pink or whitish-pink; the anthers may be cream-white or pale yellow; flowering generally takes place between late April and mid-September (additional records: two for mid-October); the velvety seedpods are 1 to 2½ inches in length and 1/8 to 1/4 inch broad. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; bouldery bases of mountains; rocky mesas; bases of cliffs; rocky canyons; canyon walls; rocky canyon bottoms; along ridges; rocky ridgetops; openings in woodlands; foothills; rocky hills; rocky and rocky-gravelly-loamy hillsides; rocky, rocky-gravelly, rocky-gravelly-loamy, rocky-sandy, rocky-loamy, gravelly-sandy, gravelly-clayey, sandy and sandy-loamy slopes; bajadas; amongst boulders; terraces; prairies; plains; rocky-loamy and gravelly flats; valleys; roadcuts; along rocky-gravelly and gravelly roadsides; along and in rocky and sandy arroyos; along rocky draws; along streams; streambeds; along sandy washes; borders of washes; edges of streams; bottomlands; riparian areas, and disturbed areas growing in dry bouldery, rocky, rocky-gravelly, rocky-sandy, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-gravelly loam, gravelly-sandy-clayey loam and sandy loam ground, and gravelly clay ground, occurring from 400 to 8,400 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant provides food for quail and forage for White-tailed Deer (*Odocoileus virginianus*). *Mimosa dysocarpa* is native to southwest-central and southern North America. \*5, 6, 13 (Pages 233-234, color photograph (*Mimosa dysocarpa* var. *wrightii*): Plate R.1., Page 403), 42 (112313), 43 (071509), 44 (112313 - no record of species or genus), 46 (Page 400), 48, 58, 63 (112313 - color presentation of seed), **85** (112313 - color presentation), 91 (Pages 273-274), 115 (color presentation), 124 (030911 - no record of species; genus record), 127 (112313 - no matches found), 133 (112313), 140 (recorded as *Mimosa dysocarpa* Bentham var. *wrightii* (A. Gray) Kearney & Peebles, Pages 144 & 293), 156 (112313 - no taxa found), **MBJ**/**WTK** (July 9, 2009)\*

*Mimosa dysocarpa* var. *wrightii* (see *Mimosa dysocarpa*)

*Petalostemon pilosulus* (see *Dalea albiflora*)

***Prosopis velutina* E.O. Wooton: Velvet Mesquite**

SYNONYMY: *Prosopis juliflora* (O. Swartz) A.P. de Candolle var. *velutina* (E.O. Wooton) C.S. Sargent. COMMON NAMES: Algarroba <algoroba> (Spanish: Texas, Colima)140; Ana’ly (Yuman: Maricopa)140; Anáhl (Yuman: Kumiai)140; aNāla <anāle, na:l> (Yuman: Walapai)140; Arizona Mesquite; Arizona Velvet Mesquite; Ava (Yuman: Mohave)140; Chachaca (Spanish); Chachaka <chúcata> (Spanish: Michoacán)140; ˀÉ:-la (Uto-Aztecan: Luiseño)140; Evac (Yuman: Yuma)140; Fluweelprosopis (Afrikaans); Haas <ˀaas> (Hokan: Seri)140; Hu’upa (Uto-Aztecan: Yaqui)140; Iyáa (Yuman: Havasupai)140; Iyah <iiyáá> (“The Pod”, Athapascan: Western Apache)140; Kui (Uto-Aztecan: Akimel O’odham, Hiá Ceḍ O’odham, Tohono O’odham)140; Kui <k’ui> (Uto-Aztecan: Onavas Pima)140; Kwayúły <anyal> (Yuman: Cocopa)140; Meskít (Uto-Aztecan: Mountain Pima)140; Mesquit (a name also applied to other species and the genus *Prosopis*, Spanish); Mesquite (a name also applied to other species and the genus *Prosopis*, Spanish); Mesquite (English)140; Mezquite (a name also applied to other species and the genus *Prosopis*); Mezquite (Spanish: Sonora)140; Mezquite Amargo (Spanish); Mizquitl; Nastane <natase> (“That Which Lies About”, Athapascan: Chiricahua and Mescalero Apache)140; Ohpimpü (Uto-Aztecan: Panamint)140; Opi(m)bɨ (Uto-Aztecan: Kawaiisu)140; Péchita (Spanish: Arizona, Chihuahua, Sonora)140; Quiot (Uto-Aztecan: Ópata, Sonora)140; Sako (Uto-Aztecan: Mountain Pima)140; Tají (Oto-Manguean: Otomí)140; Tziritzecua (Tarascan: Purépecha)140; Uhpalá (Uto-Aztecan: Guarijío)140; Upárai (Uto-Aztecan: Northern Tepehuan)140; Velvet Mesquite. DESCRIPTION: Terrestrial perennial deciduous shrub or tree (2 to 56 feet in height; one plant was observed and described as being 6½ feet in height with a canopy 6½ feet in width, one plant was observed and described as being 13 feet in height with a canopy 16½ feet in width, one tree was observed and described as being 20 feet in height with a crown 40 feet in width); the bark on the trunk and older branches is dark brown, dark brownish-green or dark gray; the leaves may be grayish or gray-green; the flowers (cylindrical spikes 2 to 5 inches in length) may be cream, cream-white, cream-yellow, green-yellow, greenish-white, greenish-yellow, yellow, pale yellow, pale yellowish, yellow-green or yellowish-green; flowering generally takes place between mid-March and early September (additional records: one for early October, three for early November and one for mid-November); the mature seedpods (3 to 8 inches in length) are red, tan, yellow or mottled. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; gravelly mesas; plateaus; rocky canyons; along rocky and sandy canyon bottoms; rocky bases of cliffs; buttes; bedrock, rocky and sandy ridges; rocky and gravelly ridgetops; foothills; rocky, gravelly and sandy-clayey hills; rocky hillsides; rocky, rocky-loamy, gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey-loamy, sandy, sandy-loamy and clayey slopes; alluvial fans; gravelly bajadas; rocky outcrops; sand dunes; terraces; rocky and cobbly plains; gravelly, gravelly-sandy, sandy and sandy-loamy flats; clayey-loamy uplands; basins; sandy valley floors; loamy valley bottoms; coastal plains; coastal beaches; along rocky-gravelly-loamy, gravelly-clayey-sandy-loamy and silty-clayey roadsides; along and in rocky, gravelly and sandy arroyos; rocky and sandy bottoms of arroyos; rocky-gravelly-loamy draws; seeps; springs; around seeping streams; along streams; along rocky streambeds; along creeks; creekbeds; along rivers; along rocky-sandy riverbeds; along and in rocky, cobbly, gravelly, gravelly-sandy and sandy washes; along drainages; within drainage ways; around ponds; playas; ciénegas; (sandy) banks of streams, creeks, rivers and washes; borders of washes; (gravelly and sandy) edges of rivers, washes, ponds and marshes; sides of streams; sandy-loamy benches; gravelly and gravelly-sandy terraces; bottomlands; rocky-gravelly and sandy floodplains; mesquite bosques and woodlands; along fencelines; around stock tanks (represos); around reservoirs; along canals; canal banks; ditches; along ditch banks; riparian areas, and disturbed areas growing in dry desert pavement; rocky, rocky-gravelly, rocky-sandy, cobbly, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-gravelly loam, gravelly loam, gravelly-sandy-clayey loam, gravelly-clayey loam, sandy loam, clayey loam and loam ground; gravelly clay, sandy clay, silty clay and clay ground, and sandy silty, clayey silty and silty ground, occurring from sea level to 6,300 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, it may live to be more than several hundred years of age. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food, beverage, fiber and/or dye or paint (boiled resin used as a pottery paint) crop; it was also noted as having been used as fuel, as a tool, in games, as building material, as a drug or medication and as a guide for determining a planting season. The Velvet Mesquite is a common “nurse plant” of the Saguaro or Giant Cactus (*Carnegiea gigantea*). The flowers are pollinated by native bees. The Velvet Mesquite provides food and shelter for many species of wildlife. The plant is a food source for quail, Desert Mule Deer (*Odocoileus hemionus crooki*) and Desert Bighorn Sheep (*Ovis canadensis* *mexicana*). The Giant Mesquite Bug (*Thassus acutangulus*) feeds on the sap. Coyotes (*Canis latrans*), Desert Cottontails (*Sylvilagus audubonii*), Round-tailed Ground Squirrels (*Spermophilus tereticaudus*) and many other wild animals feed on the seed pods. Velvet Mesquite is the host for a Drywood Termite (*Incisitermes banksi*). Bruchid Beetles feed on the fruits and seeds. Much of the mesquite forest (bosques) originally found along the desert water courses have been lost to fuel wood cutting and clearing for agricultural fields and commercial and residential development. Velvet Mesquite Bosques were small, open, park-like woodlands with the Velvet Mesquite often occurring in nearly pure stands and interspersed with other common species such as the Netleaf Hackberry (*Celtis laevigata* var. *reticulata*), Catclaw Acacia (*Acacia greggii* var. *greggii*), Mexican Elder (*Sambucus nigra* subsp. *canadensis*), Desert Hackberry (*Celtis ehrenbergiana*), Greythorn (*Ziziphus obtusifolia* var. *canescens*), Wolfberry (*Lycium* spp.), Four-wing Salt-bush (*Atriplex canescens*) and Vine Mesquite Grass (*Panicum obtusum*). *Prosopis velutina* is native to southwest-central and southern North America. \*5, 6, 13 (recorded as *Prosopis juliflora* (Swartz) DC. var. *velutina* (Wooton) Sarg., Pages 238-240, color photograph: Plate R.2., Page 403), 15, 16, 18, 26 (color photograph), 28 (color photograph 90), 42 (112313), 43 (071609), 44 (040211), 46 (recorded as *Prosopis juliflora* (Swartz) DC. var. *velutina* (Wooton) Sarg., Page 402), 48, 52 (color photograph), 53 (species: recorded as *Prosopis juliflora* (Sw.) DC.), 58, 63 (112512), 68, 77, 80 (This species is listed as a Rarely Poisonous and Suspected Poisonous Range Plant. “Heavy, long-continued consumption of pods and leaves of these common desert shrubs may cause rumen impaction and poisoning.”), **85** (112413 - color presentation including habitat), 91 (Pages 330-333), 115 (color presentation), 124 (040211 - no record of genus or species), 127 (112313), 133 (112313), 134, 140 (Pages 146-147 & 293), 156 (112313 - no taxa found), ADS (Arizona Daily Star, Sunday, July 26, 2009, Tucson & Region, B1: Mesquite Pods are of Consuming Interest), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

***Senegalia* *greggii* (A. Gray) N.L. Britton & J.N. Rose: Catclaw Acacia**

SYNONYMY: *Acacia greggii* A. Gray; *Acacia greggii* A. Gray var. *arizonica* D. Isely; *Acacia greggii* A. Gray var. *greggii*; *Acacia greggii* A. Gray var. *wrightii* (G. Bentham) D. Isely; *Acacia wrightii* G. Bentham. COMMON NAMES: Acacia (a name also applied to the genus *Acacia*); Algarroba (Spanish)140; Arizona Acacia; Cat Claw; Cat Claw Acacia; Cat-claw Acacia; Catclaw; Catclaw Acacia; [Long-flower] Catclaw Acacia (English)140; Cat’s Claw (a name also applied to other taxa); Cat’s Claw Acacia; Cat’s-claw (a name also applied to other taxa); Devil’s Catclaw; Ch’il Yíjish <ch’il gotiza> (Athapascan: Western Apache)140; Devil’s Claw (a name also applied to other taxa); Devil’s Claw (English)140; Devil’s Claw Acacia; Devil’s-claw (a name also applied to other taxa); Devil’s-claw Acacia; Devil’sclaw Acacia; Devilsclaw (a name also applied to other taxa); Di:s (Seri); Gatuño (Spanish); Gatuño (“Cat Claw”, Spanish: Chihuahua)140; Gregg Acacia; Gregg Cat Claw; Gregg Cat-claw; Gregg Catclaw; Gregg Catclaw Acacia; Gregg’s Acacia; Gregg’s Cat Claw; Gregg’s Cat-claw; Gregg’s Catclaw; Gregg’s Catclaw Acacia; Huˀupa Kekˀala (Uto-Aztecan: Yaqui)140; Ka’djása (Yuman: Havasupai)140; Kitcása <gijes> (Yuman: Walapai)140; Long-flower Catclaw; Long-flower Catclaw Acacia; Long-flowered Catclaw; Palo Chino (Spanish); Patitos (“Little Feet”, Spanish: New Mexico)140; Sichingily <sichingal, sichingil> (Uto-Aztecan: Cahuilla)140; Tear-blanket (English: California)140; Tearblanket; Tepame (Spanish: Mexico)140; Teso (Uto-Aztecan: Cahita)140; Tesota (a name also applied to other taxa); Tésota (Spanish); Tésoto [Tesota, Tésota] (Spanish: Sonora)140; Texas Catclaw; Texas Mimosa (a name also applied to other taxa); Texas-mimosa (a name also applied to other taxa); Tis (Hokan: Seri)140; Tümippüh (Uto-Aztecan: Panamint)140; ‘U:paḍ <‘u:padh, uupat> (Uto-Aztecan: Hiá Ceḍ O’odham and Tohono O’odham)140; ‘Uupaḍ (Uto-Aztecan: Akimel O’odham)140; Uña de Gato (a name also applied to other taxa); Uña de Gato (“Cat’s Claw”, Spanish: New Mexico, Chihuahua)140; Wait-a-minute (a name also applied to other taxa); Wait-a-minute Bush (a name also applied to other taxa); Wright Acacia. DESCRIPTION: Terrestrial perennial winter-deciduous shrub or tree (2 to 40 feet in height with a broad crown; plants were observed and described as being 3 feet in height with crowns 6 feet in width, plants were observed and described as being 6½ feet in height with crowns 10 feet in width, one plant was observed and described as being 9 feet in height with a crown 10 feet in width, one plant was observed and described as being 13 feet in height with a crown 16½ feet in width); the bark may be black, gray-black or red-brown; the branches are gray; the leaves may be gray, gray-green or green; the flowers have been described as being cream, cream-white, cream-yellow, green, greenish-yellow, lemon-yellow, white, dull white, yellow, pale yellow, yellow-cream or yellow-green in catkins; flowering generally takes place between late February and early August (additional records: one for mid-January, two for late August, three for early September, three for mid-September, two for late September, one for early October, three for mid-October, one for late October, one for early November, one for mid-November, one for early December and one for late December); the mature fruits (straight or twisted pods) are brown or brownish-red. HABITAT: Within the range of this species it has been reported from rocky mountains; mountainsides; gravelly mesas; rocky canyons; rocky and sandy canyon bottoms; gorges; pockets of soil over bedrock; rocky bluffs; rocky and sandy ridges; ridgetops; bases of ridges; sandy foothills; rocky and gravelly hills; gravelly hilltops; rocky, gravelly and gravelly-loamy hillsides; bedrock, bouldery, rocky, rocky-gravelly-loamy, gravelly, gravelly-sandy and sandy slopes; bases of slopes; alluvial fans; bajadas; amongst boulders; debris flows; shelves; terraces; plains; fields; rocky and sandy flats; uplands; basins; sandy-clayey valleys; loamy valley bottoms; coastal plains; coastal beaches; along gravelly-sandy, gravelly-sandy-clayey-loamy and sandy roadsides; along and in rocky and sandy arroyos; bottoms of arroyos; draws; ravines; seeps; springs; along streams; along creeks; along sandy and sandy-silty creekbeds; in sand along rivers; along and in muddy, rocky, rocky-gravelly, rocky-sandy, gravelly, gravelly-sandy and sandy washes; within drainages; along drainage ways; bases of waterfalls; silty playas; marshlands; along (rocky, gravelly-sandy, gravelly-silty, sandy and sandy-silty) banks of arroyos, streams, creeks, rivers and washes; borders of washes; along (sandy) edges of arroyos, creeks, rivers, washes, marshes and floodplains; margins of washes; along sides of streams; shorelines; sand bars; shelves; gravelly-sandy and sandy terraces; sandy bottomlands; sandy-loamy floodplains; lowlands; mesquite bosques; riparian areas, and disturbed areas growing in dry desert pavement; bouldery, rocky, rocky-gravelly, rocky-sandy, cindery-sandy, gravelly, gravelly-sandy and sandy ground; rocky-gravelly loam, gravelly-sandy-clayey loam, gravelly loam, sandy loam, clayey loam and loam ground; gravelly clay, sandy clay and clay ground, and gravelly silty, sandy silty and silty ground, occurring from slightly above sea level to 6,600 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat; the flowers are fragrant, it may live to be up to 120 years of age. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food, fodder and/or fiber crop; it was also noted as having been used as a fuel, as a tool, and in the making of perfumed sachets. The Catclaw Acacia provides food, shelter, protection, shade, nesting sites, roosting sites and nesting material for a wide variety of species of wildlife. It is a favored nesting site of the Verdin (*Auriparus flaviceps*). *Senegalia* *greggii* is native to southwest-central and southern North America. \*5, 6, 13 (recorded as *Acacia greggii* A. Gray, Pages 223-224; color photograph: Plate R-1, Page 403), 15 (recorded as *Acacia greggii* Gray), 16 (recorded as *Acacia greggii* Gray var. *arizonica* Isely), 18, 26 (recorded as *Acacia greggii*, color photograph), 28 (recorded as *Acacia greggii*, color photograph 84), 42 (111313 - recorded as *Senegalia* *greggii* (A. Gray) Britton & Rose), 43 (111313 - *Senegalia* *greggii* Britton & Rose), 44 (111313 - recorded under *Senegalia* *greggii* Britton & Rose), 46 (recorded as *Acacia greggii* Gray “This is probably the most heartily disliked plant in the state, the sharp, strong prickles tearing the cloths and lacerating the flesh.”, Page 398), 48 (“A good honey plant but a poisonous weed on range lands.”), 52, 53, 58 (recorded as *Acacia greggii* Gray), 63 (111313 - recorded as *Acacia greggii* A. Gray; *Acacia greggii* A. Gray var. *greggii*, and *Acacia greggii* A. Gray var. *wrightii* (Benth.) Isely, color presentation), 77(recorded as *Acacia greggii* A. Gray), 80 (This species is listed as a Secondary Poisonous Range Plant. “Plants contain cyanide-forming compounds and symptoms are typical of cyanide poisoning. The new foliage is relished by cattle in the early spring. It also may be grazed considerably during dry seasons or drouth periods when other feed is short. Plants are most dangerous in the fall during first frosts. Cattle are most often poisoned, but losses in Arizona are not heavy. Poisoning may be prevented by deferring heavily infested areas during the early frost periods.” See text for additional information.), **85** (111313 - *Acacia greggii* Gray; *Acacia greggii* var. *arizonica* Isely; *Acacia greggii* var. *greggii* Gray; *Acacia wrightii* Bentham ex A Gray; *Senegalia* *greggii* (A. Gray) Britton & Rose, color presentation), 91 (recorded as *Acacia greggii* A. Gray, Pages 21-22), 115 (color presentation), 124 (071311 - no record of species; genus record), 127 (111313), 133 (111313 - recorded as *Senegalia* *greggii* (A. Gray) Britton & Rose), 140 (recorded as *Acacia greggii* A. Gray, Pages 136-138 & 291), 156 (111313 - no taxa found), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

***Senna hirsuta* (C. Linnaeus) H.S. Irwin & R.C. Barneby var. *leptocarpa* (G. Bentham) H.S. Irwin & R.C. Barneby: Slim Pod Senna**

SYNONYMY: *Cassia leptocarpa* G. Bentham. COMMON NAME: Slim Pod Senna. DESCRIPTION: Terrestrial forb/herb, subshrub or shrub (branching stems 36 to 40 inches in height); the flowers may be yellow, bright yellow or yellow-orange; the anthers are orange; the curved stigmas are green; based on few records located flowering generally takes place between late June and late August (additional record: flowering ending as late as September has been reported). HABITAT: Within the range of this species it has been reported from mountains; rocky canyons; rocky slopes; valleys; along roadsides; along streambeds; along rocky and sandy washes; marshlands; banks of dry ponds; edges of riparian areas; floodplains; riparian areas, and waste places growing in rocky, gravelly and sandy ground, occurring from 3,100 feet to 7,000 feet in elevation in the woodland, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Senna hirsuta* var *leptocarpa* may be native to southwest-central and southern North America and South America. \*5, 6, 15 (recorded as *Senna hirsuta* (L.) Irwin & Barneby var. *glaberrina* (M.E. Jones) Irwin & Barneby [*Cassia leptocarpa* Benth.]), 18 (genus), 42 (112413), 43 (112413), 44 (112413 - no record of variety or species; genus record), 46 (recorded as *Cassia leptocarpa* Benth., Pages 405-406), 58 (recorded as *Cassia leptocarpa* Benth.), 63 (112413 - does not show variety *leptocarpa* as being present in Arizona ), **85** (112413), 127 (112413 - no matches found), 133 (112413 - shows variety *leptocarpa* as being native to South America), 156 (112413 - no taxa found)\*

***Vachellia constricta* (G. Bentham) D.S. Seigler & J.E. Ebinger: Whitethorn Acacia**

SYNONYMY: *Acacia constricta* G. Bentham; *Acacia constricta* G. Bentham var. *constricta*; *Acacia constricta* G. Bentham var. *paucispina* E.O. Wooton & P.C. Standley. COMMON NAMES: All-thorn Acacia; Chaparo Prieta; Chaparro Prieto (Spanish); Common Whitethorn; Garabato; Gidag (Tohono O’odham); Gigantillo (Spanish); Huisache; Huizache (Spanish); Largoncillo (Spanish); Mescat Acacia; Twinthorn Acacia; Vara Prieta (Spanish); Vinorama (Spanish); White Thorn; White Thorn Acacia; White Twinthorn Acacia; White-thorn Acacia; Whitethorn Acacia; Yellow Cat Claw. DESCRIPTION: Terrestrial perennial cold- and drought-deciduous shrub or tree (ascending and/or erect stems 1 to 20 feet in height with crowns to about the same in width; one plant was observed and described as being 8 feet in height with a crown 8 feet in width, plants were observed and described as being 10 feet in height with crowns 16½ feet in width); the bark may be light gray, mahogany or nearly black; the stems may be red; the spines on the branches and stems are gray or white; the small pinnate leaves are green; the flowers have been described as being golden, golden-yellow, orange-yellow, light yellow, yellow or yellowish-orange; flowering generally takes place between late February and early November (additional record: one for late December); the seedpods are brown, purple-red, reddish or rusty-brown. HABITAT: Within the range of this species it has been reported from mountains; mountainsides; gravelly mesas; cliffs; rocky canyons; canyon sides; sandy canyon bottoms; sandy ridges; gravelly ridgetops; ridgelines; foothills; rocky and gravelly hills; bouldery hilltops; rocky and gravelly hillsides; escarpments; rocky, rocky-cobbly-gravelly, rocky-gravelly, rocky-clayey-loamy, gravelly-sandy-clayey and clayey-loamy slopes; gravelly bajadas; rocky outcrops; amongst boulders; benches; terraces; sandy-loamy plains; rocky, cobbly-pebbly-sandy, gravelly, gravelly-sandy and sandy flats; uplands; valley floors; valley bottoms; coastal plains; along rocky, rocky-gravelly-loamy, rocky-gravelly-clayey loam, rocky-clayey-loamy, gravelly, gravelly-sandy, gravelly-sandy-loamy, gravelly-sandy-clayey-loamy, gravelly-loamy, gravelly-clayey loam and sandy roadsides; along and in rocky and sandy arroyos; bottoms of arroyos; rocky gulches; along streambeds; creeks; along and in sandy creekbeds; along rivers; along and in gravelly, gravelly-sandy, sandy and silty-clayey washes; drainages; swales; along (gravelly-sandy and sandy) banks of streams, creeks, rivers and washes; borders of washes; along edges of washes; (rocky) margins of arroyos and washes; mudflats; benches; alluvial terraces; sandy bottomlands; sandy floodplains; mesquite bosques; riparian areas, and disturbed areas growing in dry bouldery, rocky, rocky-cobbly-gravelly, rocky-gravelly, rocky-sandy, cobbly-pebbly-sandy, gravelly, gravelly-sandy and sandy ground; rocky-gravelly loam, rocky-gravelly-clayey loam, rocky-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-sandy-clayey loam, gravelly-clayey loam, sandy loam, sandy-clayey loam, clayey loam and loam ground, and gravelly-sandy clay and silty clay ground, occurring from 100 to 9,200 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, plants may live to be more than 72 years of age and the flowers may be fragrant. Whitethorn Acacia is used for food (but not extensively) by the Desert Mule Deer (*Odocoileus hemionus*) and Scaled Quail (*Callipepla squamata*), Merriam’s Kangaroo Rats (*Dipodomys merriami*), Bailey’s Pocket Mice (*Chaetodipus baileyi*) and Rock Pocket Mice (*Chaetodipus intermedius*) as well as a variety of other birds and mammals feed on the seeds. *Vachellia constricta* is native to southwest-central and southern North America. \*5, 6, 13 (recorded as *Acacia constricta* G. Bentham and *Acacia constricta* Bentham var. *constricta*, Pages 226-228; color photograph: Plate R-1, Page 403), 15 (recorded as *Acacia constricta* Benth.), 16 (recorded as *Acacia constricta* Benth.), 18, 26 (recorded as *Acacia constricta*, color photographs), 28 (recorded as *Acacia constricta*, color photograph 83), 42 (111213 - recorded as *Vachellia constricta* (Bentham) Seigler & Ebinger), 43 (111213), 44 (111213 - no record of species; genus record), 46 (recorded as *Acacia constricta* Benth. and recorded as *Acacia constricta* Benth. var. *paucispina* Woot. & Standl., Page 399), 48, 53 (note under *Acacia farnesiana*), 63 (101012 - recorded as *Acacia constricta* Bentham; *Acacia constricta* Bentham var. *constricta*; *Acacia constricta* Bentham var. *paucispina* Woot. & Standl., color presentation), 68 (recorded as *Acacia constricta* Benth.), 77 (recorded as *Acacia constricta* Benth.), 80 (This species is listed as a Major Poisonous Range Plant. “The plants are high in cyanide forming-compounds and have been reported to cause death of cattle in Arizona. In general, the plants are not palatable to livestock although the pods are grazed. However, in the fall of the year at or near frost time, when the range grasses become less palatable, cattle may eat heavily of these plants and death is likely to result. ... Animals should be removed from heavily infested areas during the early frost period or considerable death losses may occur.” See text for additional information.), **85** (111213 - records found under *Acacia constricta* Benth.; *Acacia constricta* var. *constricta*; *Acacia constricta* var. *paucispina* Woot. & Standl., and *Vachellia constricta* (Benth. ex A. Gray) Seigler & Ebinger, color presentation), 91 (recorded as *Acacia constricta* Benth., Pages 15-16), 115 (color presentation), 124 (040211 - no record of species; genus record), 127 (111213 - no matches found), 133 (111213 - recorded as *Vachellia constricta* (Bentham) Seigler & Ebinger), 134 (recorded as *Acacia constricta*), 140 (recorded as White-Thorn Acacia, Page 138), 156 (111213 - no taxa found), **MBJ**/**WTK** (April 20, 2006?), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

Fagaceae: The Beech Family

***Quercus arizonica* C.S. Sargent: Arizona White Oak**

SYNONYMY: *Quercus sacame* W. Trelease. COMMON NAMES: Arizona Oak; Arizona White Oak; Encino (a name applied to the genus *Quercus*, Hispanic); Napaco (Tarahumara); Napoco (Hispanic); Roble (a name applied to the genus *Quercus*, Hispanic); Rojaca (Hispanic); Toa (a name applied to the genus *Quercus*, Tohono O’odham). DESCRIPTION: Terrestrial perennial evergreen shrub or tree (20 inches to 66 feet in height with an irregular, spreading rounded crown; one plant was described as being 5 feet in height with a crown 5 feet in width; one plant was described as being 8 feet in height with a crown 8 feet in width; one plant was described as being 16½ feet in height with a crown 13 feet in width with a trunk 8 inches in diameter; one plant was described as being 33 feet in height with a crown 22 feet in width; one plant was described as being 49 feet in height with a crown 26 feet in width); the bark may be ashy-gray, light gray, grayish, white or whitish; the twigs may be pale brown or yellowish; the oval leaves may be dull blue-green, bluish-green or dark green above (adaxial surface) and brownish or golden and fuzzy beneath (abaxial surface); the male catkins (1 to3 inches in length) are green to yellow or yellowish; flowering generally takes place between early April and early June (additional records: one for late February, one for mid-March, one for mid-July, two for early August, two for mid-August, one for late August, two for mid-September and one for early November); the acorns (¾ to 1 inch in length, may be paired) are light brown. HABITAT: Within the range of this species it has been reported from mountains; mountaintops; rocky and clayey mountainsides; rocky mesas; plateaus; along rocky and gravelly-sandy canyons; rocky canyonsides; along rocky and rocky-loamy canyon bottoms; rocky talus; clefts in rock faces; crevices in canyon walls; rocky ridges; rocky ridgetops; rocky saddles; rocky openings in woodlands; meadows; foothills; rocky and cobbly hills; rocky and clayey hillsides; rocky, rocky-sandy-clayey-loamy, rocky-loamy, gravelly, gravelly-sandy, gravelly-sandy-clayey, gravelly-loamy, loamy and clayey slopes; gravelly bases of slopes; bajadas; along rocky outcrops; amongst rocks; bases of rocks; benches; terraces; barrens; rocky and rocky-gravelly-sandy flats; bouldery-silty valleys; sandy roadsides; within rocky arroyos; bottoms of arroyos; draws; gravelly-sandy gulches; sandy ravines; springs; along streams; along streambeds; along creeks; in rocky creekbeds; along sandy washes; along sandy drainages; banks of draws; sides of streams; benches; terraces; along ditches, and gravelly riparian areas growing in moist and dry bouldery, rocky, rocky-gravelly-sandy, rocky-sandy, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-sandy-clayey loam, cobbly loam, gravelly loam, gravelly-clayey loam and loam ground; gravelly-sandy clay and clay ground, and bouldery silty ground, occurring from 1,800 to 9,900 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, it may live to be 150 to 250 year of age. The Arizona White Oak is one of the largest of the southwestern oaks. This plant is browsed by Mule Deer (*Odocoileus hemionus*) and White-tailed Deer (*Odocoileus virginianus*) and the acorns are eaten by White-tailed Deer and other wildlife. The Arizona Oak is a food plant of the Short-tailed Skipper (*Zestusa dorus*); Arizona Hairstreak (*Erora quaderna*); Arizona Sister (*Adelpha bredowii*), and Dull Firetip (*Pyrrhopyge araxes*). *Quercus arizonica* is native to southwest-central and southern North America. \*5, 6, 15, 18 (genus), 28 (color photograph 63), 30, 42 (112513), 43 (112513), 44 (112513 - no record of species; genus record), 46 (Page 218), 48, 52 (color photograph), 53, 63 (112513 - color presentation), 68 (genus), **85** (112713 - color presentation), 127 (112513 - no matches found), 133 (112513), 134, 135 (112513 - *Zestusa dorus*, color presentation; *Erora quaderna*, color presentation; *Pyrrhopyge araxes*, color presentation), 140 (Pages 151, 152 & 293), 154 (color pictures), 156 (112513), **MBJ**/**WTK** (July 9, 2009)\*

***Quercus emoryi* J. Torrey: Emory Oak**

SYNONYMY: *Quercus hastata* F.M. Liebmann. COMMON NAMES: Bellota (Spanish: Mexico, Sonora); Bellota (“Acorn”, Spanish)140; Black Oak (English)140; Blackjack Oak (English)140; Chéch’il <chéchi’il, tséch’il> (Athapascan: Navajo)140; Chích’il [Nteelí, Łichí’é] (Athapascan: Western Apache)140; Doha <roha, rojuá> (Uto-Aztecan: Tarahumara)140; Emory Oak (English)140; Emory’s Oak; Encino [Bellotero, Colorado, Duraz-nillo, Negro, Prieto] (“[Acorn, Red-colored, Little Peach, Black, Black] Evergreen Oaks”, Spanish: Chihuahua, Sonora)140; Encinio Negro (Spanish); Encino Prieto (Spanish); Gray Oak (a name also applied to other species); Has (Yuki: Yuki)140; Héhat (Uto-Aztecan: Luiseño)140; Híhat (Uto-Aztecan: Cupeño)140; Īsñó (Yuman: Kumiai)140; Koowi (Uto-Aztecan: Yaqui)140; Kwae (Kiowa Tanoan: Tewa)140; Kwiávų <kwi’ûv> (Uto-Aztecan: Ute; Tǫˀmą́pų, for the acorn)140; Kwingvi <kwí:ngvi> (Uto-Aztecan: Hopi)140; Kwi’niûp [Ku’niûp] (Uto-Aztecan: Shoshoni; Ku’niroûmp, for the acorn)140; Mállūŋ (Hokan: Washo)140; Natókatsé (Athapascan: Jicarilla Apache)140; Qwiya (Uto-Aztecan: Southern Paiute)140; Qwinyal <kwinyil> (Uto-Aztecan: Cahuilla)140; Roble Negro (“Black [Deciduous] Oak”, Spanish)140; Sñaiw (Yuman: Paipai)140; Ṣnya: <senya, snya:> (for the acorn or plant, Yuman: Cocopa; for genus or *Q. turbinella*)140; Tcitcile <tcintcile> (Athapascan: Chiricahua and Mescalero Apache); Tinyík <ḍinyikḍa> (Yuman: Walapai Sñaiw (Yuman: Paipai)140; Toa [Doa] (Uto-Aztecan: Akimel and Tohono O’odham, altered to “Toji in Sonoran Spanish)140; Tohá (Uto-Aztecan: Eudeve)140; Tohé <tohá, tohí> (Uto-Aztecan: Guarijío)140; Tua <toha> (Uto-Aztecan: Mountain Pima)140; Ṭúva (Uto-Aztecan: Cupeño)140; Umíčari (Uto-Aztecan: Tarahumara)140; Veyotam (Uto-Aztecan: Yaqui)140; Viyóōdi <viyóīdi> (Uto-Aztecan: Akimel O’odham)140; Wíat (Uto-Aztecan: Cupeño)140; Wíya (Uto-Aztecan: Mono)140; Wiyampippüh (Uto-Aztecan: Panamint, Wiyan(pi), for the acorn)140; Wiyo:di <wi:yoda> (Uto-Aztecan: Tohono O’odham)140; Xilojo (Oto-Manguean: Mazahua; for *Quercus*)140. DESCRIPTION: Terrestrial perennial evergreen shrub or tree (5 to 66 feet in height with a spreading and rounded crown; one tree was described as being 33 feet in height with a crown 98 feet in width); the bark may be black, blackish, blackish-gray, dark blackish-gray, dark brown, gray, dark gray or dark gray-brown,; the older twigs are gray; the young twigs are dark reddish-brown; the shiny leaves may be green, bright & shiny green, dark green or yellowish-green above (adaxial surface) and dull pale green beneath (abaxial surface); the flowers may be cream, greenish (staminate noted) or yellowish; flowering generally takes place between late March and late June (additional records: three for late July, one for mid-August, one for early September and one for mid-September); the acorns (½ to ¾ in length) are brownish. HABITAT: Within the range of this species it has been reported from mountains; mountainsides; mesas; plateaus; rocky canyons; rocky and rocky-clayey canyon bottoms; ridges; rocky ridgetops; foothills; rocky and rocky-gravelly hills; rocky and gravelly hillsides; rocky piedmonts; bedrock, rocky, rocky-gravelly-sandy, rocky-loamy, rocky-clayey, rocky-clayey-loamy, stony, gravelly, gravelly-loamy, sandy, sandy-loamy, loamy and clayey slopes; bases of slopes; alluvial fans; bajadas; rocky outcrops; amongst boulders and rocks; plains; rocky and sandy flats; basins; valley floors; valley bottoms; roadsides; along and in rocky arroyos; bottoms of arroyos; draws; gullies; barrancas; springs; along streams; rocky-sandy streambeds; along creeks; along and in creekbeds; along and in cobbly-sandy, gravelly and gravelly-sandy washes; along drainages; along watercourses; swales; banks of creeks; edges of floodplains; along margins of washes; bottomlands; floodplains; mesquite bosques; gravelly-sandy and sandy riparian areas and disturbed areas growing in dry bouldery, rocky, rocky-gravelly, rocky-gravelly-sandy, shaley, stony, cobbly-sandy, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-clayey loam, sandy loam and loam ground, and rocky clay and clay ground, occurring from 1,900 to 8,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop. The acorns are nearly tannin free. Mule Deer (*Odocoileus hemionus*), Pronghorn (*Antilocapra americana*) and White-tailed Deer (*Odocoileus virginianus*) browse this plant, and the acorns (bellotas) are eaten by Band-tailed Pigeons (*Columba fasciata*), Collared Peccary (*Peccari tajacu*), Mule Deer (*Odocoileus hemionus*), White-tailed Deer (*Odocoileus virginianus*), Wild Turkey (*Meleagris gallopavo*), and other wildlife. *Quercus emoryi* is native to southwest-central and southern North America. \*5, 6, 15, 18, 28 (color photograph 65), 30, 42 (112813), 43 (112813), 44 (031111 - no record of species; genus record), 46 (Page 219), 48, 52 (color photograph), 53, 58, 63 (031011 - color presentation), 68 (genus), **85** (112913 - color presentation), 124 (030911 - no record of species; genus record), 127 (112813), 133 (112813), 134, 140 (Pages 149-151 & 293), 156 (112813), **MBJ**/**WTK** (July 9, 2009), **WTK** (September 26, 2005)\*

*Quercus hastata* (see *Quercus emoryi*)

*Quercus sacame* (see *Quercus arizonica*)

Fouquieriaceae: The Ocotillo Family

***Fouquieria splendens* G. Engelmann: Ocotillo**

SYNONYMY: *Fouquieria splendens* G. Engelmann subsp. *splendens* G. Engelmann. COMMON NAMES: Albarda <barda> (“Pack Saddle”, Spanish: Coahuila, Sonora, Zacatecas)140; Apache Whipping Stick (English)140; Barba (“Beard”, Spanish: Coahuila)140; Barda (Spanish); Candle Bush (English)140; Candlewood (English: Texas)140; Chimuchi Chuwara <simuchi chuwara> (Uto-Aztecan: Tarahumara)140; Chumari (Spanish: Sonora)140, Chunari (Uto-Aztecan: Cahita); Cirio (“Wax Candle”, Spanish: Baja California)140; Coach Whip (a name also applied to the genus *Fouquieria*); Coach-whip (a name also applied to the genus *Fouquieria*); Coach-whip (English: Arizona)140; Coach-whip Cactus; Coach-whip Ocotillo; Coachwhip (a name also applied to the genus *Fouquieria*); Coachwhip Cactus; Coachwhip Ocotillo; Colorín Cimmarón (“Wild Red One”, Spanish: Mexico)140; Cunuri (Uto-Aztecan: Guarijío)140; Flamingsword; Í’i’qimie <igamye> (Yuman: Walapai)140; I’ikumadhí (Yuman: Maricopa)140; ˀI:nyáy (Yuman: Cocopa)140; Jacob’s Staff [Wand] (English)140; Jacob’s Wand; Melhog <mïrok, mïro’k> (Uto-Aztecan: Hiá Ceḍ O’odham, Tohono O’odham)140; Merihog <nuri’og> (Uto-Aztecan: Onavas Pima; should possibly be applied to *Fouquieria macdougalii*)140; Monkey-tail; Mureo (Uto-Aztecan: Yaqui)140; Ocotillo (a name also applied to the genus *Fouquieria*, Spanish: Mexico; Ocotillo [de Corral] (“[Corral] Little Torch”, Spanish: New Mexico, Texas, Baja California, Chihuahua, Coahuila, Sonora, Zacatecas)140; Ocotillo del Corral (Spanish); Palo de Adán (“Adam’s Tree”, Spanish: Baja California)140; Saar (Uto-Aztecan: Mountain Pima)140; Slimwood (English: Arizona)140; Tarákovara (Uto-Aztecan: Northern Tepehuan)140; T’iis Ts’ǫz <ges choze> (Athapascan: Western Apache)140; Utush <otosh> (Uto-Aztecan: Cahuilla)140; Vine Cactus; Vine-cactus (English)140; Xomxéziz <xeshish> (Hokan: Seri)140; Wolf’s Candles; Xong (Hokan: Seri)140. DESCRIPTION: Terrestrial perennial cold- and drought-deciduous semi- and stem-succulent shrub (sinuously-ascending or erect spreading stems 5 to 33 feet in height with a crown width of 4½ to 15 feet); the stems (wand-like and branching from the base in clusters of up to 100 stems) are gray, light gray, light gray & dark gray stripes (on newer growth), gray & dark gray, gray-green or green; the leaves are green; the flowers (in 2 to 10 inch long clusters at the tips of the stems) may be coral red, cream, cream tinged with green and/or pink, cream-white, orange, brilliant orange, orange & red, orange-red, orangish-red, pinkish-purple, red, bright red, red & yellow, bright red-orange, reddish-orange, salmon, scarlet, scarlet-coral, white (rarely reported ) or yellow (rarely reported ); flowering generally takes place over a period of 50 to 60 days between early February and early August (additional records: two for late August, two for mid-September, one for late September, one for mid-October, two for late October, two for early November and two for early December); the mature fruits are capsules containing winged seeds. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky, gravelly, gravelly-sandy and sandy mesas; crags; canyon rims; cliffs; bouldery and rocky canyons; rocky canyon bottoms; talus slopes; crevices in rocks; knolls; bedrock and gravelly ridges; rocky and gravelly ridgetops; ridgelines; bases of lava domes; rocky foothills; rocky and rocky-sandy hills; rocky hilltops; rocky and gravelly hillsides; bedrock, bouldery-cobbly, bouldery-gravelly, rocky, rocky-cobbly-gravelly, rocky-gravelly, shaley-sandy, stony, gravelly, gravelly-sandy and gravelly-loamy slopes; alluvial fans; rocky and sandy bajadas; rocky outcrops; amongst boulders; lava flows; bases of lava domes; sand hills; sand dunes; dune swales; gravelly outwash fans; terraces; gravelly and sandy plains; rocky, rocky-sandy, gravelly, gravelly-sandy and sandy flats; basins; rocky and sandy valley floors; valley bottoms; coastal plains; coastal beaches; along gravelly roadsides; along and in rocky and sandy arroyos; gravelly arroyo bottoms; gullies; streambeds; along rivers; riverbeds; along and in cobbly and sandy washes; within gravelly drainages; (bedrock, bouldery-cobbly and sandy) banks of rivers and washes; borders of washes; sides of washes; (rocky-sandy) shores of lakes; benches; rocky bottomlands; along floodplains and riparian areas growing in dry desert pavement; bouldery, bouldery-cobbly, bouldery-gravelly, rocky, rocky-cobbly-gravelly, rocky-gravelly, rocky-sandy, shaley-sandy, stony, cobbly, cindery-sandy, gravelly, gravelly-sandy and sandy ground; gravelly loam ground, and clay ground, occurring from sea level to 8,100 feet (one record at 9,840 feet?) in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food, beverage and/or fiber (building material) crop; it was also noted as having been used as a fuel (firewood), tool (thorns used to pierce ears), drug or medication, ceremonial item and as an ornamental landscape plant. Older plants may be 150 to 200 years of age. This “vase-shaped” plant has been described by Benson and Darrow as being “one of the most distinctive shrubs in the Southwestern Deserts, and it is one of the plants giving outstanding character to the flora of the region”. Desert Bighorn Sheep (*Ovis canadensis* subsp. *mexicana*), Mule Deer (*Odocoileus hemionus*) and White-tailed Deer (*Odocoileus virginianus* subsp. *couesi*) browse this plant. Solitary Bees, Butterflies, Carpenter Bees (*Xylocopa californica*), House Finches (*Carpodacus mexicanus*), Lesser Goldfinches (*Carduelis psaltria*), Syrphid Flies, Broad-billed Hummingbirds (*Cynanthus latirostris*), Costa’s Hummingbirds (*Calypte costae*), Rufous Hummingbirds (*Selasphorus rufus*), Hooded Orioles (*Icterus cucullatus*), Scott’s Orioles (*Icterus parisorum*), Pyrrhuloxias (*Cardinalis sinuatus*), Verdins (*Auriparus flaviceps*), and Warblers have been observed visiting the flowers. The Ocotillo is a preferred food plant of the Costa’s Hummingbird. *Fouquieria splendens* is native to southwest-central and southern North America. \*5, 6, 10, 13 (Pages 178-179, color photograph: Plate N., Page 401), 15, 16, 18, 26 (color photograph), 28 (color photograph 553 A&B), 42 (120313), 43 (080309), 44 (071911 - color photograph), 45 (color photograph), 46 (Page 640), 48, 58, 63 (120612 - color presentation including habitat), 77 (color photograph #27), **85** (120513 - color presentation), 86 (color photograph), 91 (Pages 224-226), 106 (021810 - color presentation), 107, 115 (color presentation), 124 (071911 - no record of genus or species), 127 (120313), 133 (120313), 140 (recorded as *Fouquieria splendens* Engelmann subsp. *splendens*, Pages 152-153 & 293), 156 (120313 - no taxa found), **MBJ**/**WTK** (April 20, 2006?), **MBJ**/**WTK** (July 9, 2009), **WTK** (September 26, 2005)\*

*Fouquieria splendens* subsp. *splendens* (see *Fouquieria splendens*)

Fumariaceae: The Fumitory Family

***Corydalis aurea* C.L. von Wildenow: Scrambled Eggs**

SYNONYMY: *Corydalis aurea* C.L. von Willdenow subsp. *aurea*. COMMON NAMES: Bílátah Łitso Tsoh <bilátah łcoi coh> (Athapascan: Navajo)140; Chooyin ‘Azee’ <co’in ˀazéˀ> (“Menstruation Medicine”, Athapascan: Navajo)140; Colic Weed (English)140; Corídale (Spanish: Mexico)140; Corydalis Curvepod Fumewort; Corydalis Dorée (French); Curvepod Fumewort (also applied to subsp. *occidentalis*); Dorée (French); Dutchman’s Breeches; Fitweed; Fumaria (Spanish: Mexico)140; Fumitory; Gáagii Binát’oh <gâgi binát’oh> (“Raven’s Tobacco”, Athapascan: Navajo)140; Gold Smoke (English)140; Golden Corydalis (English)140; Golden Fume Wort; Golden Fume-wort; Golden Fumewort; Golden Smoke; Hasbídídą́ą́’ <hasbididáˀ> (Athapascan: Navajo)140; Mountain Corydalis; Nikookáá’ Łitso <naxokáˀ łoci> (Athapascan: Navajo)140; Scrambled Eggs; Scrambled Eggs (also applied to subsp. *aurea* and subsp. *occidentalis*); Scrambled-eggs (English: Arizona, New Mexico)140; Scrambledeggs; Småblommig Nunneört (Swedish); Smallflower Fumewort (*Corydalis aurea* var. *australis* - Not Accepted, *Corydalis micrantha* subsp. *australis* - Accepted; *Corydalis aurea* var. *micrantha* - Not Accepted, *Corydalis micrantha* subsp. *micrantha* - Accepted); Tązhii Halchiin Ałts’íísígíí <tąžilčin ˀałc’ísí, tazhii yilchiin ałts’íísígíí> (Athapascan: Navajo)140; Ts’yaa Tł’ohdeeí <ciyah~~λ~~’ oh de> (Athapascan: Navajo)140. DESCRIPTION: Terrestrial annual or biennial forb/herb (prostrate, decumbent-ascending, ascending and/or erect stems 4 inches to 2 feet in height; as it ages may become prostrate, may form low sprawling mounds); the leaves may be bluish-green, pale gray-green, gray-green, green, light green or silvery-bluish-green; the flowers (3/8 to3/4 inch in length) have been described as being golden, golden-yellow, bright lemon yellow, purple to pink, pale yellow, bright yellow, yellow, dark yellow tinged with dark red, yellow fringed with red or yellowish-orange; flowering generally takes place between early February and mid-September (additional records: one for mid-October, one for late October, one for mid-December and two for late December); the seedpods (½ to 1 inch in length) are bluish-green. HABITAT: Within the range of this species it has been reported from mountains; bouldery mountaintops; gravelly-loamy mountainsides; bases of mountains; sandy mesas; gravelly-loamy plateaus; canyon rims; cliffs; bases of cliffs; along rocky and sandy canyons; canyon sides; along rocky-clayey, sandy and clayey canyon bottoms; chasms; shaley scree; talus; crevices in rocks; rocky and gravelly bluffs; rocky ledges; rocky and gravelly ridges; clearings in forests; meadows; humusy edges of meadows; rocky foothills; clayey hills; bouldery hilltops; bouldery-rocky-cobbly, rocky, gravelly and humusy hillsides; bouldery, bouldery-clayey, rocky, rocky-loamy, stony, gravelly, gravelly-sandy, sandy, sandy-loamy, loamy and clayey slopes; rock outcrops; amongst boulders and rocks, bases of rocks; sandy lava flows; sand hills; stabilized sand dunes; rocky, gravelly-humusy and sandy banks; terraces; rocky, sandy, sandy-clayey and clayey prairies; sandy plains; fields; rocky, cindery, gravelly, sandy, sandy-loamy and sandy flats, clayey basins; valley floors; valley bottoms; along railroad right-of-ways; railroad ballast; sandy roadbeds; shaley and sandy roadcuts; along rocky, rocky-sandy, rocky-loamy, cindery, gravelly, sandy, sandy-clayey, loamy and humusy roadsides; within rocky and sandy arroyos; bottoms of arroyos; draws; gulches; gullies; within ravines; seeps; springs; along streams; along and in rocky-gravelly-sandy and sandy streambeds; in sandy soils along creeks; in rocky creekbeds; in sand along rivers; riverbeds; along and in rocky, cobbly, sandy and loamy washes; along and in gravelly drainages; watercourses; lakebeds; bouldery ciénegas; rocky-gravelly-sandy-clayey and sandy depressions; silty-clayey swales; along (rocky and sandy) banks of gullies, streams, creeks, rivers and washes; along margins of creeks and lakes; (rocky and sandy) shores; gravelly benches; terraces; sandy bottomlands; sandy and silty floodplains; lowlands; rocky mesquite bosques; ditches; along clayey-loamy banks of canals; gravelly-sandy and sandy riparian areas; waste places, and disturbed areas growing in wet, moist, damp and dry bouldery, bouldery-rocky-cobbly, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, shaley, stony, cobbly, cindery, gravelly, gravelly-sandy and sandy ground; bouldery-sandy-clayey loam, rocky loam, rocky-sandy loam, gravelly loam, sandy loam, clayey loam and loam ground; bouldery clay, rocky clay, rocky-gravelly-sandy clay, sandy clay, silty clay and clay ground; silty ground, and gravelly humusy and humusy ground, occurring from 1,500 to 12,100 feet in elevation in the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, plants may be killed or defoliated by frosts. This plant was reported to have been utilized as fodder by native peoples of North America; it was also noted as having been used as a drug or medication and as a fertilizer (cold infusion used to soak watermelon seeds in, in order to increase production). *Corydalis aurea* is native to northwestern, northern, central and southern North America. \*5, 6, 16, 28 (color photograph 499), 42 (120713), 43 (072109), 44 (121212 - color photograph), 46 (placed in the Papaveraceae, Page 325), 58, 63 (121212 - color presentation), 68 (placed in the Papaveraceae), 77, 80 (This species is listed as a Secondary Poisonous Range Plant. “Golden Corydalis has been reported to contain up to 10 alkaloids. The plant is relished by sheep and as little as 2% of the animal’s weight will cause symptoms, and less than 5% can be fatal. Cattle and horses also may be poisoned. This plant probably causes some losses in Arizona to both livestock and game.” See text for additional information.), **85** (121013 - color presentation), 86 (color photograph), 115 (color presentation), 124 (121212), 127 (120713), 133 (120713), 140 (recorded as *Corydalis aurea* Willdenow subsp. *occidentalis* (Engelmann ex A. Gray) G.B. Ownbey, Pages 185-187 & 294), 156 (120713)\*

Garryaceae: The Silktassel Family

***Garrya wrightii* J. Torrey: Wright’s Silktassel**

COMMON NAMES: Bearberry; Chichicahuile (Náhuatl: Mexico)140; Coffee Berry; Coffee-berry Bush (English)140; Coffeeberry-bush; Fever-bush (English)140; Feverbush; Grayleaf Dogwood; Gray-leaved Dogwood; Quinine-bush (English)140, Kánïnkwap (Uto-Aztecan: Southern Paiute)140; Manzanito (Mexico, Durango); Silk Tassel (a name also applied to the genus *Garrya*); Silk-tassel (a name also applied to the genus *Garrya*); Silk-tassel (English)140; Silktassel (a name also applied to the genus *Garrya*); Wright Silktassel; Wright’s Silktassel. DESCRIPTION: Terrestrial perennial evergreen shrub or tree (3 to 15 feet in height with a rounded crown; one plant was observed and described as being 5 feet in height and width, one plant was observed and described as being 5 feet in height and 8 feet in width, one plant was observed and described as being 6½ feet in height and width, plants were observed and described as being 6½ feet in height and 5 feet in width); the bark is gray or mottled gray; the thick, leathery leaves may be light green, dark green, dull green, light greenish-gray, yellowish (rarely) or yellowish-green; the flowers may be cream-white, grayish-green, white or whitish occurring in catkin-like tassels; flowering generally takes place between early May and late September (additional records: two for mid-October); the berries may be dark blue, blue-black, dark blue-black, dark bluish-purple, purple, deep purple or whitish-gray. HABITAT: Within the range of this species it has been reported from mountains; mountaintops; rocky mountainsides; rocky bases of mountains; rocky and sandy mesas; cliffs; bases of cliffs; rocky canyons; canyon sides; rocky canyon bottoms; chasms; rocky talus slopes; crevices in rocks; rocky bluffs; rocky and gravelly ledges; rocky, loamy and clayey ridges; foothills; hills; rocky hillsides; bouldery-gravelly, rocky, rocky-gravelly-clayey, rocky-sandy-loamy, rocky-loamy, rocky-clayey, rocky-clayey-loamy, gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey, sandy, sandy-loamy, clayey and clayey-loamy slopes; rocky and gravelly outcrops; amongst boulders and rocks; banks; rocky balds; flats; along rocky and gravelly roadsides; along rocky arroyos; shaded bottoms of arroyos; rocky draws; along streams; along rocky streambeds; creekbeds; along gravelly riverbeds; along rocky washes; within drainages; banks of streams; terraces; bottomlands; sandy floodplains, and riparian areas growing in moist and dry bouldery, bouldery-rocky, bouldery-gravelly, rocky, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-sandy loam, rocky-clayey loam, gravelly loam, sandy loam, clayey loam and loam ground; rocky clay, rocky-gravelly clay, gravelly clay and clay ground, and rocky humusy ground, occurring from 2,900 to 8,800 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant is browsed by Mule Deer (*Odocoileus hemionus*), White-tailed Deer (*Odocoileus virginianus*), Elk (*Cervus elaphus*) and Bighorn Sheep (*Ovis canadensis*). *Garrya wrightii* is native to southwest-central and southern North America. \*5, 6, 13 (Page 367, note under *G*. *flavescens*), 15, 18 (genus), 28 (color photograph 50), 30, 42 (121013), 43 (101810), 44 (031211 - no record of species; genus record), 46 (Page 625), 48 (genus), 63 (121013 - color presentation), **85** (121113 - color presentation), 124 (110610 - no record of species), 127 (121013 - no matches found), 133 (121013), 140 (Pages 122-123 & 294), 156 (121013 - no taxa found)\*

Hydrangeaceae: The Hydrangea Family

***Fendlera rupicola* G. Engelmann & A. Gray var. *wrightii* A. Gray: Wright’s Fendlerbush**

SYNONYMY: *Fendlera tomentella* J.J. Thornber; Fendlera *wrightii* (A. Gray) A.A. Heller. COMMON NAMES: Antelope Brush (a name applied to the species, English)140; Bį́į́hdą́ą́’ (a name applied to the species, Athapascan: Navajo)140; False Mock-orange (a name applied to the species, English)140; Fendler’s Buck-brush (a name applied to the species, English)140; [Cliff] Fendler-bush (a name applied to the species, English)140; Fendlera (a name applied to the species, English)140; Haaschch’ Ééłti’í Binát’oh <xašč’ éłtiˀí binát’oh> (“Talking God’s Tobacco” a name applied to the species, Athapascan: Navajo)40; Tshińtł’zíh <ci ‘iz> (a name applied to the species, Athapascan: Navajo)140;Wright Fendlerbush; Wright’s Fendlerbush. DESCRIPTION: Terrestrial perennial straggling shrub (3 to 10 feet in height; one plant was observed and described as being 10 feet in height and 20 feet in width vase-shaped with stems up to 4 inches in diameter); the twigs may be reddish to straw-colored graying with age; the leaves are green or dark green above (adaxially) and tomentose dull light green beneath (abaxially); the flowers may be pink, white or white faintly edged in pink; the anther are yellow; flowering generally takes place between mid-March and mid-June (additional records: two for mid-July, one for late August, two for early September and two for early October); the fruits (to ½ inch in length) are grayish-green acorn-like capsules. HABITAT: Within the range of this species it has been reported from mountains; plateaus; cliffs; rocky cliff sides; bases of cliffs; rocky walls; canyons; canyon sides; rocky canyon bottoms; crevices in rocks; rock ledges; rocky ridges; rocky, shaley and sandy hillsides; bottoms of hills; bouldery, rocky, rocky-gravelly-loamy, gravelly and sandy-clayey-loamy slopes; bottoms of slopes; rock outcrops; amongst boulders; breaks; basins; within arroyos; within ravines; along streams; in rocky-sandy soil along creeks; riverbeds; sandy washes; drainages; banks of creeks; edges of washes; sides of washes; bottomlands, and riparian areas growing in damp and dry bouldery, rocky, rocky-sandy, shaley, gravelly and sandy ground and rocky-gravelly loam, gravelly loam and sandy-clayey loam ground, occurring from 2,300 to 8,000 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, considered a beautiful shrub when in flower and worthy of cultivation as an ornamental. The flowers are reported to be fragrant. The species, *Fendlera rupicola*, was reported to have been utilized by native peoples of North America; it was noted as having been used to make arrow shafts, as an insecticide, as a tool (weaving forks, knitting needles and planting sticks), as a drug or medication and as a ceremonial item. This plant is browsed by deer and Bighorn Sheep (*Ovis canadensis*). *Fendlera rupicola* var. *wrightii* is native to southwest-central North America. \*5, 6, 28 (the species recorded as *Fendlera rupicola* and included in the Saxifrage Family, color photograph 163), 42 (121113), 43 (121213), 44 (121213 - no record of variety, species or genus), 46 (recorded as *Fendlera rupicola* Gray var. *wrightii* Gray and place in the Saxifragaceae, Page 367-368), 63 (121213 - recorded as *Fendlera wrightii* (A. Gray) A. Heller), **85** (121213 - color presentation), 127 (121213 - species, no matches for variety *wrightii*), 133 (121213 - no record for variety *wrightii*; species record), 140 (the species, recorded as *Fendlera rupicola* and included in the Hydrangeaceae, Pages 155-156 & 294), 156 (121213 - no taxa found)\*

*Fendlera tomentella* (see *Fendlera rupicola* var. *wrightii*)

*Fendlera wrightii* (see *Fendlera rupicola* var. *wrightii*)

Hydrophyllaceae: The Waterleaf Family

***Phacelia arizonica* A. Gray: Arizona Phacelia**

SYNONYMY: *Phacelia popei* J. Torrey & A. Gray var. *arizonica* (A. Gray) J.W. Voss. COMMON NAMES: Arizona Phacelia; Arizona Scorpion-weed; Arizona Scorpionweed; Caterpillar Weed (a name also applied to other species). DESCRIPTION: Terrestrial perennial forb/herb (prostrate and/or decumbent stems 1 to 16 inches in height); the flowers have been reported as being light blue, pale blue-purplish, blue-purple, blue-purplish, pale bluish-purple, pale lavender, lavender, lavender-white, pale pink-lavender, pink, pinkish with darker mid-stripes, pale purple, pale purplish, purple, dusty rose, pale violet, white, white with a lavender tinge, white with a pale maroon center, whitish or whitish with a rose mid-vein on each petal; the filaments are mauve; the anthers are blue; flowering generally takes place between late February and early June (additional records: one for early February, two for mid-July, three for early September and one for mid-September). HABITAT: Within the range of this species it has been reported from mountains; sandy mesas; rocky and gravelly canyons; sandy canyon bottoms; ledges; gravelly openings in mesquite and cat claw and mesquite and creosote bush; foothills; rocky and gravelly hills; hilltops; hillsides; rocky, gravelly and gravelly-loamy slopes; rocky-sandy and sandy alluvial fans; sandy bajadas; amongst grasses; lava flows; plains; grassy fields; gravelly and sandy flats; valley floors; roadbeds; along rocky-sandy, gravelly, gravelly-sandy, gravelly-sandy-silty, sandy and loamy roadsides; gravelly bottoms of arroyos; gravelly streambeds; along creeks; along rivers; riverbeds; along and in rocky-gravelly, gravelly and sandy washes; drainages; cobbly-sandy-loamy bottoms of swales; (sandy) banks of washes; gravel bars; rocky benches; terraces; bottomlands; along sandy floodplains; lowlands; sandy mesquite woodlands; sandy riparian areas; waste places, and disturbed areas growing in dry rocky, rocky-gravelly, rocky-sandy, gravelly, gravelly-sandy and sandy ground; cobbly-sandy loam, gravelly loam, clayey loam and loam ground, and gravelly-sandy silty ground, occurring from 1,500 to 8,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Phacelia arizonica* is native to southwest-central and southern North America. \*5, 6, 16 (recorded as *Phacelia arizonica* Gray), 42 (121213), 43 (072209), 44 (121213 - no record of species; genus record), 46 (Page 703), 58 (recorded as *Phacelia arizonica* Gray), 63 (121213 - color presentation), 77 (recorded as *Phacelia popei* T. & G. var. *arizonica* (Gray) Voss), **85** (121213 - color presentation), 124 (072311 - no record of species; genus record), 127 (121213 - no matches found), 133 (121213 - no matches found), 140 (Page 294), 156 (121213 - no taxa found)\*

*Phacelia popei* var. *arizonica* (see *Phacelia arizonica*)

Juglandaceae: The Walnut Family

***Juglans major* (J. Torrey) A.A. Heller: Arizona Walnut**

SYNONYMY: (considered by some for *Juglans major* and considered by others for *Juglans major* var. *major*: *Juglans microcarpa* J.L. Berlandier var. *major* (J. Torrey) L.D. Benson; *Juglans rupestris* G. Engelmann ex J. Torrey var. *major* J. Torrey). COMMON NAMES: Arizona Black Walnut; Arizona Walnut; Arizona Walnut (var. *major*); Black Walnut (var. *major*, a name also applied to other species; New Mexico, Sierra County); Ch’iłdiiyé [Ch’iłniiyé] <ch’il niyé> (Athapascan: Western Apache)140; Ha’ałtsédii <xa’ałtsyétiih> (“That Which is Cracked”, Athapascan: Navajo)140; Hałsede <hałtsede> (“That Which is Cracked”, Athapascan: Chiricahua and Mescalero Apache)140; Їpïvï <ïpokai> (Uto-Aztecan: Northern Tepehuan)140; Їpïvï <uupĭ> (Uto-Aztecan: Onavas Pima; probably Epeve or Upuvṷ)140; Kemtcuteka <gamjudk> (Yuman: Walapai)140; Lačí (Uto-Aztecan: Tarahumara)140; Mųrųkátųvųáci (Uto-Aztecan: Ute)140; New Mexico Walnut; Noga’al U’sh (Uto-Aztecan: Mountain Pima)140; Nogal (a name also applied to the genus *Juglans* as well as other taxa, Spanish; the small nut is known in Spanish as “nogales”); Nogal (Spanish: Chihuahua, Sonora)140; Nogal Cimarrón (Hispanic); Nogal Encarcelado (Hispanic); Nogal Silvestre (“Wild Walnut”, Spanish: Chihuahua, Sonora, Texas)140; Súhūvi (Uto-Aztecan: Comanche)140; U:pio (Uto-Aztecan: Tohono O’odham)140; Uup [Uupio] (Uto-Aztecan: Mountain Pima)140; Uupai (Uto-Aztecan: Northern Tepehuan)140; Uupio (Uto-Aztecan: Akimel O’odham)140; Walnut (a name also applied to the genus *Juglans* and the Juglandaceae); [Arizona] Walnut (English)140. DESCRIPTION: Terrestrial perennial deciduous tree (5 to 66 feet in height with a rounded crown that may be of about the same width as the height of the tree; one tree was observed and described as being 5 feet in height with a crown 4 feet in width, one tree was observed and described as being 7 feet in height with a crown 5 feet in width, one tree was observed and described as being 23 feet in height with a crown 26 feet in width); the trunk may be up to 4 feet in diameter; the bark may be brownish, brownish-gray, light gray, gray, dark gray, grayish-brown or dark gray-brown; the young stems may be light to dark brown; the pinnately compound leaves (7 to 14 inches in length) are green or yellow-green; the male flowers (borne on catkins 2 to 3½ inches in length), and the female flowers are born on separate catkins or spikes and may be green, greenish or yellowish; flowering generally takes place between mid-March and late June (additional records: one for mid-July, one for late July, one for early September and one for mid-September); the mature fruits (¾ to 1¾ inches in diameter) are rusty-green or yellow-green and ripen between July and September. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; plateaus; cliffs; sandy bases of cliffs; along and in bouldery, rocky and gravelly-sandy canyons; rocky canyon sides; along bouldery, rocky and cobbly canyon bottoms; crevices; ledges; rocky ridges; openings in forests; foothills; hills; hilltops; rocky hillsides; rocky escarpments; bouldery, bouldery-loamy, rocky, gravelly-loamy, loamy and silty slopes; amongst boulders and rocks; sandy terraces; flats; glens; along valley bottoms; along rocky, rocky-sandy, gravelly and gravelly-sandy roadsides; rocky and sandy arroyos; sandy bottoms of arroyos; within draws; gulches; ravines; seeps; springs; along streams; along bouldery, bouldery-loamy and rocky streambeds; along creeks; along and in sandy creekbeds; along rivers; along riverbeds; along and in rocky, stony and sandy washes; within drainages; along watercourses; ciénegas; (silty) banks of streams, creeks, rivers and drainages; borders of washes; (cindery and gravelly) edges of streambeds, washes, drainages and drainage ways; sides of streams; shores of lakes; sand bars; sandy benches; terraces; rocky bottomlands; along gravelly-sandy floodplains; mesquite bosques; along and in ditches; bouldery, gravelly, gravelly-sandy and sandy riparian areas, and disturbed areas growing in well drained moist and dry bouldery, rocky, rocky-sandy, stony, cobbly, cindery, gravelly, gravelly-sandy and sandy ground; bouldery loam, cobbly-sandy loam, gravelly loam and loam ground; silty ground, and humusy ground, occurring from 900 to 8,600 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat and is considered to be a valuable shade tree, the leaves turn golden-yellow in the fall. Once past the seedling stage the Arizona Walnut has a growth rate of about one foot per year and may live to be 400 years of age. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food, beverage, fiber (building materials) and/or dye (brown) and paint (black) crop. Consider using the Arizona Walnut as a specimen plant in a large area and in the re-vegetation of riparian areas. Note that the Arizona Walnut requires deep soil and moderate water but not as much water as other riparian trees such as the Alder, Ash, Cottonwood, Sycamore and Willow Trees. Walnut trees are susceptible to aphid infestations that produce considerable amounts of honeydew. Birds, squirrels and other wildlife eat the fruits and the tree provides habitat for wildlife including cavities that are used by the Acorn Woodpecker (*Melanerpes formicivorus*). When restoring the floodplains of major river systems consider including the following plants in the mix if they have been recorded from this township: Inland Saltgrass (*Distichlis spicata*), Vine Mesquite Grass (*Panicum obtusum*), Indian Rushpea (*Hoffmannseggia glauca*), Little Snapdragon Vine (*Maurandella antirrhiniflora*), Schott Yellowhood (*Nissolia schottii*), Fingerleaf Gourd (*Cucurbita* *digitata*), Red Sprangletop (*Leptochloa panicea* subsp. *brachiata*), Whiplash Pappusgrass (*Pappophorum vaginatum*), Alkali Sacaton (*Sporobolus airoides*), Big Sacaton (*Sporobolus wrightii*), Hartweg Twinevine (*Funastrum cynanchoides*), Hartweg Twinevine (*Funastrum cynanchoides* subsp. *heterophyllum*), Virginia Creeper (*Parthenocissus quinquefolia*), Canyon Grape (*Vitis arizonica*), Drummond Clematis (*Clematis drummondii*), Mojave Seablite (*Suaeda moquinii*), Prairie Acacia (*Acacia angustissima*), Allthorn (*Koeberlinia spinosa* var. *spinosa*), Desert Saltbush (*Atriplex polycarpa*), Fourwing Saltbush (*Atriplex canescens*), Wright Lycium (*Lycium andersonii* var. *wrightii*), Torrey Lycium (*Lycium torreyi*), Arrowweed (*Pluchea sericea*), Fremont Lycium (*Lycium fremontii*), Creosote Bush (*Larrea tridentata* var. *tridentata*), Greythorn (*Ziziphus obtusifolia* var. *canescens*), Southern Cattail (*Typha domingensis*), Seep Willow (*Baccharis salicifolia*), Whitethorn Acacia (*Acacia constricta*), Desert Hackberry (*Celtis ehrenbergiana*), Catclaw Acacia (*Acacia greggii* var. *greggii*), Soaptree Yucca (*Yucca elata*), Coyote Willow (*Salix exigua*), Screwbean Mesquite (*Prosopis pubescens*), Common Cottonbush (*Cephalanthus occidentalis*), Desert Elderberry (*Sambucus nigra* ssp. *canadensis*), Blue Paloverde (*Parkinsonia florida*), Western Soapberry (*Sapindus saponaria* var. *drummondii*), Netleaf Hackberry (*Celtis laevigata* var. *reticulata*), Velvet Mesquite (*Prosopis velutina*), Western Black Willow (*Salix gooddingii*), Velvet Ash (*Fraxinus velutina*), Arizona Black Walnut (*Juglans major*), Fremont Cottonwood (*Populus fremontii*). *Juglans major* is native to southwest-central and southern North America. \*5, 6, 13 (recorded as *Juglans microcarpa* Berlandier var. *major* (Torrey) L. Benson, Pages 371-372), 15 (recorded as *Juglans major* (Torr.) Heller), 18, 28 (recorded as *Juglans major*, color photograph 94), 30, 42 (121213 - considers *Juglans microcarpa* var. *major* (Torr.) L.D. Benson and *Juglans rupestris* var. *major* Torr. to be synonyms of *Juglans major* var. *major* (Torr.) A. Heller), 43 (080409), 44 (072411 - no record of species; genus record), 46 (recorded as *Juglans major* (Torr.) Heller, Page 214), 48, 52 (color photograph), 53, 58 (recorded as *Juglans major* (Torr.) Heller), 63 (121313 - color presentation), **85** (121413 - color presentation), 106 (121413 - color presentation), 124 (072411 - no record of species; genus record), 127 (121313), 133 (121313), 140 (recorded as *Juglans major* (Torrey) Heller, Pages 156-157 & 294), 154 (recorded as *Juglans major*), 156 (121313), **MBJ**/**WTK** (July 9, 2009), **WTK** (September 26, 2005)\*

*Juglans microcarpa* var. *major* (see *Juglans major* and/or *Juglans major* var. *major*)

*Juglans rupestris* var. *major* (see *Juglans major* and/or *Juglans major* var. *major*)

Krameriaceae: The Ratany Family

***Krameria erecta* C.L. von Wildenow ex J.A. Schultes & J.H. Schultes: Littleleaf Ratany**

SYNONYMY: *Krameria parvifolia* G. Bentham; *Krameria parvifolia* G. Bentham var. *imparata* J.F. Macbride. COMMON NAMES: Chacate (Uto-Aztecan: Tohono O’odham)140; Chacate (Yuman: Maricopa)140; Coashui, Cósahui (Uto-Aztecan: Hiá Ceḍ O’odham, Yaqui)140; Cósahui del Norte (Spanish); Desert Ratany; Desert Rhatany; ‘Eḍho, He:ḍ (Uto-Aztecan: Hiá Ceḍ O’odham)140; Eḍho <‘edho, e’eḍho> (Uto-Aztecan: Tohono O’odham)140; Eeḍho (Uto-Aztecan: Akimel O’odham)140; Glandular Ratany; Glandular Rhatany; Guisapol Colorado (Spanish); Haxz Iztim (“Dog’s Hipbone”, Hokan: Seri)140; Kosawi <cosawi> (Uto-Aztecan: Onavas Pima)140; Little Leaf Ratany; Little Leaved Ratany; Little-leaf Kramaria; Little-leaf Ratany; Little-leaf Rhatany; Little-leaved Ratany; Little-leaved Rhatany; Littleleaf Krameria; Littleleaf Ratany; Littleleaf Rhatany; Littleleaved Ratany; Mezquitillo (“Little Mesquite”, Spanish: Mexico)140; Pima; Pima [Little-leaved, Little-leaf, Range] Ratany (English)140; Pima Rhatany; Purple Heather (a name also applied to other species); Purple Heather (English)140; Range Ratany (a name also applied to other species); Range Ratany (Littleleaf); Range Rhatany (a name also applied to other species); Ratany (a name applied to the genus *Krameria*); Small-flower Ratany; Spiny Little-leaf Kramaria; Sticky Little-leaf Kramaria; Sticky Range Ratany; Tahué <tajué, tajuí> (Uto-Aztecan: Guarijío)140; Tajimsi (“Sun Beard”, Uto-Aztecan: Mayo)140; Tamichil (Uto-Aztecan: Sonora)140; Wetahúpatci (Uto-Aztecan: Tarahumara)140; Wood Ratany; Zarsaparilla (“Thorny Vine”, Spanish: San Luis Potosí)140. DESCRIPTION: Terrestrial perennial densely-branched subshrub or shrub (2 to 40 inches (or possibly to 79 inches) in height; one plant was observed and described as being 8 to 10 inches in height and 3 feet in width, one plant was observed and described as being 12 inches in height and 16 inches in width, one plant was observed and described as being 20 inches in height and 40 inches in width, one plant was observed and described as being 20 inches in height and 6½ feet in width, one plant was observed and described as being 40 inches in height and 6½ feet in width); the older stems may be gray or greenish; the leaves may be blue-gray-green, gray, gray-green, dark gray-green, gray-red or greenish; the flowers have been described as being burgundy, lavender-purple, magenta, maroon, maroon-magenta, maroon-purple, maroon-red, pink, bright pink, pink-purple, purple, dark purple, purple-magenta, purple-pink, purple-red, purplish, red, reddish, red-purple, reddish-violet, rose, rose-pink, rose-purple, scarlet-purple, violet-red and white turning pink; flowering generally takes place between early March and late November (additional record: one for early January). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; bases of mountains; rocky, sandy and sandy-loamy mesas; along cliffs; bases of cliffs; bouldery and rocky canyons; canyon sides; rocky canyon bottoms; pockets of soil over bedrock; buttes; sandy and clayey knolls; sandy ledges; rocky and rocky-gravelly ridges; bouldery, rocky and gravelly ridgetops; rocky-gravelly ridgelines; foothills; rocky, gravelly, sandy and sandy-clayey hills; rocky-gravelly hilltops; rocky, rocky-sandy, rocky-sandy-loamy, stony, gravelly and sandy hillsides; bedrock, bouldery, rocky, rocky-cobbly-gravelly, rocky-gravelly, rocky-sandy, stony, gravelly, gravelly-sandy-clayey-loamy, sandy, sandy-clayey-loamy and clayey slopes; gravelly bajadas; rocky outcrops; amongst boulders and rocks; bases of boulders; boulder fields; lava slopes; lava flows; sand dunes; rocky balds; gravelly, gravelly-sandy-loamy, gravelly-loamy and sandy plains; rocky, gravelly, pebbly-sandy and sandy flats; basins; sandy valley floors; along gravelly-loamy and sandy roadsides; sandy arroyos; along bottoms of arroyos; rocky draws; gulches; along creeks; along rivers; along and in rocky, rocky-gravelly, gravelly, gravelly-sandy and sandy washes; along and in bouldery and rocky drainages; playas; depressions; sandy-clayey-loamy swales; banks of rivers and washes; borders of washes; (sandy) edges of washes and drainage ways; (silty) margins of playas; benches; rocky bottomlands, and riparian areas growing in dry bouldery, bouldery-rocky-sandy, rocky, rocky-cobbly-gravelly, rocky-gravelly, rocky-sandy, stony, cindery, gravelly, gravelly-sandy, pebbly-sandy and sandy ground; rocky-sandy loam, gravelly loam, gravelly-sandy loam, gravelly-sandy-clayey loam, gravelly-clayey loam, sandy loam and sandy-clayey loam ground; rocky clay, sandy clay, silty clay and clay ground; sandy silty and silty ground, and chalky ground, occurring from sea level to 6,100 (one record at 9,400 feet) feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial dye (red) crop; it was also noted as having been used as a drug or medication. The roots of this plant form grafts (haustoria) on the roots of other Littleleaf Ratany plants and a broad range of other species. This plant is browsed by Mule Deer (*Odocoileus hemionus crooki*) and Whitetail Deer (*Odocoileus virginianus* *couesi*) and a bee(s) in the genus *Centris* visits the flowers. Pocket mice, rattlesnakes, whiptails and other animals use the plant for cover. *Krameria erecta* is native to southwest-central and southern North America. \*5, 6, 13 (recorded as *Krameria parvifolia* Bentham, Pages 126-127), 15 (recorded as *Krameria parvifolia* Benth.), 16 (recorded as *Krameria parvifolia* Benth.), 28 (recorded as *Krameria parvifolia*, color photograph 662), 42 (121413), 43 (121413 - *Krameria parvifolia* var. *imparata* J.F. Macbr.), 44 (031211), 46 (recorded as *Krameria parvifolia* Benth., Page 404), 48 (genus), 58 (recorded as *Krameria parvifolia* Benth. var. *imparata* Macbr.), 63 (010713 - color presentation), 77 (color photograph #30), **85** (121813 - color presentation), 115 (color presentation), 124 (031211 - no record of species; genus record), 127 (121413), 133 (121413), 140 (Pages 143, 157-159 & 294), 156 (121413 - no taxa found), **WTK** (September 26, 2005)\*

*Krameria parvifolia* (see *Krameria erecta*)

*Krameria parvifolia* var. *imparata* (see *Krameria erecta*)

Lamiaceae (Labiatae): The Mint Family

***Hedeoma dentata* J. Torrey: Dentate False Pennyroyal**

SYNONYMY: *Hedeoma dentatum* J. Torrey. COMMON NAMES: Arizona False Pennyroyal; Dentate False Pennyroyal; Dentate Falsepennyroyal; Huachuca Pennyroyal; Mock-pennyroyal (Mock Pennyroyal is a name that is applied to the genus *Hedeoma*). DESCRIPTION: Terrestrial perennial forb/herb (decumbent and/or erect stems 15 to 20 inches in height); the leaves may be tinged purple; the tubular flowers have been described as being light blue-lavender, lavender, pale lavender, lavender-blue, lavender-purple, pink, pinkish, pink-purple, purple, pale purple with white edges, violet or pale violet; flowering generally takes place between late July and late October (additional records: one for early May, two for mid-June and three for early July). HABITAT: Within the range of this species it has been reported from mountains; mountaintops; mountainsides; rocky canyons; canyon sides; bouldery canyon bottoms; talus slopes; crevices in rocks; ridges; foothills; hills; hillsides; rocky, rocky-sandy, gravelly and loamy slopes; rocky outcrops; amongst boulders and rocks; flats; uplands; rocky valleys; along roadsides; rocky draws; seeps; along streams; in streambeds; along creeks; along creekbeds; within rocky-sandy and sandy washes; along and in drainages; (rocky) edges of creeks; margins of channels; (rocky) sides of streambeds, and riparian areas growing in wet, moist and dry rocky, rocky-sandy, stony, cobbly, gravelly and sandy ground and rocky-sandy loam, sandy loam, clayey loam and loam ground, occurring from 3,400 to 8,400 feet in elevation in the forest, woodland, grassland and wetland ecological formations. NOTES: The plants are aromatic and are reported to have a mild turpentine odor or be lavender-scented. *Hedeoma dentata* is native to southwest-central and southern North America. \*5, 6, **8**, 15, 42 (121813), 43 (041212 - no record of *Hedeoma dentatum*), 44 (041212 - no record of species; genus record), 46 (recorded as *Hedeoma dentatum* Torr., Page 745), 63 (121813), 85 (121813 - color presentation), 124 (041212 - no record of species; genus record), 127 (121813 - no matches found), 133 (121813 - no record of species), 140 (Page 294 - recorded as *Hedeoma dentatum* Torrey), 156 (121813 - no taxa found)\*

*Hedeoma dentatum* (see *Hedeoma dentata*)

Loasaceae: The Blazingstar Family

***Mentzelia isolata* H.S. Gentry: Isolated Blazingstar**

COMMON NAME: Isolated Blazingstar. DESCRIPTION: Terrestrial annual forb/herb (erect stems 3 to 18 inches in height); the flowers may be orange, orange-yellow, salmon or yellow; flowering generally takes place between mid-August and early October. HABITAT: Within the range of this species it has been reported from mountains; bases of cliffs; canyons; gravelly-loamy canyon bottoms; talus slopes; crevices in rocks; rocky ridges; foothills; rocky hillsides; bases of hills; along rocky and gravelly slopes; rocky outcrops; uplands; along rocky roadsides; rocky draws; springs; along streambeds; along gravelly washes; drainages; sides of streams; banks of stock tanks, and riparian areas growing in moist and dry rocky and gravelly ground and gravelly loam ground, occurring from 2,600 to 8,100 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Mentzelia isolata* is native to southwest-central and southern North America. \*5, 6, 18 (genus), 42 (121813), 43 (121913), 44 (121813 - no record of species; genus record), 46 (no record of species; genus, Pages 564-567 & Supplement Page 1061), 48 (genus), 63 (121913), **85** (121913 - color presentation), 106 (121913), 127 (121813 - no matches found), 133 (121913 - no record of species), 140 (Pages 165 & 295), 156 (121913 - no taxa found)\*

Malpighiaceae: The Barbados-cherry Family

***Cottsia gracilis* (A. Gray) W.R. Anderson & C. Davis: Slender Janusia**

SYNONYMY: *Janusia gracilis* A. Gray. COMMON NAMES: Desert Vine; Fermina (Spanish); Slender Janusia. DESCRIPTION: Terrestrial perennial deciduous forb/herb or vine (clambering, climbing, intertwining, scrambling, tangled and/or trailing vining stems 16 inches to 10 feet in length; one plant was observed and described as being 16 inches in height with a crown 10 inches in diameter); the leaves may be grayish-green, dark green or reddish; the flowers (to ½ inch in width) are orange-yellow or yellow; flowering generally takes place between early March and mid-November (additional records: two for early January, one for late January, one for mid-February, one for early December, one for mid-December and one for late December); the winged fruits (paired samaras) are pink, purple-red, red, red-green or reddish. HABITAT: Within the range of this species it has been reported from mountains; rocky mountaintops; rocky mountainsides; mesas; cliffs; cliff faces; gravelly-sandy bases of cliffs; rocky canyons; rocky and sandy canyon bottoms; amongst crevices; rocky buttes; rocky knolls; rocky and gravelly ridges; rocky ridgetops; foothills; rocky and gravelly hills; rocky hillsides; along bedrock, bouldery-rocky, rocky, rocky-cobbly-gravelly, rocky-gravelly, rocky-clayey-loamy and gravelly slopes; alluvial fans; gravelly bajadas; volcanic plugs; bouldery and rocky outcrops; amongst rocks; terraces; plains; gravelly and gravelly-sandy flats; basins; valley floors; along rocky-gravelly roadsides; along rocky arroyos; bottoms of arroyos; draws; within gullies; within ravines; along streams; along rocky streambeds; along creeks; bouldery-rocky-sandy creekbeds; along and in gravelly and sandy washes; along drainages; waterholes; palm oases; (rocky) banks of streams; borders of washes; edges of washes; benches; floodplains, and riparian areas growing in dry bouldery, bouldery-rocky, bouldery-rocky-sandy, rocky, rocky-cobbly-gravelly, rocky-gravelly, gravelly, gravelly-sandy and sandy ground and rocky-clayey loam and clayey loam ground, occurring from sea level to 7,000 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. It is small woody vine often reported as scrambling over rocks, twining among shrubs or forming small tangled shrublets. Slender Janusia is browsed by the Sonoran Desert Tortoise (*Gopherus agassizi*), Desert Mule Deer (*Odocoileus hemionus* subsp. *crooki*) and Whitetail Deer (*Odocoileus virginianus* subsp. *couesi*). *Cottsia gracilis* is native to southwest-central and southern North America. \*5, 6, 13 (Page 124), 15, 16, 28 (color photograph 356), 42 (030214), 43 (030214), 44 (030214 - no record of species or genus), 46 (Page 497), 48, 58, 63 (030214 - no record of species or genus, recorded under *Janusia gracilis*, color presentation), 77 (color photograph #83), 85 (012413 - color presentation), 115 (color presentation), 124 (031211 - no record of species or genus), 140 (Page 295 - recorded as *Cottsia gracilis* (A. Gray) W.R. Anderson & C. Davis), **MBJ**/**WTK** (November 3, 2009)\*

*Janusia gracilis* (see *Cottsia gracilis*)

Malvaceae: The Mallow Family

***Abutilon parvulum* A. Gray: Dwarf Indian Mallow**

COMMON NAMES: Dwarf Abutilon; Dwarf Indian Mallow (not recommended); Indian Mallow (not recommended, a name also applied to other species and the genus *Abutilon*); Little Abutilon; Littleleaf Abutilon; Small Leaf Abutilon; Small Leaf Indian Mallow; Small-leaf Abutilon; Small-leaved Abutilon. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (trailing prostrate and or decumbent stems 6 inches to 2 feet in length; one plant was observed and described as being 10 inches in height and 15 inches in width, one plant was observed and described as being 12 inches in height and 16 inches in width, one plant was observed and described as being 12 inches in height and 20 inches in width); the leaves are gray-green; the flowers (3/8 inches in diameter) have been described as being golden, orange, pale orange, orange-apricot, orange-peach, orange-red, orange-salmon, orange-yellow, orange-yellow-brown, orangish, peach, pink, rose-pink, salmon, pale salmon, golden yellow, yellow-orange or pale yellow-orange; the anthers are yellow; flowering generally takes place between early April and late October (additional records: one for mid-March and one for mid-November; it was also noted that flowering may take place throughout the year). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; mesas; rocky cliffs; bases of cliffs; rocky canyons; canyon walls; clefts; crevices in rocks; rocky knolls; ledges; bases of ledges; shaley ridges; ridgetops; foothills; hills; hilltops; bouldery, rocky, rocky-gravelly-loamy, gravelly and clayey hillsides; along bases of hills; along bouldery, rocky, rocky-cobbly-gravelly, rocky-sandy, shaley, stony, gravelly-loamy, gravelly-silty and loamy slopes; bajadas; pediments; rocky outcrops; bases of rock outcrops; amongst boulders, rocks and gravels; sides of boulders; sandy lava flows; banks; benches; terraces; plains; gravelly flats; uplands; basins; valley floors; sandy-silty valley bottoms; along gravelly and gravelly-sandy roadsides; arroyos; gulches; sandy springs; along streams; creeks; along and in rocky, gravelly, gravelly-sandy and sandy washes; within sandy drainages; along banks of washes; gravelly terraces; bottomlands; floodplains; lowlands; mesquite bosques; represos (stock tank); riparian areas, and disturbed areas growing in moist and dry bouldery, rocky, rocky-cobbly-gravelly, rocky-gravelly, rocky-sandy, shaley, stony, gravelly, gravelly-sandy and sandy ground; rocky-gravelly loam, gravelly loam, sandy loam and loam ground; clay ground; gravelly silty and sandy silty ground, and gypsum ground, occurring from 1,800 to 6,200 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Abutilon parvulum* is native to southwest-central and southern North America. \*5, 6, 15, 18 (genus), 42 (123113), 43 (072010), 44 (072711 - color photograph), 46 (Page 539), 58, 63 (123113), 77, **85** (123113 - color presentation), 124 (072711 - no record of species; genus record), 127 (123113 - no matches found), 133 (123113 - no record of species), 156 (123113 - no taxa found)\*

***Anoda cristata* (C. Linnaeus) D.F. von Schlechtendal: Crested Anoda**

COMMON NAMES: Aguatosa (Spanish: Oaxaca)140; Alache (Spanish); Alachi (Oto-Manguean: Mixtec, Distrito, Federal, to Guerrero, Puebla)140; Altea (Spanish: Puebla)140; Amapola (Spanish: Mexico); Amapola [Amapolita] [del Campo, Morada] (“[Little, Wild, Purple] Poppy”, Spanish: Chiapas, Veracruz, Distrito, Federal, Edo. México, Jalisco, Puebla)140; Amapolita Morada (Hispanic); Anoda Weed; Anoda-weed; Balanche (Mayan: Maya)140; Crested Anoda; Crested [Spurred] Anoda (English: Arizona, New Mexico)140; Glansmalva (Swedish); Halache <halanche> (Spanish: Puebla)140; Huinarillo (Hispanic); Itsucua Tsipata (Purépecha); Malva (a name also applied to other species, Spanish); Malva [Chica, de Castilla] (“[Little, Spanish] Mallow”, Spanish: Aguascalientes, Guanajuato, Guerrero, Michoacán, Morelos, Jalisco, Sonora)140; Malva Chica (Hispanic); Malva de Castilla Spanish); Malva Morada (Hispanic); Malvavisco (Hispanic); Pax’tamac (Totonacan: Totonac)140; Pax’tamac (Totonacan: Totonac); Pie de Gallo (Spanish); Pintapán (Spanish: Sonora)140; Quesitos (“Little Cheese”, Spanish: Hidalgo, Sonora)140; Rehué (Uto-Aztecan: Tarahumara)140; Requesón (Hispanic); Rewé (Hispanic); Reweque (Hispanic); Shiipugi (Uto-Aztecan: Mountain Pima)140; Sinianoda; Snowcup; Spurred Anoda; Tlachpahuatla (Uto-Aztecan: Náhuatl, San Luis Potosi)140; Tsayaltsay <tzalyaltzai> (Spanish: Yucatán)140; Tsitsiki Uekutini (Purépecha); Tusi (Uto-Aztecan: Mountain Pima)140; Violeta (Spanish); Violeta [del Campo] (“[Wild] Violet”, Spanish: Edo. México, Veracruz to Oaxaca)140; Violeta de Campo (Hispanic); Violeta del País (Hispanic); Violeta Silvestre (“Wild Violet”, Spanish: Sinaloa)140; Violettas; Violetilla; Wild Cotton (a name also applied to other species); Xihuitl (“Herb”, Uto-Aztecan: Náhuatl, Mexico)140; Yiwa Tio (Mixteco). DESCRIPTION: Terrestrial annual forb/herb (creeping and/or sprawling prostrate, decumbent, sub-erect and/or erect stems 3 inches to 5 feet in height or length); the leaves are green; the flowers may be blue, blue-purple, blue-violet, light lavender, lavender, lavender-blue, lavender-pink, lavender-white, lilac, pink, pinkish-blue, light purple, purple, purplish-blue, purplish-pink, purplish-red, violet or white (rarely); the anthers are white; flowering generally takes place between early August and early November (additional records: one for early January, one for mid-January, one for early February, four for mid-March, one for early May, one for mid-May, one for late May, two for late June, two for mid-July, two for early December, one for mid-December and three for late December). HABITAT: Within the range of this species it has been reported from mountains; mountaintops; bouldery-rocky, rocky and sandy-loamy canyons; canyon bottoms; along ridgetops; sandy meadows; foothills; rocky hills; rocky and gravelly-clayey hillsides; rocky, rocky-sandy, sandy-loamy, clayey and clayey-loamy slopes; alluvial fans; bajadas; rock outcrops; breaks; gravelly, clayey and clayey-loamy flats; fields; basins; valley floors; coastal plains; along gravelly-loamy and sandy roadsides; rocky and sandy arroyos; gulches; ravines; seeps; along streams; along and in streambeds; along creeks; creekbeds; along rivers; riverbeds; along and in gravelly-sandy sandy washes; drainage ways; along lakes; ciénegas; marshes; (sandy and silty) banks of creeks and rivers; along edges of creeks; gravel bars; gravelly benches; terraces; bottomlands; floodplains; mesquite bosques; along fencelines; along and in ditches; along canal banks; riparian areas; waste places, and disturbed areas growing in moist and dry bouldery-rocky, rocky, rocky-sandy, gravelly, gravelly-sandy and sandy ground; gravelly loam, sandy loam and clayey loam ground; gravelly clay, silty clay and clay ground, and silty ground, occurring from 600 to 8,400 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Anoda cristata* is native to southwest-central and southern North America; Central America and coastal islands in the Caribbean Sea, and South America. \*5, 6, 15, 30, 42 (010114), 43 (072409), 44 (072811), 46 (Pages 551-552), 58, 63 (012513 - color presentation of seed), 68, **85** (012513 - color presentation), 101 (color photograph), 124 (072811), 127 (010114 - no matches found), 133 (010114), 140 (Pages 165-167 & 296), 156 (010114)\*

***Gossypium thurberi* A. Todaro: Thurber’s Cotton**

SYNONYMY: *Thurberia thespesioides* A. Gray. COMMON NAMES: Algodoncillo [del Campo, del Monte] (“Little Cotton [of the Countryside, Wild]”, Spanish: Sonora)140; Atcώ <xlitco, xotcώ> (Yuman: Maricopa); Ban Tokiga (“Coyote’s Cotton”, Uto-Aztecan: Tohono O’odham; Toki <to’ki, tokih> is cultivated cotton)140; Canyon [Desert, Thurber’s] Cotton (English)140; Desert Cotton; Hedjáwa (Yuman: Havasupai)140; Ichoghąą (Athapascan: Western Apache)140; Ndik’ą’ (Athapascan: Navajo)140; Pochotillo (Mexico: Sonora); Thurber Cotton; Thurber Wild Cotton; Thurber’s Cotton; Thurberia; Tok (Uto-Aztecan: Onavas Pima; for cultivated cottons)140; Toki (Uto-Aztecan: Akimel O’odham; for cultivated cottons)140; Toˀsá (Uto-Aztecan: Guarijío)140; Wild Cotton; Wild Desert Cotton; Xsaw [Xsa:w] (Yuman: Cocopa)140. DESCRIPTION: Terrestrial perennial deciduous shrub or tree (ascending to erect stems 3 to 14 feet in height; one plant was observed and described as being 6½ feet in height and width); the younger stems are purple; the leaves are dark green (sometimes tinged with purple) with a paler underside; the flowers (to 1½ inches in diameter) have been described as being cream, cream & maroon, cream-white (turning pink with age), creamy-white, pink or light purple tint, pale pink, pink-cream, white (aging pink, purple, purple-red or rose-pink, sometimes reported with pink basal spot on the petals), whitish tinged with purple, pale yellow, yellow or yellow tinged with pink, sometimes reported with a crimson, lavender, pale pink or purple basal spot on the petals; flowering generally takes place between mid-August and mid-November (additional records: one for early May, one for mid-May, one for late May, two for early June, one for mid-June, three for late June, three for early July, one for late July and one for early December). HABITAT: Within the range of this species it has been reported from rocky mountains; rocky mountainsides; cliffs; rocky canyons; along canyon sides; rocky canyon bottoms; crevices in rocks; ridgetops; foothills; hills; rocky hillsides; rocky, rocky-loamy, rocky-clayey-loamy, gravelly, gravelly-loamy, sandy and loamy slopes; along bottoms of slopes; bajadas; rocky outcrops; amongst boulders; along rocky roadcuts; along rocky and sandy roadsides; within rocky arroyos; rocky bottoms of arroyos; within ravines; along streams; along and in streambeds; in creekbeds; along and in rocky and cobbly washes; drainages; cienegas; (sandy) banks of arroyos, streams and creeks; bottomlands; floodplains; within ditches; riparian areas, and disturbed areas growing in dry bouldery, rocky, cobbly, gravelly and sandy ground; rocky loam, rocky-clayey loam, gravelly loam and loam ground, and sandy clay ground, occurring from 1,600 to 8,000 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, the leaves turn a brilliant red in the fall. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial fiber crop. Thurber Wild Cotton is a host plant of the Thurberia Weevil (*Anthonomus grandis* subsp. *thurberiae*) which feeds on the immature cotton bolls. *Gossypium thurberi* is native to southwest-central and southern North America. \*5, 6, 13, 15, 28 (color photograph 194), 42 (010314), 43 (010314), 44 (010314 - no record of genus or species), 46 (Page 553), 58, 63 (010314), 80, **85** (010314), 115 (color presentation), 124 (031211 - no record of genus or species), 127 (010314), 133 (010314), 140 (Pages 168-169 & 296), 156 (010314 - no taxa found), **MBJ**/**WTK** (July 9, 2009)\*

***Sida abutifolia* P. Miller: Spreading Fanpetals**

SYNONYMY: *Sida diffusa* K.S. Kunth; *Sida filicaulis* J. Torrey & A. Gray; *Sida procumbens* O. Swartz. COMMON NAMES: Hauay-xiu <xauayxiu> (Mayan: Maya)140; Hierba de la Vieja (“Old Woman’s Herb”, Spanish: Durango)140; Malva (a name also applied to other species, Spanish); Malva (Spanish: Sonora)140; Procumbent Sida; Prostrate Mallow (English)140; Prostrate Sida; Spreading Fan-petals [Sida] (English: Arizona, New Mexico)140; Spreading Fanpetals; Spreading Sida; Yerba del Buen Día (“Good Day Herb”, Spanish: San Luis Potosí, Nuevo Leon)140. DESCRIPTION: Terrestrial annual or perennial forb/herb (sprawling and spreading prostrate, decumbent, decumbent-ascending, procumbent and/or erect stems 8 inches to 4 feet in height and/or length); the stems are pinkish; the leaves are dark green; the flowers (to 7/8 inch in width) have been described as being pale apricot, apricot, cream-yellow, golden, orange, pale orange, orange-yellow, peach, white, pale yellow-orange, yellow, yellow-orange, yellow-salmon, yellowish or yellowish-orange; flowering generally takes place between mid-March and mid-November (additional records: one for late February, one for early December and one for mid-December; it has been reported that flowering may take place throughout the year). HABITAT: Within the range of this species it has been reported from rocky mountains; rocky mountainsides; gravelly and sandy mesas; rocky canyons; stony canyon walls; canyon bottoms; crevices in rocks; ledges; rocky-gravelly ridges; gravelly ridgetops; clayey-loamy meadows; foothills; rocky hills; rocky hillsides; bases of hills; bedrock, bouldery-gravelly, rocky, gravelly and clayey slopes; alluvial fans; stony and gravelly bajadas; rocky outcrops; amongst boulders; cobbly, gravelly-sandy-loamy, sandy and sandy-loamy plains; rocky-loamy, gravelly, gravelly-sandy, sandy and clayey flats; clayey-loamy uplands; valley floors; along rocky-gravelly, rocky-gravelly-sandy-clayey-loamy, rocky-gravelly-clayey-loamy, gravelly, gravelly-sandy-loamy and sandy roadsides; rocky, gravelly and sandy arroyos; gravelly bottoms of arroyos; gulches; seeps; springs; along streams; along and in streambeds; along creeks; along and in bouldery-rocky-sandy, gravelly-sandy and sandy washes; along drainages; along rocky-gravelly-sandy drainage ways; banks of arroyos, rivers; flanks of streams; benches; terraces; bottomlands; floodplains; lowlands; mesquite bosques; along fencelines; sandy riparian areas, and disturbed areas growing in dry bouldery, bouldery-rocky-sandy, bouldery-gravelly, rocky, rocky-gravelly, rocky-gravelly-sandy, stony, cobbly, cobbly-gravelly, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-gravelly-sandy clayey loam, rocky-gravelly-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-sandy-clayey loam, sandy loam and clayey loam ground, and clay ground, occurring from 100 to 6,600 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. Bees in the genus *Augochlora* have been observed visiting the flowers. *Sida abutifolia* is native to south-central and southern North America; Central America and coastal islands in the Caribbean Sea, and northern and western South America. \*5, 6, 15 (recorded as *Sida procumbens* Sw.), 16 (recorded as *Sida procumbens* Sw.), 28 (recorded as *Sida filicaulis*, *Sida procumbens*, color photograph 359), 42 (010414), 43 (072409 - no record of *Sida abutifolia*), 44 (120210 - no listings recorded under Common Names; genus record), 46 (recorded as *Sida procumbens* Sw., Page 550), 58 (recorded as *Sida procumbens* Sw.), 63 (010414 - color presentation), 77, **85** (010414 - color presentation), 115 (color presentation), 124 (110610 - no record of species), 127 (010414 - no matches found), 133 (010414), 140 (Pages 169-171 & 296), 156 (010414 - no taxa found), **WTK** (September 26, 2005)\*

*Sida diffusa* (see *Sida abutifolia*)

*Sida filicaulis* (see *Sida abutifolia*)

*Sida procumbens* (see *Sida abutifolia*)

*Thurberia thespesioides* (see *Gossypium thurberi*)

Meliaceae: The Mahogany Family

***Melia azedarach* C. Linnaeus: Chinaberrytree**

COMMON NAMES: Amargoseira-do-Himalaio (Portuguese); Arbre à Chapelets (French); African Syringa; Amargoseira-do-Himalaio (Portuguese); Arbre à Chapelets (French); Azedarach; Bead-tree (a name also applied to other taxa); Bessieboom Syringa (Afrikaans); Cape-lilac (Cape Lilac is a name that is also applied to other taxa); Cape Syringa; China Bead Tree; China Bead-tree; China Berry (a name also applied to other taxa); China-berry (a name also applied to other taxa); China-berry Tree; China-berry-tree; Chinaberry (a name also applied to other taxa); Chinaberry Tree; Chinaberry Umbrella Tree; Chinaberry-tree; Chinaberrytree; China Tree; China-tree; Chuan Liang Zi (transcribed Chinese); Cinamomo (Portuguese: Brazil); Indian Bead Tree; Indian Lilac (a name also applied to other taxa); Indischer Zedrachbaum (German); Japanese Bead Tree; Lelah, Lian (transcribed Chinese); Lilas des Indes (French); Maksering (Afrikaans); Melia (Spanish); Meolguseulnamu (transcribed Korean); Paraiso (a name also applied to other taxa, Spanish); Persian-lilac (a name also applied to other taxa); Persian Lilac (a name also applied to other taxa); Persischer Flieder (German); Piocha (Spanish); Pride of India (a name also applied to other taxa); Pride of Persia; Pride-of-India (a name also applied to other taxa); Red Seringea; S-u’ukuk (Pima); Sabonete-de-soldado (Portuguese: Brazil); Sendan (Japanese Rōmaji); Sichuan Pagoda Tree; Sichuan Pagoda-tree; South African Syringa; Syrian Bead Tree; Syrian Bead-tree; Syringa Berry Tree; Syringa Berry-tree; Syringa Berrytree; Texas Umbrella Tree; Texas Umbrella-tree; Texas Umbrellatree; Tulip Cedar; Tulip-cedar; Umbrella-cedar; Umbrella Tree (a name also applied to other taxa); Umbrella-tree (a name also applied to other taxa); White Cedar (a name also applied to other taxa); White-cedar (a name also applied to other taxa); Zedrak (Swedish). DESCRIPTION: Terrestrial perennial deciduous (or semi-evergreen) shrub or tree (10 to 75 feet in height with a rounded crown to 96 feet in diameter); the leaves are dark green; the flowers may be pale lavender, lavender, pinkish-lavender, purple-pink, purplish, purplish-white, white-lavender or white tinged with violet; flowering generally takes place between late March and mid-May (additional records: one for mid-January and one for mid-July); the mature fruit is whitish or yellowish turning brown and wrinkled with age. HABITAT: Within the range of this species it has been reported from mountains; bases of cliffs; rocky canyons; canyon floors; along ridgetops; bouldery, bouldery-rocky and rocky slopes; alluvial fans; amongst boulders; along sandy edges of fields; sandy flats; valley floors; along rocky-gravelly-loamy roadsides; arroyos; springs; streambeds; along creeks; creekbeds; along rivers; rocky, rocky-sandy and sandy riverbeds; along and in rocky-sandy and sandy washes; edges of riparian areas; along margins of washes; bottomlands; gravelly, silty-loamy, silty-clayey and silty-clayey-loamy floodplains; mesquite bosques; along sandy fencerows; rocky and loamy riparian areas, and disturbed areas growing in wet, moist and dry bouldery, bouldery-rocky, rocky, rocky-sandy, gravelly and sandy ground; rocky-gravelly loam, sandy loam, silty-clayey loam and loam ground, and sandy clay, silty clay and clay ground, occurring from sea level to 5,900 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formation. NOTES: EXOTIC Invasive Plant. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a food (chewed leaves for pleasing flavor), spice, as jewelry, as a drug or medication and as a commodity used in personal hygiene. The fruits are poisonous. *Melia azedarach* is native to eastern and southern Asia and islands in the Indian Ocean and Philippine Sea; Australia, and islands in the South Pacific Ocean. \*5, 6, 16, 18, 26 (color photograph), 28 (color photograph 104), 43 (030910), 44 (020413), 46 (Supplement Page 1059), 52 (color photograph), 63 (020413 - color presentation), 77, 80 (This species is listed as a Poisonous Cropland and Garden Plant. “All parts of this tree may be lethal, causing complete paralysis and suffocation, but berries cause most poisoning of livestock (especially hogs) and children.”), 85 (030214 - color presentation), 97, 127, **MBJ**/**WTK** (July 9, 2009)\*

Nyctaginaceae: The Four-o’clock Family

***Allionia incarnata* C. Linnaeus: Trailing Windmills**

COMMON NAMES: Allionia (a name also applied to the genus *Allionia*); Crested Windmills; Crested Windmills (var. *incarnata*); Guapile (Spanish: Sonora)140; Hamíp Cmaam (“Female Spiderling”, Hokan: Seri)140; Hierba de la Golpe (“Bruise Herb”, Spanish: Sonora)140; Hierba de la Hormiga [Mosca] (“Ant [Fly] Herb”, Spanish: Durango, Nuevo León, Zacatecas)140; ‘Ilt’ąą’ <ˀilt’ąˀí> (“Leaves Like Rock Tea”, Athapascan: Navajo)140; Juan Ematilli (Spanish: Onavas Pima)140; ‘Okup’e (Kiowa Tanoan: Tewa)140; Pink Three-flower (English: Arizona)140; Pink Three-flower Allionia; Pink Windmills (a name also applied to other species); Totopwuvàapi <totópwuvápi> (Uto-Aztecan: Hopi)140; Trailing Allionia; Trailing Four O’clock (a name also applied to the genus *Allionia*); Trailing Four O’clock (English)140; Trailing Four-o’clock (a name also applied to the genus *Allionia*); Trailing Umbrella-wort; Trailing Windmills; Trailing Windmills (var. *incarnata* and var. *villosa*); Tsét’ąą’ Ts’ósí <cedide.h c’o’s> (“Leaves Like Rock Tea”, Athapascan: Navajo)140; Umbrella Wort (a name also applied to other species and the genus *Allionia*); Umbrella-wort (a name also applied to other species and the genus *Allionia*); Umbrella-wort (English)140; [Trailing] Wind-mills (English: Arizona, New Mexico)140; Windmills (a name also applied to the genus *Allionia*). DESCRIPTION: Terrestrial annual or perennial forb/herb (sprawling, trailing prostrate and/or semi-erect stems 2 to 20 inches in height and 4 inches to 10 feet in length; one plant was observed and described as being 4 inches in height and 12 by 20 inches in width); the stems may be reddish; the sticky foliage has been described as being gray-green or green above and silvery beneath; the flowers may be blue, fuchsia; lavender, lavender-pink, lavender-rose, magenta, deep magenta, magenta-pink, magenta-rose, pink, deep pink, pink-lavender, pink-magenta, pink-purple, pink-violet, purple, purple-blue, purplish-pink, red-violet, reddish-purple, rose, rose-pink, rose-purple, violet, violet-magenta, violet-pink or white (rarely); the anthers are yellow; flowering generally takes place between mid-January and mid-December (additional record: flowering year-round has also been reported). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky, rocky-sandy and gravelly mesas; along canyon and gorge rims; cliffs; rocky and shaley canyons; canyon walls; along gravelly canyon bottoms; lava flow talus; buttes; knolls; around knolls; rocky, shaley and sandy ridges; bases of ridges; rocky and gravelly ridgetops; sandy foothills; rocky, rocky-sandy, gravelly, sandy, clayey and gypsum hills; rocky-gravelly hilltops; rocky and gravelly hillsides; along bedrock, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, rocky-loamy, shaley, gravelly, gravelly-sandy, gravelly-loamy, sandy, sandy-loamy, sandy-clayey, sandy-silty and silty slopes; rocky alluvial fans; rocky, cobbly-sandy and gravelly-sandy bajadas; clayey outcrops; amongst boulders and rocks; lava hills; sandy lava flows; sand hills; sand dunes; sand hummocks; debris fans; banks; rocky benches; shelves; terraces; llanos; sandy and clayey-loamy plains; rocky, rocky-sandy, rocky-loamy, gravelly, gravelly-sandy and sandy flats; sandy uplands; silty basin floors; gravelly-sandy valley floors; sandy roadbeds; along rocky, rocky-gravelly-sandy, rocky-gravelly-loamy, stony, gravelly, cobbly-gravelly, gravelly-sandy-loamy, sandy and sandy-loamy roadsides; within rocky, rocky-gravelly-sandy, gravelly and sandy arroyos; rocky and gravelly bottoms of arroyos; within draws; within rocky ravines; streambeds; along and in rocky and gravelly-sandy creekbeds; along rivers; along and in sandy riverbeds; along and in bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, cobbly-gravelly-sandy, cobbly-pebbly, cobbly-sandy, gravelly, gravelly-sandy, gravelly-loamy and sandy washes; rocky, gravelly and clayey drainages; silty lakebeds; marshy areas; ciénegas; sandy-silty depressions; along (clayey) banks of arroyos, rivers and washes; borders of washes; (gravelly) edges of rivers, washes and floodplains; along (rocky) margins of arroyos, washes and lakes; shores of lakes; rocky-sandy beaches; sandy benches; shelves; gravelly terraces; rocky and sandy bottomlands; sandy floodplains; lowlands; sandy mesquite bosques; edges of levees; along canals; canal banks; around stock tanks (represos); gravelly-sandy and sandy riparian areas; waste places, and disturbed areas growing in dry sandy desert pavement; bouldery, bouldery-rocky, bouldery-sandy, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, shaley, stony, cobbly-gravelly, cobbly-gravelly-sandy, cobbly-pebbly, cobbly-sandy, cindery; gravelly, gravelly-sandy, pebbly and sandy ground; rocky loam, rocky-gravelly loam, gravelly loam, gravelly-sandy loam, sandy loam and clay loam ground; rocky clay, gravelly clay, sandy clay and clay ground; gravelly-sandy silty, sandy silty and silty ground, and gypsum, occurring from sea level to 8,300 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. Merriam’s Kangaroo Rat (*Dipodomys merriami*), Arizona Pocket Mouse (*Perognathus amplus*), Bailey’s Pocket Mouse (*Chaetodipus baileyi*) and the Rock Pocket Mouse (*Chaetodipus intermedius*) collect the seed of this plant. *Allionia incarnata* is native to southwest-central and southern North America; Central America and coastal islands in the Caribbean Sea, and South America. \*5, 6, 15, 16, 28 (color photograph 652), 42 (010414), 43 (031010), 44 (073011 - color photograph), 46 (Page 274), 58, 63 (010414 - color presentation), 68, 77 (color photographs #41 and #86), **85** (010514 - color presentation), 86 (color photograph), 115 (color presentation), 124 (073011), 127 (010414), 133 (010414 - no record of species), 140 (recorded as *Allionia incarnata* Linnaeus [*Allionia incarnata* Linnaeus var. *nudata* (Standley) Munz, *Allionia incarnata* Linnaeus var. *villosa* (Standley) B.L. Turner], Pages 175-176 & 296), 156 (010413)\*

***Boerhavia coccinea* P.Miller: Scarlet Spiderling**

COMMON NAMES: Common Boerhavia; Hierba de la Hormiga (a name also applied to other species, Spanish); Hierba del Cancer (a name also applied to other species, Spanish); Hogweed (a name also applied to other species); Hong Xi Xin (transcribed Chinese); Indian Boerhavia (English)140; Jaunilipin (Spanish: Sonora)140; Juana Huipili (Uto-Aztecan: Mayo, Sonora)140; Juaninipili (Spanish); Mata Pavo (Spanish); Mochi (a name also applied to other species, Spanish); Mochi(s) (Spanish: Sonora)140; Mochiná (Uto-Aztecan: Guarijío)140; Na’ashjé’ii Dą́ą́’ <naˀasjeˀi dáˀ> (Athapascan: Navajo)140; Red Boerhavia; Red Boerhaavia; Red Spiderling (a name also applied to other species); Red [Scarlet] Spiderling (English)140; Scarlet Boerhavia; Scarlet Spiderling (a name also applied to other species); Tostón (Spanish); Wine-flower (Wineflower is a name applied to the genus *Boerhavia*); Wine-flower (English)140; Yerba de Puerco (Spanish). DESCRIPTION: Terrestrial perennial forb/herb (clambering, sprawling, spreading and/or trailing prostrate, decumbent, ascending and/or erect stems up to 1 to 10 feet in height/length); the stems are pale green; the leaves may be dark green tinged with purple or yellow; the tiny flowers have been described as being blood-red, blue, magenta, maroon, maroon-red, ochre-yellow, pink, pink-magenta, pink-purple, pink-red-violet, purple, purple-maroon, purple-red, purplish-red, red, dark red, red-maroon, deep rose-maroon, red-purple, deep red-purple, red-violet, deep red-violet, dark reddish-purple, rose-maroon, rose-pink, violet-red, white (rarely), wine, wine-red, deep wine-red, wine-red-violet or yellow (rarely); the stigma is pale green or lavender; the stigmas are pale green; flowering generally takes place between mid-March and mid-November (additional records: six for early January, one for mid-January and one for late December; flowering year-round has also been reported). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; mesas; rocky cliffs; bases of cliffs; along rocky canyons; rocky, rocky-sandy and gravelly-sandy canyon bottoms; gorges; talus; crevices in rocks; rocky-sandy bluffs; foothills; rocky hills; rocky and rocky-clayey hillsides; bases of hillsides; bedrock, bouldery, bouldery-gravelly-sandy, rocky, rocky-cobbly-gravelly, shaley, gravelly, gravelly-sandy, gravelly-loamy, sandy-loamy and clayey-loamy slopes; gravelly alluvial fans; gravelly bajadas; bouldery outcrops; amongst boulders and rocks; rocky banks; sandy-loamy plains; gravelly, sandy, sandy-silty and clayey flats; gravelly valley floors; valley bottoms; sandy coastlines; sandy coastal beaches; railroad right-of-ways; rocky roadcuts; roadbeds; along rocky, gravelly, gravelly-sandy, gravelly-sandy-loamy, gravelly-loamy and sandy roadsides; within stony and sandy arroyos; along bottoms of arroyos; gulches; seeps; around seeping streams; along streams; along streambeds; along creeks; along rocky-gravelly-sandy, cobbly-sandy and sandy creekbeds; along rivers; bouldery-cobbly-sandy and rocky-cobbly riverbeds; along and in gravelly, gravelly-sandy and sandy washes; within sandy drainages; watercourses; ciénegas; (rocky and gravelly) banks of streams and rivers; (sandy) edges of rivers and washes; (sandy) sides of rivers; gravel bars; beaches; sandy benches; sandy terraces; bottomlands; sandy and sandy-loam floodplains; mesquite bosques; fencerows; around stock tanks; ditch banks; bouldery-cobbly-sandy, gravelly and gravelly-sandy riparian areas; waste places, and disturbed areas growing in wet and dry desert pavement; bouldery-cobbly-sandy, bouldery-gravelly-sandy, rocky, rocky-cobbly, rocky-cobbly-gravelly, rocky-gravelly-sandy, rocky-sandy, shaley, stony, cobbly-sandy, gravelly, gravelly-sandy and sandy ground; gravelly loam, gravelly-sandy loam, sandy loam, sandy-clayey loam, clayey loam and loam ground; rocky clay, gravelly clay and clay ground, and sandy silty ground, occurring from sea level to 7,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: Bumblebees of the genus *Bombus* sip nectar from the flowers, and the larva of the White-lined Sphinx (*Hyles lineata*) feed on the leaves. *Boerhavia coccinea* may be native to south-central and southern North America; Central America and coastal islands in the Caribbean Sea; northern, eastern and western South America; Australia; southern Asia, and Africa and islands in the West Indian Ocean; however, the exact native range is obscure and has often been combined with that of *Boerhavia diffusa*. \*5, 6, 15, 16, 28 (color photograph 736), 42 (010714), 43 (072409), 44 (073011), 46 (Note alternate spelling: *Boerhaavia*, Page 276), 58, 63 (020713 - color presentation), 68, 77 (color photograph #42), **85** (010714 - color presentation), 115 (color presentation), 124 (073011 - no record of species; genus record), 127 (010714 - no matches found), 133 (010714), 140 (Pages 176-178 & 296), 156 (010714)\*

Onagraceae: The Evening-primrose Family

*Oenothera caespitosa* (see *Oenothera cespitosa*)

*Oenothera caespitosa* subsp. *marginata* (see *Oenothera cespitosa* subsp. *marginata*)

*Oenothera caespitosa* var. *marginata* (see *Oenothera cespitosa* subsp. *marginata*)

***Oenothera cespitosa* T. Nuttall: Tufted Evening Primrose**

SYNONYMY: *Oenothera caespitosa* T. Nuttall. COMMON NAMES: Butte Evening Primrose; Butte Evening-primrose; Butte Primrose; Caespitose Evening Primrose; Caespitose Evening-primrose; Cespitose Evening Primrose; Cespitose Evening-primrose; Cespitose Eveningprimrose; Cushion Evening Primrose; Evening Primrose (a name that is also applied to other taxa including the genus *Oenothera* and the Onagraceae); Flor de San Juan (subsp. *marginata*, a name also applied to other species, Spanish); Fragrant Evening-primrose (a name also applied to other taxa); Great White Evening Primrose; Gumbo Evening Primrose; Gumbo Evening-primrose; Handkerchief Plant; Jones’s Tufted Evening Primrose (*O*.*c*. subsp. *jonesii* - Not Accepted, *O*.*c*. var. *jonesii* - Not Accepted; *O*.*c*. subsp. *crinita* - Accepted); Ka’nagwana (Uto-Aztecan: Shoshoni)140; Large White Desert Primrose (subsp. *marginata*); Large White Desert-primrose (subsp. *marginata*); Morning Lily; Morning-lily; Rock Rose (a name also applied to other taxa), Navajo Evening Primrose (subsp. *navajoensis*); Rock Lily (subsp. *marginata*); Rock Rose Evening Primrose; Rock-rose Evening-primrose; Rockrose (a name also applied to other taxa); Sand Lily; Sandlily; Scapose Primrose; Shortfruit Evening Primrose (*O*.*c*. subsp. *australis*, orth. var. - Not Accepted, *O*.*c*. var. *australis* - Not Accepted; *Oenothera brachycarpa* - Accepted); St. Anthony Dunes Evening Primrose (*O*.*c*. var. *psammophila* - Not Accepted; *Oenothera psammophila* - Accepted); Stemless Evening-primrose (a name also applied to other taxa); Stemless Western Primrose; Tufted Evening Primrose; Tufted Evening Primrose (also applied to subspecies: *cespitosa*, *crinita*, *macrglottis* and *marginata*); Tufted Evening-primrose; Tufted Evening-primrose (also applied to subspecies *marginata*); Tufted Eveningprimrose; Tufted Eveningprimrose (also applied to subspecies: *cespitosa*, *crinita*, *macrglottis* and *marginata*); Tufted Primrose; Tufted White Evening Primrose; White Desert Evening Primrose; White Evening Primrose (a name also applied to other taxa); White Evening-primrose (a name also applied to other taxa); White Stemless Evening Primrose; White Stemless Evening-primrose; White Tufted Evening Primrose; White-tufted Evening Primrose. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (acaulescent 4 to 12 inches in height and spreading to 2 feet in width; one plant reported to have stems 6 to 8 inches in length, woody at base); the leaves may be grayish-green, green, dark green, green-red or red-green; the flowers (3 to 4 inches in diameter) have been described as being creamish-white, lavender, pinkish, purplish-blue, white (aging lavender, magenta, pink, pink-red, pink-rose, purple or purple-rose), white-pink, whitish, whitish-pink or yellow; the anthers are yellow; flowering generally takes place between early March and mid-October (additional record: one for early January). HABITAT: Within the range of this species it has been reported from mountains; cindery mountaintops; cindery mountainsides; rocky, rocky-sandy, gravelly-loamy, sandy, sandy-clayey and clayey mesas; plateaus; canyon rims; rocky, gravelly and chalky cliffs; hanging gardens; loamy bases of cliffs; rocky, shaley and clayey canyons; sandy canyon walls; along canyon sides; rocky, rocky-sandy, gravelly and sandy canyon bottoms; sandy gorges; shaley, cobbly, cobbly-sandy, gravelly and sandy talus slopes; crevices in rocks; sand and sandy-silty bluffs; rocky, rocky-clayey, gravelly, gravelly-clayey, clayey and silty-loamy buttes; rocky and gravelly-sandy tops of buttes; clayey knolls; rocky and sandy-loamy ledges; rocky-sandy and sandy ridges; rocky-sandy, gravelly, gravelly-clayey and clayey ridgetops; clearings in forests; rocky and sandy-loamy meadows; rocky-sandy and sandy rims of craters; cinder cones; tops of cinder cones; bases of cinder cones; foothills; rocky, rocky-clayey, scoria, sandy, sandy-clayey and clayey hills; rocky, rocky-sandy, sandy, sandy-loamy and clayey hillsides; escarpments; clayey slides; bouldery, rocky, rocky-sandy, rocky-clayey, shaley-gravelly, shaley, shaley-loamy, shaley-clayey, stony, stony-loamy, stony-clayey, cobbly, cobbly-sandy-clayey, cindery, gravelly, gravelly-loamy, gravelly-clayey, pebbly-sandy, sandy, sandy-loamy, sandy-clayey, sandy-silty, clayey, clayey-loamy, silty, silty-loamy, silty-clayey and humusy slopes; rocky outcrops; amongst rocks; alcoves; cindery lava flows; lava fields; sand dunes; clayey banks; gravelly and sandy cutbanks; bases of cutbanks; gravelly benches; clayey alkali mounds; rocky and clayey shelves; gravelly, clayey and silty-loamy prairies; plains; sandy, sandy-loamy, sandy-clayey, clayey-loamy and silty-clayey flats; rocky, rocky-clayey, gravelly, sandy, clayey-loamy, silty and silty-loamy uplands; sandy basins; gravelly valley floors; railroad beds; along railroad right-of-ways; rocky-gravelly, gravelly and sandy roadcuts; along rocky, rocky-sandy, shaley, gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey, sandy, sandy-clayey, clayey and clayey-loamy roadsides; two-tracks; sandy arroyos; sandy draws; within draws; clayey-silty bottoms of draws; gulches; along sandy, sandy-clayey, clayey and silty-loamy gullies; ravines; sandy bottoms of ravines; along streams; along sandy and sandy-silty-clayey streambeds; along creeks; rocky-gravelly creekbeds; riverbeds; along and in bouldery-sandy, rocky-clayey, cobbly, gravelly, gravelly-sandy and sandy washes; along and in shaley, gravelly, sandy, clayey and silty-loamy drainages; along (rocky-sandy, shaley, gravelly, sandy, silty and silty-clayey) banks of arroyos, streams, creeks, creekbeds, rivers, washes, drainages and drainage cuts; edges of rivers and washes; margins of streams and creeks; sides of rivers; along shores of lakes; sandy beaches; bouldery and gravelly benches; sandy-silty terraces; sandy bottomlands; cobbly-gravelly-sandy, cobbly-sandy and clayey floodplains; catchments; shores of reservoirs; clayey ditches; sandy riparian areas; waste places, and disturbed areas growing in moist, damp and dry bouldery, bouldery-rocky, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, shaley, shaley-gravelly, stony, cobbly, cobbly-gravelly-sandy, cobbly-sandy, cindery (scoria), gravelly, gravelly-sandy, pebbly-sandy and sandy ground; bouldery-silty-clayey loam, shaley loam, stony loam, gravelly loam, sandy loam, sandy-clayey loam, clayey loam, silty loam and loam ground; rocky clay, shaley clay, stony clay, cobbly-sandy clay, gravelly clay, gravelly-sandy clay, sandy clay, sandy-silty clay, silty clay and clay ground; sandy silty, clayey silty and silty ground; humus, and chalky ground, occurring from 1,000 to 10,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication, the flowers of subsp. *marginata* were used in ceremonies*. Oenothera cespitosa* is native to west-central and southern North America. \*5, 6, 15 (recorded as *Oenothera caespitosa* Nutt.), 16 (recorded as *Oenothera caespitosa* Nutt.), 18, 28 (color photograph 167), 42 (010914), 43 (031410), 44 (021613), 46 (recorded as *Oenothera caespitosa* Nutt., Page 598), 48 (genus, *Oenothera* spp.), 63 (010914 - recorded as *Oenothera caespitosa* and considers *Oenothera cespitosa* an orthographic variant, color presentation), 77 (recorded as *Oenothera caespitosa* Nutt.), **85** (011514 - color presentation), 115 (color presentation), 127 (010914 - recorded under *Oenothera caespitosa*), 133 (010914), 140 (Page 182), 156 (010914 - no taxa found)\*

***Oenothera cespitosa* T. Nuttall subsp. *marginata* (T. Nuttall ex W.J. Hooker & G.W. Arnott) P.A. Munz: Tufted Evening Primrose**

SYNONYMY: *Oenothera caespitosa* T. Nuttall var. *marginata* (T. Nuttall ex W.J. Hooker & G.W. Arnott) P.A. Munz; *Oenothera caespitosa* T. Nuttall subsp. *marginata* (T. Nuttall ex W.J. Hooker & G.W. Arnott) P.A. Munz; *Oenothera cespitosa* T. Nuttall var. *marginata* (T. Nuttall ex W.J. Hooker & G.W. Arnott) P.A. Munz. COMMON NAMES: Flor de San Juan (a name also applied to other species, Spanish); Large White Desert Primrose; Large White Desert-primrose; Rock Lily; Tufted Evening Primrose (a name also applied to the species); Tufted Evening-primrose (a name also applied to the species); Tufted Eveningprimrose (a name also applied to the species). DESCRIPTION: Terrestrial perennial forb/herb or subshrub (acaulescent 4 to 8 inches in height and spreading to 40 inches in width; one plant was observed and described as being 8 inches in height and 16 inches in width; one plant reported to have stems 6 to 8 inches in length, woody at base); the leaves may be gray-green, green, dark green or red-green; the flowers may be cream, pink, white with a yellow center, white [aging pink, pink-rose, purple or purple-rose] or yellow; flowering generally takes place between early March and mid-October (additional record: one for early January). HABITAT: Within the range of this species it has been reported from mountains; cindery mountaintops; mountainsides; mesas; plateaus; canyon rims; rocky cliffs; rocky and loamy cliff faces; loamy bases of cliffs; shaley canyons; rocky and sandy canyon walls; along canyon sides; along bouldery-sandy and sandy canyon bottoms; rock slides; shaley and gravelly talus slopes; crevices in rocks; rocky bluffs; bases of buttes; rocky, stony-clayey and gravelly-clayey ridges; sandy ridgetops; ridgelines; meadows; cinder cones; bases of cinder cones; foothills; rocky, shaley and sandy hills; rocky, gravelly-sandy-clayey-loamy and sandy-loamy hillsides; escarpments; bouldery, rocky, rocky-clayey, shaley, shaley-gravelly, shaley-sandy, shaley-clayey, stony, stony-clayey, cobbly-sandy-clayey, cindery, gravelly, gravelly-loamy, sandy, sandy-loamy, sandy-clayey, loamy, clayey and silty-loamy slopes; rocky outcrops; bases of outcrops; amongst boulders and rocks; alcoves; cindery lava flows; sand dunes; gravelly and clayey banks; gravelly benches; rocky shelves; terraces; sandy and sandy-loamy flats; basins; valley floors; roadcuts; along rocky, rocky-sandy, shaley, gravelly, gravelly-loamy and sandy roadsides; two-tracks; along gravelly arroyos; within draws; along sandy and silty-loamy gullies; sandy bottoms of ravines; along streams; streambeds; along creeks; rocky-gravelly creekbeds; riverbeds; along and in bouldery-rocky, bouldery-sandy, gravelly, gravelly-sandy and sandy washes; along and in sandy and silty-loamy drainages; around lakes; (sandy and clayey) banks of arroyos, streams, creeks, rivers and washes; edges of tanks; margins of rivers; shores of ponds; rocky beaches; gravelly benches; terraces; sandy bottomlands; floodplains; sandy ditches; riparian areas, and disturbed areas growing in wet, moist and dry bouldery, bouldery-rocky, bouldery-sandy, rocky, rocky-gravelly, shaley, shaley-gravelly, shaley-sandy, stony, cindery, gravelly, gravelly-sandy and sandy ground; gravelly loam, gravelly-sandy-clayey loam, sandy loam, sandy-clayey loam, silty loam and loam ground; rocky clay, shaley clay, stony clay, cobbly-sandy clay, gravelly clay, gravelly-sandy clay, sandy clay and clay ground, and sandy-silty ground, occurring from 1,000 to 10,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication, the flowers were used in ceremonies. White-lined Sphinx Moths (*Hyles lineata*) have been observed visiting the flowers. *Oenothera cespitosa* subsp. *marginata* is native to southwest-central and southern North America. \*18 (species), 28 (species, color photograph of the species 167), 42 (010914), 43 (031410 - *Oenothera cespitosa* Nutt. var. *marginata* Munz; no record of *Oenothera caespitosa* var. *marginata* or *Oenothera caespitosa* subsp. *marginata*), 44 (021613), 46 (recorded as *Oenothera caespitosa* Nutt. var. *marginata* (Nutt.) Munz, Page 598), 48 (genus, recorded as *Oenothera* spp.), 63 (010914 - recorded as *Oenothera caespitosa* subsp. *marginata* and considers *Oenothera cespitosa* subsp. *marginata* an orthographic variant, color presentation), **85** (011514 - color presentation), 115 (color presentation of the species), 127 (010914 - recorded under *Oenothera caespitosa* subsp. *marginata*), 133 (010914), 156 (010914 - no taxa found)\*

*Oenothera cespitosa* var. *marginata* (see *Oenothera cespitosa* subsp. *marginata*)

***Oenothera primiveris* A. Gray: Desert Evening Primrose**

SYNONYMY: *Oenothera primiveris* A. Gray subsp. *bufonis* (M.E. Jones) P.A. Munz; *Oenothera primiveris* A. Gray var. *bufonis* (M.E. Jones) A.J. Cronquist; *Oenothera primiveris* A. Gray subsp. *caulescens* (P.A. Munz) P.A. Munz; *Oenothera primiveris* A. Gray var. *caulescens* P.A. Munz; *Oenothera primiveris* A. Gray subsp. *primiveris*. COMMON NAMES: Bottle Evening Primrose; Bottle Evening-primrose; [Yellow] Desert [Evening] Primrose (English)140; Desert Evening Primrose (a name also applied to other taxa); Desert Evening-primrose (a name also applied to other taxa); Desert Eveningprimrose; Early Evening Primrose; Early Evening-primrose; Flor de San Juan (a name also applied to other species, Spanish); Flor de San Juan (“St. John’s Flower”, Spanish: New Mexico, Mexico)140; Hierba de Asno (“Ass’s Herb”, Spanish: Spain)140; Large Yellow Desert Evening-primrose; Large Yellow Desert Primrose; Large Yellow Primrose; Onagra (Spanish)140; Polìisi <polí:si> (Uto-Aztecan: Hopi; for white-flowered species)140; Spring Evening Primrose; Spring Evening-primrose; Sun-drops (subsp. *primiveris*); Sundrop; Tł’é Gogáhá <tł’éé’yigáahii, y’éˀígahi> (“One That Becomes White”, Athapascan: Western Apache)140; Tł’é’iigáhí <tł’éé’yigáahii, y’éˀígahi> (“One That Becomes White At Night”, Athapascan: Navajo)140; Tłonaitsui (“Plant With Yellow Flowers”, Athapascan: Chiricahua and Mescalero Apache)140; Vippi Si’idam (“Sucking At The Breast”, Uto-Aztecan: Akimel O’odham)140; Wipi Si’idam (“Breast Sucker”, Uto-Aztecan: Tohono O’odham)140; Yellow Desert Evening Primrose; Yellow Desert Evening-primrose; Yellow Desert Primrose (a name also applied to other taxa); Yellow Sun Cups; Yellow-flower Desert Evening-primrose. DESCRIPTION: Terrestrial annual forb/herb (tufted acaulescent and cespitose to 2 to 8 inches in height; note: several skeletons were observed and described as being 15 inches in height and branched at the base); the basal rosettes of leaves are green with purple blotches or greenish-gray; the flowers may be cream, lemon-yellow, white or yellow fading to pink, pinkish or white; flowering generally takes place between early January and late May (additional records: one for mid-August and one for late August); the fruits are tear-drop shaped. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; gravelly mesas; cliffs; bases of cliffs; rocky and sandy canyons; canyon bottoms; crevices in rocks; meadows; gravelly foothills; rocky, gravelly, sandy and silty hills; rocky and sandy hillsides; rocky, rocky-cobbly-gravelly, rocky-loamy, gravelly, gravelly-sandy, gravelly-sandy-silty, gravelly-loamy, sandy, sandy-loamy and silty slopes; rocky and sandy alluvial fans; gravelly and sandy bajadas; rocky outcrops; amongst rocks; sandy lava flows; sand dunes; cobbly, sandy and sandy-silty plains; rocky, gravelly, sandy and sandy-loamy flats; uplands; stony-silty basins; sandy and sandy-clayey-loamy valley floors; valley bottoms; sandy coastal plains; sandy coastal flats; along railroad right-of-ways; along bouldery-silty-clayey-loamy, rocky-sandy, gravelly, gravelly-sandy-loamy and sandy roadsides; sandy arroyos; along gravelly bottoms of arroyos; along draws; along creeks; along and in creekbeds; along rivers; sandy riverbeds; along and in gravelly, gravelly-sandy and sandy washes; clayey and silty playas; clayey depressions; swales; along (sandy) banks of arroyos, streams, creeks and washes; (sandy) edges of creeks and riverbeds; (sandy) margins of lake beds; sandy benches; gravelly, gravelly-sandy and sandy terraces; sandy bottomlands; mesquite woodlands; gravelly-sandy and sandy riparian areas, and disturbed areas growing in moist and dry rocky, rocky-cobbly-gravelly, rocky-sandy, cobbly, gravelly, gravelly-sandy and sandy ground; bouldery-silty-clayey loam, rocky loam, gravelly loam, sandy loam, sandy-clayey loam and loam ground; clay ground, and stony silty, gravelly-sandy silty, sandy silty and silty ground, occurring from sea level to 9,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, the flowers open in the evening and close the following morning. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication and as a ceremonial lotion and medicine. Consider seeding this plant between Creosote Bushes in your landscaping. *Oenothera primiveris* is native to southwest-central and southern North America. \*5, 6, 15, 16, 18 (genus), 28 (color photograph 338), 42 (011514), 43 (011514), 44 (022013 - color photograph), 46 (Page 598), 48 (genus, *Oenothera* spp.), 58, 63 (011514 - recognizes subspecies *bufonis* and *primiveris*, color presentation), 77, **85** (011514 - color presentation), 115 (color presentation), 124 (080111 - no record of species; genus record), 127 (011514), 133(011514), 140 (Page 182-183 & 297), 156 (011514 - no taxa found)\*

*Oenothera primiveris* subsp. *bufonis* (see *Oenothera primiveris*)

*Oenothera primiveris* subsp. *caulescens* (see *Oenothera primiveris*)

*Oenothera primiveris* var. *bufonis* (see *Oenothera primiveris*)

*Oenothera primiveris* var. *caulescens* (see *Oenothera primiveris*)

*Oenothera primiveris* var. *primiveris* (see *Oenothera primiveris*)

Papaveraceae: The Poppy Family

***Argemone pleiacantha* E.L. Greene: Southwestern Pricklypoppy**

COMMON NAMES: Bluestem Pricklepoppy; Cardo (a name also applied to other species, Spanish); Cardo (Spanish: Sonora)140; Chicalote (a name also applied to other species and the genus *Argemone*, Spanish), Chicalote <chilazotl, chichilotl, xicólotl> (Spanish: Sonora)140, Chicolote; Cowboy’s [Fried] Eggs (English: Arizona)140; Cowboys’ Fried Eggs; Hipigdum (Uto-Aztecan: Onavas Pima)140; Prickly Poppy (a name also applied to other species and the genus *Argemone*); [Southwestern] Prickly [Thistle] Poppy (English)140; Sacramento Prickly-poppy (subsp. *pinnatisecta*); Southwestern Prickly Poppy (also applied to subspecies *ambigua* and *pleiacantha*); Southwestern Pricklypoppy; Southwestern Pricklypoppy (also applied to subspecies *ambigua*, *pinnatisecta* and *pleiacantha*); Thistle Poppy (a name also applied to the genus *Argemone*); To:ta Heosig (Uto-Aztecan: Tohono O’odham)140; Xazácoz (Hokan: Seri)140. DESCRIPTION: Terrestrial perennial forb/herb (branching erect stems 5 inches to 4 feet in height); the leaves and stems may be blue-green, gray, grayish-green purplish and prickly; the flowers (4 to 6 inches in width) are white with a bright orange center; flowering generally takes place between early April and mid-October (additional record: one for mid-March). HABITAT: Within the range of this species it has been reported from mountains; mesas; bases of cliffs; rocky canyons; bouldery, rocky and sandy canyon bottoms; ridgelines; meadows; foothills; sandy hills; rocky hillsides; rocky, shaley-sandy, gravelly, gravelly-clayey-loamy, sandy, loamy and clayey-loamy slopes; amongst boulders; banks; terraces; gravelly prairies; gravelly plains; rocky fields; gravelly and gravelly-loamy flats; uplands; basins; valley floors; valley bottoms; along railroad right-of-ways; roadcuts; along rocky-gravelly, cindery, gravelly, gravelly-sandy-clayey-loamy and sandy roadsides; along rocky and sandy arroyos; gravelly-sandy gulches; seeps; streambeds; along and in gravelly-sandy creekbeds; along and in gravelly and sandy washes; drainages; drainage ways; along (sandy) banks of rivers; borders of washes; edges of washes; along (sandy) margins of creeks; terraces; rocky and sandy bottomlands; sandy floodplains; mesquite bosques; ditches; gravelly, gravelly-sandy and sandy riparian areas; waste places; recently burned areas in grassland, and disturbed areas growing in dry bouldery, rocky, rocky-gravelly, shaley-sandy, cindery, gravelly, gravelly-sandy and sandy ground; gravelly loam, gravelly-sandy-clayey loam, gravelly-clayey loam, clayey loam and loam ground, and silty ground, occurring from 1,700 to 8,500 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, the flowers are reported to be fragrant. The flowers are visited by Sphinx Moths, including the Five-lined Sphinx Moth (*Hyles lineata*), and Mourning Doves (*Zenaida macroura*) feed on the seed. *Argemone pleiacantha* is native to southwest-central and southern North America. \*5, 6, 18 (genus), 28 (color photograph 152), 42 (011514), 43 (072509), 44 (031211 - no record of species; genus record), 46 (recorded as *Argemone pleiacantha* Greene subsp. *ambigua* G.B. Ownbey and *Argemone pleiacantha* Greene subsp. *pleiacantha*, Supplement Page 1050), 48 (genus), 63 (022413 - color presentation), 68 (genus), 80 (Species of the genus *Argemone* are considered to be Rarely Poisonous and Suspected Poisonous Range Plants, “These distasteful, spiny, perennial forbs contain alkaloids that could prove toxic if eaten in sufficient amounts.”), 85 (011914 - color presentation including habitat), 115 (color presentation), 124 (031211 - no record of species; genus record), 127 (011514 - no matches found), 133 (011514), 140 (recorded as *Argemone pleiacantha*, Pages 184-185 and *Argemone pleiacantha* Greene subsp. *pleiacantha*, Page 297), 156 (011415), **WTK** (September 26, 2005)\*

***Argemone pleiacantha* E.L. Greene subsp. *pleiacantha*: Southwestern Pricklypoppy**

COMMON NAMES: Bluestem Pricklepoppy (a name also applied to the species); Cardo (a name also applied to the species and other species, Spanish); Cardo (Spanish: Sonora)140; Chicalote (a name also applied to the species, other species and to the genus *Argemone*, Spanish), Chicalote <chilazotl, chichilotl, xicólotl> (Spanish: Sonora)140, Chicolote; Cowboy’s [Fried] Eggs (English: Arizona)140; Cowboys’ Fried Eggs (a name also applied to the species); Hipigdum (Uto-Aztecan: Onavas Pima)140; Prickly Poppy (a name also applied to the species); [Southwestern] Prickly [Thistle] Poppy (English)140; Southwestern Prickly Poppy (a name also applied to the species); Southwestern Pricklypoppy (a name also applied to the species); Thistle Poppy (a name also applied to the species and the genus *Argemone*); To:ta Heosig (Uto-Aztecan: Tohono O’odham)140; Xazácoz (Hokan: Seri)140. DESCRIPTION: Terrestrial perennial forb/herb (branching erect stems 20 inches to 4 feet in height); the stems may be purplish; the leaves may be blue-green, gray, gray-blue-green or grayish-green; the flowers (4 to 6 inches in width) are white with a bright orange center; the stamens are yellow; the stigmas may be black or purple; flowering generally takes place between mid-April and mid-October (additional record: one for mid-March). HABITAT: Within the range of this species it has been reported from mountains; mesas; canyons; bouldery and sandy canyon bottoms; ridgelines; meadows; foothills; hills; hillsides; sandy and loamy slopes; amongst boulders; embankments; terraces; gravelly prairies; gravelly plains; rocky fields; rocky, gravelly and gravelly-loamy flats; basins; valley floors; railroad right-of-ways; roadcuts; along rocky-gravelly, gravelly, gravelly-sandy-clayey-loamy, sandy, clayey and clayey-loamy roadsides; arroyos; streams; along rivers; in gravelly and sandy washes; drainages; drainage ways; (silty) banks of streams and creeks; terraces; bottomlands; floodplains; along ditches; gravelly riparian areas, and disturbed areas growing in dry rocky, rocky-gravelly, gravelly, gravelly-sandy and sandy ground; gravelly-sandy-clayey loam, gravelly loam, gravelly-clayey loam, clayey loam and loam ground, and silty ground, occurring from 1,700 to 7,600 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. The flowers are visited by Sphinx Moths, including the Five-lined Sphinx Moth (*Hyles lineata*), and Mourning Doves (*Zenaida macroura*) feed on the seed. *Argemone pleiacantha* subsp. *pleiacantha* is native to southwest-central and southern North America. \*5, 6, 16, 18 (genus), 28 (species, color photograph of the species 152), 42 (011514), 43 (072509), 44 (080211 - no record of subspecies or species; genus record), 46 (Supplement Page 1050), 48 (genus), 58, 63 (022413), 68 (genus), 80 (Species of the genus *Argemone* are considered to be Rarely Poisonous and Suspected Poisonous Range Plants, “These distasteful, spiny, perennial forbs contain alkaloids that could prove toxic if eaten in sufficient amounts.”), **85** (011914 - color presentation including habitat), 115 (color presentation of the species), 124 (080211 - no record of species; genus record), 127 (011514 - no matches found), 133 (011514), 140 (recorded as *Argemone pleiacantha*, Pages 184-185 and *Argemone pleiacantha* Greene subsp. *pleiacantha*, Page 297), 156 (011415)\*

Polemoniaceae: The Phlox Family

***Ipomopsis longiflora* (J. Torrey) V.E. Grant subsp. *australis* R.A. Fletcher & W.L. Wagner: Whiteflower Ipomopsis**

COMMON NAMES: Whiteflower Ipomopsis; Whiteflower Skyrocket. DESCRIPTION: Terrestrial annual or biennial forb/herb (erect stems 12 to 30 inches in height, plants were observed and described as being 1 foot in height and 4 inches in width); the color of the flowers has been described as being blue, light blue, pale blue-lavender, light blue-pale lavender, lavender, pale lavender, purple, light purple, pale violet, white or whitish-blue; flowering generally takes place between early March and early November (additional record: one for early January). HABITAT: Within the range of this species it has been reported from mountains; rocky and sandy mesas; plateaus; canyons; clayey ridges; rocky-clayey foothills; gravelly hills; gravelly hillsides; rocky, gravelly-loamy and sandy slopes; bajadas; amongst boulders; plains; flats; sandy uplands; basins; valley floors; railroad right-of-ways; roadbeds; along bouldery, gravelly and sandy roadsides; sandy arroyos; bottoms of arroyos; within sandy washes; in creekbeds; riverbeds; depressions; sandy sinks; banks of creeks; clayey bottomlands; sandy fencelines, and disturbed areas growing in dry bouldery, rocky, gravelly, gravelly-sandy and sandy ground; gravelly loam and sandy loam ground; rocky clay and clay ground, and sandy silty ground, occurring from 1,200 to 7,800 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. *Ipomopsis longiflora* subsp. *australis* is native to southwest-central and southern North America. \*5, 6, 18 (genus), 28 (species, color photograph of the species 694), 42 (012214), 43 (072609), 44 (031913 - no record of subspecies or species; genus record), 48 (genus, *Gilia*), 63 (012214), **85** (012214 - color presentation of dried material), 86 (species, color photograph of the species), 115 (color presentation of the species), 124 (110710 - no record of subspecies or species), 127 (012214 - no records for subsp. *australis*; records for subsp. *longiflora*), 133 (012214 - no record of subspecies; species record), 156 (012214 - no record of taxa)\*

Polygalaceae: The Milkwort Family

*Polygala arizonae* (see *Polygala lindheimeri* var. *parvifolia*)

***Polygala lindheimeri* A. Gray var. *parvifolia* W.E. Wheelock: Shrubby Milkwort**

SYNONYMY: *Polygala arizonae* R.H. Chodat; *Polygala tweedyi* N.L. Britton ex W.E. Wheelock; *Polygala parvifolia* E.O. Wooton & P.C. Standley. COMMON NAMES: Shrubby Milkwort (a name also applied to the species). DESCRIPTION: Terrestrial perennial forb/herb or subshrub (numerous slender stems); the color of the flowers has been described as being bluish, bluish-lavender, pink or pale pink-violet with red-violet tips; based on few records located flowering generally takes place between mid-April and late September. HABITAT: Within the range of this species it has been reported from mountains; cliffs; canyons; talus slopes; crevices in bedrock and rocks; ledges; foothills; rocky hills; hillsides; along rocky, rocky-clayey and gravelly slopes; rocky flats; uplands; along railroad right-of-ways; growing in rocky and gravelly ground and rocky clay ground, occurring from 3,800 to 8,500 feet in elevation in the forest, grassland and desertscrub ecological formations. NOTES: *Polygala lindheimeri* var. *parvifolia* is native to southwest-central and southern North America. \*42 (012314), 43 (012314), 44 (012314 - no record of variety *parvifolia* or species; genus record), 46 (recorded as *Polygala tweedyi* Britton, Page 500), 63 (012314), **85** (012414 - color presentation), 127 (012314 - no matches found), 133 (012314 - no matches found), 156 (012314 - no taxa found)\*

*Polygala parvifolia* (see *Polygala lindheimeri* var. *parvifolia*)

*Polygala tweedyi* (see *Polygala lindheimeri* var. *parvifolia*)

Polygonaceae: The Buckwheat Family

***Eriogonum abertianum* J. Torrey: Abert’s Buckwheat**

SYNONYMY: *Eriogonum abertianum* J. Torrey var. *abertianum*; *Eriogonum abertianum* J. Torrey var. *cyclosepalum* (E.L. Greene) F.R. Fosberg; *Eriogonum abertianum* J. Torrey var. *gillespiei* F.R. Fosberg; *Eriogonum abertianum* J. Torrey var. *neomexicanum* M. Gandoger; *Eriogonum abertianum* J. Torrey var. *ruberrimum* M. Gandoger (Not Accepted?); *Eriogonum abertianum* J. Torrey var. *villosum* F.R. Fosberg. COMMON NAMES: Abert Wild Buckwheat; Abert’s Buckwheat; Abert’s Wild Buckwheat; Buckwheat (a name also applied to other taxa and the Polygonaceae); [Abert’s] Buckwheat (English)140; Hulaqal (Uto-Aztecan: Cahuilla)140; Łe’azee’ (Athapascan: Navajo)140; Powáwi (Uto-Aztecan: Hopi)140; Skeleton Weed; Tunabol (a name also applied to other species, Uto-Aztecan: Tübatulabal)140; Wild Buckwheat (a name also applied to other taxa). DESCRIPTION: Terrestrial annual forb/herb (spreading prostrate and/or erect stems 2 to 32 inches in height, plants were observed and described as being 8 to 10 inches in height and up to 6 inches in width); the foliage may be gray, grayish, gray-green, greenish, reddish or tawny; the color of the flowers has been described as being cream, creamy-peach, cream & red, dull greenish, greenish-yellow tinged with red, pale pink, pink, pink-cream, pink-red, pinkish, pinkish-red, pinkish-white, red, reddish, reddish-pink, reddish-yellow, white, white & pink, white with green or purple stripes, white with a pink, purple-pink or red tinge, whitish, white-yellow with red tips, whitish-pink, light yellow, pale yellow & red, yellow with red tints, yellowish or yellowish-pinkish; the anthers are dark purple-pink; flowering generally takes place between mid-February and late November (additional records: three for mid-January and one for mid-December; flowering year-round has also been reported). HABITAT: Within the range of this species it has been reported from mountains; mountaintops; mountainsides; gravelly-silty mesas; cliffs; bases of cliffs; rocky canyons; along gravelly, gravelly-sandy and sandy canyon bottoms; talus slopes; crevices in rocks; pockets of sandy soil in rock; buttes; rocky knolls; ledges; rocky ridges; rocky and sandy-loamy ridgetops; bouldery foothills; rocky and gravelly hills; hilltops; rocky and gravelly hillsides; escarpments; rocky, rocky-sandy, stony, gravelly, gravelly-sandy, sandy, sandy-loamy, sandy-clayey-loamy, clayey and clayey-loamy slopes; sandy alluvial fans; rocky-gravelly-silty, rocky-sandy and gravelly bajadas; gravelly pediment fans; rocky outcrops; amongst boulders, rocks and stones; sandy lava flows; sandy-loamy plains; rocky, gravelly, sandy, sandy-clayey, sandy-clayey-loamy and clayey flats; basin bottoms; valley floors; valley bottoms; roadbeds; along rocky, gravelly, gravelly-sandy-clayey-loamy, sandy and sandy-loamy roadsides; rocky and sandy arroyos; bottoms of arroyos; gulches; bouldery-rocky and rocky gullies; along streams; along streambeds; along creeks; along rivers; along and in rocky, gravelly, gravelly-sandy, sandy and clayey washes; within gravelly, sandy and sandy-clayey drainages; around lakes; marshes; banks of streams; margins of washes; sand bars; benches; terraces; sandy bottomlands; sandy-clayey floodplains; mesquite bosques; gravelly levees; riparian areas, and disturbed areas growing in wet, moist, damp and dry rocky desert pavement; bouldery, bouldery-rocky, rocky, rocky-sandy, shaley, stony, gravelly, gravelly-sandy and sandy ground; rocky-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-sandy-clayey loam, sandy loam, sandy-clayey loam, clayey loam and loam ground; rocky clay, gravelly-sandy clay, sandy clay and clay ground, and rocky-gravelly silty, gravelly silty and gravelly-sandy silty ground, occurring from 1,300 to 8,300 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, the flowers are reported to be attractive. This plant was reported to have been utilized by native peoples of North America; it was also noted as having been used as a drug or medication. The flowers, leaves, seeds and stems are used for food by White-tailed Deer (*Odocoileus virginianus* *couesi*) and quail; Desert Bighorn Sheep (*Ovis canadensis* subsp. *mexicana*) feed on the seeds. Bees and wasps reportedly visit the flowers. *Eriogonum abertianum* is native to southwest-central and southern North America. \*5, 6, 15, 16, 18 (genus), 42 (012414), 43 (012414), 44 (032013), 46 (Page 237), 48 (genus), 58, 63 (012414 - color presentation), 77 (color photograph #50), **85** (012414 - color presentation), 124 (110710 - no record of species; genus record), 127 (012414), 133 (012414), 140 (Pages 220-221 & 302), 156 (012414)\*

*Eriogonum abertianum* var. *abertianum* (see *Eriogonum abertianum*)

*Eriogonum abertianum* var. *cyclosepalum* (see *Eriogonum abertianum*)

*Eriogonum abertianum* var. *gillespiei* (see *Eriogonum abertianum*)

*Eriogonum abertianum* var. *neomexicanum* (see *Eriogonum abertianum*)

*Eriogonum abertianum* var. *ruberrimum* (see *Eriogonum abertianum*)

*Eriogonum abertianum* var. *villosum* (see *Eriogonum abertianum*)

*Eriogonum densum* (see *Eriogonum polycladon*)

*Eriogonum densum* (see footnote 46 under *Eriogonum palmerianum* and *Eriogonum polycladon*)

***Eriogonum polycladon* G. Bentham: Sorrel Buckwheat**

SYNONYMY: *Eriogonum densum* E.L. Greene. COMMON NAMES: Buckwheat (a name also applied to other species and the genus *Eriogonum*); Redroot Buckwheat; Skeleton Weed (a name also applied to other species); Sorrel Buckwheat; Sorrel Eriogonum; Sorrel Wild Buckwheat; Sorrel Wild-buckwheat; Wild Buckwheat (a name also applied to other taxa and the genus *Eriogonum*). DESCRIPTION: Terrestrial annual forb/herb (erect stems 2 inches to 4 feet in height; plants were observed and described as being 2 to 28 inches in height and 10 inches in width); the stems may be bluish-green, gray, gray-green, grayish or whitish; the leaves may be grayish to whitish on both surfaces; the color of the flowers has been described as being cream, cream-pink, cream-white, cream-white/pink, pale pink, pink, pinkish, pink & white, pinkish-white, red, reddish, reddish-pink, reddish-white, russet, white, dull white, white becoming pink or red, white-green-yellow or white tinged pink; flowering generally takes place between late July and mid-November (additional records: one for mid-February, two for late May, five for mid-June and one for late June; flowering year-round has also been reported). HABITAT: Within the range of this species it has been reported from rocky mountains; bases of mountains; rocky, gravelly-sandy-clayey-loamy and sandy mesas; plateaus; rocky canyons; canyon bottoms; rocky knolls; below ledges; ridges; cindery and sandy clearings and openings in forests and woodlands; meadows; foothills; sandy hills; shrubby hillsides; rocky, gravelly, gravelly-sandy, gravelly-loamy and sandy slopes; stony and gravelly-sandy bajadas; alcoves; cindery lava flows; blow-sand deposits; sandy terraces; open prairies; amongst grasses in open fields; cindery, gravelly, gravelly-sandy and sandy flats; basins; along gravelly-sandy valley floors; along cobbly-gravelly, gravelly, gravelly-sandy, gravelly-loamy, sandy and clayey roadsides; along and in sandy arroyos; sandy bottoms of arroyos; within sandy-loamy draws; gulches; bottoms of gullies; within sandy ravines; springs; along streambeds; along creeks; along and in rocky-sandy creekbeds; along rivers; bouldery-cobbly-sandy riverbeds; along and in gravelly, gravelly-sandy, sandy and clayey washes; sandy drainages; gravelly drainage ways; ciénegas; along (sandy) banks of arroyos, creeks and washes; (rocky-sandy) shores of lakes; sand bars; sandy benches; gravelly-sandy and sandy terraces; gravelly and sandy bottomlands; sandy and silty floodplains; margins of wet lowlands; around stock tanks; ditches; bouldery-cobbly-sandy and sandy riparian areas, and disturbed areas growing in wet and dry bouldery-cobbly-sandy, rocky, rocky-sandy, stony, cobbly-gravelly, cindery, gravelly, gravelly-sandy and sandy ground; gravelly-sandy-clayey loam, gravelly loam and sandy loam ground; bouldery clay and clay ground, and silty ground, occurring from 600 to 8,600 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Eriogonum polycladon* is native to southwest-central and southern North America. \*5, 6, 15, 16, 18 (genus), 42 (012414), 43 (072609), 44 (032313), 46 (recorded as *Eriogonum densum* Greene and *Eriogonum polycladon* Benth., Page 236), 48 (genus), 58, 63 (012514), 77, **85** (012514 - color presentation), 115 (color presentation), 124 (080711), 127 (012514 - no matches found), 133 (012514 - no matches found; record found under *Eriogonum polycladum* Benth., Sorrel Wild Buckwheat), 140 (Page 302), 156 (012514)\*

*Eriogonum polycladum* (see footnote 133 under *Eriogonum polycladon*)

***Eriogonum wrightii* J. Torrey ex G. Bentham: Wright Buckwheat**

COMMON NAMES: Bastard Sage; Bastard-sage; Bastardsage (also applied to varieties *membranaceum*; *nodosum*; *subscaposum*; *trachygonum*, and *wrightii*); Foothill Buckwheat (var. *membranaceum*); Knot-stem Bastard-sage (var. *nodosum*); Knotty Buckwheat (var. *nodosum*); Knotty Eriogonum (var. *nodosum*); Olancha Peak Bastard-sage (var. *olanchense*); Olancha Peak Buckwheat (var. *olanchense*); Olancha Peak Wild Buckwheat (var. *olanchense*); Olancha Peak Wild-buckwheat (var. *olanchense*); Olanche Peak Bastard-sage (var. *olanchense*); Pringle’s Bastardsage (var. *pringlei* - Not Accepted; var. *nodosum* - Accepted); Prostrate Bastard-sage (var. *subscaposum*); Prostrate Bastardsage (var. *subscaposum*); Ring-stem Bastard-sage (var. *membranaceum*); Ring-stemmed Bastard-sage (var. *membranaceum*); Rough-node Bastard-sage (var. *trachygonum*); Rough-node Bastardsage (var. *trachygonum*); Short-scape Wright’s Buckwheat (var. *subscaposum*); Short-stem Bastard-sage (var. *subscaposum*); Short-stemmed Bastard-sage (var. *subscaposum*); Short-stemmed Wright Buckwheat (var. *subscaposum*); Short-stemmed Wright’s Buckwheat (var. *subscaposum*); Shrubby Buckwheat (also applied to varieties *pringlei* - Not Accepted (*E*.*w*. var. *nodosum* - Accepted); *trachygonum*, and *wrightii*, and to other species); Wright Bastard-sage; Wright Buckwheat; Wright Buckwheat Brush; Wright Eriogonum; Wright Wild Buckwheat; Wright Wild-buckwheat; Wright’s Buckwheat; Wright’s Bastard-sage (also applied to var. *wrightii*); Wright’s Eriogonum; Wright’s Wild Buckwheat; Wright’s Wild-buckwheat. DESCRIPTION: Terrestrial perennial forb/herb, subshrub or shrub (spreading prostrate, decumbent and/or erect stems 4 to 40 inches in height/length and 4 inches to 6 feet in width; plants were observed and described as being 12 inches in height and width, plants were observed and described as being 12 inches in height and 16 inches in width); the older bark may be red-brown; the stems may be gray-green, green, reddish-brown or white; the leaves may be gray-green, grayish, greenish, reddish or white; the color of the flowers has been described as being cream, cream-white, pale lavender, pale lavender-pinkish, orange, pink, pinkish, pink & white, pink-cream, light pink-cream, pink-white, rose, rusty, white, white & pink, white with a reddish stripe, white with pink or red veins, white-orange or whitish-pink; the anthers are pink; flowering generally takes place between mid-May and mid-January (additional records: one for mid-February, two for mid-March, one for late March, two for early April, two for mid-April and one for late April). HABITAT: Within the range of this species it has been reported from mountains; rocky mountaintops; mountainsides; sandy mesas; sandy plateaus; rocky crags; rocky cliffs; along rocky rims of canyons; bases of cliffs; rocky canyons; along rocky canyon bottoms; scree; rocky talus, crevices in boulders and rocks; buttes; rocky and rocky-gravelly knolls; ledges; along rocky and gravelly-sandy ridges; bouldery and rocky ridgetops; rocky ridgelines; sandy, clayey-loamy and silty-loamy meadows; foothills; rocky, stony and sandy hills; hilltops; rocky and clayey hillsides; along bedrock, rocky, gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey, sandy, sandy-loamy, loamy, clayey and clayey-loamy slopes; alluvial fans; bajadas; pediments; bouldery and rocky outcrops; amongst boulders and rocks; bases of boulders; sandy lava flows; blow-sand deposits; rocky banks; embankments; sandy prairies; pebbly plains; fields; rocky, gravelly, gravelly-loamy, sandy, clayey, clayey-loamy and silty-loamy flats; uplands; valley floors; along rocky, gravelly, gravelly-sandy, gravelly-loamy and sandy-loamy roadsides; stony and sandy arroyos; bottoms of arroyos; draws; gullies; within ravines; springs; streambeds; along sandy creekbeds; along and in rocky, gravelly and sandy washes; gravelly drainage ways; pebbly drainages; swales; (rocky) banks of springs; borders of washes; (rocky and gravelly) margins of washes; sandy benches; terraces; bottomlands; floodplains; dry beds of stock tanks; riparian areas; recently burned areas in woodlands, and disturbed areas growing in moist, damp and dry bouldery, bouldery-rocky, rocky, rocky-gravelly, shaley, stony, cobbly-sandy, gravelly, gravelly-sandy, pebbly and sandy ground; gravelly loam, gravelly-sandy loam, sandy loam, sandy-clayey loam, clayey loam, silty loam and loam ground, and gravelly clay, sandy clay, gypsum clay and clay ground, occurring from sea level to 10,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food or beverage crop; it was also noted as having been used as a drug or medication. *Eriogonum wrightii* is native to southwest-central and southern North America. \*5, 6, 13, 18 (genus), 42 (012514), 43 (081810), 44 (012514), 46 (about the species: “... according to Nichol, the most important deer-browse plant in the state.”, Page 241), 48 (genus), 63 (012614 - accepts variety *pringlei*, color presentation), **85** (012614 - color presentation), 127 (012614), 133 (012614), 156 (012614)\*

Portulacaceae: The Purselane Family

***Calandrinia ciliata* (H.R. López & J.A. Pavón) A.P. de Candolle: Fringed Redmaids**

SYNONYMY: *Calandrinia ciliata* (H.R. López & J.A. Pavón) A.P. de Candolle var. *menziesii* (W.J. Hooker) J.F. Macbride. COMMON NAMES: Ciliate Red Maids; Ciliate Red-maids; Ciliate Redmaids; Common Red Maids; Common Red-maids; Common Redmaids; Desert Rock Purslane (possibly an error, a name also applied to other species); Desert Rockpurslane (possibly an error, a name also applied to other species); Fringed Red Maid; Fringed Red Maids; Fringed Red-maid; Fringed Red-maids; Fringed Redmaid; Fringed Redmaids; Magenta Red Maid; Magenta Red Maids; Magenta Red-maid; Magenta Red-maids; Magenta Redmaids; Menzie’s Red-maids (var. *menziesii*); Menzies Red-maids (var. *menziesii*); Menzies’ Red-maids (var. *menziesii*); Red Maids (a name also applied to the genus *Calandrinia*); Red-maids (a name also applied to the genus *Calandrinia*); Redmaids (a name also applied to the genus *Calandrinia*); Rock Purslane (a name also applied to the genus *Calandrinia*); Röd Sidenblomma (Swedish). DESCRIPTION: Terrestrial annual forb/herb (radially spreading prostrate, decumbent, ascending and/or erect stems 1 to 18 inches in height/length; plants were observed and described as being 4 inches in height with decumbent stems to 8 inches in length); the leaves are green; the color of the flowers (to ½ inch in width) has been described as being blue-purple, magenta, magenta-pink, magenta-purple, pink, bright pink, deep pink, deep pink-maroon, pink-magenta, pink-maroon, pink-purple, deep pink-purple, pink-red, bright pinkish-red, purple, bright purple, purple-pink, purplish-pink, red, deep red, deep red-purple, red-pink, reddish-pink, reddish-purple, reddish-violet, rose, rose-red, violet, violet-purple, white or white-purple; the anthers are yellow; flowering generally takes place between mid-January and late May (additional records: two for late June and two for early September). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; sandy mesas; plateaus; along rocky canyons; rocky and sandy-loamy canyon bottoms; chasms; crevices in rocks; along rims of bluffs; bouldery knobs; ridges; ridgetops; openings in chaparral; rocky-sandy and sandy meadows; sandy and clayey foothills; bouldery, rocky, rocky-clayey-loamy and loamy hills; rocky-loamy hilltops; rocky and clayey hillsides; bouldery, bouldery-rocky-clayey, bouldery-gravelly, rocky, rocky-sandy-loamy, rocky-loamy-clayey, rocky-clayey, stony, gravelly, gravelly-sandy, gravelly-loamy, gravelly-clayey, sandy, sandy-loamy, clayey and clayey-loamy slopes; sandy alluvial fans; bajadas; amongst rocks; sand dunes; sandy plains; gravelly, sandy, clayey and silty flats; loamy basins; hollows; valley floors; loamy and clayey-loamy valley bottoms; coastal bluffs; roadbeds; along gravelly, gravelly-sandy and clayey-loamy roadsides; dirt tracks; bedrock and sandy arroyos; along sandy bottoms of arroyos; along draws; gulches; gullies; clayey-loamy seeps; around seeping streams; in gravelly, gravelly-loamy, sandy and loamy soils along streams; rocky-sandy streambeds; along creeks; along bouldery-rocky, rocky-sandy and sandy creekbeds; rocky-sandy and sandy riverbeds; along and in rocky, gravelly, gravelly-sandy and sandy washes; drainages; around clayey vernal pools; silty-clayey poolbeds; muddy and loamy-clayey depressions; swales; (rocky) banks of streams, creeks and rivers; along (clayey) edges of streams and ponds; margins of vernal marshes and pools; mudflats; terraces; rocky-sandy and sandy bottomlands; sandy-silty floodplains; sandy riparian areas; recently burned areas in chaparral, and disturbed areas growing in shallow water; muddy, and wet, moist, damp and dry bouldery, bouldery-rocky, bouldery-gravelly, rocky, rocky-sandy, stony, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-sandy loam, rocky-clayey loam, gravelly loam, sandy loam, clayey loam and loam ground; bouldery clay, bouldery-rocky clay, rocky clay, rocky-loamy clay, gravelly clay and clay ground, and sandy-silty and silty ground, occurring from sea level to 6,300 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop. *Calandrinia ciliata* is native to west-central and southern North America, Central America and northern, western and southern South America. \*5, 6, 15, 28 (color photographs 176 & 585), 42 (012714), 43 (072609), 44 (040313 - color photograph), 46 (Page 288), 58, 63 (012714 - color presentation), 77, **85** (040413 - color presentation), 86 (color photograph), 101 (color photograph), 115 (color presentation), 124 (110710 - no record of species), 127 (012714), 133 (012714), 140 (Page 302), 156 (012714)\*

*Calandrinia ciliata* var. *menziesii* (see *Calandrinia ciliata*)

***Phemeranthus aurantiacus* (G. Engelmann) R.W. Kiger: Orange Flameflower**

SYNONYMY: *Talinum angustissimum* (A. Gray) E.O. Wooton & P.C. Standley; *Talinum aurantiacum* G. Engelmann. COMMON NAMES: Flame Flower; Flame-flower; Flameflower (Texas); Orange Flame Flower; Orange Flameflower; Talinum (a name also applied to the genus *Talinum*); Yellow Flame Flower; Yellow Flameflower. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (erect stems 6 to 20 inches in height); the leaves are dark green; the flowers (to 1 inch in width) may be apricot-orange, orange, pale orange, deep orange, orange-yellow, peach-orange, pinkish (rarely), pinkish-orange, reddish, reddish-orange, rosy-pink, pale yellow, pale yellow-orange, yellow or yellow-orange; flowering generally takes place between early June and early October (flowering beginning as early as April and ending as late as November has been reported). HABITAT: Within the range of this species it has been reported from mountains; mesas; plateaus; rocky canyons; cobbly and gravelly canyon bottoms; pockets of soil on cliffs; bluffs; ledges; along rocky and shaley ridges; ridgetops; meadows; foothills; gravelly-loamy and sandy hills; rocky hilltops; rocky, rocky-gravelly-loamy, rocky-clayey and gravelly hillsides; rocky, rocky-gravelly, rocky-sandy, stony, cobbly-clayey gravelly, gravelly-sandy, gravelly-clayey-loamy, sandy, sandy-loamy and sandy-clayey-loamy slopes; sandy bajadas; rocky outcrops; amongst boulders and rocks; sandy lava flows; dunes; blow-sand deposits; prairies; sandy-loamy plains; gravelly, gravelly-sandy, sandy, sandy-loamy and sandy-clayey-loamy flats; valley floors; sandy-silty valley bottoms; along gravelly-sandy, gravelly-sandy-loamy, gravelly-sandy-clayey-loamy and gravelly-loamy roadsides; rocky arroyos; draws; ravines; streambeds; along creeks; along washes; along edges of lakes and playas; shores of lakes; rocky benches; terraces; floodplains; sandy-loamy lowlands; mesquite bosques; riparian areas, and disturbed areas growing in dry bouldery, rocky, rocky-gravelly, rocky-sandy, shaley, stony, gravelly, gravelly-sandy and sandy ground; rocky-gravelly loam, gravelly loam, gravelly-sandy loam, gravelly-clayey loam, sandy loam and sandy-clayey loam ground; rocky clay, cobbly clay and clay ground, and sandy silty ground, occurring from sea level to 7,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. Kearney and Peebles’ reported in Arizona Flora that *Talinum aurantiacum* Engelm. is “Arizona’s largest flowered and showiest species. Indians in Arizona cooked and ate the roots, which often become very large and more or less woody.” This plant could be investigated to determine its value as a home garden or commercial food crop. *Phemeranthus aurantiacus* is native to southwest-central and southern North America. \*5, 6, 15 (recorded as *Talinum aurantiacum* Engelm.), 42 (012714), 43 (072709), 44 (040713 - no record of species or genus), 46 (recorded as *Talinum angustissimum* (Gray) Woot. & Standl., Page 287, and *Talinum aurantiacum* Engelm., Page 287), 58 (*Talinum aurantiacum* Engelm.), 63 (012714), 77 (recorded as *Talinum aurantiacum* Engelm., color photograph #51 labeled *Talinum aurantiacum*), **85** (012714 - color presentation), 86 (recorded as *Talinum aurantiacum* color photograph), 115 (color presentation), 124 (110710 - recorded as *Talinum aurantiacum* Engelm.), 127 (012714 - no matches found), 133 (012714 - no matches found), 140 (Page 302), 156 (012714), **MBJ**/**WTK** (July 9, 2009)\*

***Portulaca halimoides* C. Linnaeus: Silkcotton Purslane**

SYNONYMY: *Portulaca parvula* A. Gray. COMMON NAMES: Desert Portulaca (a name also applied to other taxa); Dwarf Purslane; Petite Quinine (French); Quinine Amère (French); Silk Cotton Purslane; Silk-cotton Purslane; Silkcotton Purslane; Sinkerleaf Purselane; Slender-leaf Purslane; Slenderleaf Purslane. DESCRIPTION: Terrestrial annual forb/herb (branching/sprawling prostrate and/or ascending stems 1¼ to 10 inches in height); the stems may be purple-brown or reddish, the foliage red-purple; the flowers may be bronze, copper, orange or yellow, the reddish sepals are sometimes misidentified as being the flower petals; the anthers are golden yellow; the stigmas are golden yellow; flowering generally takes place between early August and mid-November (additional record: one for mid-April). HABITAT: Within the range of this species it has been reported from mountains; sandy bases of mountains; sandy mesas; plateaus; along rims o gorges; canyons; gorges; crevices in rocks; pockets of soil in bedrock; bluffs; rocky buttes; ridges; sandy openings in woodlands and desertscrubs; foothills; hills; rocky, rocky-loamy, cindery and gravelly slopes; alluvial fans; bajadas; sandy lava flows; sand hills; sand dunes; blow-sand deposits; salt pans; plains; sandy fields; rocky, gravelly, gravelly-sandy and sandy flats; sandy uplands; valleys; sandy coastal beaches; roadbeds; gravelly and sandy roadsides; within sandy arroyos; within cindery and sandy washes; along and in sandy and silty-clayey drainages; dry ephemeral pools; within sandy depressions; banks of washes; sandy shell middens; sandy benches; rock shelves; terraces; sandy floodplains; lowlands; sandy riparian areas, and disturbed areas growing in wet, moist and dry sandy cryptogamic; rocky, cindery, cindery-sandy, gravelly, gravelly-sandy and sandy ground; rocky loam ground, and silty clay and clay ground, occurring from sea level to 9,200 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Portulaca halimoides* is native to southwest-central and southern North America; Central America and coastal islands in the Caribbean Sea, and South America. \*5, 6, 15, 42 (012714), 43 (012714), 44 (012714), 46 (recorded as *Portulaca parvula* Gray, Page 291), 63 (012714), **85** (012714 - color presentation), 127 (012714 - no matches found), 133 (012714), 156 (012714)\*

*Portulaca parvula* (see *Portulaca halimoides*)

***Portulaca suffrutescens* G. Engelmann: Shrubby Purslane**

COMMON NAME: Shrubby Purslane. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (decumbent, ascending and/or erect stems 3 to 12 inches in height); the stems may be pink; the color of the flowers (½ to 1¼ inch in diameter) has been described as being brick red, bronze, brown-orange, copper, copper-orange, orange, pale orange, dull orange-copper, orange-yellow, pale pink-orange, peach, pink-purple, purple, purple & red-orange, red, reddish-purple, salmon or salmon-pink; flowering generally takes place between early July and late October (additional record: one for late May). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky and gravelly mesas; rocky canyons; canyon walls; rocky-sandy-loamy canyon bottoms; talus; bluffs; rocky knolls; rocky ledges; rocky ridges; ridgetops; rocky hills; rocky hillsides; rocky, rocky-sandy-silty, stony, gravelly and sandy-loamy slopes; alluvial fans; sandy bajadas; rocky outcrops; amongst rocks; cobbly plains; fields; rocky, gravelly, gravelly-sandy, sandy and sandy-loamy flats; basins; sandy-silty valley bottoms; stony roadcuts; along rocky, gravelly-sandy-loamy and gravelly-sandy-clayey-loamy roadsides; rocky and sandy arroyos, gravelly-sandy and sandy bottoms of arroyos; springs; in gravelly or sandy soils along streams; along and in sandy washes; drainages; vernal pools; (silty) banks of streams, creeks and pools; along (rocky) margins of washes and ponds; mudflats; benches; cobbly terraces; sandy bottomlands; floodplains; lowlands; mesquite bosques and woodlands; along fencelines; sandy riparian areas; waste places, and disturbed areas growing in moist, damp or dry rocky, stony, cobbly, gravelly, gravelly-sandy and sandy ground; rocky-gravelly loam, rocky-sandy loam, rocky-clayey loam, gravelly-sandy loam, gravelly-sandy-clayey loam and sandy loam ground; clay ground, and rocky-sandy silty, sandy-silty and silty ground, occurring from sea level to 6,900 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. White-tailed Deer (*Odocoileus virginianus*) reported browse this plant. *Portulaca suffrutescens* is native to southwest-central and southern North America. \*5, 6, 15, 42 (012714), 43 (072709), 44 (012714 - no record of species; genus record), 46 (Page 291), 58, 63 (012714), 77, **85** (012714 - color presentation), 115 (color presentation), 124 (110710 - no record of species, genus record), 127 (012714 - no matches found), 133 (012714), 140 (Pages 227 & 302), 156 (012714)\*

***Portulaca umbraticola* K.S. Kunth: Wingpod Purslane**

COMMON NAMES: Crownpod Purslane; Kronportlak (Swedish); Purslane (a name also applied to the genus *Portulaca* and the Portulacaceae); Wing-pod Purslane; Wingpod Purslane (also applied to subspecies *coronata*, *lanceolata* and *umbraticola*). DESCRIPTION: Terrestrial annual forb/herb (prostrate, sub-erect and/or erect stems 2 to 12 inches in height/length); the stems may be green or reddish; the succulent leaves are green; the color of the flowers (to 2 inches in diameter) has been described as being orange, orange-yellow, yellow (the petals may be tipped with copper, orange, red or red-orange), red or yellow-orange; flowering generally takes place between late July and mid-October (additional record: one for mid-December). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; mesas; rocky canyons; talus slopes; crevices in rocks; rocky buttes; knolls; rocky ridgetops; meadows; rocky foothills; hills; bouldery hillsides; rocky, rocky-sandy, rocky-loamy, stony, gravelly, sandy and sandy-loamy slopes; rocky outcrops; amongst boulders; cobbly plains; gravelly and clayey flats; valleys; roadsides; sandy arroyos; gravelly and sandy bottoms of arroyos; draws; along streams; streambeds along creeks; creekbeds; along rivers; riverbeds; along and in rocky, gravelly and sandy washes; drainages; tinajas; in sandy soils around marshes; (sandy) edges of washes; margins of cienegas; floodplains; sandy lowlands; mesquite bosques; sandy riparian areas, and disturbed areas growing in wet, moist and dry bouldery, rocky, rocky-gravelly, stony, cobbly, gravelly and sandy ground; rocky loam and sandy loam ground, and clay ground, occurring from sea level to 6,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Portulaca umbraticola* is native to south-central and southern North America; Central America and coastal islands in the Caribbean Sea, and northern and southern South America. \*5, 6, 42 (012814), 43 (072709), 44 (012814 - no record of species; genus record), 46 (Supplement Page 1049, *Portulaca umbraticola* subsp. *coronata* recorded as *Portulaca coronata* Small, Page 291), 63 (012814 - color presentation), **85** (072909 - color presentation of dried material), 115 (color presentation), 127 (012814 - no matches found), 128, 133 (012814), 140 (Pages 226-227 & 302), 156 (012814)\*

*Talinum angustissimum* (see *Phemeranthus aurantiacus*)

*Talinum aurantiacum* (see *Phemeranthus aurantiacus*)

Rhamnaceae: The Buckthorn Family

***Ceanothus greggii* A. Gray var. *greggii*: Desert Ceanothus**

SYNONYMY: *Ceanothus greggii* var. *orbicularis* E.H. Kelso. COMMON NAMES: Buckbrush; Cupleaf Ceanothus (var. *perplexans*); Desert Ceanothus (also applied to varieties *franklinii*, *greggii* and *perplexans*); Franklin’s Ceanothus (var. *franklinii*); Gregg Buck-brush (Arizona: Yavapai County); Gregg Ceanothus; Gregg’s Ceanothus (also applied to subsp. *greggii* - Not Accepted; var. *greggii* - Accepted, and var. *perplexans*); Mojave Ceanothus (subsp. *vestitus* - Not Accepted; var. *vestitus* - Accepted); Mountain Balm; Wild Lilac (a name also applied to the genus *Ceanothus*). DESCRIPTION: Terrestrial perennial evergreen shrub (1 to 8 feet in height with a broad, dense rounded crown); the bark is light gray and felt-covered; the young stems are pinkish and felt-covered; the upper-side of the leaves are shiny green, the under-side is grayish and felty; the color of the flowers (to 3/8 inch in diameter) has been described as being cream, cream-white, white or whitish; flowering generally takes place between late February and mid-May (additional records: three for mid-June, one for July, one for late August, one for early September, one for mid-September and one for late September). HABITAT: Within the range of this species it has been reported from mountains; plateaus; rocky canyons; talus slopes; rocky ridges; foothills; rocky hills; rocky hillsides; rocky, sandy-clayey and clayey-loamy slopes; rocky outcrops; breaks; roadsides; along draws; along gravelly-sandy-loamy ravines; along streams; washes; within drainages; (rocky) banks of streambeds and creeks; along bottomlands, and riparian areas growing in dry rocky and rocky-gravelly ground; gravelly-sandy loam and clayey loam ground, and sandy clay ground, occurring from 2,000 to 8,000 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat and could be considered for use as a hedge plant. The flowers are fragrant. The branches of the species, *Ceanothus greggii*, were reported to have been utilized as kindling by native peoples of North America. The plants are browsed by Mule Deer (*Odocoileus hemionus*), White-tailed Deer (*Odocoileus virginianus*), Elk (*Cervus elaphus*), Desert Bighorn Sheep (*Ovis canadensis* *mexicana*), Brush Rabbits (*Sylvilagus bachmani*) and other small mammals, and Mule Deer, birds (including the Chukar, *Alectoris chukar*), small mammals and insects eat the seeds. *Ceanothus greggii* var. *greggii* is native to southwest-central and southern North America. \*5, 6, 15 (species), 18 (genus), 28 (species, color photograph 222 A&B), 42 (013014), 43 (013014), 44 (013014 - no record variety *greggii* and no listings recorded under Common Names for the species; genus record), 46 (Page 533), 48, 63 (013014), **85** (013014 - color presentation of dried material), 127 (013014 - species), 133 (013014); 156 (013014 - no taxa found)\*

*Ceanothus greggii* var. *orbicularis* (see *Ceanothus greggii* var. *greggii*)

*Condalia lycioides* var. *canescens* (see *Ziziphus obtusifolia* var. *canescens*)

*Condalia spathulata* (see footnote 46 under *Condalia warnockii* var. *kearneyana*)

***Condalia warnockii* M.C. Johnston var. *kearneyana* M.C. Johnston: Kearney’s Snakewood**

COMMON NAMES: <balchata> (Uto-Aztecan: Onavas Pima)140; Bindó (Spanish: San Luis Potosí)140; [Mexican] Buck-thorn (English)140; Buckthorn (a name also applied to the Rhamnaceae); Crucillo (a name also applied to the species); Frutillo (Spanish); Guichutilla (Spanish: Sonora)140; Kearney Condalia; Kearney Snakewood; Kearney’s Snakewood; Lote-bush (a name also applied to other species); Mexican Buckthorn; Mexican Crucillo (English)140; [Warnock’s] Snakewood (English: New Mexico)140; Squaw-bush (English: Arizona, New Mexico)140; Squawbush (a name also applied to the species); Teconblate [Tecomblate] (Spanish: New Mexico)140; U:sbaḍ <‘u:padh, u’usbaḍ, u:spa’t> (Uto-Aztecan: Tohono O’odham)140; Warnock’s Snakewood (a name also applied to the species). DESCRIPTION: Terrestrial perennial deciduous (considered evergreen except during periods of severe drought) shrub (diffusely branched 20 inches to 13 feet in height; one plant was observed and described as being 6½ feet in height with a crown 10 feet in width, one plant was observed and described as being 10 feet in height with a crown 10 feet width); the leaves are dark green; the minute flowers may be yellow-green or yellowish; based on few records located, flowering generally takes place between mid-February and mid-September (flowering records: one for mid-February, three for early August, one for mid-August, one for late August and one for mid-September; however, flowering taking place throughout the year has also been reported); the fruits are black, dark purple, red or reddish-black. HABITAT: Within the range of this species it has been reported from mountains; gravelly and sandy mesas; cliff faces; canyons; canyon bottoms; rocky ledges; ridges; edges of meadows; foothills; hills; gravelly hillsides; rocky, gravelly and sandy slopes; rocky and gravelly bajadas; amongst boulders; gravelly and sandy flats; basins; valley floors; rocky arroyos; gulches; along rocky washes; along and in drainages; banks of creeks; (gravelly) edges of washes and drainages; terraces; floodplains, and around gravelly-sandy stock tanks growing in dry bouldery, rocky, gravelly, gravelly-sandy and sandy ground, occurring from 200 to 5,600 feet in elevation in the grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat; older, weathered plants have considerable character. *Condalia warnockii* var. *kearneyana* is native to southwest-central and southern North America. \*5, 6, 13 (Page 149), 15, 16, 28 (color photograph 843), 42 (013014), 43 (042210), 44 (081211 - no record of variety or species; genus record), 46 (recorded as *Condalia spathulata* A. Gray, Page 530), 58, 63 (013014), 77, **85** (013014 - color presentation of dried material), 91 (Pages 166-167), 124 (081211 - no record of variety, species or genus), 127 (013014 - no matches found), 133 (013014 - no matches found), 140 (recorded as *Condalia warnockii* M.C. Johnston [*Condalia spathulata* of authors, not A. Gray], Pages 239-240 & 304), 156 (013014 - no taxa found), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

***Ziziphus obtusifolia* (W.J. Hooker ex J. Torrey & A. Gray) A. Gray: Lotebush**

COMMON NAMES: Abrojo (Spanish: Mexico)140; Amole Dulce (var. *canescens*, Spanish); Bachata (Spanish: Sonora)140; Barabachatas (“Dearest Bearded One”, Spanish: Sonora)140; Barchata (Spanish); Bluebush; Buchthorn; Ch’il Ńłdzig <chi gatoiłjit> (Athapascan: Western Apache)140; Chaparral; Chaparro (a name also applied to other species); Chaparro Prieto (“Black Thicket”, Spanish: Tamaulipas)140; Ciruela de Monte (“Wild Cherry”, Spanish: Sonora)140; Clepe; Crucillo Blanco (“Little White Cross”, Spanish: Sonora)140; Garambullo (“Spiny Plant”, Spanish: Mayo, Sonora)140; Garrapata (“Tick”, Spanish: Mexico)140; Gray Thorn; Gray-leaf Condalia (var. *canescens*); Gray-leafed Abrojo; Gray-leaved Abrojo; Gray-thorn; Grayleaf Condalia (var. *canescens*)42; Graythorn (also applied to varieties *canescens* and *obtusifolia*); Graythorn Abrojo; Graythorn Aborojo; Graythorn Lotebush; Grey Thorn; Grey-thorn; Greythorn; Gumdrop Tree (English: Texas)140; Huichilame (Uto-Aztecan: Mayo)140; Hutki <jutuqui> (Uto-Aztecan: Mayo)140; Jeweḍbaḍu:s <duwastbaḍ uus> (“Tall, Dead-looking Bush”, Uto-Aztecan: Onavas Pima)140; Jó’otoro (Uto-Aztecan: Mayo)140; Lote; Lote Bush; Lote-bush; Lotebush (also applied to varieties *canescens* and *obtusifolia*); Lotebush (English)140; Lotebrush; Lotebush; Lotibush; Oschuvapat (Pima); Palo Blanco (“White Tree”, Spanish: Mexico)140; Southwestern Condalia; Texas Buckthorn; Thorn (English: Arizona)140; U:s Jeweḍbaḍ <‘us jewedhpadh, u:s tcui’tpa’t> (Uto-Aztecan: Tohono O’odham)140; U:spaḍ <‘uspaḍ> (Uto-Aztecan: Tohono O’odham)140; U’us Chevaḍbaḍ <ositc u’wutpat, u-us dji-wuht-paht> (Uto-Aztecan: Akimel O’odham)140; ‘U:spaḍ <u:supaḍ> (Uto-Aztecan: Hiá Ceḍ O’odham)140; ‘Us Jeveḍpaḍ (Uto-Aztecan: Hiá Ceḍ O’odham)140; Uwé (Yuman: Maricopa)140; White Crucillo (English)140; Whitethorn (a name also applied to other species). DESCRIPTION: Terrestrial perennial drought deciduous shrub or tree (3 to 13 feet in height; one plant was observed and described as being 40 inches in height with a crown 18 inches in width, one plant was observed and described as being 7 feet in height with a crown 7 feet in width, one plant was observed and described as being 10 feet in height with a crown 10 feet in width, one plant was observed and described as being 10 feet in height with a crown 13 feet in width, one plant was observed and described as being 13 feet in height with a crown 13 feet in width, one plant was observed and described as being 13 feet in height with a crown 20 feet in width); the branches may be light gray, gray, gray-green or green; the stems may be bluish, brown, gray, gray-green, green or whitish with the branchlets ending in stout thorns; the leaves are gray-green, pale green, green or yellow-green; the color of the inconspicuous flowers has been described as cream, light green, green, greenish-white, greenish-yellow, dark purple, yellow-green, yellowish-white, white or whitish-green; flowering generally takes place between mid-May and late November (additional records: one for mid-January, one for late January, one for early March, two for mid-March, three for late March, three for mid-April and one for late April); the ripe fruits may be black, blue, dark blue or purple. HABITAT: Within range of this species it has been reported from mountains; mountainsides; gravelly mesas; rocky cliffs; bases of cliffs; rocky and gravelly canyons; sandy-clayey canyonsides; along rocky canyon bottoms; scree; talus slopes; crevices in rocks; buttes; rocky and gravelly-clayey-loamy ridges; rocky and gravelly ridgetops; ridgelines; foothills; rocky, cobbly and cobbly-gravelly-loamy hills; hilltops; rocky hillsides; bedrock, rocky, rocky-cobbly-gravelly, rocky-gravelly-sandy, rocky-sandy, gravelly, gravelly-loamy and gravelly-clayey-loamy slopes; rocky alluvial fans; gravelly bajadas; rocky outcrops; amongst boulders, rocks and gravels; sand dunes; breaks; prairies; gravelly, gravelly-silty, sandy-silty and silty plains; rocky, gravelly and sandy-loamy flats; uplands; basin bottoms; rocky valley floors; valley bottoms; coastal plains; coastal beaches; along and in gravelly, gravelly-sandy-clayey-loamy, gravelly-loamy and sandy-clayey-loamy roadsides; along rocky, gravelly, gravelly-sandy and sandy arroyos; along rocky, gravelly and sandy bottoms of arroyos; draws; gulches; ravines; bouldery bottoms of ravines; seeps; in clay around springs; along streams; along rocky streambeds; along creeks; along gravelly-sandy creekbeds; in gravels along rivers; along gravelly and gravelly-sandy rivers; sandy riverbeds; along and in rocky, sandy and sandy-clayey washes; along drainages; marshes; swales; along (bouldery-sandy, rocky, gravelly-sandy and sandy) banks of streams, creeks, rivers and washes; borders of washes; (gravelly-sandy) edges of arroyos, creeks and marshes; margins of springs; beaches; sandy benches; gravelly terraces; sandy bottomlands; along gravelly-sandy floodplains; mesquite bosques and woodlands; thickets of Soapberry (*Sapindus saponaria*); along fencerows; along canals; gravelly-sandy and sandy riparian areas, and disturbed areas growing in dry desert pavement; bouldery, bouldery-sandy, rocky, rocky-cobbly-gravelly, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, cobbly, gravelly, gravelly-sandy and sandy ground; cobbly-gravelly loam, gravelly loam, gravelly-sandy-clayey loam, gravelly-clayey loam, sandy loam and sandy-clayey loam ground; sandy clay and clay ground; gravelly silty, sandy silty and silty ground, and gypsum ground, occurring from sea level to 7,000 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food, fodder and/or beverage crop; it was also noted as having been used as a tool, as a drug or medication and as a commodity used in personal hygiene. The heartwood may be red-brown and may be honey-scented. The flowers are visited by orange-winged Spider Wasps. Gray Foxes (*Urocyon cinereoargenteus*), Raccoons (*Procyon lotor*), Ringtails (*Bassariscus astutus*), Gambel’s Quail (*Callipepla gambelii*), Scaled Quail (*Callipepla squamata*), Mockingbirds (*Mimus polyglottos*), Northern Orioles (*Icterus bullockii*), Phainopeplas (*Phainopepla nitens*), Band-tailed Pigeons (*Columba fasciata*), White-necked Ravens (*Corvus cryptoleucus*), Curved-billed Thrashers (*Toxostoma curvirostre*), Golden-fronted Woodpeckers (*Melanerpes aurifrons*), White-winged Doves (*Zenaida asiatica*) and other birds feed on the fruit. The plants numerous spines provide an impenetrable refuge for birds and many species of birds make use of the Lotebush as a preferred nesting site. The Northern Bobwhite (*Colinus virginianus*) may use larger lotebushes for fall, winter and spring loafing cover. *Ziziphus obtusifolia* is native to southwest-central and southern North America. \*5, 6, 13 (Pages 146-147, color photograph of *Z*.*o*. var. *canescens*: Plate M.2., Page 400), 28 (color photograph 848), 42 (013014), 43 (042210), 44 (121310), 46 (recorded as *Condalia lycioides* (Gray) Weberb., Page 530), 63 (013114), **85** (013114 - color presentation), 91(Pages 421-422), 124 (110710), 127 (013014), 133 (013014), 140 (reported as *Ziziphus obtusifolia* (Hooker ex Torrey & A. Gray) A. Gray var. *canescens* (A. Gray) M.C. Johnston [*Condalia lycioides* (A. Gray) Weberbauer var. *canescens* (A. Gray) Trelease], Pages 243-244 & 304), 156 (013014 - no taxa found)\*

***Ziziphus obtusifolia* (W.J. Hooker ex J. Torrey & A. Gray) A. Gray var. *canescens* (A. Gray) M.C. Johnston: Lotebush**

SYNONYMY: *Condalia lycioides* (A. Gray) A. Weberbauer var. *canescens* (A. Gray) W. Trelease. COMMON NAMES: Abrojo (Spanish: Mexico)140; Amole Dulce (Spanish); Bachata (Spanish: Sonora)140; Barabachatas (“Dearest Bearded One”, Spanish: Sonora)140; Barchata (Spanish); Buchthorn; Ch’il Ńłdzig <chi gatoiłjit> (Athapascan: Western Apache)140; Chaparro (a name also applied to other species); Chaparro Prieto (“Black Thicket”, Spanish: Tamaulipas)140; Ciruela de Monte (“Wild Cherry”, Spanish: Sonora)140; Clepe (a name also applied to the species); Crucillo Blanco (“Little White Cross”, Spanish: Sonora)140; Garambullo (“Spiny Plant”, Spanish: Mayo, Sonora)140; Garrapata (“Tick”, Spanish: Mexico)140; Gray Crucillo; Gray Thorn (a name also applied to the species); Gray-leaf Condalia; Gray-leafed Abrojo (a name also applied to the species); Gray-leaved Abrojo (a name also applied to the species); Gray-thorn (a name also applied to the species); Grayleaf Condalia42; Graythorn (a name also applied to the species); Graythorn Abrojo (a name also applied to the species); Graythorn Aborojo (a name also applied to the species); Graythorn Lotebush (a name also applied to the species); Grey Thorn (a name also applied to the species); Grey-leaved Abrojo; Grey-thorn (a name also applied to the species); Greythorn (a name also applied to the species); Gumdrop Tree (a name also applied to the species, Texas); Gumdrop Tree (English: Texas)140; Huichilame (Uto-Aztecan: Mayo)140; Hutki <jutuqui> (Uto-Aztecan: Mayo)140; Jeweḍbaḍu:s <duwastbaḍ uus> (“Tall, Dead-looking Bush”, Uto-Aztecan: Onavas Pima)140; Jó’otoro (Uto-Aztecan: Mayo)140; Lote Bush (a name also applied to the species and to the genus *Ziziphus*); Lote-bush (a name also applied to the species and to the genus *Ziziphus*); Lotebush (a name also applied to the species and to the genus *Ziziphus*); Lotebush (English)140; Lotebrush (a name also applied to the species); Lotibush (a name also applied to the species); Oschuvapat (Pima); Palo Blanco (“White Tree”, Spanish: Mexico)140; Southwestern Condalia (a name also applied to the species); Thorn (English: Arizona)140; U:s Jeweḍbaḍ <‘us jewedhpadh, u:s tcui’tpa’t> (Uto-Aztecan: Tohono O’odham)140; U:spaḍ <‘uspaḍ> (Uto-Aztecan: Tohono O’odham)140; U’us Chevaḍbaḍ <ositc u’wutpat, u-us dji-wuht-paht> (Uto-Aztecan: Akimel O’odham)140; ‘U:spaḍ <u:supaḍ> (Uto-Aztecan: Hiá Ceḍ O’odham)140; ‘Us Jeveḍpaḍ (Uto-Aztecan: Hiá Ceḍ O’odham)140; Uwé (Yuman: Maricopa)140; White Crucillo (English)140; White Crucillo (a name also applied to the species). DESCRIPTION: Terrestrial perennial drought deciduous shrub or tree (3 to 13 feet in height; one plant was observed and described as being 40 inches in height with a crown 18 inches in width, one plant was observed and described as being 50 inches in height with a crown 40 inches in width, one plant was observed and described as being 7 feet in height with a crown 7 feet in width, one plant was observed and described as being 10 feet in height with a crown 10 feet in width, one plant was observed and described as being 13 feet in height with a crown 13 feet in width); the stems may be bluish, gray, gray-green, green or whitish with the twigs ending in stout thorns; the leaves may be gray-green, green or yellow-green, the inconspicuous flowers may be cream, green, greenish-white, yellow, yellow-green or whitish-green; flowering generally takes place between mid-May and late November (additional records: one for late January, one for mid-March, one for late March, one for mid-April and one for late April); the ripe fruits may be black, blue-purple, dark blue or purple. HABITAT: Within range of this species it has been reported from mountains; mountainsides; mesas; cliffs; rocky canyons; along canyon bottoms; scree; talus slopes; bases of cliffs; crevices in rocks; buttes; ridges; ridgelines; foothills; rocky hills; hilltops; rocky hillsides; rocky and gravelly slopes; rocky alluvial fans; gravelly bajadas; amongst boulders, rocks and gravels; sandy-silty plains; rocky and gravelly flats; basins; rocky valley floors; gravelly and gravelly-loamy roadsides; arroyos; bottoms of arroyos; gulches; ravines; bouldery bottoms of ravines; seeps; in clay around springs; rivulets; along streams; along rocky streambeds; along creeks; along gravelly-sandy creekbeds; along gravelly and gravelly-sandy rivers; riverbeds; along and in rocky and sandy washes; drainages; marshes; along (rocky and gravelly-sandy) banks of streams, creeks, rivers and washes; borders of washes; (gravelly-sandy) edges of arroyos and creeks; beaches; sandy benches; terraces; bottomlands; floodplains; mesquite bosques; along fencerows; along canals; gravelly-sandy riparian areas, and disturbed areas growing in dry desert pavement; bouldery, bouldery-sandy, rocky, rocky-gravelly, rocky-gravelly-sandy, gravelly, gravelly-sandy and sandy ground; cobbly-gravelly loam, gravelly loam and gravelly-clayey loam ground; sandy clay and clay ground, and sandy silty ground, occurring from sea level to 5,500 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food, fodder and/or beverage (*Ziziphus obtusifolia*) crop; it was also noted as having been used as a tool, as a drug or medication and as a commodity used in personal hygiene. The flowers are visited by orange-winged Spider Wasps. Gray Foxes (*Urocyon cinereoargenteus*), Raccoons (*Procyon lotor*), Ringtails (*Bassariscus astutus*), Gambel’s Quail (*Callipepla gambelii*), Scaled Quail (*Callipepla squamata*), Mockingbirds (*Mimus polyglottos*), Northern Orioles (*Icterus bullockii*), Phainopeplas (*Phainopepla nitens*), Band-tailed Pigeons (*Columba fasciata*), White-necked Ravens (*Corvus cryptoleucus*), Curved-billed Thrashers (*Toxostoma curvirostre*), Golden-fronted Woodpeckers (*Melanerpes aurifrons*), White-winged Doves (*Zenaida asiatica*) and other birds feed on the fruit. The plants numerous spines provide an impenetrable refuge for birds and many species of birds make use of the Lotebush as a preferred nesting site. *Ziziphus obtusifolia* var. *canescens* is native to southwest-central and southern North America. \*5, 6, 13 (Page 147, color photograph: Plate M.2., Page 400), 15, 16, 28 (species, color photograph of species 848), 42 (013014), 43 (042210), 44 (040211), 46 (recorded as *Condalia lycioides* (Gray) Weberb. var. *canescens* (Gray) Trel., Page 530), 58, 63 (013114), 77, **85** (013114 - color presentation), 91 (species, Pages 421-422), 124 (040211 - no record of variety; species and genus records), 127 (013014), 133 (013014), 140 (reported as *Ziziphus obtusifolia* (Hooker ex Torrey & A. Gray) A. Gray var. *canescens* (A. Gray) M.C. Johnston [*Condalia lycioides* (A. Gray) Weberbauer var. *canescens* (A. Gray) Trelease], Pages 243-244 & 304), 156 (013014 - no taxa found), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

Rosaceae: The Rose Family

***Cercocarpus breviflorus* A. Gray: Hairy Mountain-mahogany**

SYNONYMY: *Cercocarpus breviflorus* A. Gray var. *eximius* C.K. Schneider; *Cercocarpus breviflorus* A. Gray var. *breviflorus*; *Cercocarpus montanus* C.S. Rafinesque *var. paucidentatus* (S. Watson) F.L. Martin. COMMON NAMES: Alder-leaved Mountain Mahogany (Arizona: Navajo County, a name better applied to *Cercocarpus montanus*); Hairy Cercocarpus; Hairy Mountain Mahogany; Hairy Mountain-mahogany; Hairy Mountainmahogany; Mountain Mahogany (a anme also applied to other species and the genus *Cercocarpus*); Umse (Yuki: Yuki)140; Shaggy Mountain Mahogany; Wright Mountain Mahogany; Wright Mountainmahogany; Wright’s Mountainmahogany. DESCRIPTION: Terrestrial perennial evergreen shrub or tree (4 to 20 feet in height with an open crown); the bark is gray to reddish-brown; the leaves are dark green; the inconspicuous flowers (¼ inch in diameter and ½ inch in length) may be cream, cream-white, whitish, yellowish or yellowish-white; flowering generally takes place between early May and early September (additional records: one for early January and two for mid-October; flowering beginning in March and ending in November has also been reported). HABITAT: Within the range of this species it has been reported from mountains; mountaintops; crags; mesas; bases of mesas; canyon rims; cliffs; bases of rock walls; rocky canyons; along rocky-sandy canyon bottoms; along talus slopes; crevices in bedrock and rocks; rocky bluffs; knolls; gravelly ledges; rocky ridges; ridgetops; rocky and gypsum hills; hilltops; rocky hillsides; escarpments; bedrock, rocky, rocky-sandy-loamy, rocky-sandy-clayey-loamy, rocky-loamy, gravelly and gravelly-loamy slopes; rocky outcrops; breaks; rocky-gravelly and gravelly roadsides; rocky and sandy-loamy arroyos; gravelly-sandy-clayey-loamy draws; ravines; along rocky streambeds; in rocky-sandy soil along intermittent creeks; along and in washes; drainages; banks of ravines and rivers; sides of streams, and riparian areas growing in wet, moist, damp and dry rocky, rocky-gravelly, rocky-sandy and gravelly ground; rocky loam, rocky-sandy loam, rocky-sandy-clayey loam, gravelly loam, gravelly-sandy-clayey loam and sandy loam ground; clay ground; chalky ground, and gypsum ground, occurring from 4,000 to 8,900 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This species is browsed by deer. *Cercocarpus breviflorus* is native to southwest-central and southern North America. \*5, 6, 18 (species), 28 (color photograph 832), 42 (020214 - no record of *Cercocarpus breviflorus* var. *mogollonensis*), 43 (020214 - no record of *Cercocarpus breviflorus* var. *mogollonensis*), 44 (013114 - no record of species; genus record), 46 (Page 390), 48 (genus), 52, 63 (013114 - recorded as *Cercocarpus montanus* Raf. *var. paucidentatus* (S. Watson) F.L. Martin, color presentation), 80 (*Cercocarpus breviflorus* is listed as a Major Poisonous Range Plant. “Hydrocyanic acid is the toxic agent. ... Hydrocyanic acid poisoning by mountainmahogany occurs most often in the fall of the year following frosts. If the mountainmahogany is localized in specific pasture, these can be deferred until late fall after several frost have occurred. ... It would be impractical and undesirable to attempt controlling mountainmahogany as it is a very beneficial browse under normal growing conditions.”), **85** (020214 - includes records for *Cercocarpus breviflorus* var. *mogollonensis* R.A. Denham, color presentation), 127 (013114 - no matches found), 133 (013114), 140 (recorded as *Cercocarpus montanus*, Pages 245-246; recorded as *Cercocarpus montanus* Rafinesque *var. paucidentatus* (S. Watson) F.L. Martin [*C. breviflorus* A. Gray, *C. betuloides* Nuttall, *C. breviflorus* A. Gray], Page 304), 156 (013114 - no taxa found)\*

*Cercocarpus breviflorus* var. *breviflorus* (see *Cercocarpus breviflorus*)

*Cercocarpus breviflorus* var. *eximius* (see *Cercocarpus breviflorus*)

*Cercocarpus breviflorus* var. *mogollonensis* (seefootnote 85 under *Cercocarpus breviflorus*)

*Cercocarpus montanus* var. *paucidentatus* (see *Cercocarpus breviflorus*)

*Cowania mexicana* var. *stansburyana* (see *Purshia mexicana* var. *stansburyana*)

***Purshia mexicana* (D. Don) S.L. Welsh var. *stansburyana* (J.Torrey) S.L. Welsh: Stansbury Cliffrose**

SYNONYMY: *Cowania mexicana* D. Don var. *stansburyana* (J. Torrey) W.L. Jepson; *Purshia stansburyana* (J. Torrey) J.S. Henrickson. COMMON NAMES: Buckbrush (a name also applied to other species); Cliff Rose (a name also applied to the genus *Purshia*); Cliffrose (a name also applied to the genus *Purshia*); Mexican Cliffrose (a name also applied to the species); Quinine Bush (a name also applied to other taxa); Quinine-bush (a name also applied to other taxa); Quininebush (a name also applied to other taxa); Romerillo Cimarrón (Spanish); Stansbury Antelope Brush; Stansbury Antelope Bush; Stansbury Antelope-brush; Stansbury Bitterbrush; Stansbury Cliff-rose; Stansbury Cliffrose; Stansbury Cowania; Stansbury Quininebush; Stansbury’s Antelope Brush; Stansbury’s Antelope Bush; Stansbury’s Antelope-brush; Stansbury’s Bitterbrush; Stansbury’s Cliff-rose; Stansbury’s Cliffrose; Stansbury’s Cowania; Stansbury’s Quininebush. DESCRIPTION: Terrestrial perennial evergreen shrub or tree (1 to 25 feet in height; one plant was observed and described as being 11½ feet in height with a crown 4 feet in width); the bark may be gray, dark-gray or reddish-brown; the twigs are reddish-brown; the leaves are green or yellow-green above and hairy-white beneath; the flowers (½ to 1 inch in diameter, one reported bloom lasted 4 to 6 weeks) may be cream, cream-white, cream-yellow, creamy-yellow, cream-yellow-white, sulfur-yellow, white, white-cream, yellow, pale yellow, yellow-cream or yellowish-white; the anthers are yellow; flowering generally takes place between early March and mid-October (additional records: one for early January, six for early November and one for mid-November, flowering continuing until the first frost of autumn has been reported); the dried fruits (¼ inch in length) are dark blue, a feathery plume (2 inches in length) is attached to each of the fruits. HABITAT: Within the range of this species it has been reported from mountains; rocky, rocky-clayey, sandy and sandy-clayey mesas; plateaus; along bedrock, rocky and sandy rims of canyons; rocky cliffs; canyons; rocky canyon walls; canyon sides; rocky and gravelly canyon bottoms; rocky gorges; rocky talus slopes; sandy soils in crevices in rocks; pockets of sand soil over bedrock; rocky bluffs; rocky buttes; rocky, rocky-sandy and gravelly ledges; rocky and sandy ridges; rocky openings in forests; rocky foothills; rocky and sandy hills; rocky hilltops; rocky and gravelly hillsides; rocky, rocky-sandy, rocky-loamy, rocky-clayey, rocky-clayey-loamy, stony-sandy-loamy, cobbly-clayey-loamy, gravelly-sandy, gravelly-sandy-loamy, sandy and sandy-loamy slopes; rocky outcrops; sandy dunes; alcoves; along benches; benchlands; gravelly, sandy and sandy-loamy flats; basins; valleys; along rocky-gravelly, rocky-gravelly-clayey-loamy, gravelly-sandy, gravelly-sandy-clayey-loamy, gravelly-loamy, gravelly-clayey-loamy and clayey-loamy roadsides; rocky-sandy arroyos; draws; within rocky and silty ravines; streambeds; along creeks; creekbeds; along rivers; along and in rocky, gravelly-sandy and sandy washes; drainages; banks of washes; along (bouldery and rocky) edges of rivers and washes; rocky bottomlands; gravelly-sandy floodplains; riparian areas, and disturbed areas growing in dry well drained powdery cryptogamic crusts; rimrock; bouldery, rocky, rocky-gravelly, rocky-sandy, cobbly, cindery, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-gravelly loam, rocky-gravelly-clayey loam, rocky-sandy loam, rocky-clayey loam, stony-sandy loam, cobbly-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-sandy-clayey loam, gravelly-clayey loam, sandy loam, clayey loam and loam ground; rocky clay, sandy clay and clay ground, and rocky silty and silty ground, occurring from 3,000 to 8,300 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat with plants reported to be living to be 69 years of age, the flowers are fragrant. This plant may be useful in controlling erosion. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial fiber, and/or dye (brown, purple or yellow-brown) crop; it was also noted as having been used as fuel, in the making of arrows, as a drug or medication and as a ceremonial item. The plants are browsed by Desert Bighorn Sheep (*Ovis canadensis* subsp. *mexicana*); Elk (*Cervus elaphus*); Mule Deer (*Odocoileus hemionus*); Pronghorn (*Antilocapra americana*); White-tailed Deer (*Odocoileus virginianus*); gamebirds; songbirds, and small mammals, and rodents feed on the seeds. One study noted that cliffrose of southern Arizona was unpalatable. *Purshia mexicana* var. *stansburyana* is native to southwest-central North America. \*5, 6, 13 (recorded as *Cowania mexicana* Don var. *stansburiana* (Torrey) Jepson, Page 272), 18 (recorded as *Purshia mexicana* var. *stansburyana*), 28 (recorded as *Cowania mexicana* var. *stanburiana*, color photograph 346), 42 (020214), 43 (020214), 44 (020214 - records located under *Purshia stansburyana*), 46 (recorded as *Cowania mexicana* D. Don var. *stansburiana* (Torr.) Jepson, Page 388), 48 (recorded as *Cowania mexicana* var. *stansburiana*), 52 (species, recorded as *Cowania mexicana*, color photograph), 63 (020314 - recorded as *Purshia stansburiana* (Torr.) Henrickson, note the alternate spelling: *stansburiana*, color presentation), **85** (020413 - color presentation), 127 (020314 - records located under *Purshia stansburiana*), 133 (020314), 156 (020314 - no taxa found), **MBJ**/**WTK** (July 9, 2009)\*

*Purshia stansburyana* (see *Purshia mexicana* var. *stansburyana*)

Rutaceae: The Rue Family

*Choisya arizonica* (see *Choisya dumosa* var. *arizonica*)

***Choisya dumosa* (J. Torrey) A. Gray var. *arizonica* (P.C. Standley) L.D. Benson: Arizona Orange**

SYNONYMY: *Choisya arizonica* P.C. Standley. COMMON NAMES: Arizona Orange; Arizona Star Leaf; Mexican Orange (a name also applied to the species); Starleaf. DESCRIPTION: Terrestrial perennial shrub (20 inches to 6 feet in height); the leaves are dark green; the flowers are white; flowering generally takes place between late March and late May (additional records: one for early January, one for late February, one for early March, one for late June, one for early July, one for mid-July, three for early August, one for late August, three for early September, two for mid-September, two for early November and one for mid-November). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; rock walls; along gravelly-loamy edges of walls; bouldery and rocky canyons; canyon sides; rocky canyon bottoms; buttes; rocky hills; hillsides; rocky, rocky-gravelly, gravelly and humusy slopes; amongst boulders and rocks; shaded niches below cliffs; bouldery-sandy flats; along streams; within bouldery streambeds; along creeks; along and in bouldery washes; within bouldery drainages, and riparian areas growing in dry bouldery, bouldery-sandy, rocky, rocky-gravelly and gravelly ground; gravelly loam ground, and humus, often reported in shaded areas occurring from 2,900 to 6,000 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, it reportedly has aromatic leaves and flowers. *Choisya dumosa* var. *arizonica* is native to southwest-central North America. \*5, 6, 13 (Pages 131-132), 15 (recorded as *Choisya arizonica* Standl.,), 42 (020414), 43 (020414), 44 (020414 - no record of species or genus), 46 (recorded as *Choisya arizonica* Standl., Page 493-494), 63 (020414), **85** (020414 - color presentation of dried material), 127 (020414 - no matches found), 133 (020414 - no record of variety *arizonica*; species record), 156 (020414 - no taxa found)\*

Salicaceae: The Willow Family

*Populus arizonica* (see *Populus fremontii* subsp. *fremontii* and/or *Populus fremontii* subsp. *mesetae*)

***Populus fremontii* S. Watson: Frémont Cottonwood**

COMMON NAMES: Álamo (a name also applied to other species and the the genus *Populus*, Spanish); Alamo Cottonwood (a name also applied to other species); Arizona Cottonwood (subsp. *mesetae*); Cottonwood (a name also applied to other species, the genus *Populus* and to the Salicaceae); Fremont Alamo; Frémont Alamo; Fremont Cotton Wood; Frémont Cotton Wood; Fremont Cotton-wood; Frémont Cotton-wood; Fremont Cottonwood; Frémont Cottonwood; Fremont Poplar; Frémont Poplar; Fremont Western Cottonwood; Frémont Western Cottonwood; Fremont’s Alamo; Frémont’s Alamo; Fremont’s Cotton Wood; Frémont’s Cotton Wood; Fremont’s Cotton-wood; Frémont’s Cotton-wood; Fremont’s Cottonwood; Frémont’s Cottonwood; Fremont’s Poplar; Frémont’s Poplar; Fremont’s Western Cottonwood; Frémont’s Western Cottonwood; Meseta Cottonwood (subsp. *mesetae*); Rio Grande Cottonwood; Riparian Forest cottonwood; Rio Grande Cottonwood (*Populus fremontii* var. *wislizeni* - Not Acdepted; *Populus deltoides* subsp. *wislizeni* - Accepted); Western Cottonwood (a name also applied to other species). DESCRIPTION: Terrestrial perennial deciduous tree (20 inches to 112 feet in height with a broad, spreading flat-topped or rounded crown; one sapling was observed and described as being 20 inches in height and 8 inches in width, one large tree was observed and described as being 26 feet in height with a crown 26 feet in width, one large tree was observed and described as being 92 feet in height with a crown 108 feet in width); the older fissured bark is brownish, gray, gray-brown, grayish-white, pale tan or whitish; the branches are gray-brown to reddish-brown; the twigs are yellow before turning a bone-white, pale gray, tan or tannish-white; the leaves are a shiny gray-green, bright green or yellow-green turning golden-yellow or lemon-yellow in autumn; the flowers (catkins with the male (1 to 3¼ inches in length) and female (2 to 5 inches in length) on separate trees) may be green, greenish-yellow, reddish, yellow-green or yellowish-green; flowering generally takes place between early February and early May (additional records: one for late August and one for mid-September); the cottony seeds are fuzzy and white and are generally produced between March (April in subspecies *mesetae*) and June. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; mesas; plateaus; hanging gardens; bases of cliffs; along bouldery, rocky and sandy canyons; along bouldery-sandy, rocky, rocky-sandy-silty and sandy canyon bottoms; chasms; bluffs; ridges; meadows; edges of meadows; foothills; along bouldery hills; rocky hillsides; bouldery-gravelly, bouldery-loamy, rocky, gravelly-sandy, sandy, sandy-clayey-loamy and silty slopes; along and amongst boulders and rocks; gravelly, gravelly-sandy-clayey, sandy and clayey flats; basins; valley floors; along valley bottoms; coastal prairies; along railroad right-of-ways; along gravelly-loamy and sandy-loamy roadsides; within stony, sandy and sandy-silty arroyos; bottoms of arroyos; draws; ravines; within seeps; along and around springs; along streams; gravelly streambeds; along creeks; rocky and sandy creekbeds; along rivers; sandy-clayey-loamy riverbeds; along and in bouldery-sandy, rocky, rocky-sandy, sandy and loamy washes; drainages; waterholes; oases; around ponds; ciénegas; freshwater marshes; sloughs; along (rocky and sandy) banks of streams, creeks, rivers and washes; borders of washes; along (sandy and silty-clayey) edges of streams, creeks, rivers, washes, ponds and lakes; (sandy-clayey) margins of rivers and playas; (clayey) sides of rivers and freshwater marshes; along shores of lakes; gravel and sand bars; rocky-gravelly-sandy-loamy, rocky-sandy and gravelly benches; terraces; rocky bottomlands; along gravelly-sandy, gravelly-sandy-clayey and sandy floodplains; lowlands; sandy mesquite bosques; stock tanks; edges of reservoirs; along canals; along ditches; ditch banks; bouldery-gravelly-sandy, rocky-silty-loamy, stony-cobbly, sandy and silty-loamy riparian areas, and disturbed areas growing in moist, damp and dry ground (areas where subsurface water is available) in bouldery, bouldery-gravelly, bouldery-gravelly-sandy, bouldery-sandy, bouldery-loamy, rocky, rocky-gravelly-pebbly, rocky-sandy, stony-cobbly, gravelly, gravelly-sandy and sandy ground; bouldery loam, rocky-gravelly-sandy loam, rocky-silty loam, gravelly loam, gravelly-sandy loam, sandy loam, sandy-clayey loam, silty loam and loam ground; gravelly-sandy clay, silty clay and clay ground, and rocky-sandy silty, sandy silty and silty ground, occurring from below sea level to 9,500 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat and its rapid early growth makes it an excellent plant for use in re-vegetating riparian areas. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food and/or fiber crop; it was also noted as having been used as an indicator of planting seasons; as tools; in the making of musical instruments, as a fuel and as a drug or medication. The Frémont Cottonwood may have a life span of more than 130 year of age. It reaches reproductive maturity in 5 to 10 years. Consider planting male trees if the “cotton” produced by female trees is objectionable. The Frémont Cottonwood is very useful in slowing soil and stream bank erosion and in re-vegetating damaged riparian areas. The cottonwood provides food for Beaver (*Castor canadensis*), Elk (*Cervus elaphus*), Mule Deer (*Odocoileus hemionus*), White-tailed Deer (*Odocoileus virginianus*), and squirrels, and the Golden Eagle (*Aquila chrysaetos*), Swainson’s Hawk (*Buteo swainsoni*), Red-tailed Hawk (*Buteo jamaicensis*), Bell’s Vireo (*Vireo bellii*) build nests in the crown. Cottonwood bark is a principle food of the American Beaver (*Castor canadensis*), and the stems of poplars are used in the construction of their dams. The trees are sometimes parasitized by the Yellow (or Colorado Desert) Mistletoe (*Phoradendron macrophyllum* subsp. *macrophyllum*). Native stands of Cottonwood Trees have been decimated due to the altering of natural water flows, the clearing and development of the flood plains, stream channelization and the loss of suitable recruitment sites. When restoring the floodplains of major river systems consider including the following plants in the mix if they have been recorded from this township: Inland Saltgrass (*Distichlis spicata*), Vine Mesquite Grass (*Panicum obtusum*), Indian Rushpea (*Hoffmannseggia glauca*), Little Snapdragon Vine (*Maurandella antirrhiniflora*), Schott Yellowhood (*Nissolia schottii*), Fingerleaf Gourd (*Cucurbita* *digitata*), Red Sprangletop (*Leptochloa panicea* subsp. *brachiata*), Whiplash Pappusgrass (*Pappophorum vaginatum*), Alkali Sacaton (*Sporobolus airoides*), Big Sacaton (*Sporobolus wrightii*), Hartweg Twinevine (*Funastrum cynanchoides*), Hartweg Twinevine (*Funastrum cynanchoides* subsp. *heterophyllum*), Virginia Creeper (*Parthenocissus quinquefolia*), Canyon Grape (*Vitis arizonica*), Drummond Clematis (*Clematis drummondii*), Mojave Seablite (*Suaeda moquinii*), Prairie Acacia (*Acacia angustissima*), Allthorn (*Koeberlinia spinosa* var. *spinosa*), Desert Saltbush (*Atriplex polycarpa*), Fourwing Saltbush (*Atriplex canescens*), Wright Lycium (*Lycium andersonii* var. *wrightii*), Torrey Lycium (*Lycium torreyi*), Arrowweed (*Pluchea sericea*), Fremont Lycium (*Lycium fremontii*), Creosote Bush (*Larrea tridentata* var. *tridentata*), Greythorn (*Ziziphus obtusifolia* var. *canescens*), Southern Cattail (*Typha domingensis*), Seep Willow (*Baccharis salicifolia*), Whitethorn Acacia (*Acacia constricta*), Desert Hackberry (*Celtis ehrenbergiana*), Catclaw Acacia (*Acacia greggii* var. *greggii*), Soaptree Yucca (*Yucca elata*), Coyote Willow (*Salix exigua*), Screwbean Mesquite (*Prosopis pubescens*), Common Cottonbush (*Cephalanthus occidentalis*), Desert Elderberry (*Sambucus nigra* ssp. *canadensis*), Blue Paloverde (*Parkinsonia florida*), Western Soapberry (*Sapindus saponaria* var. *drummondii*), Netleaf Hackberry (*Celtis laevigata* var. *reticulata*), Velvet Mesquite (*Prosopis velutina*), Western Black Willow (*Salix gooddingii*), Velvet Ash (*Fraxinus velutina*), Arizona Black Walnut (*Juglans major*) and Fremont Cottonwood (*Populus fremontii*). *Populus fremontii* subsp. *fremontii* intergrades with *Populus fremontii* subsp. *mesetae*. *Populus fremontii* is native to southwest-central and southern North America. \*5, 6, 13, 18, 26 (color photograph), 28 (color photograph 57), 42 (020414), 43 (042410), 44 (041513), 46 (Pages 208-209), 48, 52 (color photograph), 53, 58, 63 (020614 - color presentation), 77, **85** (020614 - color presentation), 115 (color presentation), 127 (020414), 133 (020414), 156 (020414), ADS (website November 2, 2012, Landmark S. Ariz. Cottonwood Tree Topples: this article reported that this tree was 150 years of age, it was 92 feet in height, had a crown spread of 108 feet and was 42 feet around)\*

***Populus fremontii* S. Watson subsp. *fremontii*: Frémont Cottonwood**

SYNONYMY: *Populus arizonica* C.S. Sargent; *Populus fremontii* S. Watson var. *arizonica* (C.S. Sargent) W.L. Jepson; *Populus fremontii* S. Watson var. *macdougalii* (J.N. Rose) W.L. Jepson; *Populus fremontii* S. Watson var. *pubescens* C.S. Sargent; *Populus fremontii* S. Watson var. *thornberi* C.S. Sargent; *Populus fremontii* S. Watson var. *toumeyi* C.S. Sargent. COMMON NAMES: Álamo (a name also applied to the species, other species and the genus *Populus*, Spanish); Alamo Cottonwood (a name also applied to the species and other species); Arizona Cottonwood (a name also applied to other taxa); Cordate-leaved Cottonwood; Cottonwood (a name also applied to the species, other species, the genus *Populus* and to the Salicaceae); Typical Fremont Alamo; Typical Frémont Alamo; Typical Fremont Cotton Wood; Typical Frémont Cotton Wood; Typical Fremont Cotton-wood; Typical Frémont Cotton-wood; Typical Fremont Cottonwood; Typical Frémont Cottonwood; Typical Fremont Poplar; Typical Frémont Poplar; Typical Fremont Western Cottonwood; Typical Frémont Western Cottonwood; Typical Fremont’s Alamo; Typical Frémont’s Alamo; Typical Fremont’s Cotton Wood; Typical Frémont’s Cotton Wood; Typical Fremont’s Cotton-wood; Typical Frémont’s Cotton-wood; Typical Fremont’s Cottonwood; Typical Frémont’s Cottonwood; Typical Fremont’s Poplar; Typical Frémont’s Poplar; Typical Fremont’s Western Cottonwood; Typical Frémont’s Western Cottonwood; Rio Grande Cottonwood (a name also applied to the species); Typical Riparian Forest Cottonwood; Western Cottonwood (a name also applied to the species and other species). DESCRIPTION: Terrestrial perennial deciduous tree (10 to 112 feet in height with a wide and a broad, spreading flat-topped crown; one large tree was observed and described as being over 50 feet in height with a crown 33 feet in width); the older bark may be brownish, gray, gray-brown, grayish-white, pale tan or whitish; the branches are gray-brown to reddish-brown; the twigs are yellow before turning a bone-white, pale gray, tan or tannish-white; the leaves are a shiny bright green or yellow-green turning golden-yellow or lemon-yellow in autumn; the flowers (catkins with the male (1 to 3¼ inches in length) and female (2 to 5 inches in length) on separate trees) may be greenish-yellow, reddish or yellowish-green; flowering generally takes place between early February and early May (additional record: one for late September); the cottony seeds are fuzzy and white and are generally produced between March and June. HABITAT: Within the range of this species it has been reported from mountains; mesas; plateaus; along bouldery canyons; canyon bottoms; meadows; foothills; along bouldery hills; bouldery-loamy and rocky slopes; along boulders; gravelly, gravelly-sandy-clayey, sandy and clayey flats; basins; valley floors; springs; along streams; streambeds; along creeks; sandy and sandy-loamy creekbeds; in sandy soils along rivers; sandy-clayey-loamy riverbeds; along bouldery-sandy washes; drainages; waterholes; oases; ciénegas; along banks of streams, creeks and rivers; edges of ponds and lakes; margins of playas; (clayey) sides of freshwater marshes; along shores of lakes; gravel and sand bars; rocky-gravelly-sandy-loamy benches, terraces; bottomlands; gravelly-sandy-clayey floodplains; mesquite bosques; stock tanks; edges of reservoirs; along ditches; ditch banks; bouldery-gravelly-sandy and loamy riparian areas, and disturbed areas growing in moist, damp and dry ground (areas where subsurface water is available) in bouldery, bouldery-gravelly-sandy, bouldery-sandy, rocky, rocky-gravelly-pebbly, gravelly and sandy ground; bouldery loam, rocky-gravelly-sandy loam, sandy loam, sandy-clayey loam and loam ground; gravelly-sandy clay and clay ground, and sandy silty and silty ground, occurring from below sea level to 9,500 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat and its rapid early growth makes it an excellent plant for use in re-vegetating riparian areas. The species, *Populus fremontii*, was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food and/or fiber crop; it was also noted as having been used as an indicator of planting seasons; as tools; in the making of musical instruments, as a fuel and as a drug or medication. The Frémont Cottonwood may have a life span of more than 130 year of age. It reaches reproductive maturity in 5 to 10 years. Use as a specimen plant in a large area and as a re-vegetation plant for the areas immediately adjacent to the main channel of streams, creeks, and rivers. Consider planting male trees if the “cotton” produced by female trees is objectionable. The cottonwood provides food for Beaver (*Castor canadensis*), Elk (*Cervus elaphus*), Mule Deer (*Odocoileus hemionus*), White-tailed Deer (*Odocoileus virginianus*), and squirrels, and the Golden Eagle (*Aquila chrysaetos*), Swainson’s Hawk (*Buteo swainsoni*), Red-tailed Hawk (*Buteo jamaicensis*), Bell’s Vireo (*Vireo bellii*) build nests in the crown. Cottonwood bark is a principle food of the American Beaver (*Castor canadensis*), and the stems of poplars are used in the construction of their dams. The trees are sometimes parasitized by the Yellow (or Colorado Desert) Mistletoe (*Phoradendron macrophyllum* subsp. *macrophyllum*). Native stands of Cottonwood Trees have been decimated due to the altering of natural water flows, the clearing and development of the flood plains, stream channelization and the loss of suitable recruitment sites. When restoring the floodplains of major river systems consider including the following plants in the mix if they have been recorded from this township: Inland Saltgrass (*Distichlis spicata*), Vine Mesquite Grass (*Panicum obtusum*), Indian Rushpea (*Hoffmannseggia glauca*), Little Snapdragon Vine (*Maurandella antirrhiniflora*), Schott Yellowhood (*Nissolia schottii*), Fingerleaf Gourd (*Cucurbita* *digitata*), Red Sprangletop (*Leptochloa panicea* subsp. *brachiata*), Whiplash Pappusgrass (*Pappophorum vaginatum*), Alkali Sacaton (*Sporobolus airoides*), Big Sacaton (*Sporobolus wrightii*), Hartweg Twinevine (*Funastrum cynanchoides*), Hartweg Twinevine (*Funastrum cynanchoides* subsp. *heterophyllum*), Virginia Creeper (*Parthenocissus quinquefolia*), Canyon Grape (*Vitis arizonica*), Drummond Clematis (*Clematis drummondii*), Mojave Seablite (*Suaeda moquinii*), Prairie Acacia (*Acacia angustissima*), Allthorn (*Koeberlinia spinosa* var. *spinosa*), Desert Saltbush (*Atriplex polycarpa*), Fourwing Saltbush (*Atriplex canescens*), Wright Lycium (*Lycium andersonii* var. *wrightii*), Torrey Lycium (*Lycium torreyi*), Arrowweed (*Pluchea sericea*), Fremont Lycium (*Lycium fremontii*), Creosote Bush (*Larrea tridentata* var. *tridentata*), Greythorn (*Ziziphus obtusifolia* var. *canescens*), Southern Cattail (*Typha domingensis*), Seep Willow (*Baccharis salicifolia*), Whitethorn Acacia (*Acacia constricta*), Desert Hackberry (*Celtis ehrenbergiana*), Catclaw Acacia (*Acacia greggii* var. *greggii*), Soaptree Yucca (*Yucca elata*), Coyote Willow (*Salix exigua*), Screwbean Mesquite (*Prosopis pubescens*), Common Cottonbush (*Cephalanthus occidentalis*), Desert Elderberry (*Sambucus nigra* ssp. *canadensis*), Blue Paloverde (*Parkinsonia florida*), Western Soapberry (*Sapindus saponaria* var. *drummondii*), Netleaf Hackberry (*Celtis laevigata* var. *reticulata*), Velvet Mesquite (*Prosopis velutina*), Western Black Willow (*Salix gooddingii*), Velvet Ash (*Fraxinus velutina*), Arizona Black Walnut (*Juglans major*) and Fremont Cottonwood (*Populus fremontii*). *Populus fremontii* subsp. *fremontii* intergrades with *Populus fremontii* subsp. *mesetae*. *Populus fremontii* subsp. *fremontii* is native to southwest-central and southern North America. \*5, 6, 13, 15, 18 (species), 26 (species, color photograph of species), 28 (species, color photograph of the species 57), 42 (041513), 43 (042410), 44 (041513), 46 (Pages 208-209), 48 (species), 52 (species, color photograph of the species), 53 (species), 58 (species), 63 (020614 - color presentation), **85** (020614 - color presentation), 115 (color presentation of the species), 124 (081411 - no record of species or subspecies; genus record), 127 (020414 - species records only), 133 (020514 - species record only), 140 (Page 304), 156 (020514)\*

*Populus fremontii* var. *arizonica* (see *Populus fremontii* subsp. *fremontii*)

*Populus fremontii* var. *macdougalii* (see *Populus fremontii* subsp. *fremontii*)

*Populus fremontii* var. *pubescens* (see *Populus fremontii* subsp. *fremontii*)

*Populus fremontii* var. *thornberi* (see *Populus fremontii* subsp. *fremontii*)

*Populus fremontii* var. *toumeyi* (see *Populus fremontii* subsp. *fremontii*)

Sapindaceae: The Soapberry Family

***Sapindus saponaria* C. Linnaeus: Wingleaf Soapberry**

COMMON NAMES: Abolillo (species and variety *drummondii*, Spanish: Mexico, Sonora); Amole (a name also applied to other taxa, Spanish); Amole <yamole, yamolli> (“Soap” listed for var. *drummondii*, Spanish)140; Amole de Bolita (“Soap Balls” listed for var. *drummondii*, Spanish: Mexico)140; Amolillo (Spanish); Amolillo (“Little Soapy One” listed for var. *drummondii*, Spanish: Sonora)140; Amolio; Arbolio (“Little Tree” listed for var. *drummondii*, Spanish: Sonora)140; Arbolillo (var. *drummondii*, Spanish); Bibi <pipe, pipal> (“fruit” listed for var. *drummondii*, Oto-Manguean: Zapotec)140; Bois de Panama (French); Boliche (Spanish); Boliche (Spanish); Boliche (listed for var. *drummondii*, Language Family Unknown: Sinaloa)140; Cherioni (Spanish); Cherioni (var. *drummondii*); Cherrion (var. *drummondii*); Chinaberry (var. *drummondii*); Chirrión (Spanish: Mexico, Sonora); Chirrión (var. *drummondii*, Spanish: Mexico, Sonora); Cirioni <cherioni> (listed for var. *drummondii*, Spanish: Arizona)140; Drummond Soapberry (var. *drummondii*); Fruta-de-sabão (Portuguese: Brazil); Guayul (Spanish); Guayul (var. *drummondii*, Spanish); Indian Soap Plant (var. *drummondii*); Jaboncillo (Spanish); Jaboncillo (“Little Soap” listed for var. *drummondii*, Spanish: Nuevo León, San Luis Potosí, Sonora, Tamaulipas and south)140; Jequiriguaçú (Portuguese: Brazil); Jutuhui (listed for var. *drummondii*, Uto-Aztecan: Guarijío)140; Mata Muchacho (Spanish); Mata Muchacho (var. *drummondii*, Spanish); Matamuchacho (“Boy Killer” listed for var. *drummondii*, Spanish: Sonora)140; Mexican Soapberry (var. *drummondii*); Ojo de Loro (Spanish); Ojo de Loro (var. *drummondii*, Spanish); Palo Blanco (Spanish); Palo Blanco (“White Tree” listed for var. *drummondii*, Spanish: Chihuahua)140; Pau-de-sabão (Portuguese: Brazil); Sabão-de-macaco (Portuguese: Brazil); Sabão-de-soldado (Portuguese: Brazil); Saboeira (Portuguese); Sabonete (Portuguese: Brazil); Saboneteira (Portuguese: Brazil); Såpbärsträd (Swedish); Savonnier (French); Seifenbaum (German); Soap Berry; Soap-berry (listed for var. *drummondii*, English)140; Soapberry (a name also applied to the genus *Sapindus* and the Sapindaceae); Soaptree; Southern Soapberry; Tehistle <tehoitzli, tehuixtle, tehuitle> (“Sharp Rock” listed for var. *drummondii*, Uto-Aztecan: Náhuatl)140; Tehuistle; Tropical Soapberry; Tubchi <tupchi> (listed for var. *drummondii*, Uto-Aztecan: Mayo, Sonora)140; Tzatzupa; U:pio (Pima Bajo - same word as skunk); Western Soapberry; Western Soapberry (var. *drummondii*); Wild Chinaberry (var. *drummondii*); Wild China-tree (var. *drummondii*); Wild Chinatree (var. *drummondii*); Wing-leaf Soapberry; Wing-leaf Soapberry (var. *saponaria*); Wingleaf Soapberry; Wingleaf Soapberry (var. *saponaria*). DESCRIPTION: Terrestrial perennial drought- and cold-deciduous (var. *drummondii*) or evergreen (var. *saponaria*) shrub or tree (7 to 60 feet in height with a broad, dense crown 25 to 30 feet in width); the fissured bark may be gray, dark gray, grayish, grayish-brown, reddish-brown or yellow-gray; the twigs may be gray-brown, yellow-green or yellowish-gray; the leaflets (4 to 19) may be light green, dark green or dull yellow-green either generally without wings on the compound leaf axis (var. *drummondii*) or with wings on the compound leaf axis (var. *saponaria*); the color of the flowers (1/8 to 1/4 inch in diameter in clusters 6 to 9 inches in length) has been described as being cream, cream-white, cream-yellow, greenish-white, white, yellow or yellowish-white; flowering generally takes place between early May and late July (additional records: two for mid-January, one for late March, one for mid-August, one for late August, one for mid-September, one for late September, one for early October, one for mid-October, four for mid-December and one for late December); the poisonous fruits (3/8 to 1/2 inch in diameter) may be amber, golden, orange, orange-brown, yellowish or yellow-amber turning black or reddish-brown when dry. HABITAT: Within the range of this species it has been reported from mountains; mesas; plateaus; bases of cliffs; along rocky canyons; rocky canyon walls; canyon sides; along rocky, gravelly-clayey, sandy-loamy and loamy canyon bottoms; rocky gorges; talus slopes; crevices in rock; meadows; rocky hills; hilltops; rocky and rocky-clayey hillsides; bouldery, rocky, rocky-loamy, rocky-clayey, gravelly, gravelly-clayey, gravelly-clayey-loamy, sandy, sandy-loamy, clayey and silty slopes; bajadas; rock outcrops; amongst boulders; sand dunes; sandy hummocks; sandy-silty berms; plains; bouldery, gravelly, sandy and clayey flats; valley floors; along rocky-sandy, gravelly-sandy and sandy roadsides; along and in rocky, stony, sandy and clayey-loamy arroyos; bottoms of arroyos; within draws; gulches; gullies; within clayey ravines; springs; along rocky streams; streambeds; along and in creeks; in creekbeds; along rivers; bouldery and sandy riverbeds; along and in bedrock, rocky, rocky-gravelly and sandy washes; along bouldery drainages; along watercourses; depressions; along banks of streams, creeks, rivers and drainages; borders of washes; along edges of arroyos, creekbeds, washes and marshes; along margins of arroyos; (rocky-sandy and sandy) sides of rivers and washes; (sandy) shores of riverbeds; sandy benches; terraces; sandy bottomlands; sandy floodplains; mesquite bosques and woodlands; along sandy fencerows; edges of stock tanks; along ditch banks; rocky riparian areas; sandy waste places, and disturbed areas growing in moist and dry bouldery, rocky, rocky-gravelly, rocky-sandy, stony, gravelly, gravelly-sandy and sandy ground; rocky loam, gravelly-clayey loam, sandy loam, clayey loam and loam ground; rocky clay, gravelly clay, silty clay and clay ground, and sandy silty and silty ground, occurring from sea level to 8,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formation. NOTES: This plant may be an attractive component of a restored native habitat, it has been reported to be moderately slow growing. This species was reported to have been utilized by native peoples of North America; it was noted as having been used as tools (var. *drummondii*), in the making of jewelry (beads), for making toys (var. *drummondii*) and as a drug or medication (var. *drummondii*). This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as tools (var. *drummondii*), in the making of jewelry (beads), for making toys (var. *drummondii*) and as a drug or medication (var. *drummondii*). Birds and Raccoons eat the fruits. When restoring the floodplains of major river systems consider including the following plants in the mix if they have been recorded from this township: Inland Saltgrass (*Distichlis spicata*), Vine Mesquite Grass (*Panicum obtusum*), Indian Rushpea (*Hoffmannseggia glauca*), Little Snapdragon Vine (*Maurandella antirrhiniflora*), Schott Yellowhood (*Nissolia schottii*), Fingerleaf Gourd (*Cucurbita* *digitata*), Red Sprangletop (*Leptochloa panicea* subsp. *brachiata*), Whiplash Pappusgrass (*Pappophorum vaginatum*), Alkali Sacaton (*Sporobolus airoides*), Big Sacaton (*Sporobolus wrightii*), Hartweg Twinevine (*Funastrum cynanchoides*), Hartweg Twinevine (*Funastrum cynanchoides* subsp. *heterophyllum*), Virginia Creeper (*Parthenocissus quinquefolia*), Canyon Grape (*Vitis arizonica*), Drummond Clematis (*Clematis drummondii*), Mojave Seablite (*Suaeda moquinii*), Prairie Acacia (*Acacia angustissima*), Allthorn (*Koeberlinia spinosa* var. *spinosa*), Desert Saltbush (*Atriplex polycarpa*), Fourwing Saltbush (*Atriplex canescens*), Wright Lycium (*Lycium andersonii* var. *wrightii*), Torrey Lycium (*Lycium torreyi*), Arrowweed (*Pluchea sericea*), Fremont Lycium (*Lycium fremontii*), Creosote Bush (*Larrea tridentata* var. *tridentata*), Greythorn (*Ziziphus obtusifolia* var. *canescens*), Southern Cattail (*Typha domingensis*), Seep Willow (*Baccharis salicifolia*), Whitethorn Acacia (*Acacia constricta*), Desert Hackberry (*Celtis ehrenbergiana*), Catclaw Acacia (*Acacia greggii* var. *greggii*), Soaptree Yucca (*Yucca elata*), Coyote Willow (*Salix exigua*), Screwbean Mesquite (*Prosopis pubescens*), Common Cottonbush (*Cephalanthus occidentalis*), Desert Elderberry (*Sambucus nigra* ssp. *canadensis*), Blue Paloverde (*Parkinsonia florida*), Western Soapberry (*Sapindus saponaria* var. *drummondii*), Netleaf Hackberry (*Celtis laevigata* var. *reticulata*), Velvet Mesquite (*Prosopis velutina*), Western Black Willow (*Salix gooddingii*), Velvet Ash (*Fraxinus velutina*), Arizona Black Walnut (*Juglans major*) and Fremont Cottonwood (*Populus fremontii*).*Sapindus saponaria* is native to south-central and southern North America; Central America and coastal islands in the Caribbean Sea, and South America. \*5, 6, 13, 15, 28 (recorded as *Sapindus* var. *drummondii*, color photograph 103), 42 (041713), 43 (042710), 44 (041713 - no record of species or genus), 46 (Page 528), 52 (recorded as *Sapindus drummondii* Hook. & Arn., color photograph), 53 (recorded as *Sapindus drummondii* Hook. & Arn.), 58, 63 (041713 - color presentation), 80 (*Sapindus saponaria* var. *drummondii* is listed as a Rarely Poisonous and Suspected Poisonous Range Plant. “This small tree growing along streams is considered poisonous but it is seldom eaten by livestock.”), **85** (020914 - color presentation), 91), 115 (color presentation), 127 (020914), 133 (020914), 140 (recorded as *Sapindus drummondii* Hooker & Arnott, Pages 110, 255-257 & 305), 156 (020914)\*

Saxifragaceae: The Saxifrage Family

*Heuchera pulchra* (see *Heuchera sanguinea*)

***Heuchera sanguinea* G. Engelmann: Coral Bells**

SYNONYMY: *Heuchera pulchra* P.A. Rydberg; *Heuchera sanguinea* G. Engelmann var. *pulchra* (P.A. Rydberg) C.O. Rosendahl; *Heuchera sanguinea* G. Engelmann var. *sanguinea*. COMMON NAMES: Alum Root (a name also applied to the genus *Heuchera*); Alum Root (English)140; Blodalunrot (Swedish); Blut-Purpurglöckchen (German); Campanilla de Coral (“Little Coral Bells”, Spanish: Sonora)140; Cañagra (Spanish); Coral Bells (a name also applied to the genus *Heuchera*); Coral Bells (English)140; Coral-bells; Coralbells (a name also applied to the genus *Heuchera*); Flor de Piedra (“Rock Flower”, Spanish: Mountain Pima)140; Heuchera Sanguin (French); Sáaperek Hióskem Weg <hoda hioshgara, jod yorsh’cum wig> (Uto-Aztecan: Mountain Pima)140. DESCRIPTION: Terrestrial perennial forb/herb (acaulescent with flowering stems 10 inches to 2 feet in height); the leaves are dark green; the color of the bell-shaped flowers (¼ to ½ inch in length) has been described as being carmine, bright coral-red, crimson, firecracker red, magenta-red, pink, bright pink, dark pink, pinkish, purplish-red, red, deep red, red-maroon, reddish-pink, deep rose, rose-red or scarlet; flowering generally takes place between mid-March and early November (additional records: flowering beginning as early as February has been reported). HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; tops of cliffs; rocky cliffs; bases of cliffs; rocky canyons; along bouldery and rocky canyon walls; along bouldery canyon bottoms; silt filled crevices in rocks; pockets of humus in rocks; bluffs; rocky ledges; under rock ledges; ridges; sandy ridgetops; rocky clearings and openings in forests; rocky, rocky-gravelly and gravelly hillsides; rocky, rocky-gravelly and gravelly slopes; rocky outcrops; on boulders and rocks; amongst rocks; bases of boulders; rock faces; rocky roadcuts; roadsides; rocky gulches; along ravines; rocky seeps; along streams; rocky-gravelly-sandy-loamy streambeds; rocky-sandy creekbeds; riverbeds; within rocky and gravelly washes; within drainages; bedrock waterfalls; banks of arroyos, streams and washes; sides of streams; bottomlands, and bouldery and gravelly riparian areas growing in wet, moist and dry rimrock; bouldery, rocky, rocky-gravelly, rocky-sandy, gravelly, gravelly-sandy and sandy ground; rocky-gravelly-sandy loam ground; silty ground, and humus often reported from shaded areas, occurring from 3,100 to 9,500 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, a variable species which is cultivated as an ornamental. Unidentified species of the genus *Heuchera* were reported to have been utilized by native peoples of North America; they were noted as having been used as a drug or medication. Hummingbirds have been observed visiting the flowers. *Heuchera sanguinea* is native to southwest-central and southern North America. \*5, 6, 15, 18, 28 (color photograph 625), 42 (020914), 43 (020914 - *Heuchera sanguinea* var. *pulchra* Rosend.), 44 (020914 - no record of species; genus record), 46 (Page 365), 63 (020914 - recognizes both varieties *pulchra* (Rydb.) Rosend. and *sanguinea*, color presentation), **85** (020914 - color presentation), 86 (color photograph 420), 127 (020914 - no record of species; genus record), 133 (020914), 140 (Pages 258-259 & 305), 156 (020914)\*

*Heuchera sanguinea* var. *pulchra* (see *Heuchera sanguinea*)

*Heuchera sanguinea* var. *sanguinea* (see *Heuchera sanguinea*)

Scrophulariaceae: The Figwort Family

***Maurandella antirrhiniflora* (F.W. von Humboldt & A.J. Bonpland ex C.L. von Willdenow) W.H. Rothmaler: Roving Sailor**

SYNONYMY: *Maurandya antirrhiniflora* F.W. von Humboldt & A.J. Bonpland ex C.L. von Willdenow. COMMON NAMES: Blue Snapdragon Vine; Chicka-biddy (English)140; Climbing Snapdragon; Little Snapdragon Vine; Mexican Snapdragon Vine; Mipil (Spanish: Hidalgo)140; Roving Sailor (English: Arizona, New Mexico, Texas to Florida)140; Shį́ Násdzid <si nalɜidi> (Athapascan: Navajo)140; Snapdragon Maurandya; Snapdragon Vine; [Blue, Little, Violet, Vine] Snapdragon [Vine] (English)140; Snapdragon-vine; Tłonanesdidzi (“Vine”, Athapascan: Chiricahua and Mescalero Apache)140; Twining-foxglove; Twining Snapdragon (a name also applied to other species); Twining Snapdragon Vine; Violet Twining; Violet Twining Snapdragon; Violet Twining-snapdragon. DESCRIPTION: Terrestrial perennial forb/herb or vine (climbing, trailing, twining and/or intertwining stems 1 to 8 feet in length; one plant was observed and described as being a climbing vine covering an area 3 feet by 2 feet); the arrowhead-shaped leaves are a bright green; the color of the flowers has been described as being blue, blue-lavender, blue-purple, blue-violet, blue & white, lavender, lavender-white, lilac, light magenta, magenta, magenta-lilac, magenta-pink, magenta-purple, maroon-pink, mauve, pink, dark pink, pink-fuchsia, pink-purple, dark pink, purple, light purple, dark purple, purple-blue, purple-lilac, purple-pink, purple-red, purple-rose, purple & white, purple & yellow, pale purplish, bright red, red-purple, red-rose, reddish-lavender, reddish-pink, reddish-purple, rose, rose-pink, rose-purple, rose-red, pale violet or white; flowering generally takes place between late February and mid-November (additional record: one for late January); the fruits are cup-shaped. HABITAT: Within the range of this species it has been reported from mountains; mountainsides; bouldery and gravelly mesas; plateaus; rims of canyons; amongst rocky cliffs; bases of cliffs; rock walls; bouldery, rocky and gravelly-loamy canyons; along canyon walls; bouldery, rocky and cobbly canyon bottoms; gorges; gravelly talus slopes; crevices in rocks; rocky ledges; rocky-gravelly meadows; cinder cones; foothills; rocky hills; rocky hillsides; bedrock, bouldery, rocky, rocky-gravelly, rocky-gravelly-sandy-loamy, rocky-sandy, stony, cindery, gravelly, gravelly-sandy, gravelly-loamy, sandy and sandy-clayey-loamy slopes; bajadas; rocky outcrops; amongst boulders, rocks and pebbles; rocky alcoves; debris fans; sandy lava flows; sand dunes; flats; basins; valley floors; along gravelly-loamy roadsides; within arroyos; clayey bottoms of arroyos; rocky draws; gulches; seeps; rocky springs; along streams; along and in rocky and gravelly streambeds; along creeks; rocky creekbeds; along rivers; sandy riverbeds; along and in rocky, shaley, gravelly and sandy washes; along drainages; drainage ways; watercourses; along sandy waterfalls; in shallow pools; along (rocky and sandy) banks of arroyos, streams, creeks, rivers and washes; borders of washes; edges of washes, lakes and marshes; along margins of arroyos and washes; along sides of washes; (pebbly) shores of lakes; gravel bars; benches; shaley and sandy terraces; sandy bottomlands; floodplains; mesquite bosques, and bouldery riparian areas growing in wet, moist and dry bouldery, rocky, rocky-gravelly, rocky-sandy, shaley, stony, cobbly, cobbly-gravelly, cindery, gravelly, gravelly-sandy, pebbly and sandy ground; rocky-gravelly-sandy loam, rocky-sandy loam, gravelly loam, sandy loam, sandy-clayey loam and clayey loam ground; clay ground, and silty ground often observed growing in the shade under and in shrubs and trees and amongst rocks, occurring from 1,200 to 8,800 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, this species is cultivated as an ornamental. The vines will die back to the ground in the winter months. *Maurandella antirrhiniflora* is native to southwest-central and southern North America. \*5, 6, 15, 16, 28 (recorded as *Maurandya antirrhiniflora*, color photograph 667), 42 (021014), 43 (042710), 44 (021611), 46 (recorded as *Maurandya antirrhiniflora* Humb. & Bonpl., Page 767), 58, 63 (041913 - color presentation), 77 (recorded as *Maurandya antirrhiniflora*, color photograph #93), **85** (021014 - color presentation), 86 (recorded as *Maurandya antirrhiniflora*, color photograph), 115 (color presentation), 124 (021611 - no record of species), 127 (021014 - no matches found), 140 (Pages 192-193 & 305 - recorded as *Maurandya antirrhiniflora* Humboldt & Bonpland), 156 (021014 - no taxa found)\*

*Maurandya antirrhiniflora* (see *Maurandella antirrhiniflora*)

*Mimulus cordatus* (see *Mimulus guttatus*)

***Mimulus guttatus* A.P. de Candolle: Seep Monkeyflower**

SYNONYMY: *Mimulus cordatus* E.L. Greene; *Mimulus guttatus* A.P. de Candolle var. *depauperatus* (A. Gray) A.L. Grant; *Mimulus guttatus* A.P. de Candolle var. *guttatus* A.P. de Candolle; *Mimulus nasutus* E.L. Greene; *Mimulus parishii* M. Gandoger; *Mimulus unimaculatus* F.W. Pennell. COMMON NAMES: Almizcle Amarillo (Spanish: Mexico)140; Antapittsehkwana (Uto-Aztecan: Shoshoni)140; Baseró (Uto-Aztecan: Tarahumara, Chihuahua)140; Berro (Portuguese: Brazil); Berro (“Water Cress”, Spanish: Chihuahua, Sonora)140; Blunt-calyxed Monkey-flower (*Mimulus guttatus* subsp. *arvensis* - Not Accepted, *Mimulus guttatus* - Accepted); Common Large Monkey-flower; Common Large Monkeyflower; Common Monkey Flower (a name also applied to other species); Common Monkey-flower (a name also applied to other taxa); Common Monkeyflower (a name also applied to other taxa); Common [Round-leaf, Seep, Spring, Spotted, Yellow] Monkey-flower (English)140; Common Stream Monkeyflower; Common Streamside Monkeyflower; Common Yellow Monkey Flower; Common Yellow Monkey-flower; Common Yellow Monkeyflower; Creek Monkey Flower; Creek Monkey-flower; Creek Monkeyflower; Creekside Monkeyflower; Golden Monkey Flower; Golden Monkey-flower; Golden Monkeyflower; Gyckelblomma (Swedish); Lama (“Mud”, Spanish: Chihuahua, Sonora); Langsdorff’s Yellow Monkey Flower; Langsdorff’s Yellow Monkey-flower; Large Common Monkey-flower; Large Yellow Monkey-flower; Llantén <lantén> Cimmarón (“Wild *Plantago*”, Spanish: Chihuahua)140; Mim Gut; Mim-gut; Mimgut; Mimulo (Spanish: Mexico)140; Monkey Flower (a name also applied to the genus *Mimulus* and the Phrymaceae); Monkey-flower (a name also applied to the genus *Mimulus* and the Phrymaceae); Monkeyflower (a name also applied to the genus *Mimulus* and the Phrymaceae); Paakorɨbɨ (Uto-Aztecan: Kawaiisu)140; Parish’s Monkeyflower (*Mimulus parishii* Gand. - Not Accepted, *Mimulus guttatus* - Accepted; *Mimulus parishii* Greene - Accepted); Seep Monkey-flower (a name also applied to other taxa); Seep Monkeyflower (a name also applied to other taxa); Seep Spring Mimulus; Seep Spring Monkey Flower; Seep-spring Mimulus; Seep-spring Monkey Flower; Seep-spring Monkeyflower; Shieldbract Monkeyflower (*Mimulus guttatus* subsp. *glaucescens* - Not Accepted, *Mimulus glaucescens* - Accepted); Small-flowered Monkey-flower (*Mimulus guttatus* subsp. *micranthus* - Not Accepted, *Mimulus guttatus* - Accepted); Small Leaved Monkey-flower (*Mimulus guttatus* subsp. *microphyllus* - Not Accepted, *Mimulus microphyllus* - Accepted); Small-leaved Monkey-flower (*Mimulus guttatus* subsp. *microphyllus* - Not Accepted, *Mimulus microphyllus* - Accepted); Small-leaved Monkey-flower (*Mimulus guttatus* subsp. *microphyllus* - Not Accepted, *Mimulus microphyllus* - Accepted); Spotted Monkey Flower (a name also applied to other taxa); Spring Seep Mimulus; Spring-seep Monkey-flower; Spring-seep Monkeyflower; Spring-seep Mimulus; Stream Mimulus; Stream Monkey Flower; Stream Monkey-flower; Stream Monkeyflower; Streamside Monkey Flower; Streamside Monkey-flower; Streamside Monkeyflower; Suugádi Mamaradï (Uto-Aztecan: Northern Tepehuan, Chihuahua)140; Tocasoiahui (Uto-Aztecan: Guarijío)140; Tokaṣoiawi (Uto-Aztecan: Mayo)140; Utah Monkeyflower (*Mimulus glabratus* subsp. *utahensis* - Not Accepted, *Mimulus glabratus* - Accepted); Yellow Common Monkeyflower; Yellow Creek Monkeyflower; Yellow Monkey Flower (a name also applied to other taxa); Yellow Monkey-flower (a name also applied to other taxa); Yellow Stream Monkeyflower; Yellow-stream Monkeyflower. DESCRIPTION: Terrestrial (or semi-aquatic) annual or perennial forb/herb (sprawling decumbent and/or erect stems 2 inches to 5 feet in height); the stems are green; the leaves may be green or dark green; the color of the flowers has been described as being orange, bright orange-yellow, pale yellow, yellow, yellow (with brown-red, golden, maroon, orange, orange-brown, orange-red, orangish-yellow, red, red-brown, reddish, reddish-brown or reddish-orange spots) or bright yellow; flowering generally takes place between early January and mid-November (additional record: one for early December). HABITAT: Within the range of this species it has been reported from bouldery mountains; mountaintops; rocky and gravelly-loamy mountainsides; sandy and sandy-clayey mesas; rocky plateaus; rock walls; rocky cliffs; weeping walls; hanging gardens; rocky bases of cliffs; bouldery and rocky canyons; along bedrock, bouldery-gravelly, rocky, rocky-sandy, gravelly-loamy, sandy and loamy-clayey canyon bottoms; scree; rocky talus slopes; avalanche chutes; crevices in rocks; bluffs; knolls; rocky ledges; ridges; rocky clearings in forests and woodlands; gravelly-loamy, sandy-loamy, clayey and clayey-loamy meadows; rocky foothills; bouldery and rocky hills; hilltops; bouldery, rocky, rocky-loamy-clayey, rocky-clayey, shaley, shaley-gravelly and clayey hillsides; bouldery, bouldery-rocky, rocky, rocky-gravelly, rocky-gravelly-sandy, gravelly, gravelly-loamy, sandy, sandy-loamy, sandy-clayey, loamy, clayey-loamy and peaty-sandy slopes; alluvial fans; bajadas; bedrock, bouldery, rocky and clayey outcrops; along and amongst boulders and rocks; on boulders and rocks; felsenmeer; alcoves; sand dunes; sand flats; hummock fields; rocky banks; prairies; mucky, muddy, gravelly, sandy and loamy flats; uplands; rocky-gravelly-loamy basins; sandy valley floors; valley bottoms; along coastal beaches; coastal bluffs; coastal terraces; roadcuts; along rocky, gravelly and sandy roadsides; along and in bedrock and sandy-loamy arroyos; rocky bottoms of arroyos; muddy draws; bottoms of draws; within gullies; along gulches; ravines; bottoms of ravines; rocky, gravelly-sandy-clayey-loamy and sandy soils along, around and in seeps; mucky, rocky-sandy, gravelly, sandy-silty and loamy soils around and in springs; spring seeps; geysers; around seeping streams; along streamlets; in bouldery-sandy rivulets; bouldery, rocky, gravelly, sandy and silty soils along and in streams; rocky, rocky-sandy, gravelly and sandy streambeds; along brooks; muddy, gravelly, sandy and loamy soils along and in creeks; along and in bouldery, rocky-sandy, cobbly, gravelly, gravelly-sandy, sandy and sandy-silty creekbeds; along and in rivers; along and in rocky-silty-loamy, gravelly and sandy riverbeds; along and in bedrock, rocky, rocky-sandy, stony, cobbly-gravelly, gravelly and sandy washes; within bouldery, rocky, cobbly-loamy, loamy and clayey drainages; within drainage ways; along rocky and sandy watercourses; within waterfalls; bases of waterfalls; drip lines of weeping walls; in mats growing at the water’s edge; oases; around and in pools; vernal pools; around ponds; gravelly shores of beaver ponds; along and around lakes; lakebeds; coves; sandy bogs; ciénegas; in freshwater marshes; rocky-sandy marshy areas; gravelly-clayey-loamy swampy areas; bedrock depressions; sinks; swales; along (muddy, rocky, stony, gravelly-sandy-clayey-loamy, sandy, sandy-clayey, clayey-loamy and loamy) banks of arroyos, springs, rivulets, streams, streambeds, brooks, creeks, creekbeds, rivers, pools and lakes; borders of creeks; along and in (muddy, rocky-sandy, gravelly, gravelly-sandy, sandy, sandy-loamy and sandy-silty) edges of springs, rivulets, streams, creeks, rivers, washes, pools, ponds, lakes, bogs and depressions; (gravelly and sandy) margins of arroyos, springs, streams, creeks and ponds; (muddy, soggy and sandy) sides of streams, creeks and rivers; along (muddy and sandy) shores of rivers and lakes; mudflats; draw-down areas; along mud, rocky-sand, gravel, gravelly-sand and sand bars; sandy beaches; cobbly-sandy benches; shelves; sandy and silty-loamy terraces; along bouldery, sandy and loamy bottomlands; gravelly-sandy and sandy floodplains; clayey lowlands; dams; along beaver dams; edges of stock tanks; banks of reservoirs; canals; edges of canals; along and in ditches; rocky ditch banks; rocky, rocky-sandy, gravelly, gravelly-sandy, gravelly-sandy-loamy, sandy and humusy riparian areas, and disturbed areas growing in shallow water; mucky; muddy, and wet, moist, damp and dry bouldery, bouldery-rocky, bouldery-gravelly, bouldery-sandy, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, shaley, shaley-gravelly, stony, cobbly, cobbly-gravelly, cobbly-sandy, gravelly, gravelly-sandy, sandy and peaty-sandy ground; rocky-gravelly loam, rocky-sandy loam, rocky-silty loam, cobbly loam, gravelly loam, gravelly-sandy loam, gravelly-sandy-clayey loam, gravelly-clayey loam, sandy loam, clayey loam, silty loam, silty-clayey loam and loam ground; rocky-loamy clay, rocky clay, sandy clay, loamy clay and clay ground; sandy silty and silty ground, and rocky humus and humus, occurring from sea level to 13,000 feet in elevation in the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat, consider planting with native mosses, sedges and violets. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop; it was also noted as having been used as a drug or medication. *Mimulus guttatus* is native to northwestern, northern, west-central and southern North America. \*5, 6, 15, 28 (color photograph 516), 42 (042013), 43 (042013 - *Mimulus guttatus* var. *depauperatus* A.L. Grant), 44 (041913), 46 (Page 781), 48 (genus), 58, 63 (020614 - color presentation including habitat), 77 (color photograph #52), **85** (020814 - color presentation), 86 (color photograph), 115 (color presentation), 124 (081411), 127 (020614), 133 (020614), 140 (placed in the Phrymaceae, Pages 261-262 & 298), 156 (020614 - no taxa found)\*

*Mimulus guttatus* var. *depauperatus* (see *Mimulus guttatus*)

*Mimulus guttatus* var. *guttatus* (see *Mimulus guttatus*)

*Mimulus nasutus* (see *Mimulus guttatus*)

*Mimulus parishii* (see *Mimulus guttatus*)

*Mimulus unimaculatus* (see *Mimulus guttatus*)

Simaroubaceae: The Quassia-wood Family

***Ailanthus altissima* (P. Miller) W.T. Swingle: Tree of Heaven**

COMMON NAMES: Ailanthus; Ailanthus Sumac; Ailanto (Italian); Ajlant vyso&ccaron;ajšij (transcribed Russian); Albero del Paradiso (Italian); Arbo del Cielo; Árbo del Cielo; Cancer Tree; China Ailanthus; China Sumac; China-sumac; Chinese Ailanthus; Chinese Sumac (a name also applied to other taxa); Chinese Tree of Heaven; Chinese Tree-of-heaven; Chou Chun (transcribed Chinese); Copal Tree (a name also applied to other taxa); Drüsiger Götterbaum (German); False Varnish Tree; False Varnish-tree; Gudaträd (Swedish); Hemelboom (Afrikaans); Nogal (a name also applied to other taxa, Spanish); Stinking Ash; Stinking Cedar (a name also applied to other taxa); Stinking Shumac; Stinking Sumac (a name also applied to other taxa); Stinktree (a name also applied to other taxa); Stinkweed; Tree of Heaven; Tree-of-heaven; Tree-of-heaven Ailanthus; Treeofheaven; Treeofheaven Ailanthus; Varnish Tree (a name also applied to other taxa); Varnishtree (a name also applied to other taxa); Vernis de la Chine (French); Verno (French). DESCRIPTION: Terrestrial perennial deciduous tree (5 to 100 feet or more [more commonly 20-66 feet] in height with crowns up to 80 feet in width; one tree was observed and described as being 25 feet in height with a crown 15 feet in width); the bark may be light brown or dark gray; the twigs are light brown; the leaves are dark green above and paler green beneath; the flowers (female and male flowers on separate trees, male flower may have an objectionable odor) have been described as being cream-white-yellow, green, pale green, greenish, white, white-yellow, whitish, whitish-green or yellowish-green; flowering generally takes place between mid-April and late June (additional records: two for mid-July, two for early August and one for late August); the winged fruits are reddish-brown or reddish-green. HABITAT: Within the range of this species it has been reported from mountains; bouldery crags; plateaus; cliff tops; avalanche chutes; rocky and gravelly canyons; canyon bottoms; gorges; talus, ridgetops; sandy openings in forests; sandy meadows; foothills; hills; bedrock and rocky, rocky-shaley, sandy, clayey-loamy and silty-clayey slopes; rock outcrops; amongst boulders; prairies; fields; flats; uplands; hollows; silty-loamy valleys; valley bottoms; railroad right-of-ways; along gravelly-sandy roadsides; arroyos; ravines; seeps; springs; in boulders along streams; along creeks; creekbeds; along rivers; sandy riverbeds; along washes; within drainages; marshy areas; (gravelly and sandy) banks of creeks, rivers and washes; along edges of ravines, washes and riparian areas; (gravelly) sides of streams; sandy benches; terraces; bottomlands; floodplains; along fencelines; along and in bouldery, rocky-gravelly-sandy ditches; riparian areas; mine spoils; waste places, and disturbed areas growing in wet, moist and dry bouldery, rocky, rocky-shaley, rocky-gravelly-sandy, gravelly, gravelly-sandy and sandy ground; clayey loam, silty loam and loam ground, and silty clay ground, occurring from sea level to 7,700 feet in elevation in the forest, woodland, scrub, grassland and wetland ecological formations. NOTES: EXOTIC Invasive Plant that poses a significant threat to our native biotic communities. This tree spreads rapidly by root sprouts and seeds. *Ailanthus altissima* is native to eastern Asia and coastal islands in the east Chinese Sea. \*5, 6, 18, 26 (color photograph), 28 (color photograph 99), 42 (020814), 43 (081009), 44 (020814), 46 (Supplement, page 1058), 52 (color photograph), 53 (note under Holacantha, *Holacantha emoryi*), 63 (020914 - color presentation), **85** (020914 - color presentation), 109 (color photograph), 127 (020914 - no matches found), 133 (020914), 156 (020914)\*

Solanaceae: The Potato Family

***Chamaesaracha coronopus* (M.F. Dunal) A. Gray: Greenleaf Five Eyes**

COMMON NAMES: Five Eye Chamaesaracha; Five-eye Chamaesaracha; Green False Nightshade; Green-false Nightshade; Green Leaf Five Eyes; Green-leaf Five-eyes; Greenleaf Fire Eyes; Greenleaf Five Eyes; Greenleaf Five-eyes; Greenleaf Fiveeyes; Small Groundcherry; Smooth Chamaesaracha; Smoothish Chamaesaracha. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (spreading prostrate and/or erect stems 4 to 20 inches in height/length; plants were observed and described as being 5½ inches in height and 2½ inches in width); the leaves are dark green; the color of the flowers (1/3 to 1/2 inch in diameter) has been described as being cream, cream-light green, cream-yellow, grayish-white, pale green, greenish-white sometimes tinged with purple, greenish-cream, greenish-white, greenish-yellow, lime green, purplish, white, dull white, whitish, yellow, light yellow, light yellow-cream, pale yellow-pale purple, yellow & green, yellowish or yellowish-white; the anthers are yellow; flowering generally takes place between early March and late November; the fruit is a globose berry. HABITAT: Within the range of this species it has been reported from mountains; mountaintops; rocky-gravelly and gravelly-loamy mesas; cliffs; hanging gardens; bouldery-sandy, gravelly and sandy canyons; gravelly and clayey canyon bottoms; rincons; rocky and sandy ridges; ridgetops; openings in woodlands; clayey meadows; gravelly foothills; rocky, shaley and clayey hills; hilltops; rocky and chalky hillsides; along sandy escarpments; along rocky, cindery, gravelly, gravelly-sandy, gravelly-sandy-loamy, gravelly-loamy, sandy, sandy-clayey-loamy, loamy and clayey slopes; rocky bajadas; rocky outcrops; sandy lava flows; sand dunes; gravelly banks; shaley barrens; prairies; sandy plains; gravelly, sandy, sandy-clayey-loamy and clayey flats; rocky uplands; clayey basins; sandy valley floors; valley bottoms; along railroad right-of-ways; along sandy roadbeds; along rocky, rocky-sandy, gravelly, gravelly-sandy, gravelly-loamy, sandy, sandy-loamy, sandy-clayey, loamy and clayey roadsides; sandy arroyos; bottoms of arroyos; within draws; springs; sandy streambeds; along creeks; along rivers; sandy riverbeds; within gravelly, gravelly-sandy-silty, sandy and sandy-loamy washes; rocky-sandy drainages; silty playas; sumps; sandy-silty swales; banks of washes and drainages; sandy edges of washes and drainages; sandy benches; sandy terraces; sandy and clayey bottomlands; floodplains; silty lowlands; edges of ditches; sandy-clayey riparian areas; waste places, and disturbed areas growing in dry bouldery-sandy, rocky, rocky-sandy, shaley, shaley-sandy, cindery, gravelly, gravelly-sandy and sandy ground; bouldery-gravelly-sandy-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-clayey loam, sandy loam, sandy-clayey loam and loam ground; sandy clay, sandy-silty clay and clay ground; gravelly-sandy silty, sandy-silty and silty ground, and chalky ground, occurring from 600 to 7,600 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. *Chamaesaracha coronopus* is native to southwest-central and southern North America. \*5, 6, 15, 28 (color photograph 207), 42 (021014), 43 (042910 - *Chamaesaracha coronopus* A. Gray), 44 (082111), 46 (“The berries are eaten by the Navajo and Hopi Indians.”, Pages 752-753), 63 (021014 - color presentation of seeds), 68, **85** (021014 - color presentation), 115 (color presentation), 124 (082111), 127 (021014), 133 (021014), 156 (021014 - no taxa found)\*

***Lycium exsertum* A. Gray: Arizona Desert-thorn**

COMMON NAMES: Arizona Desert-thorn; Axtó (Yuman: Maricopa, Yuma)140; Axto’t <a tu’t> (Yuman: Maricopa)140; Box [Desert] Thorn (English: Arizona)140; At Wusha’i (Uto-Aztecan: Onavas Pima)140; Boxthorn (a name also applied to other taxa and the genus *Lycium*); Desert Thorn (a name also applied to other taxa and the genus *Lycium*); Desert-thorn (a name also applied to other taxa and the genus *Lycium*); Frutilla (a name also applied to other species); ˀIci-s (Uto-Aztecan: Luiseño)140; Kuávul <kuáwul> (Uto-Aztecan: Akimel O’odham; see also *Celtis*)140; Kuavulĭ <kuavuli> (Uto-Aztecan: Hiá Ceḍ O’odham; for other species)140; Kuawul <kuawur> (Uto-Aztecan: Tohono O’odham)140; Kyeeva <ké:ve>, Kyeptsoki (Uto-Aztecan: Hopi)140; Littleleaf Wolfberry; Manzanita (“Little Apple” usually used for *Archtostaphylos*, Spanish: Mexico)140; Narrow-leaf Thorn-bush (English)140; Squaw-berry (English: Arizona)140; Tomatillo (“Little Tomato”, Spanish: Arizona, Mexico)140; Tomato Berry (English)140; Wolf-berry (English)140; Wolfberry (a name also applied to other taxa and the genus *Lycium*); Xcuc (Yuman: Cocopa)140. DESCRIPTION: Terrestrial perennial drought-deciduous shrub (20 inches to 13 feet in height; one plant was described as being 5 feet in height with a crown 6 feet in width, one plant was described as being 5 feet in height with a crown 6½ feet in width); the branches may be brown, brownish-gray, dark gray, gray, gray-brown or reddish-brown; the leaves are green; the color of the pendular flowers has been describe as being blue-cream, bluish, cream-lavender, greenish, pale lavender, lavender, lavender-white, light lavender-white, mauve, pink, pale purple, purple, blushed violet, white, white-pink, white-purple; whitish or whitish-lavender and sometimes tinged with brown or purple; flowering generally takes place between mid-January and early May (additional records: one for late July, two for mid-October, two for late October and two for early November); the mature fruits are orange-red, orange-bright red, reddish or red-orange. HABITAT: Within the range of this species it has been reported from mountains; mountainsides; bases of cliffs; rocky canyons; rocky canyon bottoms; talus slopes; bases of cliffs; buttes; ridges; rocky ridgetops; foothills; rocky hills; hilltops; rocky and gravelly hillsides; bases of hills; bouldery, rocky, rocky-sandy-loamy and gravelly-loamy slopes; rocky bajadas; bouldery and rocky outcrops; amongst boulders; plains; sandy flats; uplands; basins; along roadsides; along and in sandy arroyos; gravelly gullies; seeps; shaley springs; along and in creekbeds; along and in sandy and silty washes; gravelly drainages; drainage ways; along ponds; swales; (sandy) banks of rivers and washes; borders of washes; edges of streambeds, washes, drainage ways and lakes; margins of washes; benches; gravelly terraces; loamy bottomlands; floodplains, and riparian areas growing in dry bouldery, rocky, shaley, gravelly and sandy ground; rocky-sandy loam, gravelly loam and loam ground, and silty ground, occurring from sea level to 4,600 feet in elevation in the scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food and/or beverage crop. Bombyliid Flies have been observed visiting the flowers and birds feed on the fruits. The Arizona Desert-thorn is a host plant of the Texas Root Rot Fungus, *Phymatotrichum omnivorum*. *Lycium exsertum* is native to southwest-central and southern North America. \*5, 6, 13, 15, 16, 18 (genus), 42 (021014), 43 (043010), 44 (042613 - no record of species; genus record), 46 (Page 751), 58, 63 (021014), 77, **85** (021014 - color presentation), 127 (021014), 133 (021014 - no matches found), 140 (Pages 266-268 & 306), 156 (021014 - no taxa found)\*

***Nicotiana obtusifolia* M. Martens & H.G. Galeotti var. *obtusifolia*: Desert Tobacco**

SYNONYMY: *Nicotiana trigonophylla* M.F. Dunal. COMMON NAMES: Ban Vivga <ban vi:v> (“Coyote Tobacco”, Uto-Aztecan: Akimel O’odham)140; Ban Wiwga (Uto-Aztecan: Tohono O’odham)140; Biy, Biba-ta (Uto-Aztecan: Ópata)140; Coyote Tobacco (a name also applied to the species and other taxa); Coyote [Desert] Tobacco (English)140; Desert Tobacco (a name also applied to the species and other taxa); Goy Biba (Uto-Aztecan: Mayo)140; Ha Wiwga (“Their Tobacco”, Uto-Aztecan: Tohono O’odham)140; Hapis Casa (“Putrid Tobacco”, Hokan: Seri)140; Hatalewah Ū’v <a’uv, aúva> (“Coyote Tobacco”, Yuman: Mohave)140; Indian Tobacco; Intelwayok (“Old Time Tobacco”, Yuki: Yuki)140; Isily Piv’a <pivat-isil> (“Coyote’s Tobacco”, Uto-Aztecan: Coahuilla)140; KaƟódnyiúva (Yuman: Havasupai)140; Mela’ Ū’v (“Coyote Tobacco”, Yuman: Yuma)140; Nát’oh (Athapascan: Navajo)140; Nátotē (Athapascan: Jicarilla Apache)140; O’odham Ha Vivka (“People’s Tobacco”, Uto-Aztecan: Hiá Ceḍ O’odham, Arizona Sonora)140; Pahompin <pāmüpi> (Uto-Aztecan: Panamint)140; Pahmóbi (Uto-Aztecan: Mono)140; Pahmú (Uto-Aztecan: Western Paiute)140; Pamu (Uto-Aztecan: Mono)140; Pí:va-t [Píivat] (Uto-Aztecan: Luiseño)140; Piiva <piva, pi’va, pí:wa> (Uto-Aztecan: Hopi)140; Punche (“a Punch” a name also applied to the species); Qɔ’apI (Uto-Aztecan: Southern Paiute)140; Qoˀápų (Uto-Aztecan: Ute)140; Soˀo(n)dɨ <soódá> (Uto-Aztecan: Kawaiisu)140; Tabaquillo (“Little Tobacco” a name also applied to the species); Tabaquillo de Coyote (a name also applied to the species); Tobaco Cimarrón (“Wild Tobacco”, Spanish: Sonora)140; Tobaco [de] Coyote [Loco] (“Coyote [Crazy] Tobacco”, Spanish: Chihuahua, San Luis Potosí, Sonora)140; Tobaquillo [de Coyote] (“Little [Coyote] Tobacco”, Spanish: Texas to Arizona, Sonora)140; Tsawawap (Uto-Aztecan: Southern Paiute)140; ˀU:p <op> (Yuman: Cocopa)140; ‘Úva <u:v> (Yuman: Walapai)140; Uvaanálya (Yuman: Maricopa)140; Viv (Uto-Aztecan: Onavas Pima)140; Vivá-t (Uto-Aztecan: Eudeve)140; Vivai (Uto-Aztecan: Northern Tephuan)140; Vivam (Uto-Aztecan: Yaqui)140; Wiopuli <wiopulĭ, wiupuri, víopoli> (Uto-Aztecan: Tohono O’odham)140; Wipá (Uto-Aztecan: Guarijío)140; Wipáka <aura-ka, bawa-ra-ka, huipá, pawa-ra-ka> (Uto-Aztecan: Tarahumara)140; Wiw <viva> (Uto-Aztecan: Mountain Pima)140; Wo’i Viva (Yaqui). DESCRIPTION: Terrestrial annual, biennial or perennial forb/herb or subshrub (erect stems 1 to 3½ feet in height); the leaves may be gray-green or dark green; the flowers may be cream, cream & pale green, cream-green, cream-white, cream-yellow, greenish, greenish-white, greenish-yellow, deep purple, lemon-yellow, pale white, white, yellow, yellow-cream, yellow-green, yellow-white or yellowish-greenish; flowering generally takes place between late February and mid-January. HABITAT: Within the range of this species it has been reported from mountains; bouldery and rocky-gravelly mountaintops; plateaus; along rims; rocky cliffs; bases of cliffs; rock faces; rocky and gravelly-loamy canyons; canyon walls; along canyon bottoms; gorges; bouldery-gravelly-silty and silty-clayey talus slopes; along crevices in boulders and rocks; pockets of soil in bedrock; rocky bluffs; rocky buttes; rocky ledges; bouldery ridges; bouldery and rocky ridgetops; edges of meadows; craters; cinder cones; foothills; rocky hills; bouldery hilltops; bouldery-rocky and rocky hillsides; bouldery escarpments; bouldery, bouldery-rocky, bouldery-gravelly, rocky, rocky-gravelly-sandy-clayey, stony, cindery, gravelly, gravelly-sandy, sandy, sandy-loam and sandy-clayey slopes; bajadas; rocky outcrops; amongst boulders, rocks and stones; bases of boulders and rocks; sandy lava flows; dunes; debris fans; rocky plains; sandy and sandy-loamy flats; basins; valley floors; valley bottoms; rocky-sandy coastal shores; along railroad right-of-ways; along rocky, rocky-gravelly-sandy-clayey-loamy, gravelly, gravelly-sandy, gravelly-sandy-clayey-loamy and sandy roadsides; along sandy-loamy arroyos; arroyo walls; arroyo bottoms; gulches; in sand and loam around springs; loamy soil along streams; along gravelly-sandy and sandy streambeds; rocky creeks; sandy creekbeds; bouldery-sandy and sandy riverbeds; along and in bedrock, rocky, rocky-gravelly-sandy, rocky-sandy, gravelly-sandy and sandy washes; drainages; bouldery drainage ways; sandy waterholes; marshy areas; sandy depressions in slickrock; sinks; (rocky, cobbly, sandy and silty) banks of creeks, rivers and washes; edges of lakes; (sandy) sides of rivers; (rocky-sandy) shores of lakes; mudflats; gravelly and sandy terraces; bottomlands; floodplains; ditches; ditch banks; sandy riparian areas; waste places, and disturbed areas growing in moist, damp and dry bouldery, bouldery-rocky, bouldery-gravelly, bouldery-sandy, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, stony, cobbly, cindery, gravelly, gravelly-sandy and sandy ground; rocky-gravely-sandy-clayey loam, gravelly loam, gravelly-sandy-clayey loam, sandy loam, clayey loam and loam ground; rocky-gravelly-sandy clay, sandy clay, silty clay and clay ground, and bouldery-gravelly silty and silty ground, occurring from sea level to 6,900 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant tends to be weedy; however, consideration could be given to using some plants in your project because the flowers are used by hummingbirds when other nectar-rich sources are not available. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used for food, beverage and/as a as a drug or medication. *Nicotiana obtusifolia* var. *obtusifolia* is native to southwest-central and southern North America. \*5, 6, 15 (recorded as *Nicotiana trigonophylla* Dunal), 16 (recorded as *Nicotiana trigonophylla* Dunal), 28 (recorded as *Nicotiana trigonophylla*, color photograph 209), 42 (030214), 43 (050310), 44 (082211 - no listings under Common Names for variety *obtusifolia*; species and genus records), 46 (recorded as *Nicotiana trigonophylla* Dunal, Page 761), 58 (recorded as *Nicotiana trigonophylla* Dunal), 63 (042713 - color presentation), 68, 77 (recorded as *Nicotiana trigonophylla* Dunal), 80 (This species is listed as a Secondary Poisonous Range Plant. “The poisonous principle is the highly toxic nicotine and other alkaloids which are poisonous to all classes of livestock and to humans. The plants are generally unpalatable to range livestock but frequent losses have been reported. ... Since wild tobaccos are generally unpalatable and grow predominantly in waste places, range improvement to reduce waste areas and to provide ample forage is the best means of preventing losses.”), 85 (030214 - color presentation), 86 (recorded as *Nicotiana trigonophylla*, color photograph), 115 (color presentation of the species), 124 (082111 - no record of genus, species or variety), 127, 140 (recorded as *Nicotiana obtusifolia* Martens & Galeotti [*N. trigonophylla* Dunal], Pages 268-269 & 306), **MBJ**/**WTK** (July 9, 2009)\*

*Nicotiana trigonophylla* (see *Nicotiana obtusifolia* var. *obtusifolia*)

***Solanum douglasii* M.F. Dunal: Greenspot Nightshade**

SYNONYMY: *Solanum nigrum* C. Linnaeus var. *douglasii* (M.F. Dunal) A. Gray. COMMON NAMES: Douglas Horse-nettle; Douglas Night Shade; Douglas Night-shade; Douglas Nightshade; Douglas’ Horse-nettle; Douglas’ Night Shade; Douglas’ Night-shade; Douglas’ Nightshade; Douglas’s Horse-nettle; Douglas’s Night Shade; Douglas’s Night-shade; Douglas’s Nightshade; Green-spot Nightshade; Greenspot Nightshade. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (trailing, ascending and/or erect stems 1 to 6½ feet in height; one plant was observed and described as being 32 inches in height and 5 feet in width); the color of the flowers has been described as being blue-violet, blue-white, cream, lavender, pale lavender, purple, pale purple, purple-white, white, white with a green or greenish throat, white tinged with purple, white-pale lavender, white-lavender or whitish; the anthers are yellow; flowering generally takes place throughout the year between early January and late December; the mature fruits may be black, blue-black, green or orange-brown. HABITAT: Within the range of this species it has been reported from mountains; mountaintops; mesas; plateaus; rocky cliffs; bases of cliffs; rocky and gravelly-loamy canyons; rocky canyon bottoms; chasms; talus slopes; crevices in boulders and rocks; bluffs; wet meadows; foothills; bouldery and rocky hills; hilltops; bouldery and rocky hillsides; bases of hillsides; bouldery, bouldery-gravelly, rocky, rocky-gravelly, rocky-sandy, rocky-clayey, gravelly, gravelly-sandy, gravelly-loamy, sandy-loamy, sandy-clayey-loamy, loamy, clayey and clayey-loamy slopes; rocky-sandy-loamy alluvial fans; rocky outcrops; amongst boulders and rocks; banks; bouldery-sandy, rocky-sandy, sandy, clayey and clayey-loamy flats; uplands; basins; valley floors; coastal bluffs; coastal dunes; coastal marshes; sandy coastal beaches; along rocky, rocky-gravelly, gravelly, gravelly-sandy and clayey roadsides; draws; gulches; gullies; ravines; seeps; springs; in rock along streams; along rocky streambeds; along rocky creeks; along sandy creekbeds; sandy-loamy and silty-clayey riverbeds; within rocky-sandy, gravelly and sandy washes; drainages; within rocky drainage ways; oases; freshwater marshes; sumps; along (sandy-loamy) banks of streambeds, creeks, rivers and washes; (sandy) edges of washes and marshes; margins of riparian areas; shores of lakes; gravelly and sandy terraces; sandy-loamy bottomlands; rocky-sandy floodplains; lowlands; margins of charcos (stock tanks); ditches; sandy riparian areas; waste places; recently burned areas of chaparral and coastal sage scrub, and disturbed areas growing in wet, moist, damp and dry bouldery, bouldery-gravelly, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, gravelly, gravelly-sandy and sandy ground; rocky-gravelly-clayey loam, rocky-sandy loam, gravelly loam, sandy loam, sandy-clayey loam, clayey loam and loam ground; rocky-clayey, silty clay and clay ground, and silty ground, occurring from sea level to 8,800 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food and/or dye crop; it was also noted as having been considered poisonous, used as a drug or medication and for body art (tattooing). A bee (*Ptiloglossa* sp.) was observed and reported as gathering nectar from the flowers in early September. *Solanum douglasii* is native to south-central and southern North America. \*5, 6, 15, 18 (genus), 42 (021014), 43 (050610 - no record for *Solanum nigrum* var. *douglasii*), 44 (082411 - color photograph), 46 (Page 758), 58, 63 (021014 - color presentation), 77 (color photograph #98), **85** (021014 - color presentation), 124 (082411 - no record of species; genus record), 127 (021014), 133 (021014), 140 (Pages 272 & 306), 156 (021014 - no taxa found)\*

***Solanum elaeagnifolium* A.J. Cavanilles: Silverleaf Nightshade**

COMMON NAMES: Arrebenta-cavalo (Portuguese: Brazil); Ashika (Keres: Cochiti)140; Buena [Mala] Mujer (“Good [Bad] Woman”, Spanish: Sonora)140; Bull Nettle (a name also applied to other species, New Mexico); Bull-nettle (a name also applied to other species, New Mexico); Bull-nettle (English)140; Bullnettle (a name also applied to other species); Desert Nightshade (a name also applied to other species); Gáán Bidáá <bináá> (Athapascan: Western Apache)140; Ha’watapa (Language Isolate: Zuni); Horse Nettle (a name also applied to other species and the genus *Solanum*, Nebraska, New Mexico); Horse-nettle (a name also applied to other species and the genus *Solanum*, Nebraska, New Mexico); Iron-weed (English: Texas)140; Melãozinho-do-campo (Portuguese: Brazil); Nááłtsoí <náałshoih, ˀanatco-i> (Athapascan: Navajo)140; Pera (“Pear”, (Spanish: Coahuila)140; Prairie-berry; Prickly Nightshade (Kansas); Purple Nightshade (a name also applied to other species); Rosillo (Spanish: Sonora)140; Saca Manteca (“Butter Puller”, Spanish: Arizona, Sonora)140; Satansbos (Afrikaans); Silver Horse Nettle; Silver Horse-nettle; Silver Horsenettle; Silver Leaf Horse Nettle; Silver Leaf Horse-nettle; Silver Leaf Night Shade; Silver Leaf Nightshade; Silver Leafed Night Shade; Silver Leaved Horsenettle; Silver Leaved Nightshade; Silver Night Shade; Silver Night-shade; Silver Nightshade; Silver [-leaf] Nightshade (English)140; Silver-leaf Horse Nettle; Silver-leaf Horse-nettle; Silver-leaf Night-shade; Silver-leaf Nightshade; Silver-leafed Night-shade; Silver-leafed Nightshade; Silver-leaved Bull Nettle; Silver-leaved Horse Nettle; Silver-leaved Horse-nettle; Silver-leaved Horsenettle; Silver-leaved Nettle; Silver-leaved Nightshade; Silverleaf Bitter-apple; Silverleaf Horsenettle; Silverleaf Nightshade; Silverleaf-nettle; Silverskatta (Swedish); Tomato Weed (a name also applied to other species); Tomatillo de Buena Mujer (“Good Woman’s Little Tomato”, Spanish: Sonora)140; Trompillo (“Little Top”, Spanish: New Mexico, Texas, Chihuahua, San Luis Potosí, Sonora)140; Trompillos (Mexico); Vakoa Hahaiñig (“Cracked Gourd”, Uto-Aztecan: Akimel O’odham)140; Vakoa Hahaisig (“Gourd Broken Into Pieces”, Uto-Aztecan: Akimel O’odham)140; Vakoa Hai (“Broken Gourd”, Uto-Aztecan: Akimel O’odham)140; Vi’ul (Uto-Aztecan: Hiá Ceḍ O’odham; fruits)140; Wako Hahaisa (Uto-Aztecan: Tohono O’odham)140; White Horse Nettle; White Horse-nettle (English: New Mexico, Texas)140; White Horsenettle; White Weed (Texas), White-weed (English: Texas)140; Yellow Seed Night Shade. DESCRIPTION: Terrestrial perennial forb/herb or subshrub (spreading erect stems 8 inches to 2 feet, or possibly to 40 inches, in height; plants were observed and described as being 8 inches in height with a crown 2 to 4 inches in width, plants were observed and described as being 10 to 12 inches in height and width, plants were observed and described as being 16 inches in height with a crown 8 inches in width); the leaves may be bluish-gray, gray, gray-green, grayish-green, greenish-gray or silvery; the color of the star-like flowers (¾ to 1½ inch in diameter) has been described as being blue, light blue, dark blue, blue-lavender, blue-purple, blue-violet, deep blue-violet, bluish-purple, bluish-violet, lavender, lavender-purple, purple, light purple, dark purple, violet, deep violet, violet-purple or white; the anthers are yellow; flowering generally takes place between late March and late November (additional record: one for mid-February); the mature fruits (1/3 to 1/2 inch in diameter) are a golden, golden-brown, orange, orange-yellow or yellow berry. HABITAT: Within the range of this species it has been reported from mountains; mountaintops; sandy mesas; sandy plateaus; tablelands; bases of cliffs; rocky canyons; canyonsides; along bouldery-sandy, rocky and sandy canyon bottoms; chasms; bedrock, rocky-sandy and sandy ridges; sandy-loamy bosques; sandy meadows; rocky-sandy rims of craters; rocky foothills; clayey and gypsum hills; hilltops; rocky and gravelly hillsides; along rocky, rocky-gravelly, stony, cobbly-sandy-loamy, gravelly, gravelly-sandy, gravelly-loamy and sandy slopes; sandy-clayey-loamy bajadas; clayey outcrops; sandy lava flows; sand dunes; banks; prairies; sandy plains; rocky-sandy, gravelly, gravelly-loamy, sandy, loamy, clayey, silty and silty-clayey flats; gravelly-sandy uplands; basins; shaley-silty and sandy valley floors; coastal bluffs; coastal plains; coastal beaches; along sandy railroad right-of-ways; in roadways; along rocky, rocky-sandy, gravelly, gravelly-sandy, gravelly-sandy-clayey-loamy, gravelly-loamy, sandy and clayey roadsides; arroyos; clayey bottoms of arroyos; draws; silty bottoms of draws; springs; sandy streambeds; along creeks; along rocky-gravelly-sandy, gravelly-sandy and sandy creekbeds; along rivers; bouldery-cobbly-sandy and rocky-sandy riverbeds; along and in rocky, rocky-sandy, gravelly, gravelly-loamy and sandy washes; along rocky-sandy, pebbly-sandy, sandy and clayey-loamy drainages; along drainage ways; ciénegas; swampy areas; depressions; swales; (sandy and clayey) banks of arroyos and rivers; (clayey) edges of playas and ciénegas; margins of rivers and washes; sides of lakes; (rocky-sandy, gravelly and sandy-loamy) shores of ponds, lakes and playas; sandy beaches; benches; sandy terraces; sandy bottomlands; sandy and silty floodplains; mesquite bosques; fencelines; along stony and gravelly-sandy fencelines; around stock tanks; clayey levees; along ditches; along stony ditch banks; bouldery-cobbly-sandy and sandy riparian areas; waste places, and disturbed areas growing in moist and dry bouldery-cobbly-sandy, bouldery-sandy, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, shaley, stony, gravelly, gravelly-sandy, pebbly-sandy and sandy ground; cobbly-sandy loam, gravelly loam, gravelly-sandy-clayey loam, gravelly-clayey loam, gravelly-silty loam, sandy loam, sandy-clayey loam, clayey loam, silty loam and loam ground; sandy clay, silty clay and clay ground; rocky silty, shaley silty and silty ground, and gypsum, occurring from sea level to 8,000 feet in elevation in the forest, woodland, scrub; grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America; it was noted that the berries are used as rennet in curdling milk; as a drug or medication, and the dried berries were worn as jewelry. The green fruits may be poisonous. This plant is reportedly a host plant for Tortoise Beetles. *Solanum elaeagnifolium* is native to south-central (records exist reporting that this plant occurred in the southwestern part of Pima County, Arizona from 9,570 to 20,490 years ago) and southern North America and southern South America. \*5, 6, 15, 16, 18 (genus), 28 (color photograph 703), 42 (030214), 43 (073009), 44 (031611), 46 (Page 758), 58, 63 (043013 - color presentation), 68, 77, 80 (This species is listed as a Secondary Poisonous Range Plant. “The toxic principle in these species is a glycoalkaloid to which the name solanine is applied. The toxicity of a given species may vary considerably. ... Poisoning by *Solanum* species does not always terminate in death. In the acute poisoning, nervous symptoms rapidly build to a maximum, and death or recovery occurs within a few hours to one or two days. Death is the result of paralysis. ... Where the plants are known to exist, animals should be watched closely for symptoms. The best control is to grub out the plants and remove them from the area. This should be done prior to seed development to prevent additional seeding.”), 85 (030314 - color presentation), 86 (color photograph), 97, 101 (color photograph), 115 (color presentation), 124 (031611), 127, 140 (Page 271-272 & 306), **MBJ**/**WTK** (July 9, 2009)\*

*Solanum nigrum* var. *douglasii* (see *Solanum douglasii*)

Ulmaceae: The Elm Family

*Celtis douglasii* (see *Celtis reticulata*)

*Celtis laevigata* var. *reticulata* (see *Celtis reticulata*)

***Celtis reticulata* J. Torrey: Netleaf Hackberry**

SYNONYMY: *Celtis douglasii* J.É. Planchon; *Celtis laevigata* C.L. von Wildenow var. *reticulata* (J. Torrey) L.D. Benson. COMMON NAMES: a’qwá’ <aqwa’> (Yuman: Walapai)140; Acibuche <acebuche> (Spanish: Chihuahua)140; Aceituna (“Olive”, Spanish)140; Bainoro <vainora> (Spanish: Sonora)140; Canyon Hackberry; Combro (Spanish); Cumaro (Spanish); Cúmaro (Mexico, Sonora); Cumbaro (Spanish: Mexico, Sonora); Cumbro (Spanish); [Palo] Cumbro (Spanish: Sinaloa)140; Cúmero <combro, cumaro, cumbro> (Uto-Aztecan: Cahita, Mayo, Sonora, Sinaloa)140; Didzé Bik’ǫǫdlizí <diɜé bekǫ~~λ~~izí> (Athapascan: Navajo)140, Douglas Hackberry; Douglas’s Hackberry; False Elm; Garabato Blanco (“White Iron Hook”, Spanish: Baja California)140; Gumbro (Uto-Aztecan: Onavas Pima)140; Hack Berry; Hackberry (a name also applied to the genus *Celtis*); [Net-leaf] Hackberry (English)140; I*Υ*ntłidz (“Hard Seed”, Athapascan: Chiricahua and Mescalero Apache)140; Hackberry Tree (New Mexico, Bernalillo County); Jiłhááze (Athapascan: Western Apache)140; Jiłhazí <jilxazi, tjiłxájih> (“Chewing Plant” Jiłhazí is a name that is also applied to *Celtis palida* and *Sambucus nigra*, Athapascan: Navajo)140; Keˀmoci (Uto-Aztecan: Guarijío)140; Ko:m <kom> (Uto-Aztecan: Tohono O’odham)140; Kumar (Uto-Aztecan: Onavas Pima)140; Machaquí <uchieá> (Uto-Aztecan: Guarijío, Sonora)140; Membrillo (Spanish: San Luis Potosí)140; Net Leaf Hackberry; Net-leaf Hackberry; Net-leaf Sugar Hackberry; Net-leafed Hackberry; Net Leaved Hackberry; Net-leaved Hackberry; Netleaf Hackberry; Oklahoma Hackberry; Palo Blanco (a name also applied to other taxa, Spanish); Palo Blanco (“White Tree”, Spanish: Arizona, Texas, Coahuila, Durango, Tamaulipas)140; Palo Duro (“Hard Tree”, Spanish: New Mexico)140; Palo Mulato (“Mulato Tree”, Spanish: Durango)140; Shikai-shikai-ka (Keres: Acoma, Laguna)140; Small-leaf Nettle Tree; Small-leaved Nettle Tree; Sugar-berry (a name also applied to the genus *Celtis*); Sugar-berry (English)140; Sugarberry (a name also applied to the genus *Celtis*); Thick-leaf Hackberry; Thick-leaved Hackberry; Uchic (Spanish); Vaior (Spanish: Mexico)140; Western Hackberry (a name also applied to other taxa); Western Hackberry (English)140. DESCRIPTION: Terrestrial perennial deciduous shrub or tree (40 inches to 60 feet in height with a rounded and spreading crown; stunted shrubs or trees up to 2 feet in height were observed and reported from forests at higher elevations, one tree was observed and described as being 13 feet in height and 16 feet in width, one tree was observed and described as being 30 feet in height and width); the bark may be gray, dark gray or reddish-brown becoming “warty” with age; the twigs are reddish-brown; the upper surface (adaxial) of the leaves may be dark green or gray-green and the lower surface (abaxial) is yellow-green appearing in early April to late May developing fully in June, they turn yellow in the fall; the inconspicuous flowers are green or yellow-green; the anthers are green; the stigmas are whitish-green; flowering generally takes place between mid-March and mid-September; the fruits may be black, purplish, pale orange, orange, orange-red-brown, dark red, reddish or reddish-black. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; rocky mesas; plateaus; rocky cliffs; hanging gardens; bases of cliffs; along bouldery, rocky, rocky-gravelly and gravelly-loamy canyons; canyon sides; bouldery, rocky, gravelly and gravelly-sandy-clayey canyon bottoms; chasms; rocky gorges; bouldery talus slopes; crevices in rocks; bluffs; ledges; rocky ridges; rocky and gravelly ridgetops; foothills; sandy, clayey and gypsum hills; rocky hillsides; sandy bases of hills; bouldery, bouldery-sandy, rocky, rocky-sandy-clayey-loamy, rocky-loamy, shaley, shaley-gravelly, gravelly-loamy, sandy-loamy, loamy and gypsum slopes; alluvial fans; rocky and gypsum outcrops; amongst boulders and rocks; bases of rock slides; rocky and sandy alcoves; sandy lava flows; lava beds; sand hills; sand dunes; shell banks; breaks; prairies; plains; sandy flats; basins; sandy valley floors; valley bottoms; along gravelly-loamy roadsides; along and in rocky, gravelly and sandy arroyos; gravelly and sandy bottoms of arroyos; bottoms of draws; gravelly-sandy gulches; rocky gullies; ravines; sandy seeps; rocky-gravelly springs; along streams; along and in bouldery, gravelly-sandy and sandy streambeds; in sand along creeks; along and in bouldery and sandy creekbeds; along rivers; riverbeds; along and in rocky, rocky-gravelly, gravelly, gravelly-sandy, sandy and sandy-clayey-loamy washes; within rocky-sandy drainages; loamy drainage ways; along watercourses; oases; among and in pools; ponds; lakes; tanks; ciénegas; along (rocky) banks of arroyos, ravines, streams, streambeds, creeks, rivers, washes and drainages; borders of washes; (sandy) edges of arroyos, springs, streams and washes; along margins of arroyos, rivers and ponds; sides of springs and streams; shores of lakes; sand bars; rocky-sandy, gravelly-sandy and sandy benches; gravelly, sandy and silty-loamy terraces; rocky and silty bottomlands; along floodplains; mesquite bosques; fencerows; gravelly canal banks; along ditches; bouldery, rocky-gravelly, gravelly and sandy riparian areas, and disturbed areas growing in wet, moist, damp and dry (seasonally wet) bouldery, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, shaley, shaley-gravelly, gravelly, gravelly-sandy and sandy ground; rocky loam, rocky-sandy-clayey loam, gravelly loam, sandy loam, sandy-clayey loam, silty loam and loam ground; gravelly-sandy clay and clay ground; silty ground, and gypsum, occurring from 100 to 7,700 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food, fiber and/or dye (red-brown) crop; it was also noted as having been used in the making of tools, as a drug or medication, and as a fuel. The Netleaf Hackberry may be useful in the rehabilitation of disturbed sites and suitable for planting in patios, yards and along streets in urban areas and may live to be 100 to 200 years in age. The Netleaf Hackberry provides cover and food for many species of birds and mammals; the American Beaver (*Castor canadensis*) feeds on the wood; the plant is browsed by Pronghorn (*Antilocapra americana*), Mule Deer (*Odocoileus hemionus*) and White-tailed Deer (*Odocoileus virginianus*), and the fruit is eaten by wildlife. Scrub Jays (*Aphelocoma californica*) feed on the leaf galls that form on the foliage. *Celtis reticulata* is native to south-central and southern North America. \*5, 6, 13 (recorded as *Celtis laevigata* Wild. var. *reticulata* (Torrey) L. Benson, Pages 154-155), 15 (recorded as *Celtis reticulata* Torr.), 18, 26 (recorded as *Celtis reticulata*, color photograph), 28 (recorded as *Celtis reticulata*, color photograph 70), 42 (021014), 43 (120410 - *Celtis laevigata* var. *reticulata* (Torr.) L.D. Benson), 44 (050213 - Common Names listings recorded under *Celtis reticulata*), 46 (recorded as *Celtis reticulata* Torr., Page 220), 48, 52 (recorded as *Celtis reticulata*, color photograph), 53, 58 (recorded as *Celtis reticulata* Torr.), 63 (021014 - recorded as *Celtis laevigata* Wild. var. *reticulata* (Torr.) L.D. Benson, color presentation), 85 (021014 - color presentation), 115 (color presentation), 124 (031611), 127 (021014 - records located under *Celtis laevigata* var. *reticulata* (Torrey) L. Benson), 133 (021014 - records located under *Celtis reticulata* Torrey), 140 (recorded as *Celtis reticulata* Torrey, placed in the Cannabaceae, Pages 108, 272, 273-274 & 288), 156 (021014 - records located under *Celtis reticulata* Torrey), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

Urticaceae: The Nettle Family

***Parietaria floridana* T. Nuttall: Florida Pellitory**

COMMON NAMES: Desert Pellitory; Florida Pellitory; Pellitory (a name also applied to the genus *Parietaria*). DESCRIPTION: Terrestrial annual forb/herb (branched prostrate, decumbent, ascending and/or erect stems 4 to 38 inches in height); the stems are light green; the foliage is green; the flowers are cream or white; based on few records located flowering generally takes place between early March and mid-May (additional records: one for early February and one for mid-July). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; cliffs; rock walls; along rocky canyons; rocky canyon bottoms; crevices in rock; pockets in rock; under rock ledges; ridges; rocky hills; rocky slopes; gravelly bajadas; rock outcrops; amongst rocks; under rocks; shell middens; plains; coastal plains; roadsides; gravelly arroyos; along gravelly-sandy bottoms of arroyos; seeps; along creeks; riverbeds; along and in rocky and sandy washes; drainages; lakebeds; (gravelly-sandy) edges of tinajas; (gravelly-sandy) margins of arroyo bottoms; sandy beaches; bottomlands; mucky lowlands; mesquite bosques; stock tanks; riparian areas, and disturbed areas growing in mucky and wet and moist rocky, cindery-sandy, gravelly, gravelly-sandy and sandy ground; clay ground, and silty ground often reported in shaded areas, occurring from sea level to 5,000 feet in elevation in the woodland, desertscrub and wetland ecological formations. NOTE: *Parietaria floridana* is native to south-central and southern North America; coastal islands in the Caribbean Sea, and South America. \*5, 6, 42 (021114), 43 (021114), 44 (021114 - no species record; genus record), 46 (Page 223), 63 (021114), **85** (021114 - color presentation), 127 (021114 - no matches found), 133 (021114 - no matches found), 140 (Page 306), 156 (021114)\*

Verbenaceae: The Verbena Family

***Glandularia bipinnatifida* (T. Nuttall) T. Nuttallvar. *bipinnatifida*: Dakota Mock Vervain**

SYNONYMY: *Verbena bipinnatifida* J.C. Schauer. COMMON NAMES: Alfombrilla (Hispanic); Alfombrilla de Campo (Hispanic); Azul Chichique (Hispanic); Dakota Mock Vervain (a name also applied to the species and *G*.*b*. var. *brevispicata* - Not Accepted, *G*.*b*. var. *ciliata* - Accepted; Dakota Verbena (a name also applied to *Verbena bipinnatifida*); Hierba del Ojo (Hispanic); Moradilla (Hispanic); Small-flowered Verbena; Tatsundiku Moradu (Purépecha); Verbena (a name also applied to other taxa, the genus *Verbena* and the Verbenaceae, Spanish); Vervain (a name also applied to other taxa, the genus *Verbena* and the Verbenaceae). DESCRIPTION: Terrestrial annual or perennial forb/herb (sprawling decumbent, ascending and/or erect stems 4 to 20 inches in height/length; one plant was observed and described as being 4 inches in height and 40 inches in width, one plant was observed and described as being 12 inches in height and 16 inches in width); the leaves may be gray, dark green or yellow-green; the color of the flowers has been described as being blue-violet, bluish-purple, light lavender, lavender, lavender-pink, magenta-pink, periwinkle blue, pink, dark pink, pink-lavender, pale purple (aging blue), purple, purple & white, purplish-pink, rose, rose-pink, rose-purple, violet, white or yellow; flowering generally takes place between early February and early November (additional record: one for early December). HABITAT: Within the range of this species it has been reported from mountains; rocky peaks; mountaintops; rocky mountainsides; gravelly-loamy mesas; cliffs; along rocky, gravelly, gravelly-loamy and clayey-loamy canyons; rocky canyon walls; sandy canyon bottoms; crevices in rocks; bluffs; rocky buttes; knolls; rocky ridges; rocky ridgetops; openings in forests and woodlands; meadows; foothills; rocky, rocky-loamy and clayey hills; rocky-gravelly-loamy hilltops; rocky and rocky-gravelly hillsides; bouldery-sandy, rocky, rocky-clayey, rocky-clayey-loamy, shaley, stony, gravelly, gravelly-silty, sandy, sandy-clayey, loamy, loamy-clayey, clayey and clayey-loamy slopes; bajadas; pediments; rocky outcrops; amongst boulders; lava beds; sand hills; dunes; shaley, loamy and loamy-clayey banks; breaks; rocky, rocky-loamy, gravelly-loamy, gravelly-clayey-loamy, sandy and loamy prairies; sandy plains; sandy fields; sandy flats; loamy, loamy-clayey and silty uplands; sandy valley floors; along clayey railroad right-of-ways; gravelly and gravelly-loamy roadbeds; roadcuts; along rocky, shaley, gravelly, sandy, sandy-loamy, clayey-loamy and silty roadsides; two-tracks; rocky and clayey-loamy arroyos; rocky draws; bottoms of draws; rocky gulches; sandy bottoms of gulches; stony ravines; bottoms of ravines; seeps; springs; in clay along streams; along and in rocky streambeds; in sand along creeks; sandy creekbeds; along and in rivers; along and in riverbeds; within bedrock washes; sandy drainages; drainage ways; in rocks around ponds; sumps; (clayey and silty) banks of creeks and rivers; (silty) edges of streams and washes; margins of rivers and lakes; sides of lakes; shores of lakes; terraces; sandy bottomlands; sandy floodplains; lowlands; along sandy and clayey ditches; along clayey-loamy riparian areas and disturbed areas growing in moist and dry rimrock; bouldery, bouldery-sandy, rocky, rocky-gravelly, rocky-sandy, shaley, stony, stony-sandy, gravelly and sandy ground; rocky loam, rocky-gravelly loam, rocky-sandy loam, rocky-clayey loam, gravelly loam, gravelly-sandy loam, gravelly-clayey loam, sandy loam, clayey loam and loam ground; rocky clay, sandy clay, loamy clay, silty clay and clay ground, and gravelly silty and silty ground, occurring from 300 to 9,300 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. The species, *Glandularia bipinnatifida*, was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. The flowers may be fragrant. *Glandularia bipinnatifida* var. *bipinnatifida* is native to south-central and southern North America. \*5, 6, 15, 18, 28 (recorded as *Verbena bipinnatifida*, color photograph 638), 30 (species), 42 (021114), 43 (051110), 44 (050313 - no listings recorded under Common Names for variety or species; genus record), 46 (*Verbena bipinnatifida* Nutt., Page 727), 48 (genus), 58, 63 (021114 - color presentation), **85** (021114 - color presentation), 115 (color presentation of the species), 127 (021114 - species), 133 (021114), 140 (recorded as *Glandularia bipinnatifida* (Nuttall) Nuttall[*Verbena bipinnatifida* Nuttall], Page 306), 156 (021114)\*

***Glandularia gooddingii* (J.I. Briquet) O.T. Solbrig: Southwestern Mock Vervain**

SYNONYMY: *Verbena gooddingii* J.I. Briquet; *Verbena gooddingii* J.I. Briquet var. *nepetifolia* I. Tidestrøm. COMMON NAMES: Desert Verbena (a name also applied to other taxa); Desert Vervain; Goodding Glandularia; Goodding Mock Vervain; Gooding Verbena; Goodding Verbena; Goodding Vervain; Goodding’s Glandularia; Goodding’s Mock Verbena; Goodding’s Mock Vervain; Goodding’s Verbena; Goodding’s Vervain; Gooding Verbena (error); Mexican Vervain; Mojave Verbena; Southwestern Mock Vervain; Southwestern Mock Vervain; Southwestern Verbena; Southwestern Vervain; Sweet William (a name also applied to other species); Verbena (a name also applied to other taxa, the genus *Verbena* and the Verbenaceae, Spanish); Vervain (a name also applied to other taxa, the genus *Verbena* and the Verbenaceae). DESCRIPTION: Terrestrial perennial forb/herb (ascending stems 3 inches to 2 feet in height; one plant was observed and described as being 6 to 10 inches in height and 6 inches in width, one plant was observed and described as being 20 inches in height and 28 inches in width, one plant was observed and described as being 24 inches in height and 12 inches in width); the leaves may be gray-green, green, dark green or yellow-green; the color of the flowers has been described as being light blue, blue, blue-lavender, blue-purple, blue-violet, bluish-purple, pale lavender, lavender, lavender-blue, lavender-purple, magenta, pink, pink-lavender, pink-purple, pink-violet, light purple, purple, purple with a white to yellow corolla tube, purple-blue, purple-lavender, purplish-pink, reddish-violet, rose-pink, sky blue or white-lavender; flowering generally takes place between early February and early December (additional record: one for early January). HABITAT: Within the range of this species it has been reported from mountains; cobbly-gravelly and gravelly mesas; plateaus; rocky cliffs; along canyons; bouldery-cobbly, rocky, gravelly and sandy canyon bottoms; talus slopes; crevices in rocks; rocky ledges; rocky-sandy and sandy ridges; rocky ridgetops; meadows; cinder cones; gravelly, gravelly-sandy and sandy foothills; rocky hills; hilltops; rocky hillsides; bouldery-sandy, rocky, rocky-gravelly, rocky-loamy, gravelly and clayey-loamy slopes; rocky outcrops; amongst boulders; terraces; rocky plains; sandy, clayey-loamy and silty flats; uplands; sandy valley floors; in roadways; along rocky, cindery, gravelly, gravelly-sandy, gravelly-sandy-clayey-loamy, gravelly-loamy, pebbly, sandy, sandy-loamy and loamy roadsides; within rocky and gravelly arroyos; rocky bottoms of arroyos; gravelly gulches; bouldery-rocky ravines; seeps; springs; along and in streambeds; along creeks; creekbeds; along rivers; riverbeds; along and in rocky, rocky-gravelly, rocky-sandy, gravelly and sandy washes; drainages; around pools; playas; ciénegas; (sandy and silty) banks of creeks, rivers and washes; borders of washes; (gravelly-sandy and silty) edges of streambeds, creeks and washes; margins of washes; (stony) sides of streams; shores of lakes; sand bars; cobbly benches; shelves; terraces; sandy bottomlands; sandy-clayey floodplains; rocky, cobbly-gravelly, gravelly and sandy riparian areas; recently burned areas of forests, and disturbed areas growing in dry bouldery, bouldery-rocky, bouldery-cobbly, bouldery-sandy, bouldery-clayey, rocky, rocky-gravelly, rocky-gravelly-sandy, rocky-sandy, stony, stony-cobbly, cobbly, cobbly-gravelly, cindery, gravelly, gravelly-sandy, pebbly and sandy ground; rocky loam, rocky-gravelly loam, gravelly loam, gravelly-sandy-clayey loam, gravelly-clayey loam, sandy loam, clayey loam and loam ground; bouldery clay, sandy clay and clay ground, and gravelly-sandy silty, powdery silty and silty ground, occurring from 500 to 7,800 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. The flowers may be fragrant. *Glandularia gooddingii* is native to southwest-central and southern North America. \*5, 6, 15 (recorded as *Glandularia gooddingii* (Briq.) Solbrig), 16, 28 (color photograph 636), 42 (021114), 43 (073109), 44 (082611 - no listing recorded under Common Names, common names recorded under *Verbena gooddingii*, color photograph), 46 (recorded as *Verbena gooddingii* Briq. and *Verbena gooddingii* Briq. var. *nepetifolia* Tidestrøm, Pages 726-727), 48 (genus), 63 (021114), 77 (recorded as *Verbena gooddingii* Briq., color photograph #53), **85** (021114 - color presentation), 115 (color presentation), 124 (082611 - no record of species; genus record), 127 (021114 - no matches found), 133 (021114), 140 (Page 306), 156 (021114 - no taxa found)\*

*Verbena bipinnatifida* (see *Glandularia bipinnatifida* var. *bipinnatifida*)

*Verbena gooddingii* (see *Glandularia gooddingii*)

*Verbena gooddingii* var. *nepetifolia* (see *Glandularia gooddingii*)

Violaceae: The Violet Family

***Hybanthus verticillatus* (C. Gómez de Ortega) H.E. Baillon: Baby Slippers**

SYNONYMY: *Hybanthus verticillatus* (C. Gómez de Ortega) H.E. Baillon var. *platyphyllus* (A. Gray) A. Gray & H.B. Parks; *Hybanthus verticillatus* (C. Gómez de Ortega) H.E. Baillon var. *verticillatus*. COMMON NAMES: Baby Slippers; Babyslippers; Whorled nodding Violet. DESCRIPTION: Terrestrial perennial forb/herb (branching erect stems 2 to 16 inches in height); the stems are light green; the leaves may be is gray-green, green, pale green or dark green; the color of the flowers has been described as being greenish, greenish-purple, greenish-white with purple tips, purple, purple & white, reddish-violet, violet, violet & white, white or yellowish with purple tips; flowering generally takes place between early April and late September (additional records: two for mid-October). HABITAT: Within the range of this species it has been reported from mountains; mountainsides; mesas; rocky cliffs; canyons; bouldery-gravelly canyon bottoms; crevices in rocks; sandy ridges; foothills; rocky, stony and clayey hills; rocky, shaley and clayey hillsides; rocky escarpments; rocky, rocky-gravelly, shaley and stony slopes; bajadas; pediments; rocky and shaley outcrops; amongst rocks; under rocks and shale; shaley banks; benches; sandy terraces; shortgrass prairies; plains; fields; rocky, rocky-sandy-clayey, gravelly and gravelly-loamy flats; sandy uplands; roadbeds; rocky roadcuts; gravelly and sandy roadsides; rocky arroyos; draws; within rocky ravines; along streams; along and in gravelly-sandy washes; along lakes; sandy and sandy-clayey-loamy swales; borders of washes; edges of washes; benches; rocky-gravelly floodplains; within ditches; riparian areas, and disturbed areas growing in moist, damp and dry bouldery, bouldery-gravelly, rocky, rocky-gravelly, rocky-gravelly-sandy, shaley, stony, gravelly, gravelly-sandy and sandy ground; gravelly loam, sandy-clayey loam and clayey loam ground; rocky-sandy clay and clay ground, and gypsum, occurring from 1,100 to 7,600 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: *Hybanthus verticillatus* is native to south-central and southern North America. \*42 (021114), 43 (021114), 44 (021114 - no record of species or genus), 46 (Page 559), 63 (021114), **85** (021114), 127 (021114 - no matches found), 133 (021114 - no record of species), 156 (021114 - no taxa found)\*

*Hybanthus verticillatus* var. *platyphyllus* (see *Hybanthus verticillatus*)

*Hybanthus verticillatus* var. *verticillatus* (see *Hybanthus verticillatus*)

Viscaceae (Loranthaceae): The Christmas Mistletoe Family

*Phoradendron bolleanum* var. *capitellatum* (see *Phoradendron capitellatum*)

***Phoradendron californicum* T. Nuttall: Mesquite Mistletoe**

SYNONYMY: *Phoradendron californicum* T. Nuttall var. *distans* W. Trelease. COMMON NAMES: A:x (Seri: Mexico, Sonora, Isla Tiburon - north shore); Acacia Mistletoe; American Mistletoe (a name also applied to the genus *Phoradendron*); California Mesquite Mistletoe; California Mistletoe; Chayal (Uto-Aztecan: Cahuilla)140; Chile de Espino (“Spiny Chile”, Spanish: Sonora)140; Desert Mistle Toe; Desert Mistle-toe; Desert Mistletoe; Desert [Mesquite] Mistletoe (English)140; doX (Seri: Mexico, Sonora, Isla Tiburon - north shore); Guhoja (Spanish); Haakvoḍ (Uto-Aztecan: Akimel O’odham)140; Ha:hwaḍ; Ha:kvaḍ (Uto-Aztecan: Hiá Ceḍ O’odham)140; Ha:kwaḍ <hakowa’t> (Uto-Aztecan: Tohono O’odham)140; Haramkulyi (Uto-Aztecan: Mountain Pima)140; Kanúc (Yuman: Maricopa)140; Mesquite American Mistletoe; Mesquite Mistletoe; Mistletoe (a name also applied to other taxa, the genus *Phoradendron* and to the Viscaceae); Pohótela (“Phainopepla” because the Phainopepla disperses the seeds, Uto-Aztecan: Mayo)140; Sxacál [Sxyacál] (Yuman: Cocopa)140; To:kĭ (Uto-Aztecan: Hiá Ceḍ O’odham, Arizona)140; To(a)ker <toc’guer> (“On The Oak”, Uto-Aztecan: Mountain Pima)140; Toje (Spanish); Toji (Spanish: Sonora)140; Western Dwarf Mistletoe. DESCRIPTION: Terrestrial perennial subshrub or shrub (cluster of brittle shoots 8 inches to 5 feet in length; one clump was observed and described as being 16 inches in length and 36 inches in width); the stems (16 to 40 inches in length) may be brown, green, green-reddish, dark olive-green, red, red-brown, reddish, yellow-green or yellowish; the fragrant flowers may be green, greenish-yellow or yellow-green; the anthers are yellow; flowering generally takes place between late July and early June (additional records: one record for late June and three records for early July, flowering beginning in January and ending in November has also been reported); the fruits may be orange, orange-pink, pink, pink-red, pinkish, pale red, translucent red, red-orange, salmon (reported on surfaces exposed to sunlight), reddish, translucent white, white, white-pink, white-reddish or whitish to yellow-white (reported on surfaces not exposed to sunlight) with the older berries turning brown-red or red. HABITAT: This partial parasite was observed growing on Catclaw Acacia and Kearney Snakewood, and is commonly reported as growing on: *Acacia spp.* (*Acacia constricta*, Whtitethorn Acacia; *Acacia farnesiana*, Sweet Acacia, and *Acacia greggii*, Catclaw Acacia); *Condalia spp.* (*Condalia globosa*, Bitter Snakewood and *Condalia warnockii*, Kearney Snakewood); *Juniperus* sp., Juniper; *Larrea tridentata*, Creosote Bush (rarely); *Olneya tesota*, Desert Ironwood; *Parkinsonia spp.* (*Parkinsonia aculeata*, Jerusalem Thorn; *Parkinsonia florida*, Blue Palo Verde; *Parkinsonia microphylla*, Yellow Palo Verde, and *Parkinsonia praecox*, Sonoran Palo Verde); *Prosopis spp.* (*Prosopis glandulosa*, Honey Mesquite; *Prosopis pubescens*, Screwbean Mesquite, and *Prosopis velutina*, Velvet Mesquite); *Simmondsia chinensis*, Jojoba (rarely), and *Ziziphus obtusifolia*, Lotebush occurring from sea level to 5,100 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: When removing Mesquite Mistletoe from the trees and shrubs on your property consider leaving some of the plants for wildlife. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food crop; it was also noted as having been used as a drug or medication. The flowers are fragrant. The Northern Mockingbird (*Mimus polyglottos*) and Phainopepla (*Phainopepla nitens*) feed on the berries; White-wing Doves (*Zenaida asiatica*) and Verdins (*Auriparus flaviceps*) nest in the stems, and Mourning Doves (*Zenaida macroura*), Gambel’s Quail (*Callipepla gambelii*) as well as other birds take refuge in the stems. *Phoradendron californicum* is native to southwest-central and southern North America. \*5, 6, 13 (Pages 285-286, color photograph: Plate U.2., Page 406), 15, 16, 28 (color photograph 799), 42 (051213), 43 (051710 - *Phoradendron californicum* var. *distans* Trel. in Trel.), 44 (050413), 46 (recorded as *Phoradendron californicum* Nutt. and *Phoradendron californicum* Nutt. var. *distans* Trelease, Page 224), 58, 63 (051213 - color presentation), 77, 80 (Species of the genus *Phoradendron* are considered to be Rarely Poisonous and Suspected Poisonous Range Plants. “Cattle may be killed by browsing these parasitic forbs, but plants are unpalatable and poisoning is rare. Also children may be poisoned by eating the berries.”), 85 (021214 - color presentation), 97, 115 (color presentation), 124 (082611 - no record of species or genus), 127 (021214), 133 (021214), 140 (Pages 276-278 & 305 - placed in the Santalaceae), 156 (021214 - no taxa found), ADS (Kissing plant is a tree killer, Tuesday, November 30, 2010, Section A, Pages 1&4, retort Friday, December 3, 2010, Section A, Page 17: Story missed positive points on mistletoe), **MBJ**/**WTK** (July 9, 2009), **MBJ**/**WTK** (November 3, 2009), **WTK** (September 26, 2005)\*

*Phoradendron californicum* var. *distans* (see *Phoradendron californicum*)

***Phoradendron capitellatum* J. Torrey ex W. Trelease: Downey Mistletoe**

SYNONYMY: *Phoradendron bolleanum* (B.C. Seemann) A.W. Eichler var. *capitellatum* (J. Torreyex W. Trelease) T.H. Kearney & R.H. Peebles. COMMON NAMES: Downey Mistletoe; Hairy Mistletoe; Woolly Mistletoe; Wooly Mistletoe. DESCRIPTION: Terrestrial perennial subshrub or shrub (shoots 3 to 12 inches in length growing into clusters of stems to 32 inches in height; clumps 8 to 12 inches in width were reported often becoming pendulous with age); the stems may be green, orange-brown or yellow-green; the small leaves have a hairy leaf surface; the flowers are yellow; flowering generally takes place between early March and mid-June (records: one for early March, one for early April, four for mid-April, one for early May and one for mid-June) and between early August and mid-December (records: one for early August, one for early September, two for late September, two for early October, one for mid-October, one for late October, three for late November and one for mid-December; flowering beginning in December and continuing through to February has been reported); the fruits (about 1/8 inch in diameter) are milk-white or pink-white. HABITAT: Partial parasite commonly reported as growing on: *Cupressus* spp. (*Cupressus arizonica* var. *arizonica*, Arizona Cypress) and *Juniperus* spp. (*Juniperus arizonica*, Arizona Juniper; *Juniperus coahuilensis*, Redberry Juniper; *Juniperus deppeana*, Aligator Juniper; *Juniperus* *monosperma*, Oneseed Juniper and *Juniperus osteosperma*, Utah Juniper) and it was also reported as found growing on Mimosa and in association with Mesquite, occurring from 2,800 to 5,600 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Phoradendron capitellatum* is native to southwest-central and southern North America. \*42 (021214), 43 (073109), 44 (021214 - no record of species; genus record), 63 (021214), 80 (Species of the genus *Phoradendron* are considered to be Rarely Poisonous and Suspected Poisonous Range Plants. “Cattle may be killed by browsing these parasitic forbs, but plants are unpalatable and poisoning is rare. Also children may be poisoned by eating the berries.”), **85** (021214 - color presentation), 99 (color photograph), 106 (021214), 127 (021214 - no matches found), 133 (021214- no record of species), 156 (021214 - no taxa found)\*

***Phoradendron juniperinum* G. Engelmann ex A. Gray: Juniper Mistletoe**

SYNONYMY: *Phoradendron juniperinum* G. Engelmann ex A. Gray subsp. *juniperinum*; *Phoradendron juniperinum* G. Engelmann ex A. Gray subsp. *libocedri* (G. Engelmann) D. Wiens; *Phoradendron juniperinum* G. Engelmann ex A. Gray var. *libocedri* G. Engelmann; *Phoradendron juniperinum* G. Engelmann ex A. Gray var. *ligatum* (W. Trelease) F.R. Fosberg. COMMON NAMES: Incense Cedar Mistletoe; Incense Cedar-mistletoe; Juniper Mistle Toe; Juniper Mistle-toe; Juniper Mistletoe; O’ka (Uto-Aztecan: Shoshoni)140. DESCRIPTION: Terrestrial perennial evergreen subshrub or shrub (shoots 3 to 16 inches in length growing into clusters 2 feet in diameter); the stems may be light brown, green, greenish-yellow, orange, yellow-green or yellowish; this plant has no leaves or if present are small and scale-like; the inconspicuous flowers are greenish with male and female flowers born on separate plants; flowering generally takes place between late March and late October (additional records: one for early January, one for early February, one for mid-February, one for early March, one for early December, one for mid-December and two for late December); the fruits (about 1/8 inch in diameter) may be pale green, pink, pinkish, pinkish-white, reddish, white or whitish-pink. HABITAT: Partial parasite observed growing on Redberry Juniper, and is commonly reported as growing on: *Juniperus* spp. (*Juniperus deppeana*, Aligator Juniper; *Juniperus californica*, California Juniper; *Juniperus* *monosperma*, Oneseed Juniper; *Juniperus coahuilensis*, Redberry Juniper; *Juniperus scopulorum*, Rocky Mountain Juniper; *Juniperus osteosperma*, Utah Juniper, and *Juniperus occidentalis*, Western Juniper); occasionally on *Pinus* spp. (*Pinus monophylla*, Pinyon Pine); rarely on *Cupressus* spp. (*Cupressus arizonica*, Arizona Cypress), and very rarely on *Cercocarpus montanus* (Alderleaf Mountain Mahogany), *Chamaebatiaria* spp. (Desert Sweet) and *Prosopis* spp., (Mesquite), occurring from 3,200 to 9,000 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food and/or beverage crop; it was also noted as having been used as a drug or medication. This plant was reported to have been utilized by native peoples of North America. This is a rounded plant with the general appearance of a large *Arceuthobium*. The Juniper Mistletoe is the most common of the True Mistletoes observed growing in Junipers. *Phoradendron juniperinum* is native to southwest-central and southern North America. \*5, 6, 28 (color photograph 800), 42(021214), 43 (080109), 44 (021214), 46 (Page 224), 63 (021214 - color presentation), 80 (Species of the genus *Phoradendron* are considered to be Rarely Poisonous and Suspected Poisonous Range Plants. “Cattle may be killed by browsing these parasitic forbs, but plants are unpalatable and poisoning is rare. Also children may be poisoned by eating the berries.”), 85 (021214 - color presentation), 97, 99 (color photograph), 115 (color presentation), 127 (021214), 133 (021214), 140 (Page 276), 156 (021214 - no taxa found), **WTK** (September 26, 2005)\*

*Phoradendron juniperinum* subsp. *juniperinum* (see *Phoradendron juniperinum*)

*Phoradendron juniperinum* subsp. *libocedri* (see *Phoradendron juniperinum*)

*Phoradendron juniperinum* var. *libocedri* (see *Phoradendron juniperinum*)

*Phoradendron juniperinum* var. *ligatum* (see *Phoradendron juniperinum*)

Vitaceae: The Grape Family

***Vitis arizonica* G. Engelmann: Canyon Grape**

SYNONYMY: *Vitis arizonica* G. Engelmann var. *arizonica*; *Vitis arizonica* G. Engelmann var. *galvinii* T.V. Munson; *Vitis arizonica* G. Engelmann var. *glabra* T.V. Munson; *Vitis treleasei* T.V. Munson ex L.H. Bailey. COMMON NAMES: Arizona Grape; Arizona Wild Grape; Bakámai Bišáparagai (Uto-Aztecan: Northern Tepehuan)140; Bemah’gut (‘the Grape-vine’ Longfellow’s *Hiawatha*); Canyon [Arizona, Gulch, Wild] Grape (English)140; Ch’il Na’atł’o’ii (“Weaving Plant”, Athapascan: Navajo)140; Dahts’aa’ <dasts’aa, dahts’aa’ benanisdizí, tach’aa> (Athapascan: Western Apache)140; Dastsa <dastasa> (Athapascan: Chiricahua and Mescalero Apache)140; Gulch Grape; I’icamác (Yuman: Maricopa)140; Idjérkra (Yuman: Havasupai)140; Isampu (Uto-Aztecan: Panamint)140; Itcêqa <i’je:qa> (Yuman: Walapai)140; Jeyulí (Uto-Aztecan: Guarijío)140; Jiragui (Spanish); Jirahui (Spanish); Jurahui (Mexico, Sonora); Mákwit (Uto-Aztecan: Luiseño)140; Mischiñ Uuḍvis <mischiñ huuḍvis> (Uto-Aztecan: Akimel O’odham)140; Ó:va (Uto-Aztecan: Hopi)140; Parra (“Vine”, Spanish: Tamaulipas)140; Parra Cimarrona (Hispanic); Parra del Monte [Silvestre] (“Wild Grape”, Spanish: Arizona, Texas, Chihuahua)140; Shohar U’ushi (Uto-Aztecan: Mountain Pima)140; Sonótova (Uto-Aztecan: Mono)140; Sųų’rǫ’oˀnapų (Uto-Aztecan: Ute)140; Tutzé (Athapascan: Jicari-lla Apache)140; U´li (Hispanic); U:dvis (Uto-Aztecan: Hiá Ceḍ O’odham)140; U:ḍwis (Uto-Aztecan: Tohono O’odham)140; U:va <uuwa> (Uto-Aztecan: Onavas Pima)140; ˀU:vs (Yuman: Cocopa)140; Uirí (Uto-Aztecan: Guarijío)140; Urí <uli> (Uto-Aztecan: Tarahumara)140; Uuva (Uto-Aztecan: Yaqui)140; Uva [Cimarrón[ (“Wild Grape”, Spanish: Chihuahua, Sonora)140; Uva Cimarrona (Spanish); Uva de Monte (Hispanic); Uva del Monte (Spanish); Uva Silvestre (Hispanic); Vid (“Vine”, Spanish)140; Wild Grape (a name also applied to other species, the genus *Vitis* and to the Vitaceae). DESCRIPTION: Terrestrial perennial deciduous vine (clambering, climbing scrambling, sprawling, spreading, trailing and/or twining stems 16 inches to 33 feet in length); the bark is red-brown; the heart-shaped leaves may be green, dark green or yellow-green; the stems may be reddish; the tiny flowers may be cream-white-yellow, cream-yellow, pale green, green-yellow, greenish, greenish-white, greenish-yellow, white, pale yellow, yellow, yellow-green or yellowish-white; flowering generally takes place between early April and mid-July (additional record: one for late August; flowering in March has also been reported); the mature fruits (¼ to ¾ inch in diameter, juicy with a few large seeds) may be black, dark blue, blue-black, dark blue-purple, deep purple or purple sometimes with a (glaucous) bloom reportedly being produced and ripening between July and September. HABITAT: Within the range of this species it has been reported from mountains; rocky mountainsides; plateaus; rocky cliffs; hanging gardens; bases of cliffs; along rocky, rocky-clayey, gravelly-sandy, sandy and clayey-loamy canyons; canyon walls; rocky, stony and sandy canyon bottoms; chasms; along talus; crevices; bluffs; along rocky ledges; meadows; foothills; hills; hillsides; rocky escarpments; bouldery-cobbly, rocky, rocky-sandy, rocky-loamy, gravelly, gravelly-sandy, sandy and loamy slopes; bases of slopes; bajadas; rocky outcrops; amongst boulders and rocks; shaded alcoves; gravelly flats; sandy basins; valley floors; along gravelly roadsides; within rocky arroyos; bottoms of arroyos; within rocky draws; gulches; rocky ravines; seeps; along springs; along streams; along and in bouldery, rocky-gravelly-sandy streambeds; along and in bouldery creeks; along rocky, rocky-sandy and sandy-clayey creekbeds; riverbeds; along and in rocky and sandy washes; along watercourses; in bedrock, bouldery-rocky and rocky-sandy drainages; along and in lakes; boggy areas; along (rocky and sandy) banks of streams, creeks, creekbeds, rivers, washes and lakes; (sandy) edges of creeks, rivers and washes; margins of rivers; along (rocky) shores of lakes; benches; terraces; sandy bottomlands; floodplains; along fencelines; within ditches; ditch banks; bouldery, bouldery-sandy, rocky, sandy and sandy-clayey riparian areas, and disturbed areas growing in shallow water and wet, moist, damp and dry well drained bouldery, bouldery-rocky, bouldery-cobbly, bouldery-sandy, rocky, rocky-gravelly-sandy, rocky-sandy, shaley, stony, gravelly, gravelly-sandy and sandy ground; rocky loam, gravelly loam, sandy loam, clayey loam and loam ground, and rocky clay, sandy clay and clay ground, occurring from 1,200 to 9,200 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America and could be investigated to determine its value as a home garden or commercial food and/or beverage crop; it was also noted as having been used as a toy or in games, as a love medicine and in the making of ceremonial body paint. The flowers may be fragrant, and the fruit are reportedly sweet with a slightly bitter aftertaste. The Canyon Grape may be useful in controlling erosion along drainages. Birds feed on the berries. *Vitis arizonica* is native to southwest-central and southern North America. \*5, 6, 13, 15, 18 (genus), 28 (color photograph 850), 30, 42 (021214 - no record of variety *arizonica*), 43 (021214 - no record of variety *arizonica* or variety *galvinii*), 44 (050413 - no record of species; genus record), 46 (recorded as *Vitis arizonica* Engelm.; *Vitis arizonica* Engelm. var. *glabra* Munson, and *Vitis treleasei* Munson (noted), Page 535), 48, 58, 63 (021214 - color presentation), **85** (021214 - color presentation), 115 (color presentation), 124 (041312 - no record of species; genus record), 125, 127 (021214), 133 (021214), 140 (Pages 278-280 & 307), 153, 156 (021214 - no taxa found), **MBJ**/**WTK** (July 9, 2009), **WTK** (September 26,2005)\*

*Vitis arizonica* var. *arizonica* (see *Vitis arizonica*)

*Vitis arizonica* var. *galvinii* (see *Vitis arizonica*)

*Vitis arizonica* var. *glabra* (see *Vitis arizonica*)

*Vitis treleasei* (see *Vitis arizonica*)

Zygophyllaceae: The Creosote-bush Family

*Kallstroemia brachystylis* (see *Kallstroemia californica*)

***Kallstroemia californica* (S. Watson) A.M. Vail: California Caltrop**

SYNONYMY: *Kallstroemia brachystylis* A.M. Vail; *Kallstroemia californica* (S. Watson) A.M. Vail var. *brachystylis* (A.M. Vail) T.H. Kearney & R.H. Peebles. COMMON NAMES: California Calthrop; California Caltrop; California Carpetweed; California Kallstroemia; Golondrina (Mexico, Baja California (Norte), a name also applied to other species including *Chamaesyce* spp. and *Euphorbia* spp.); Little Summer Poppy; Mal de Ojo (a name also applied to other species, Spanish); Yellow Kallstroemia. DESCRIPTION: Terrestrial annual forb/herb (sprawling prostrate, decumbent and/or ascending stems 2 to 8 inches in height and 2 inches to 5 feet in length); the stems may be light pink or reddish; the leaves are gray-green; the flowers (¼ to ½ inch in diameter) may be pale orange, orange, dull orange, orange-yellow, yellow, yellow-orange or yellowish-orange; flowering generally takes place between early July and late November (additional records: one for early February, one for mid-March, one for mid-April, one for early June and one for late December). HABITAT: Within the range of this species it has been reported from mountains; mesas; bases of cliffs; rocky and sandy canyons; canyon bottoms; pockets of sand; crests of ridges; openings in woodlands; meadows; bedrock foothills; hills; rocky hillsides; rocky-gravelly bases of hills; along rocky, rocky-gravelly, gravelly-sandy, sandy and sandy-silty slopes; gravelly and sandy bajadas; bouldery and rocky outcrops; amongst rocks; sand hills; sand dunes; blow-sand deposits; sandy plains; gravelly, sandy and silty flats; sandy uplands; basins; sandy and silty valley floors; coastal dunes; coastal shores; along rocky-gravelly, gravelly, gravelly-loamy, sandy and sandy-loamy roadsides; arroyos; along streams; along streambeds; along rivers; along and in rocky, rocky-gravelly-sandy, sandy, sandy-silty, clayey and silty washes; along and in drainages; sandy playas; sandy-silty depressions; silty swales; along (sandy) banks of rivers and washes; along edges of washes; along margins of washes and floodplains; shores of bays (bahias); mudflats; sandy beaches; sandy benches; clayey bottomlands; along sandy floodplains; lowlands; mesquite bosques and woodlands; along fencelines; around stock tanks (represos); silty ditches; riparian areas; waste places, and disturbed areas growing in moist and dry desert pavement; rocky, rocky-gravelly, rocky-gravelly-sandy, gravelly, gravelly-sandy and sandy ground; gravelly loam, sandy loam, sandy-clayey loam, clayey loam and loam ground; silty clay and clay ground, and sandy silty and silty ground, occurring from sea level to 7,400 feet in elevation in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. This plant was reported to have been utilized by native peoples of North America; it was noted as having been used as a drug or medication. *Kallstroemia californica* is native to southwest-central and southern North America. \*5, 6, 15, 42 (021314), 43 (051710 - *Kallstroemia californica* Vail), 44 (050513 - color photograph), 46 (Page 492), 58, 63 (021314), 68, 77 (color photograph #100), 80 (Species of the genus *Kallstroemia* are considered to be Rarely Poisonous and Suspected Poisonous Range Plants. “Animals must be forced to eat large amounts of this unpalatable, annual forb before poisoning occurs.”), **85** (021314 - color presentation), 86 (note under *Kallstroemia grandiflora*), 127 (021314), 133 (021314), 156 (021314 - no taxa found)\*

*Kallstroemia californica* var. *brachystylis* (see *Kallstroemia californica*)

***Kallstroemia grandiflora* J. Torrey ex A. Gray: Arizona Poppy**

COMMON NAMES: Arizona Caltrop; Arizona Poppy; Arizona-poppy; Arizona Summer Poppy; Baiborin (Spanish), Baiburin (Spanish), Caltrop (a name also applied to other taxa, the genus *Kallstroemia* and the Zygophyllaceae); Desert Poppy; Desert-poppy; Mal de Ojo (a name also applied to other species, Spanish); Mexican Poppy; Mexican-poppy; Orange Caltrop; Summer Poppy; Summer-poppy; Vaivurin (Spanish). DESCRIPTION: Terrestrial annual forb/herb (creeping and/or spreading prostrate, decumbent, procumbent, ascending and/or erect stems 4 to 24 inches in height and to over 8 feet in length; one plant reportedly had a trunk 4 inches in diameter with branches stretching to make a make a circle 16½ feet in diameter); the stems may be reddish-orange; the leaves may be gray-green or green; the showy flowers (½ to 1¼ inches in diameter) may be apricot-orange, harvest-moon-orange, melon-orange, orange, orange with a crimson or red center, bright orange, bright orange with a red center, light orange, pale orange with a dark orange-red center, orangish-yellow, pink-orange, reddish-orange, yellow, yellow-orange or yellowish-orange; the anthers are orange; the stigma, style and ovary are red; flowering generally takes place between mid-June and early November (additional records: one for mid-January, one for late January, one for mid-April, two for mid-May, two for late November, one for early December and one for mid-December). HABITAT: Within the range of this species it has been reported from mountains; mesas; rocky canyons; canyon sides; canyon bottoms; rocky ridgetops; foothills; sandy hills; rocky hillsides; sandy escarpments; rocky, rocky-loamy, gravelly, gravelly-sandy-loamy, gravelly-loamy, gravelly-clayey, sandy, clayey and silty slopes; gravelly bajadas; rocky outcrops; lava flows; llanos; cobbly plains; fields; rocky, gravelly, gravelly-sandy and sandy flats; uplands; basins; along valley floors; valley bottoms; along sandy railroad right-of-ways; along rocky-gravelly, gravelly, gravelly-sandy, gravelly-sandy-loamy, gravelly-loamy, gravelly-clayey, sandy and loamy roadsides; along and in rocky and sandy arroyos; walls of arroyos; bottoms of arroyos; rocky streambeds; creeks; rocky-sandy and sandy creekbeds; along and in rocky, gravelly, gravelly-sandy-silty and sandy washes; drainages; along banks of rivers; benches; borders of washes; margins of washes; shores of lakes; sandy terraces; rocky and rocky-sandy bottomlands; floodplains; mesquite bosques; around stock tanks; ditches; sandy riparian areas, and disturbed areas growing in moist and dry rocky, rocky-gravelly, rocky-sandy, cobbly, gravelly, gravelly-sandy and sandy ground; rocky loam, gravelly loam, gravelly-sandy loam, sandy loam and loam ground; gravelly clay, sandy clay and clay ground; gravelly-sandy silty and silty ground, and gypsum, occurring from sea level to 6,600 feet in elevation in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This plant may be an attractive component of a restored native habitat. The Arizona Poppy is utilized as a food plant by doves, quail and Whitetail Deer (*Odocoileus virginianus*). *Kallstroemia grandiflora* is native to southwest-central and southern North America. \*5, 6, 16, 28 (color photograph 533), 42 (051213), 43 (073109), 44 (050513 - color photograph), 46 (Page 492), 48, 58, 63 (021314 - color presentation), 68, 77, 80 (Species of the genus *Kallstroemia* are considered to be Rarely Poisonous and Suspected Poisonous Range Plants. “Animals must be forced to eat large amounts of this unpalatable, annual forb before poisoning occurs.”), **85** (021314 - color presentation), 86 (color photograph), 115 (color presentation), 124 (082611 - no record of species; genus record), 127 (021314 - no matches found), 133 (021314), 140 (Page 307), 156 (021314 - no taxa found), **WTK** (July 26, 2005)\*

**LISTING OF ANIMALS**

STRICTLY ENFORCED LAWS PROTECT MANY OF ARIZONA’S NATIVE

ANIMALS FROM COLLECTION AND FROM BEING DISTURBED OR KILLED

Operation GAME THIEF: 602-942-3000

Kingdom Animalia: The Animal Kingdom

Subkingdom Metazoa: The Multicellular Animals

Section Protostomia: The Protosomes

Phylum Mollusca: The Mollusks

CLASS GASTROPODA: The SNAILS and Their ALLIES

Helminthoglyptidae: The Tallussnail Family

***Sonorella* *rosemontensis* Pilsbry, 1939: Rosemont Talussnail**

COMMON NAME: Rosemont Talussnail. HABITS: Probably feeds on live and dead plant material and associated microorganisms, fungi and soil. HABITAT: Shelters in moist situations in rocky canyons, crevices, ridges, scree and talus slopes. \*8 (022514 - no record of species), 14 (022514 - no record of species), 42 (022514), 106 (022514 - no record of species; genus record with a listing of species, *Sonorella rosemontensis* is not included), 135 (022514), 94.9 **MIX** **FM** (June 25, 2010, The Morning Mix)\*

***Sonorella* *magdalenensis* (Stearns, 1890), Sonoran Talussnail**

COMMON NAME: Sonoran Talussnail. HABITS: Feeds on live and dead plant material and associated microorganisms, fungi and soil. HABITAT: in moist situations in rocky canyons, crevices, scree and talus slopes. \*8 (022514 - AGFD Revision 2008), 14 (022514 - no record of species), 42 (022514), 106 (022514 - no record of species; genus record with a listing of species, *Sonorella magdalensis* is not included), 135 (022514), 94.9 **MIX** **FM** (June 25, 2010, The Morning Mix)\*

Phylum Arthropoda: The Arthropods

Subphylum Mandibulata: The Mandibulates

CLASS INSECTA: The INSECTS

ORDER LEPIDOPTERA: The BUTTERFLIES, MOTHS AND SKIPPERS

Hesperiidae: The Skipper Family

***Agathymus aryxna* (Dyar, 1905): Arizona Giant Skipper**

COMMON NAMES: Arizona Giant Skipper; Arizona Giant-skipper; Aryxna Agave Borer; Aryxna Giant Skipper; Dyar’s Giant Skipper. HABITS: The larvae are leaf borers feeding on the leaves and stems of Agave spp. HABITAT: Within the range of this species it has been reported as occurring in the grassland ecological formation. \***8**, 14 (060312), 42 (021914), 106 (060312 - no record of species; genus record)\*

Section Deuterostomia: The Deuterostomes

Phylum Chordata: The Chordates

Subphylum Vertebrata: The Vertebrates

CLASS AMPHIBIA: The AMPHIBIANS

This listing has been developed, in part, using the listing of Amphibians created for

the Empire-Cienega Planning Area which is located within portions of several townships.

Species listed as “**LCNCA**” were observed in the general area, but may or may

not have been observed within the boundaries of this township.

Bufonidae: The Toad Family

***Anaxyrus cognatus* (Say in James, 1823): Great Plains Toad**

SYNONYMY: *Bufo cognatus* Say in James, 1823. COMMON NAMES: Great Plains Toad; Sapo de la Gran Planicie (Spanish)42. HABITS: Feeds on algae (larvae), arachnids, insects, mites (juveniles) and snails. Takes shelter by burrowing into soil. Breeding takes place in streams, irrigation ditches, temporary pools, and fields under irrigation. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (041812 - recorded as *Bufo cognatus*, color presentation), 37 (recorded as *Bufo cognatus*), 42 (071912), 55 (recorded as *Bufo cognatus*), 73 (recorded as *Bufo cognatus*), 87 (recorded as *Bufo cognatus*), 106 (041812 - (recorded as *Bufo cognatus*), color presentation), **LCNCA**\*

***Anaxyrus punctatus* (Baird & Girard, 1852): Red-spotted Toad**

SYNONYMY: *Bufo punctatus* Baird & Girard, 1852. COMMON NAMES: Red-spotted Toad; Sapo Manchas Rojas (Spanish)42. HABITS: Feeds on algae (larvae), arachnids, carrion (larvae), cyanobacteria (larvae), organic detritus (larvae) and insects. Takes shelter in underground burrows and rock crevices. Breeding takes place in springs, reservoirs, and temporary pools associated with intermittent streams. HABITAT: Within the range of this species it has been reported from rocky areas in arroyos, canyons, flats, floodplains and oases near water in the forest, woodland, grassland, desertscrub and wetland ecological formations. \*14 (041812 - recorded as *Bufo punctatus*, color presentation), 37 (recorded as *Bufo punctatus*), 42 (071912), 55 (recorded as *Bufo punctatus*), 73 (recorded as *Bufo punctatus*), 87 (recorded as *Bufo punctatus*), 106 (041812 - recorded as *Bufo punctatus*, color presentation), **LCNCA**\*

*Bufo alvarius* (see *Incilius alvarius*)

*Bufo cognatus* (see *Anaxyrus cognatus*)

*Bufo punctatus* (see *Anaxyrus punctatus*)

***Incilius alvarius* (Girard in Baird, 1859): Sonoran Desert Toad**

SYNONYMY: *Bufo alvarius* Girard in Baird, 1859. COMMON NAMES: Colorado River Toad; Sapo del Desierto-sonorense (Spanish)42; Sonoran Desert Toad. HABITS: Feeds on beetles, grasshoppers, lizards, mice, snails, spiders and other toads. Takes shelter in underground burrows. Breeding corresponds to spring and summer rains when they congregate at temporary pools and other bodies of water. HABITAT: Within the range of this species it has been reported from near springs, streams, reservoirs, and pools in the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: Skin secretions are toxic to dogs and other animals and the mouthing a Colorado River Toad may cause temporary paralysis or death. \*14 (041812 - recorded as *Bufo alvarius*, color presentation), 37 (recorded as *Bufo alvarius*), 42 (071912), 55 (recorded as *Bufo alvarius*), 73 (recorded as *Bufo alvarius*), 87 (recorded as *Bufo alvarius*), 106 (071912 - recorded as *Bufo alvarius*, color presentation), **LCNCA**\*

Pelobatidae: The Spadefoot Toad Family

***Scaphiopus couchi* Baird, 1854: Couch’s Spadefoot**

COMMON NAME: Couch’s Spadefoot. HABITS: Feeds on amphibians (larvae), ants, arachnids, beetles, carrion (larvae), centipedes, crickets, cyanobacteria (larvae), organic detritus (larvae), millipedes, plant matter, tadpoles and termites. Takes shelter in underground burrows. Breeding takes place in temporary ponds, rain pools, irrigation ditches, reservoirs, and slow moving streams. HABITAT: Within the range of this species it has been reported from the scrub, grassland, desertscrub and wetland ecological formations. \*14 (041812 - color presentation), 37, 42 (071912), 55, 73, 87, 106 (041812 - color presentation), **LCNCA**\*

***Spea* *multiplicata* (Cope, 1863): New Mexico Spadefoot**

SYNONYMY: *Scaphiopus hammondii* (often spelled *hammondi*) *multiplicatus* Kellogg, 1932; *Scaphiopus* *multiplicatus* Cope, 1863. COMMON NAMES: Desert Spadefoot Toad; Mexican Spadefoot Toad; New Mexico Spadefoot; New Mexico Spadefoot Toad; Southern Spadefoot Toad; Western Spadefoot. HABITS: Feeds on larval amphibia (larvae), arachnids, carrion (larvae), centipedes, cyanobacteria (larvae), organic detritus (larvae), gastropods, insects, and mollusks. Takes shelter in underground burrows and cracks (juveniles). Breeding takes place in temporary ponds and rain pools. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (071912 - color presentation), 42 (071912), 87 (recorded as *Scaphiopus* *multiplicatus*), 106 (071912 - color presentation), **LCNCA**\*

*Scaphiopus hammondii* *multiplicatus* (see *Spea* *multiplicata*)

*Scaphiopus* *multiplicatus* (see *Spea* *multiplicata*)

Ranidae: The Frog Family

***Lithobates yavapaiensis* (Platz and Frost, 1984): Lowland Leopard Frog**

SYNONYMY: *Rana yavapaiensis* Platz and Frost, 1984. COMMON NAMES: Lowland Leopard Frog; Rana de Yavapai (Spanish)42,106; San Felipe Leopard Frog; Yavapai Frog; Yavapai Leopard Frog. HABITS: Feeds on algae (larvae), organic debris (larvae), insects, plant tissue (larvae), snails and spiders). Takes shelter in underground burrows and rock fissures. Breeding takes place in cienegas, impoundments, ponds, rivers, springs and streams. HABITAT: Within the range of this species it has been reported from freshwater springs; small to medium-sized streams and rivers; small ponds; marsh habitats, and stock tanks being generally restricted to permanent and semi permanent waters often concentrating in deep pools in association with root masses of large riparian trees in the woodland, grassland and wetland ecological formations. \*8, 14 (041912 - recorded as *Rana yavapaiensis* (Platz and Frost), color presentation), 42 (061812), 87 (recorded as *Rana yavapaiensis*), 106 (041912 - recorded as *Rana yavapaiensis* Platz and Frost, 1984, color presentation), **LCNCA**\*

***Rana catesbeiana* (Shaw, 1802): Bullfrog**

COMMON NAMES: American Bullfrog; Bullfrog; Dahin’da (‘the Bull-frog’ Longfellow’s *Hiawatha*). HABITS: Feeds on frogs and other amphibians including birds, fish, frogs, insects, larvae, small mammals, mollusks, snakes, turtles and just about any animal that it can catch and swallow. Takes shelter in water. HABITAT: Within the range of this species it has been reported from impoundments, lakes, marshes, pools, ponds, rivers, springs and streams in the grassland, desertscrub and wetland ecological formations. NOTES: Introduced EXOTIC, poses a significant threat to native wildlife. \*14 (041812 - color presentation), 37, 55, 73, 87, 106 (052506), 106 (041812 - color presentation), 109, 153, **LCNCA**\*

***Rana chiricahuensis* (Platz & Mecham, 1979): Chiricahua Leopard Frog**

COMMON NAME: Chiricahua Leopard Frog. HABITS: Feeds on algae (larvae), arachnids, crustaceans, organic debris (larvae), insects and other invertebrates, periphyton (larvae), plant tissue (larvae) and small vertebrates). Takes shelter in water. Breeding takes place in impoundments, oxbows, ponds, pools, springs and streams. HABITAT: Within the range of this species it has been reported from freshwater seeps, springs, creeks, streams, rivers, pools, stock tanks, lakes, marshes and wells in the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (041812 - color photograph), 87, 106 (041812 - color photograph), **LCNCA**\*

*Rana yavapaiensis* (see *Lithobates yavapaiensis*)

CLASS AVES: The BIRDS

This listing has been developed, in part, using the listing of Birds created for

the Empire-Cienega Planning Area which is located within portions of several townships.

Species listed as “**LCNCA**” were observed in the general area, but may or may

not have been observed within the boundaries of this township.

The Empire-Cienega Bird Checklist \***158**\* provides the following “abundance” and “residence” categories:

C = Common: to be expected in proper habitat, should be encountered on most visits during proper season

U = Uncommon: may or may not be encountered, includes species that are present in low numbers as well as species that are present in some years but not others

R = Rare: species that occur some years and in very small numbers

V = Vagrant or accidental: species that have occurred only once and are not likely to occur again

H = Hypothetical: species for which documentation is lacking or questionable

P = Permanent: resident, occurs year-round

S = Summer: a neotropical migrant, a species that breeds at the Empire Ranch but is absent during the winter

T = Transient or migrant: a species encountered during annual passage

W = Winter: a species that breeds farther north and spends the winter in the Empire Ranch area

Accipitridae: The Eagle, Hawk, Kite and Allies Family

***Accipiter cooperii* (Bonaparte, 1828): Cooper’s Hawk**

COMMON NAMES: Big Blue Darter; Chicken Hawk; Cooper’s Hawk; Epervier de Cooper (French)42; Épervier de Cooper (French)42; Gavilán de Cooper (Spanish)42; Galvilan Palomero (Hispanic)14; Gavilán Pollero (Spanish)90; Hen Hawk; Mexican Hawk; Quail Hawk; Striker; Swift Hawk. HABITS: Feeds on small birds and mammals. Nests are platforms made of sticks located in trees. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (041912 - color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (041912 - color presentation), **158** (U,R), **LCNCA**\*

***Accipiter gentilis* (Linnaeus, 1758): Northern Goshawk**

COMMON NAMES: American Goshawk; Autour des Palombes (French)42; Gavilán Azor (Spanish)42; Goshawk; Northern Goshawk. HABITS: Feeds on birds and mammals. Nests are platforms made of sticks located in tall trees. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (041912), 20, 42 (021914), 55, 69, 73, 93, 106 (021914 - includes a listing of subspecies, color presentation), **158** (V,T), **LCNCA**\*

***Accipiter striatus* Vieillot, 1808: Sharp-shinned Hawk**

COMMON NAMES: Epervier Brun (French)42; Épervier Brun (French)42; Falcon de Sierra (subsp. *venator* Wetmore, 1914, Spanish)106; Galvilan Pajerero (Hispanic)14; Gavilán Pecho Blanco (subsp. *chionogaster* - Invalid; *Accipiter chionogaster* (Kaup, 1852) - Valid)42; Gavilán Pecho Rufo (Spanish)42; Gavilán Pecho Rufo (subsp. *venator* Wetmore, 1914, Spanish)106; Plain-breasted Hawk (subsp. *ventralis* - Invalid; *Accipiter ventralis* P.L. Sclater, 1866 - Valid); Puerto Rican Sharp-shinned Hawk (subsp. *venator* Wetmore, 1914); Rufous-thighed Hawk (subsp. *erythronemius* - Invalid; *Accipiter erythronemius* (Kaup, 1850) - Valid); Sharp-shinned Hawk; “Sharp-shins”; “Sharpies”; White-breasted Hawk (subsp. *chionogaster* - Invalid; *Accipiter chionogaster* (Kaup, 1852) - Valid); Wishag (Tohono O’odham)90. HABITS: Feeds on birds and small mammals. Nests are platforms made of twigs located in trees. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (041912 - subsp. *velox* (Wilson), color presentation), 20, 42 (071912), 55, 69, 73, 84, 90, 93, 106 (041912 - includes a listing of subspecies, color presentation), **158** (U,T,W), **LCNCA**\*

***Aquila chrysaetos* (Linnaeus, 1758): Golden Eagle**

COMMON NAMES: Águila Real (Spanish)42, 90; Aigle Royal (French)42; American Golden Eagle (subsp. *canadensis* (Linnaeus, 1758)); American War Bird; Asian Golden Eagle (subsp. *daphanea* Severtzov, 1888); Berikut (subsp. *daphanea* Severtzov, 1888); Bird of Jupiter; Black Eagle; Brown Eagle; Calumet Bird; Calumet Eagle; European Golden Eagle (subsp. *chrysaetos* (Linnaeus, 1758)); Golden Eagle; Gray Eagle; Himalayan Golden Eagle (subsp. *daphanea* Severtzov, 1888); Jackrabbit Eagle; Keneu’ (possibly ‘the Great War-eagle’ of Longfellow’s *Hiawatha*); Japanese Golden Eagle (subsp. *japonica* Severtzov, 1888); Kamchatka Golden Eagle (subsp. *kamtschatica* Severtzov, 1888); King of Birds; Mountain Eagle; Ring-tailed Eagle; Royal Eagle; Siberian Golden Eagle (subsp. *kamtschatica* Severtzov, 1888); War Bird; White-tailed Eagle. HABITS: Feeds on birds, rabbits and larger rodents. Nests are bulky masses of sticks located on cliffs, ledges or in trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (041912 - color presentation), 20, 42 (021914), 55, 69, 73, 84, 90, 93, 106 (021914 - includes a listing of subspecies, color presentation), 153, **158** (R,P), **LCNCA**\*

*Asturina nitida* (see *Buteo nitidus*)

***Buteo albonotatus* Kaup, 1847: Zone-tailed Hawk**

COMMON NAMES: Aguililla Aura (Spanish)42; Aguililla Cola Cinchada (Hispanic)14; Buse à Queue Barrée (French (French)42; Zone-tailed Hawk. HABITS: Feeds on small birds, lizards and rodents. Nests are platforms made of sticks and green twigs located on cliffs or in trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (041912 - color presentation), 42 (061812), 55, 69, 73, 84, 90, 93, 106 (041912 - color presentation), **158** (U,S), **LCNCA**\*

***Buteo jamaicensis* (Gmelin, 1788): Red-tailed Hawk**

COMMON NAMES: Aguililla Cola Roja (Spanish)42; Buse à Queue Rousse (French)42; Buzzard; Buzzard Hawk; Chicken Hawk; Eastern Redtail; Gavilan Cola Roja (Hispanic)14; Gavilán Cola Roja (Spanish)90; Harlan’s Hawk (subsp. *harlani* (Audubon, 1830)); Hen Hawk; Mouse Hawk; Red Hawk; Redtail; Red-tailed Buzzard; Red-tailed Hawk; Western Redtail. HABITS: Feeds on birds, lizards and rodents. Nests are platforms made of sticks located on cliffs and in saguaro cacti and trees. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (041912 - subsp. *calurus* (Cassin); subsp. *fuertesi* (Sutton & Van Tyne); subsp. *harlani* (Audubon), color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (041912 - includes a listing of subspecies, color presentation), **158** (C,R), **LCNCA**\*

***Buteo nitidus* (Latham, 1790): Gray Hawk**

SYNONYMY: *Asturina nitida* (Latham, 1790). COMMON NAMES: Aguililla Gris (Spanish)42; Buse Cendrée (French)42; Gavilan Grise (Hispanic)14; Gray Hawk; Grey Hawk; Grey-lined Hawk; Northern Gray Hawk; Northern Grey Hawk; Sonora Gray Hawk. HABITS: Feeds on lizards and small mammals. Nests are platforms made of leafy green twigs and sticks located in cottonwood and mesquite trees. HABITAT: Within the range of this species it has been reported from the woodland, grassland and wetland ecological formations. \*8, 14 (021914 - recorded as *Buteo plagiatus* (Lathum, 1790), color presentation), 42 (021914), 55, 69, 73, 93, 106 (021914 - color presentation), **158** (U,S), **LCNCA**\*

*Buteo plagiatus* (seefootnote 14 under *Buteo nitidus*)

***Buteo regalis* (G.R. Gray, 1844): Ferruginous Hawk**

COMMON NAMES: Aguililla Real (Spanish)42; Buse Rouilleuse (French)42; Ferruginous Hawk; “Ferrugineous Rough-leg”; Ferruginous Rough-legged Hawk. HABITS: Feeds on prairie dogs, ground squirrels and other rodents, birds, crickets, locusts and snakes. Nests are platforms made of sticks located in bushes and trees, on cliffs, hillsides, ledges, riverbanks and on the ground. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (021914 - color presentation), 42 (021914), 55, 69, 73, 84, 90, 93, 106 (021914 - color presentation), **158** (R,W), **LCNCA**\*

***Buteo swainsoni* (Bonaparte, 1838): Swainson’s Hawk**

COMMON NAMES: Aguililla de Swainson (Spanish)42; Buse de Swainson (French)42; Gavilan Chapulinero (Hispanic)14; Gavilán Chapulinero (Spanish)90; Grasshopper Hawk, Locust Hawk; Swainson’s Hawk. HABITS: Feeds on grasshoppers, locusts and rodents. Nests are platforms made of sticks located in bushes, tall cacti, trees and yuccas, on cliffs and on the ground. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (041912 - color presentation), 20, 55, 69, 73, 84, 90, 93, 106 (041912 - color presentation), **158** (U,S), **LCNCA**\*

***Circus cyaneus* (Linnaeus, 1766): Northern Harrier**

COMMON NAMES: Busard Saint-Martin (French)42; Gavilan Norteno (Hispanic)14; Gavilán Rastrero (Spanish)42; Hen Harrier; Marsh Hawk; Northern Harrier. HABITS: Feeds on birds, mice and other small mammals. Nests are made of grasses, reeds and stalks located on the ground in grasses or marshes. HABITAT: Within the range of this species it has been reported from the tundra, scrub, grassland, desertscrub and wetland ecological formations. \*14 (041912 - subsp. *hudsonius* (Linnaeus), color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (041912 - color presentation), **158** (C,W), **LCNCA**\*

***Elanus leucurus* (Vieillot, 1818): White-tailed Kite**

COMMON NAMES: Black-winged Kite; Black-shouldered Kite; Élanion à Queue Blanche (French)42; Milano Cola Blanca (Spanish)42; White Hawk; White-tailed Kite. HABITS: Feeds on large insects, mice and reptiles. Nests are made of twigs and lined with roots and grasses located in trees. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*8, 14 (021914 - subsp. *majusculus* (Bangs & Pernard, 1920), color presentation of species), 20, 42 (021914), 69, 73, 84, 93, 106 (021914 - color presentation), **158** (R,P), **LCNCA**\*

***Haliaeetus leucocephalus* (Linnaeus, 1766): Bald Eagle**

COMMON NAMES: Águila Cabeza Blanca(Spanish)42; Pygargue à Tête Blanche (French)42; Aguila Calva (Hispanic)14; American Eagle; Bald Eagle; Black Eagle; Fishing Eagle; Northern Bald Eagle (subsp. *alascanus* Townsend, 1897 - Invalid, subsp. *washingtoniensis* (Audubon, 1827) - Valid); Southern Bald Eagle (subsp. *leucocephalus* (Linnaeus, 1766)); Washington Eagle; White-headed Eagle; White-headed Sea Eagle. HABITS: Feeds on birds, carrion, fish and small mammals. Nests are platforms made of large sticks and vegetation located on cliffs or in forks of trees. HABITAT: Within the range of this species it has been reported from the scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (021914 - subsp. *alascanus* (Townsend, 1897) is the subspecies reported as occurring in New Mexico, color presentation), 20, 35, 42 (021914), 55, 69, 73, 93, 106 (021914 - includes a listing of subspecies, color presentation), **158** (R,T), **LCNCA**\*

***Pandion haliaetus* (Linnaeus, 1758): Osprey**

COMMON NAMES: Balbuzard Pêcheur (French)42; Fish Eagle; Fish Hawk; Gavilán Pescador (Spanish)42; Marsh Hawk; Osprey; Sea Hawk. HABITS: Feeds on fish. Nests are massive platforms made of sticks located in tall cacti and trees, on cliff ledges, rock pinnacles and on the ground. HABITAT: Within the range of this species it has been reported from the forest, woodlands, scrub, desertscrub and wetland ecological formations. \*8, 14 (041912 - subsp. *carolinensis* (Gmelin), color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (041912 - includes a listing of subspecies, color presentation), **158** (U,T), **LCNCA**\*

***Parabuteo unicinctus* (Temminck, 1824): Harris’s Hawk**

COMMON NAMES: Aguililla Cinchada (Spanish)90; Aguililla Roja (Hispanic)14; Aguililla Rojinegra (Spanish)42; Bay-winged Hawk; Buse de Harris (French)42; Dusky Hawk; Harris Hawk; Harris’ Hawk; Harris’s Hawk; “Louisiana Hawk”. HABITS: Feeds on rabbits, rodents, and birds. Nests are platforms made of sticks located in mesquites, small trees and yuccas. HABITAT: Within the range of this species it has been reported from the scrub, grassland, desertscrub and wetland ecological formations. \*14 (041912 - subsp. *harrisi* (Audubon), color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (041912 - includes a listing of subspecies, color presentation), **158** (V,T), **LCNCA**\*

Aegithalidae: The Bushtit Family

***Psaltriparus minimus* (J.K. Townsend, 1837): Bushtit**

COMMON NAMES: Black-eared Bushtit; Black-tailed Bushtit; Bush Tit; Bushtit; Coast Bushtit; Common Bushtit; Lead-colored Bushtit; Lloyd’s Bushtit; Sastrecillo (Spanish)42; Sastrecito (Hispanic)14. HABITS: Feeds on insects, insect larvae and spiders. Nests are long woven cups or pouches made of lichens, plant wool and spider webs located in bushes and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: Bushtits are predators of the Douglas-fir Tussock Moth (*Orgyia pseudotsugata*) and Western Spruce Budworm (*Choristoneura occidentalis*). \*14 (021914 - subspp. *lloydi* (Sennett) and *plumbeus* (Baird) are the subspecies reported as occurring in New Mexico, color presentation of species), 42 (021914), 55, 69, 73, 84, 93, 106 (021914 - color presentation), **158** (U,P), **LCNCA**\*

Alaudidae: The Lark Family

***Eremophila alpestris* (Linnaeus, 1758): Horned Lark**

COMMON NAMES: Alondra Cornuda (Spanish)42; Alondra Cuernuda (Hispanic)14; Alouette Hausse-col (French)42; Horned Lark, Shore Lark (Europe). HABITS: Feeds on insects, seeds and spiders. Nests are made of grasses located on the ground in depressions and scrapes. HABITAT: Within the range of this species it has been reported from the tundra, grassland and desertscrub ecological formations. \*14 (041912 - subspp. *adusta* (Dwight); *leucolaema* (Coues), and *occidentalis* (McCall) are the subspecies reported as occurring in New Mexico, color presentation), 20, 42 (021914), 55, 69, 73, 84, 93, 106 (021914 - color presentation), **158** (C,P), **LCNCA**\*

Alcidinidae: The Kingfisher Family

*Ceryle alcyon* (see *Megaceryle alcyon*)

***Megaceryle alcyon* (Linnaeus, 1758): Belted Kingfisher**

SYNONYMY: *Ceryle alcyon* (Linnaeus, 1758). COMMON NAMES: Belted Kingfisher; Halcyon; Lazy Bird; Martin Pescador (Hispanic)14. HABITS: Feeds on amphibians, birds, crustaceans, small fishes, insects, lizards and mammals. Eggs are laid at the end of burrows located on the banks of creeks, rivers, lakes and ponds. HABITAT: Within the range of this species it has been reported from the desertscrub and wetland ecological formations. \*8, 14 (053112 - subsp. *alcyon*; subsp. *caurina*, color presentation of species), 42 (061812), 55, 69, 73, 84, 93, 106 (053112 - color presentation), **158** (U,T,W), **LCNCA**\*

***Chloroceryle americana* (Gmelin, 1788): Green Kingfisher**

COMMON NAMES: Green Kingfisher; Martín-pescador Verde (Spanish)42; Texas Kingfisher. HABITS: Feeds on insects, fishes and lizards. Eggs are laid at the end of burrows located on the banks of streams. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*8, 14 (041912 - color presentation), 42 (071912), 55, 69, 73, 93, 106 (041912 - color presentation), **158** (R,P?), **LCNCA** \*

Anatidae: The Duck, Goose and Swan Family

***Aix galericulata* (Linnaeus, 1758): Asian Mandarin Duck**

COMMON NAMES: Asian Mandarin Duck; Mandarin; Mandarin Duck; Mandarin Wood Duck. HABITS: Feeds on plant material and seeds. Nests are located in cavities in trees. HABITAT: Within the range of this species it has been reported from forest and wetland ecological formations. NOTES: EXOTIC, this species is considered endangered within its natural range. \*14 (021914 - no record of species), 42 (021914), 93, 106 (021914 - color presentation), **LCNCA** (Exotic species)\*

***Anas americana* Gmelin, 1789: American Wigeon**

SYNONYMY: *Mareca americana* (Gmelin, 1789). COMMON NAMES: American Wigeon; American Wigeon Duck; Baldpate; Canard d’Amérique (French)42; Pato Chalcuan (Hispanic)14; Pato Chalcuán (Spanish)42; Widgeon. HABITS: Feeds on crustaceans, grasses, insects, mollusks, aquatics plants and seeds. Nests are lined with down and located on the ground in depressions and in hollows in grass. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (053112 - color presentation), 20, 42 (061812), 55, 69, 73, 84, 93, 106 (053112 - color presentation), **158** (U,T), **LCNCA**\*

***Anas crecca* Linnaeus, 1758: Green-winged Teal**

COMMON NAMES: Cerceta ala Verde (Spanish)42; Cerceta de Alas Verdes (Hispanic)14; Common Teal; Eurasian Teal; Green-winged Teal (also applied to subsp. *carolinensis* Gmelin, 1789); Green-winged Teal Duck; North American Green-winged Teal (subsp. *carolinensis* Gmelin, 1789); Sarcelle d'Hiver (French)42; Teal. HABITS: Feeds on arthropods, grasses, insects, mollusks and aquatic plants. Nests are down and grass lined hollows located in marshes and under shrubs or small trees. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (053112 - subsp. *carolinensis* (Gmelin), color presentation), 20, 42 (061812), 55, 69, 73, 84, 93, 106 (053112 - color presentation), **158** (C,W), **LCNCA**\*

***Anas cyanoptera* Vieillot, 1816: Cinnamon Teal**

COMMON NAMES: Andean Cinnamon Teal (subsp. *orinoma* (Oberholzer, 1906)); Argentine Cinnamon Teal (subsp. *cyanoptera* Vieillot, 1816); Borrero’s Cinnamon Teal (subsp. *borreroi* Snyder and Lumsden, 1951); Cerceta Cafe (Hispanic)14; Cerceta Canela (Spanish)42; Cinnamon Teal; Cinnamon Teal Duck; Northern Cinnamon Teal (subsp. *septentrionalium* Snyder and Lumsden, 1951); Sarcelle Cannelle (French)42; Tropical Cinnamon Teal (subsp. *tropica* Snyder and Lumsden, 1951). HABITS: Feeds on grasses, insects, mollusks and aquatic plants. Nests are down lined hollows located in bulrushes, grasses and reeds. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (053012 - subsp. *septentrionalium* (Vieillot), color presentation), 20, 42 (061812), 55, 69, 73, 84, 93, 106 (053112 - includes a listing of subspecies, color presentation), **158** (U,T), **LCNCA**\*

*Anas diazi* (see *Anas platyrhynchos* subsp. *diazi*)

***Anas discors* Linnaeus, 1766: Blue-winged Teal**

COMMON NAMES: Blue-winged Teal; Blue-winged Teal Duck; Cerceta ala Azul (Spanish)42; Cerceta de Alas Azules (Hispanic)14; Sarcelle à Ailes Bleues (French)42. HABITS: Feeds on crustaceans, decapods, grasses, insects and insect larvae, mollusks, plants, snails and annelid worms. Nests are shallow depressions and hollows, lined with dry grasses and down, located on the ground near water. HABITAT: Within the range of this species it has been reported from wetland ecological formation within the forest, woodland, grassland and desertscrub ecological formations. \*14 (053112 - subsp. *discors* Linnaeus, color presentation), 20, 42 (061812), 55, 69, 73, 84, 106 (053112 - color presentation), **158** (U,T), **LCNCA**\*

***Anas platyrhynchos* Linnaeus, 1758: Mallard**

COMMON NAMES: Canard Colvert (French)42; Common Mallard; Common Wild Duck; Curly-tail; Domestic Duck (subsp. *domesticus* Linnaeus, 1758 - Invalid?)106; English Duck; French Duck; Gray Duck; Gray Mallard; Greenhead; Mallard; Mallard Duck; Mexican Duck (subsp. *diazi* Ridgway, 1886); Mottled Duck; Pato de Collar (Spanish)14,42; Pato Mexicano (subsp. *diazi* Ridgway, 1886, Spanish)42; Stock Duck; Wild Duck. HABITS: Feeds on acorns, earthworms and aquatic plants. Nests are down-lined hollows located in grass and reeds and under shrubs, saplings and deadfalls, rarely in crotches in trees and abandoned crow, hawk and magpie nests. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (021914 - subspp. *platyrhynchos* and *diazi* (Ridgway) are the subspecies reported as occurring in New Mexico; subsp. *diazi* (Ridgway) are the subspecies reported as occurring in Arizona, color presentation), 20, 42 (021914), 55, 69, 73, 84, 93, 106 (060312 - includes a listing of subspecies, color presentation), **158** (C,W), **LCNCA**\*

***Anas platyrhynchos* subsp. *diazi* Ridgway, 1886: Mexican Duck**

SYNONYMY: *Anas diazi* Ridgway, 1886. COMMON NAMES: Mexican Duck; New Mexico Duck; Pato Mexicano (Spanish)42. HABITS: The species feeds on acorns, earthworms and aquatic plants. Nests are down-lined hollows located in grass and reeds and under shrubs, saplings and deadfalls, rarely in crotches in trees and abandoned crow, hawk and magpie nests. HABITAT: Within the range of this species it has been reported from the grassland and wetland ecological formations. \*14 (021914 - subspp. *platyrhynchos* and *diazi* (Ridgway) are the subspecies reported as occurring in New Mexico; subsp. *diazi* (Ridgway) are the subspecies reported as occurring in Arizona, color presentation), 20 (species), 42 (021914), 55, 69, 73, 84 (species), 93 (species), 106 (021914 - recorded as *Anas diazi* Ridgway, 1886), **158** (U,P), **LCNCA**\*

***Anas strepera* Linnaeus, 1758: Gadwall**

COMMON NAMES: Canard Chipeau (French)42; Common Gadwall (*A*.*s*. *strepera* Linnaeus, 1758 - Valid); Coues’ Gadwall (subsp. *couesi* Streets, 1876: extinct circa 1874); Gadwall; Gadwall Duck; Pato Friso (Spanish)42; Pato Pinto (Hispanic)14. HABITS: Feeds on arachnids, crustaceans, gastropods, grasses and other plants, insects and mollusks. Nests are lined with down and located in depressions and hollows on the ground in grass and under shrubs. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (060312 - color presentation), 20, 42 (061812), 55, 69, 73, 84, 93, 106 (060312 - includes a listing of subspecies, color presentation), **158** (U,T), **LCNCA**\*

***Anser albifrons* (Scopoli, 1769): Greater White-fronted Goose**

COMMON NAMES: European White-fronted Goose (subsp. *albifrons* (Scopoli, 1769)); Gambel’s White-fronted Goose (subsp. *gambeli* Hartlaub, 1752); Ganso Careto-mayor, (Spanish)42; Ganso Frente Blanca (Hispanic)14; “Greater White-front”; Greater White-fronted Goose; ); Greenland White-fronted Goose (subsp. *flavirostris* Dalgety and P. Scott, 1948); Oie Rieuse (French)42; Pacific White-fronted Goose (subsp. *frontalis* S.F. Baird, 1858); “Specklebelly”; Tule Goose (subsp. *elgasi* Delacour and Ripley, 1975); White-fronted Goose. HABITS: Feeds on grasses, leaves, roots and seeds and aquatic plants. Nests are made of dry plant material, lined with down, located in a depression on the ground in tundra. HABITAT: Within the range of this species it has been reported from wetland ecological formations. \*14 (021914 - subsp. *frontalis* (Baird) is the subspecies reported as occurring in New Mexico, color presentation), 20, 42 (021914), 55, 69, 73, 93, 106 (021914 - includes a listing of subspecies, color presentation), **158** (C,W), **LCNCA**\*

***Aythya collaris* (Donovan, 1809): Ring-necked Duck**

COMMON NAMES: Fuligule à Collier (French)42, Pato Chaparro (Hispanic)14; Pato Pico Anillado (Spanish)42; Ring-necked Duck; “Ringbill”. HABITS: Feeds on arachnids, arthropods, fishes, gastropods, insects and insect larvae, mollusks, aquatic plants and annelid worms. Nests are bowl-shaped, down-lined cups made of grasses, reeds and aquatic vegetation located in marshes. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formations. \*14 (060312 - color presentation), 20, 42 (061812), 55, 69, 73, 84, 93, 106 (060312 - color presentation), **158** (U,T), **LCNCA**\*

***Bucephala albeola* (Linnaeus, 1758): Bufflehead**

COMMON NAMES: Bufflehead; Bufflehead Duck; Pato Chillon Chico (Hispanic)14; Pato Monja (Spanish)42; Petit Garrot (French)42. HABITS: Feeds on crustaceans, fishes, gastropods, insects and insect larvae, mollusks and plant material. Nests are located in tree cavities. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formations. \*14 (060312 - color presentation), 20, 42 (061812), 55, 69, 73, 84, 93, 106 (060312 - color presentation), **158** (U,T), **LCNCA**\*

***Lophodytes cucullatus* (Linnaeus, 1758): Hooded Merganser**

COMMON NAMES: Harle Couronné (French)42; Hooded Merganser; Hooded Merganser Duck; Mergo Cresta Blanca (Spanish)42; Mergo Copeton (Hispanic)14; “Sawbill”. HABITS: Feeds on amphibians, crustaceans, decapods, small fish, insects and insect larvae and plants. Nests are lined with down located in cavities in hollow trees and stumps. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formations. \*14 (021914 - color presentation), 20, 42 (021914), 55, 69, 73, 84, 93, 106 (021914 - color presentation), **158** (V,T), **LCNCA**\*

Apodidae: The Swift Family

***Aeronautes saxatalis* (Woodhouse, 1853): White-throated Swift**

COMMON NAMES: Vencejo Montanes (Hispanic)14; Vencejo Pecho Blanco (Spanish)42; White-throated Swift. HABITS: Feeds on insects. Nests are brackets made of saliva cemented twigs located in caves and crevices in mountain and sea cliffs. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland, desertscrub and wetland ecological formations. \*14 (041912 - subsp. *saxatalis* (Woodhouse), color presentation), 42 (061812), 55, 69, 73, 84, 90, 93, 106 (041912 - includes a listing of subspecies, color presentation), **158** (U,T), **LCNCA**\*

***Chaetura vauxi* (J.K. Townsend, 1839): Vaux’s Swift**

COMMON NAME: Ashy-tailed Swift (subsp. *andrei* Berlepsch and Hartert, 1902); “Chapman Swifts”; Vaux’s Swift; Vencejo de Vaux (Spanish)42. HABITS: Feeds on insects. Nests are brackets made of small sticks cemented together with saliva and attached to the inside of the hollows of trees. HABITAT: Within the range of this species it has been reported from the forest, desertscrub and wetland ecological formations. NOTES: The Vaux’s Swift is a predator of the Douglas-fir Tussock Moth (*Orgyia pseudotsugata*) and Western Spruce Budworm (*Choristoneura occidentalis*). \*14 (021915), , 55, 69, 73, 84, 90, 93, 106 (021814 - includes a listing of subspecies, color presentation), **158** (U,T), **LCNCA**\*

Ardeidae: The Bittern, Egret and Heron Family

***Ardea alba* Linnaeus, 1758: Great Egret**

SYNONYMY: *Casmerodius albus* (Linnaeus, 1758). COMMON NAMES: American Egret; Common Egret; Garza Blanca (Spanish); Garza Grande (Hispanic)14; Grande Aigrette (French)42; Great Egret; Great White Egret; Great White Heron; Kotuku (New Zealand); White Heron. HABITS: Feeds on fishes, frogs, insects and snakes. Nests are bulky platforms made of stems and sticks located in trees, dead brush and tule marshes. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formation. \*14 (060312 - subsp. *egretta* (Gmelin), color presentation), 20, 42 (061812), 55, 69, 73, 84, 93, 106 (060312 - includes a listing of subspecies, color presentation), **158** (R,T), **LCNCA**\*

***Ardea herodias* Linnaeus, 1758: Great Blue Heron**

COMMON NAMES: Garza (Spanish)90; Garza Ceniza (Hispanic)14; Garza Morena (Spanish)42; Grand Héron (French)42; Great Blue Heron; Great White Heron (subsp. *occidentalis* Audubon, 1835; a white morph of the Great Blue Heron); Shuh-shuh’gah (‘the Blue Heron’ Longfellow’s *Hiawatha*); Treganza’s Heron; Wurdemann’s Heron (an intermediate morph of the Great Blue Heron which has a white head). HABITS: Feeds on amphibians, small birds, crayfish, decapods, fishes, frogs, insects, mice, mollusks, reptiles, rodents, spiders and turtles. Nests are bulky platforms made up of sticks and located on cliffs, islets, rocky islands, swamps and trees. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formations. NOTES: If disturbed, adults may abandon nests and roosting sites and quit feeding nestlings. \*14 (060312 - subspp. *herodius* and *tregansai* (Court), color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (060312 - includes a listing of subspecies, color presentation), 153, **158** (U,P), **LCNCA**\*

***Bubulcus ibis* (Linnaeus, 1758): Cattle Egret**

COMMON NAMES: Abu Qerdan (“Father of Ticks”, Arabic); Cattle Egret; Cow Crane; Cow Heron; Cow Egret; Eastern Cattle Egret; Elephant Bird; Garza Ganadera (Spanish)42; Garza Garrapatera (Hispanic)14; Héron garde-boeufs (French)42; Rhinoceros Egret; Western Cattle Egret. HABITS: Feeds on amphibians, arachnids, birds, fishes, insects and insect larvae, mammals and reptiles. Nests are platforms made of sticks located in shrubs and trees. HABITAT: Within the range of this species it has been reported from the forest, woodlands, grassland, desertscrub and wetland ecological formations. NOTES: EXOTIC. This species is sometimes placed in the genus *Egretta*. \*14 (021914 - subsp. *ibis* (Linnaeus) is the subspecies reported as occurring in New Mexico, color presentation), 20, 69, 73, 84, 93, 106 (021914 - color presentation), **158** (U,T), **LCNCA**\*

*Butorides striatus* (see *Butorides virescens*)

***Butorides virescens* (Linnaeus, 1758): Green Heron**

SYNONYMY: *Butorides striatus* (Linnaeus, 1758). COMMON NAMES: Garceta Verde (Spanish)42; Garza Espalda Verde (Hispanic)14; Green-backed Heron; Green Heron; Héron Vert (French)42; Little Heron; Mangrove Heron; Striated Heron. HABITS: Feeds on annelid worms, crayfish, crustaceans, decapods, fishes, frogs, gastropods, insects, mice, mollusks, reptiles and spiders. Nests are flimsy platforms made up of grasses and sticks and located in clumps of grass, shrubs, thickets, or in trees. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the grassland and desertscrub ecological formations. \*14 (060312 - subsp. *anthonyi* (Mearns); subsp. *virescens* (Linneaus), color presentation), 20, 42 (061812), 55, 69, 73, 84, 93, 106 (060312 - includes a listing of subspecies, color presentation), **158** (U,T), **LCNCA**\*

*Casmerodius albus* (see *Ardea alba*)

***Egretta thula* (Molina, 1782): Snowy Egret**

SYNONYMY: *Leucophoyx thula* (Molina, 1782) - Invalid?. COMMON NAMES: Aigrette Neigeuse (French)42; Garceta Pie-dorado (Spanish)42; Garza Nevado (Hispanic)14; Brewster’s Egret; Snowy Egret; Snowy Heron. HABITS: Feeds on small amphibians, crustaceans, decapods, fishes, gastropods, insects, mammals, reptiles and annelid worms. Shallow platform nests are made of dead bullrushes and sticks and lined with fine twigs located in tules, mash grasses shrubs or trees. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formations. \*8, 14 (060312 - subsp. *brewsteri* (Thayer & Bangs), color presentation), 20, 42 (061812), 55, 69, 73, 84, 93, 106 (060312 - color presentation), **158** (U,T), **LCNCA**\*

*Leucophoyx thula* (see *Egretta thula*)

***Nycticorax nycticorax* (Linnaeus, 1758): Black-crowned Night-heron**

COMMON NAMES: Bihoreau Gris (French)42; Black-crowned Night Heron; Black-crowned Night-heron; Garza Copete Negro (Hispanic)14; Night Heron (Eurasia); Pedrete Corona Negra (Spanish)42. HABITS: Feeds on annelid worms, small birds [and the young of other water birds], crustaceans, decapods, small fishes, frogs, insects, small mammals, mollusks and reptiles. Nests are loose platforms made of canes, stalks and sticks and lined with marsh grasses or twigs located on the ground in marshes, in thickets and tules, and in shrubs and trees. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formations. NOTE: The Black-crowned Night-heron is sensitive to human disturbance. \*14 (060312 - subsp. *hoactli* (Gmelin), color presentation), 20, 42 (061812), 55, 69, 73, 84, 93, 106 (060312 - color presentation), **158** (U,T), **LCNCA**\*

Bombycillidae: The Waxwing Family

***Bombycilla cedrorum* Vieillot, 1808: Cedar Waxwing**

COMMON NAMES: Ampelis Chinito (Spanish)42; Cedar Waxwing; Chinito (Spanish: Mexico)140; Chinito Bolera (Hispanic)14; Jaseur d'Amérique (French)42. HABITS: Feeds on berries, insects and seeds. Nests are bulky cups made of grass, moss and twigs woven onto the horizontal branches of trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, desertscrub and wetland ecological formations. \*14 (060412 - color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (060412 - color presentation), **158** (U,T), **LCNCA**\*

Caprimulgidae: The Nighthawk, Nightjar and Allies Family

***Chordeiles acutipennis* (Hermann, 1783): Lesser Nighthawk**

COMMON NAMES: Aguador Tapacamino Chico (Hispanic)14; Chotacabras Menor (Spanish)42; Lesser Nighthawk; Nehpod (Tohono O’odham)90; Texas Nighthawk. HABITS: Feeds on insects. No nest, the eggs are laid on open ground. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations. \*14 (060412 - subsp. *texensis* Lawrence), 42 (061812), 55, 69, 73, 84, 90, 93, 106 (060412 - color presentation), **158** (U,S), **LCNCA**\*

***Chordeiles minor* (J.R. Forster, 1771): Common Nighthawk**

COMMON NAMES: Aguador Tapacamino Comun (Hispanic)14; Booming Nighthawk; Bull-Bat (pseudonym)106; Chotacabras Zumbón (Spanish)42; Common Night Hawk; Common Nighthawk; Engoulevent d'Amérique (French)42; Goatsucker (pseudonym)106; Western Nighthawk. HABITS: Feeds mostly on flying insects. No nest, eggs are laid on the bare ground in depressions and scrapes. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (063013 - subsp. *henryi* (Cassin), subsp. *hesperis* (Grinnell), subsp. *howelli* (Oberholzer), subsp. *sennetti* (Coues), color presentation), 20, 42 (063013), 55, 69, 73, 93, 106 (063013 - color presentation), **158** (U,S), **LCNCA**\*

***Phalaenoptilus nuttallii* (Audubon, 1844): Common Poorwill**

COMMON NAMES: Aguador (Hispanic); Common Poorwill; Desert Poorwill (subsp. *hueyi* Dickey, 1928); Dusky Poorwill (subsp. *californicus* Ridgway, 1887); Kohlo’ogam (Tohono O’odham)90; Nuttall’s Poor-will (subsp. *nuttallii* (Audubon, 1844)); Nuttall’s Poorwill (subsp. *nuttallii* (Audubon, 1844)); Poor-will; Sonoran Poorwill (subsp. *adustus* Van Rossem, 1941); San Ignacio Poorwill (subsp. *dickeyi* Grinnell, 1928); Tapacamino Tevíi (Spanish)42. HABITS: Feeds on nocturnal insects. No nest, the eggs are laid on bare ground, gravel or rock. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021914 - subsp. *nuttallii* (Audubon) is the subspecies reported as occurring in New Mexico), 42 (021914), 55, 69, 73, 84, 90, 93, 106 (021914 - includes a listing of subspecies, color presentation), **158** (U,S), **LCNCA**\*

Cardinalidae: The Bunting, Cardinal and Grosbeak Family

***Cardinalis cardinalis* (Linneaus, 1758): Northern Cardinal**

SYNONYMY: *Richmondena cardinalis* (Linneaus, 1758). COMMON NAMES: Cardenal (Hispanic)14; Cardenal Rojo (Spanish)42,90; Cardinal Rouge (French)42; Common Cardinal; Northern Cardinal; Redbird; Sipuk (Tohono O’odham)90. HABITS: Feeds on small fruits, insects and seeds. Nests are loose cups of shredded bark and twigs located in a low shrubs or thickets. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations. \*14 (041912 - subsp. *affinis* Nelson; subsp. *superbus* Ridgway, color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (041912 - color presentation), **158** (U,P), **LCNCA**\*

***Cardinalis sinuatus* Bonaparte, 1838: Pyrrhuloxia**

SYNONYMY: *Pyrrhuloxia sinuata* Bonaparte, 1838. COMMON NAMES: Bichpod (Tohono O’odham)90; Cardenal Gris (Spanish)90; Cardenal Pardo (Spanish)42; Cardinal Torito (Hispanic)14; Desert Cardinal; Gray Cardinal; Pyrrhuloxia. HABITS: Feeds on small fruits, insects and seeds. Nests are neat cups located in thorny bushes. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations. \*14 (041912 - subsp. *sinuatus* Bonaparte, color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (041912 - color presentation), **158** (U,P), **LCNCA**\*

*Guiraca caerulea* (see *Passerina caerulea*)

***Passerina amoena* (Say, 1823): Lazuli Bunting**

COMMON NAMES: Colorín Lázuli (Spanish)42; Jaspeado (Hispanic)14; Lazuli Bunting. HABITS: Feeds on small fruits, insects and seeds. Nests are loose cups made of grasses and leaves located in low bushes. HABITAT: Within the range of this species it has been reported from the scrub, desertscrub and wetland ecological formations. \*14 (060412 - color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (060412 - color presentation), **158** (C,T), **LCNCA**\*

***Passerina caerulea* (Linnaeus, 1758): Blue Grosbeak**

SYNONYMY: *Guiraca caerulea* (Linnaeus, 1758). COMMON NAMES: Blue Grosbeak; guicara bleu (French)42; Pico Gordo Azul (Hispanic)14; Picogordo azul (Spanish)42. HABITS: Feeds on small fruits, insects and seeds. Nests are loose cups made of grasses, rootlets and snakeskin located in a bushes or low trees. HABITAT: Within the range of this species it has been reported from the desertscrub and wetland ecological formations. \*14 (022014 - subsp. *interfusa* (Dwight and Griscom) is the subspecies reported as occurring in New Mexico, color presentation), 20, 42 (022014), 55, 69, 73, 84, 90, 93, 106 (022014 - color presentation), **158** (C,S), **LCNCA**\*

***Passerina ciris* (Linnaeus, 1758): Painted Bunting**

COMMON NAMES: Azulo Sietecolores (Spanish)147; Colorín Sietecolores42; Passerin Nonpareil (French)147; Mariposa Pintada (Painted Butterfly - Spanish); Nonpareil147; Painted Bunting; Papstfink (German)147; Siete Colores (Hispanic)14. HABITS: Feeds on berries, buds, small fruits, insects (including caterpillars and grasshoppers), seeds, snails and spiders. Nests are woven cups lines with grasses, hair and leaves located in low crotches of bushes and trees. HABITAT: Within the range of this species it has been reported from the woodland, desertscrub and wetland ecological formations. \*14 (022014 - subsp. pallidior (Mearns) is the subspecies reported as occurring in New Mexico), 20, 42 (022014), 55, 69, 73, 84, 93, 106 (022014 - includes a listing of subspecies, color presentation), 147 (022014), **158** (V,T), **LCNCA**\*

***Passerina cyanea* (Linnaeus, 1776): Indigo Bunting**

COMMON NAME: Colorín Azul (Spanish)42; Indigo Bunting; Passerin Indigo (French)42. HABITS: Feeds on berries, buds, small fruits, insects (including beetles, caterpillars and grasshoppers), seeds and spiders. Nests are woven cups made of coarse grasses, leaves, stems and strips of bark which is lined with soft grasses or deer hair and bound with spider web and located low in the crotch of bushes, dense shrubs and low growing trees. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formations. \*14 (022014), 20, 42 (022014), 55, 69, 73, 84, 93, 106 (022014 - color presentation), **158** (U,S), **LCNCA**\*

***Passerina versicolor* (Bonaparte, 1838): Varied Bunting**

COMMON NAMES: Beautiful Bunting; Colorín Morado (Spanish)42; Varied Bunting. HABITS: Feeds on fruits, insects and seeds. Nests are cups made up of grass and spider webs and located on the outer branches of thorny shrubs. HABITAT: Within the range of this species it has been reported from the desertscrub and wetland ecological formations. \*14 (022014 - subspp. *dickeyae* (Van Rossem) and *versicolor* are the subspecies reported as occurring in New Mexico, color presentation), 20, 42 (022014), 55, 69, 73, 84, 93, 106 (022014 - color presentation), **158** (U,S), **LCNCA**\*

***Pheucticus ludovicianus* (Linnaeus, 1776): Rose-breasted Grosbeak**

COMMON NAMES: Cardinal à Poitrine Rose (French)42; Pepitero Pico Rojo (Hispanic)14; Picogordo Pecho Rosa (Spanish)42; Rose-breasted Grosbeak. HABITS: Feeds on berries, small fruits, insects, nectar and seeds. Nests are frail flat saucers made of plant stems and twigs located in bushes, large shrubs and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland and wetland ecological formations including those within the desertscrub ecological formation. \*14 (022014), 20, 42 (022014), 55, 69, 73, 84, 93, 106 (022014 - color presentation), **158** (V,T), **LCNCA**\*

***Pheucticus melanocephalus* (Swainson, 1827): Black-headed Grosbeak**

COMMON NAMES: Black-headed Grosbeak; Picogordo Tigrillo (Spanish)42; Rocky Mountain Grosbeak; Tigrillo (Hispanic)14. HABITS: Feeds on small fruits, insects and seeds. Nests are frail saucers made of plant stems and twigs located in bushes and tree forks. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (022014 - subspp. *maculatus* (Audubon) and *melanocephalus* are the subspecies reported as occurring in New Mexico, color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (060412 - color presentation), **158** (C,T), **LCNCA**\*

*Pyrrhuloxia sinuata* (see *Cardinalis sinuatus*)

*Richmondena cardinalis* (see *Cardinalis cardinalis*)

***Spiza americana* (Gmelin, 1789): Dickcissel**

COMMON NAME: Arrocero Americano (Spanish)42; Dickcissel; Dickcissel d'Amérique (French)42. HABITS: Feeds on insects and insect larvae, seeds and spiders. Nests are made of course forbs, grasses, hair, leaves and rootlets located on the ground in forbs, grasses and tall vegetation or low in shrubs and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland and wetland ecological formations, sightings in the desertscrub ecological formation are out of the normal range for this species and considered to be accidental. \*14 (022014), 20, 42 (022014), 55, 69, 73, 84 (sighting considered to be far from the normal range of this species), 106 (022014 - color presentation), **158** (V,T), **LCNCA**\*

Cathartidae: The New World Vulture Family

***Cathartes aura* (Linnaeus, 1758): Turkey Vulture**

COMMON NAMES: Buzzard; Carrion Crow (Caribbean); Chilean Turkey Vulture (subsp. *jota* (Molina, 1782)); Eastern Turkey Vulture (subsp. *septentrionalis* Wied-Neuwied, 1839); John Crow (Caribbean); Nuwi (Tohono O’odham)90; Turkey Buzzard; Turkey Vulture; Urubu à Tête Rouge (French)42; Western Turkey Vulture (subsp. *aura* (Linnaeus, 1758); subsp. *meridionalis* - Invalid?; subsp. *teter* Friedmann, 1933- Invalid, *Cathartes aura* subsp. *aura* (Linnaeus, 1758) - Valid); Zopilote (Hispanic)14,90; Zopilote Aura (Spanish)42. HABITS: Feeds on carrion. Little or no nest construction, eggs are laid in protected areas in crevices in rocks, on cliffs, on the ground in thickets and in tree hollows. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (022014 - subspp. *septentrionalis* (Wied) and subsp. *teter* (Friedmann) are the subspecies reported as occurring in New Mexico, color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (041912 - color presentation), **158** (C,S), **LCNCA**, **MBJ**/**WTK** (July 9, 2009)\*

Certhiidae: The Creeper Family

***Certhia americana* Bonaparte, 1838: Brown Creeper**

SYNONYMY: *Certhia familiaris* Linnaeus, 1758 - Invalid? (currently being applied to the Eurasian Treecreeper). COMMON NAMES: American Tree Creeper; Brown Creeper; Carpinterito Cafe (Hispanic)14; Mexican Creeper; Rocky Mountain Creeper; Grimpereau Brun (French); Trepador Americano (Spanish)42. HABITS: Feeds on insects and insect eggs, larvae and pupae, pseudoscorpions, seeds and spiders. Nests are cup-shaped or hammock-like made up of bark, moss, spider webbing and twigs located under a strip of bark low on the trunk of a dead tree and in tree cavities. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland, desertscrub and wetland ecological formations. \*14 (022014 - subspp. a*mericana*; a*lbescens* (Berlepsch), and *montana* (Ridgway) are the subspecies reported as occurring in New Mexico, color presentation), 20 (recorded as *Certhia familiaris*), 42 (022014), 55 (recorded as *Certhia familiaris* Linnaeus), 69 (recorded as *Certhia familiaris*), 73 (recorded as *Certhia familiaris*), 84, 93 (recorded as *Certhia familiaris*), 106 (022014 - color presentation), **158** (U,W), **LCNCA**\*

Charadriidae: The Lapwing and Plover Family

***Charadrius vociferus* Linnaeus, 1758: Killdeer**

COMMON NAMES: Chiwi-chuhch (Tohono O’odham)90; Chorlo Tildío (Spanish)42; Killdeer; Pluvier Kildir (French)42; Tildio (Spanish)14,90. HABITS: Feeds on arachnids, insects, marine invertebrates and worms. No nest, eggs are laid in a scrape on bare ground in fields and shores. HABITAT: Within the range of this species it has been reported from the forest, grassland, desertscrub and wetland ecological formations. \*14 (022014 - subsp. *vociferous* (Linnaeus) is the subspecies reported as occurring in New Mexico, color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (041912 - color presentation), **158** (C,R), **LCNCA**\*

Columbidae: The Dove and Pigeon Family

***Columba livia* Gmelin, 1789: Rock Dove**

COMMON NAMES: Blue Rock Dove; Common Pigeon; Pigeon Biset; Domestic Pigeon; Feral Pigeon; Pigeon Biset; Pigeon; Paloma Domestica (Hispanic)14; Paloma Doméstica (Spanish)42; Pigeon; Pigeon Biset (French)42; Rock Dove; Rock Pigeon. HABITS: Feeds on insects, green plant matter and seeds. Nests are located on buildings and cliffs. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations. NOTES: EXOTIC. \*14 (041912 - color presentation), 20, 42 (061812), 69, 73, 84, 90, 93, 106 (041912 - includes a listing of subspecies, color presentation), **158** (U,R), **LCNCA**\*

*Columbigallina passerina* (see *Columbina passerina*)

***Columbina inca* (Lesson, 1847): Inca Dove**

SYNONYMY: *Scardafella inca* (Lesson, 1847). COMMON NAMES: Gugu (Tohono O’odham)90; Inca Dove; Tortola (Hispanic)14; Tórtola Cola Larga (Spanish)42; Tortolita Común (Spanish)90. HABITS: Feeds on fruit, insects and seeds, Saucer shaped nests are made of mixed vegetation and located in shrubs and low trees. HABITAT: Within the range of this species it has been reported from the grassland and desertscrub ecological formations. \*14 (041912 - color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (041912 - color presentation), **158** (U,R), **LCNCA**\*

***Columbina passerina* (Linnaeus, 1758): Common Ground-dove**

SYNONYMY: *Columbigallina passerina* (Linnaeus) - Invalid?. COMMON NAMES: Common Ground Dove; Common Ground-dove; Common Ground-dove (subsp. *pallescens* (S.F. Baird, 1860)); Ground Dove; Torcacita (Hispanic)14; Tórtola Coquita (Spanish)42. HABITS: Feeds on seeds. Nests are made flimsy saucers of twigs located low to the ground in cacti, shrubs, trees and vines or on the ground. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (060512 - subsp. *pallescens* (Baird), color presentation), 20, 42 (061812), 55, 69, 73, 84, 93, 106 (060512 - includes a listing of subspecies, color presentation), **158** (U,P), **LCNCA**\*

*Scardafella inca* (see *Columbina inca*)

***Zenaida asiatica* (Linnaeus, 1758): White-winged Dove**

COMMON NAMES: Mexican Dove; Okokoi (Tohono O’odham)90; Paloma ala Blancha (Spanish)14,42; Paloma de alas Blanchas (Spanish)90; Sonora Dove; Tourterelle à Ailes Blanche (French)42; Western White-wing Dove (*Z*.*a*. *mearnsi* (Ridgway, 1915) - Valid); White-wing; White-winged Dove; White-winged Pigeon. HABITS: Feeds on berries, fruit, gastropods, insects, mollusks and seeds. Nests are flimsy stick platforms located in thickets and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (041912 - subspp. *grandis* (Saunders), *mearnsi* (Ridgway) and *monticola* (Saunders), color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (041912 - color presentation), **158** (C,S), **LCNCA**\*

***Zenaida macroura* (Linnaeus, 1758): Mourning Dove**

SYNONYMY: *Zenaidura macroura* (Linnaeus, 1758). COMMON NAMES: American Mourning Dove; Carolina Pigeon; Carolina Turtle-dove; Carolina Turtledove; Clarion Island Turtledove (subsp. *clarionensis* (C.H. Townsend, 1890)); Dove; Hohhi (Tohono O’odham)90; Huilota (Hispanic)14; Mourning Dove; Paloma Huilota (Spanish)42; Paloma Triste (Spanish)90; Panama Mourning Dove; Rain Dove; Tourterelle Triste (French)42; Turtle Dove; Wild Dove. HABITS: Feeds on fruit, insects and seeds. Nests are loose platforms made of forbs, grasses, leaves, rootlets, sticks and twigs located in cacti, shrubs, trees and on the ground. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (041912 - subspp. *carolinensis* (Linnaeus) and *marginella* (Woodhouse), color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (041912 - includes a listing of subspecies, color presentation), **158** (C,R), **LCNCA**\*

*Zenaidura macroura* (see *Zenaida macroura*)

Corvidae: The Crow, Jay, Magpie and Raven Family

***Aphelocoma californica* (Vigors, 1839): Western Scrub-jay**

COMMON NAMES: California Jay; Pajaro Azul (Hispanic)14; Scrub Jay; Western Scrub Jay, Western Scrub-jay. HABITS: Feeds on acorns, berries, insects, nuts and seeds. Nests are bowls made of grass, rootlets and twigs located in shrubs and trees. NOTE: Through the burying of acorns they play an important role in the regeneration of oak woodlands lost to drought and fire. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (060512 - subspp. *californica* and *woodhouseii* (Baird), color presentation), 42 (061812 - no subspecies listed), 84, 106 (060512 - includes a listing of subspecies, color presentation), **158** (R,T), **LCNCA**\*

***Aphelocoma ultramarina* (Bonaparte, 1825): Mexican Jay**

COMMON NAMES: Arizona Jay; Chara Pecho Gris (Spanish)42; Gray-breasted Jay; Grey-breasted Jay; Mexican Jay; Pajaro Pecho Gris (Hispanic)14; Transvolcanic Jay. HABITS: Feeds on acorns, berries, bird’s eggs and nestlings, insects, nuts and seeds. Nests are bowls made of twigs and lined with hair located in trees. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (022014 - recorded as *Aphelocoma wollweberi* (Bonaparte) with subsp. *arizonae* (Ridgway) being the subspecies reported as occurring in New Mexico, color presentation), 42 (022014), 55, 69, 73, 93, 106 (022014 - recorded the old *Aphelocoma ultramarina* “Mexican Jay” as *Aphelocoma wollweberi* Kaup, 1854 and includes a listing of subspecies, color presentation), **158** (U,P), **LCNCA**, **MBJ**/**WTK** (November 3, 2009)\*

*Aphelocoma wollweberi* (see footnotes 14 and 106 under *Aphelocoma ultramarina*)

***Corvus corax* Linnaeus, 1758: Common Raven**

COMMON NAMES: American Raven; Common Raven; Cuervo Común (Spanish)42,90; Cuervo Grande (Hispanic)14; Grand Corbeau (French)42; Hawani (Tohono O’odham)90; Kahgahgee’ (‘the Raven’ Longfellow’s *Hiawatha*); Northern Raven Western Raven (*C*.*c*. *sinuatus* Wagler, 1829 - Valid). HABITS: Feeds on small animals and birds, berries, carrion, insects and seeds. Nests are made of bones, sticks and wool located on cliffs, saguaros and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (041912 - subsp. *sinuatus* (Wagler), color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (041912 - includes a listing of subspecies, color presentation), 153, **158** (U,P), **LCNCA**, **WTK** (September 26, 2005)\*

***Corvus cryptoleucus* Couch, 1854: Chihuahuan Raven**

COMMON NAMES: American White-necked Raven; Chihuahuan Raven; Cuervo Chihuahuense (Hispanic)14; Cuervo Llanero (Spanish)42; White-necked Raven. HABITS: Feeds on carrion and insects, including grasshoppers. Nests are bowls and platforms made of sticks lined with fur located in mesquite trees and yuccas. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (060512), 20, 42 (061812), 55, 69, 93, 106 (060512 - color presentation), **158** (U,P), **LCNCA**\*

***Cyanocitta stelleri* (Gmelin, 1788): Steller’s Jay**

COMMON NAMES: Azulejo Copeton (Hispanic)14; Chara Crestada (Spanish)42; Geai de Steller (French)42; Long-crested Jay; Mountain Jay; Pine Jay; Steller’s Jay. HABITS: Feeds on acorns, berries, eggs, fruit, insects, invertebrates, small lizards, nestlings, nuts, small rodents, seeds and small snakes. Nests are bowls made of pine needles and twigs and lined with feathers, fibers, moss or rootlets located in conifers. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland, desertscrub and wetland ecological formations. \*14 (022014 - subsp. *macrolopha* (Baird) is the subspecies reported as occurring in New Mexico), 42 (022014), 55, 69, 73, 84, 93, 106 (022014 - color presentation), **158** (R,W), **LCNCA**\*

Cuculidae: The Ani, Cuckoo and Roadrunner Family

***Coccyzus americanus* (Linnaeus, 1758): Yellow-billed Cuckoo**

SYNONYMY: *Coccyzus americanus* subsp. *americanus* (Linnaeus, 1758); *Coccyzus americanus* subsp. *occidentalis* Ridgway, 1887. COMMON NAMES: California Yellow-billed Cuckoo; Chow-chow; Coulicou à Bec Jaune (French)42; Cuclillo Pico Amarillo (Spanish)42; Kow-kow; Pajaro Vaquero Pico Amarillo (Hispanic)14; Rain Bird; Rain Crow; Rain Dove; Storm Crow; Western Yellow-billed Cuckoo; Yellow-billed Cuckoo. HABITS: Feeds on ants, beetles, berries, bird’s eggs, butterflies, caterpillars, cicadas, dragonflies, flies, frogs, fruit, grasshoppers, katydids, lizards, moths, spiders and wasps. Nests are a frail stick or twig platform or saucer lined with leaves located in low bushes and small trees. HABITAT: Within the range of this species it has been reported from wetland ecological formations. \*8, 14 (022014 - color presentation), 20, 42 (022014), 50, 55, 69, 73, 93, 106 (022014 - color presentation), **158** (U,S), **ADS** (Rare cuckoo lives and breeds near site of proposed Rosemont Mine, Saturday, October 19, 2013, Pages C1&3), **LCNCA**\*

*Coccyzus americanus* subsp. *americanus* (see *Coccyzus americanus*)

*Coccyzus americanus* subsp. *occidentalis* (see *Coccyzus americanus*)

***Geococcyx californianus* (Lesson, 1829): Greater Roadrunner**

COMMON NAMES: Correcaminos Norteño (Spanish)42,90; Greater Roadrunner; Paisano (Spanish)14,90; Roadrunner; Tadai (Tohono O’odham)90. HABITS: Feeds on the young of ground nesting birds, insects, lizards, scorpions and snakes. Nests are course shallow cups of sticks located in cacti, mesquite trees and shrubs. HABITAT: Within the range of this species it has been reported from the forest, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042012 - color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (042012 - color presentation), **158** (U,P), **LCNCA**, **MBJ**/**WTK** (November 3, 2009)\*

Emberizidae: The Junco, Longspur, Sparrow and Towhee Family

***Aimophila botterii* (P.L. Sclater, 1858): Botteri’s Sparrow**

COMMON NAME: Botteri’s Sparrow; Zacatonero de Botteri(Spanish)42. HABITS: Feeds on insects and seeds. Nests are cups made of grasses located on the ground. HABITAT: Within the range of this species it has been reported from the woodland, grassland and desertscrub ecological formations. NOTE: Stands of Big Sacaton, *Sporobolus wrightii* is preferred for fledging. \*14 (022014 - subsp. arizonae (Ridgway) is the subspecies reported as occurring in New Mexico, color presentation), 20, 42 (022014), 55, 69, 73, 93, 106 (022014 - includes a listing of subspecies, color presentation), **158** (U,S), **LCNCA**\*

***Aimophila carpalis* (Coues, 1873): Rufous-winged Sparrow**

SYNONYMY: *Peucaea carpalis* (Coues, 1873). COMMON NAMES: Rufous-winged Sparrow; Zacatonero ala Rufa (Spanish)42,. HABITS: Feeds on berries, buds, fruit, insects and seeds. Nests are cups made of woven course and fine grasses located in low bushes and cacti, in young mesquite trees and on the ground. HABITAT: Within the range of this species it has been reported from the woodland, grassland and desertscrub ecological formations. \*14 (042012 - recorded as *Peucaea carpalis* (Sclater)), 42 (061812), 55, 69, 73, 84, 90, 93, 106 (042012 - recorded as *Peucaea carpalis* (Coues, 1873), “This species was first discovered in 1872, near old Fort Lowell, Tucson, where it was described as "very common". In 1881, the sparrow was found: "sparingly about Tucson and Camp Lowell. It inhabited the mesquite thickets, keeping closely hidden in the bunches of 'sacaton' grass, from which, when flushed, it flew into the branches above." After 1886, verified species records were exceedingly rare. The species was considered extinct in Arizona due to overgrazing. The rufous-winged sparrow was rediscovered in 1936, the first record in over fifty years.”, color presentation), **158** (R,P), **LCNCA**\*

***Aimophila cassinii* (Woodhouse, 1852): Cassin’s Sparrow**

SYNONYMY: *Peucaea cassinii* (Woodhouse, 1852). COMMON NAMES: Cassin’s Sparrow, Gorrion Cassin (Hispanic)14; Zacatonero de Cassin (Spanish)42. HABITS: Feeds on fruit, insects and seeds. Nests are deep cups made of grasses located on the ground in grass and at the bases of bushes and cacti. HABITAT: Within the range of this species it has been reported from the grassland and desertscrub ecological formations. \*14 (022014 - - recorded as *Peucaea cassinii* (Woodhouse), color presentation), 20, 42 (022014), 55, 69, 73, 84, 93, 106 (022014 - recorded as *Peucaea cassinii* (Woodhouse, 1852), color presentation), **158** (U,S,R,W), **LCNCA**\*

***Aimophila ruficeps* (Cassin, 1852): Rufous-crowned Sparrow**

COMMON NAMES: Rufous-crowned Sparrow; Yuma Rufous-crowned Sparrow; Zacatonero Corona Rufa (Spanish)42. HABITS: Feeds on berries, buds, fruits and insects. Nests are cups lined with grass and plant fibers located on or near the ground. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (022014 - subsp. *scottii* (Sennett) is the subspecies reported as occurring in New Mexico; subsp. *rupicola* is the subspecies reported as occurring in Arizona, color presentation), 42 (061812), 55, 69, 73, 93, 106 (060512 - includes a listing of subspecies, color presentation), **158** (U,P), **LCNCA**\*

***Ammodramus bairdii* (Audubon, 1844): Baird’s Sparrow**

COMMON NAMES: Baird’s Sparrow; Gorrion Baird (Hispanic)14; Gorrión de Baird (Spanish)42. HABITS: Feeds on insects, seeds and spiders. Nests are cups made up of grasses and located on the ground in scrapes and depressions in tall grass. HABITAT: Within the range of this species it has been reported from the grassland ecological formation. \*8, 14 (022014 - color presentation), 20, 42 (022014), 55, 69, 73, 93, 106 (022014 - color presentation), **158** (U,W), **LCNCA**\*

***Ammodramus savannarum* (Gmelin, 1789): Grasshopper Sparrow**

COMMON NAMES: Arizona Grasshopper Sparrow (subsp. *ammolegus* Oberholser, 1942); Bruant Sauterelle (French)42; Florida Grasshopper Sparrow (subsp. *floridanus* (Mearns, 1902)); Gorrion Chapulinero (Hispanic)14; Gorrion Chapulinero de Arizona (subsp. *ammolegus* Oberholser, 1942), Hispanic)14; Gorrión Chapulín (Spanish)42; Grasshopper Sparrow. HABITS: Feeds on berries, buds, fruit, insects (including grasshoppers) and seeds. Nests are cups made of grasses located on the ground in grass and under vegetation. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (022014 - separate records for subsp. *ammolegus* (Oberholser) and *perpallidus* (Coues) which are the subspecies reported as occurring in New Mexico; subsp. *ammolegus* is a subspecies reported as occurring in Arizona, color presentations), 20, 42 (022014), 55, 69, 73, 84, 93, 106 (022014 - color presentation), **158** (U,P), **LCNCA**\*

***Amphispiza bilineata* (Cassin, 1850): Black-throated Sparrow**

COMMON NAMES: Ba’ I-Chukulim (Tohono O’odham)90; Black-throated Sparrow; Desert Sparrow; Gorrion Garganta Negra (Hispanic)14; Zacatonero Garganta Negra (Spanish)42,90. HABITS: Feeds on berries, buds, fruit, insects and seeds. Nests are loose cups made up of grasses, twigs and plant fibers and located in cacti and shrubs. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations. \*14 (060512 - subspp. *deserticola* (Ridgway) and *opuntia* (Burleigh & Lowery), color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (060512 - color presentation), **158** (U,P), **LCNCA**\*

***Calamospiza melanocorys* Stejneger, 1885: Lark Bunting**

COMMON NAMES: Bruant Noir et Blanc (French)42; Gorrión ala Blanca (Spanish)42; Lark Bunting. HABITS: Feeds on berries, buds, fruit, insects and seeds. Nests are loose cups made of grasses and plant down located in tussocks of grass on the ground and in scrapes. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (042012 - color presentation), 20, 42 (072012), 55, 69, 73, 84, 93, 106 (042012 - color presentation), **158** (U,P), **LCNCA**\*

***Calcarius mccownii* (Lawrence, 1851): McCown’s Longspur**

COMMON NAMES: Arnoldo de McCown (Hispanic)14, Escribano de McCown (Spanish)42; McCown’s Longspur. HABITS: Feeds on insects and seeds. Nests are saucers made of bark, grasses and lichens located on the ground in depressions, hollows and scrapes. HABITAT: Within the range of this species it has been reported from the grassland ecological formation. \*14 (022014 - recorded as *Rhyncophanes mccownii* (Lawrence)), 20, 42 (022014), 55, 69, 73, 93, 106 (022014 - recorded as *Rhyncophanes mccownii* (Lawrence, 1851), color presentation), **158** (R,W), **LCNCA**\*

***Calcarius ornatus* (J.K. Townsend, 1837): Chestnut-collard Longspur**

COMMON NAMES: Arnoldo de Collar (Hispanic)14; Chestnut-collard Longspur; Escribano Collar Castaño (Spanish)42. HABITS: Nests are made of grasses and lined with feathers, fine grass, hair and rootlets and located on the ground in depressions, hollows and scrapes in grass. HABITAT: Within the range of this species it has been reported from the grassland and desertscrub ecological formations. \*14 (022014), 20, 42 (022014), 55, 69, 73, 93, 106 (022014 - color presentation), **158** (U,W), **LCNCA**\*

*Chlorura chlorura* (see *Pipilo chlorurus*)

***Chondestes grammacus* (Say, 1823): Lark Sparrow**

COMMON NAMES: Bruant à Joues Marron (French)42, Gorrion Alondra (Hispanic)14; Gorrión Arlequín (Spanish)42; Lark Sparrow. HABITS: Feeds on berries, buds, fruit, insects and seeds. Nests are cups made up of grasses and lined with fine fibers and hairs and located on the ground in the shelter of grasses and in small bushes and vines. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042012 - subsp. *strigatus* (Swainson), color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (042012 - color presentation), **158** (U,R), **LCNCA** \*

***Junco hyemalis* (Linnaeus, 1758): Dark-eyed Junco**

COMMON NAMES: “Cassiar” Junco; Dark-eyed Junco; Gorrion Ojas Negros (Hispanic)14; Gray-headed Junco; Grey-headed Junco (subsp. *caniceps* (Woodhouse, 1853)); Junco Ardoisé (French), Junco Ojo Oscuro (Spanish)42; Oregon Junco (subsp. *montanus* Ridgway, 1898; subsp. *oreganus* (J.K. Townsend, 1837); subsp. *shufeldti* Coale, 1887; subsp. *thurberi* Anthony, 1890); Pink-sided Junco (subsp. *hyemalis* (Linnaeus,1758)); Red-backed Junco (subsp. *dorsalis* Henry, 1858); Slate-colored Junco (subsp. *cismontanus* Dwight, 1918; subsp. *hyemalis* (Linnaeus, 1758)); White-winged Junco (subsp. *aikeni* Ridgway, 1873). HABITS: Feeds on berries, buds, fruit, insects and seeds. Nests are cups made up of shreds of bark, grasses, mosses, rootlets and twigs lined with grasses and hair located on the ground in protected areas or on lower branches of shrubs and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: The Dark-eyed Junco is a predator of the Douglas-fir Tussock Moth (*Orgyia pseudotsugata*) feeding on egg masses, larvae and pupae, and the Western Spruce Budworm (*Choristoneura occidentalis*). \*14 (042012 - subspp. *aikeni* Ridgway; *caniceps* (Woodhouse); *cismontanus* Dwight; *dorsalis* Henry; *hyemalis*; *mearnsi* Ridgway; *montanus* Ridgway; *oreganus* (Townsend); *shufeldti* Coale, and *thurberi* Anthony, color presentation), 20, 42 (061812), 55, 69, 73, 90, 93, 106 (042012 - includes a listing of subspecies, color presentation), **158** (U,W), **LCNCA**\*

*Junco hyemalis* subsp. *aikeni*: White-winged Junco (see *Junco hyemalis*)

*Junco hyemalis* subsp. *caniceps*: Grey-headed Junco (see *Junco hyemalis*)

*Junco hyemalis* subsp. *cismontanus*: Slate-colored Junco (see *Junco hyemalis*)

*Junco hyemalis* subsp. *dorsalis*: Red-backed Junco (see *Junco hyemalis*)

*Junco hyemalis* subsp. *hymenalis*: Slate-colored Junco (see *Junco hyemalis*)

*Junco hyemalis* subsp. *mearnsi*: Pink-sided Junco (see *Junco hyemalis*)

*Junco hyemalis* subsp. *montanus*: Oregon Junco (see *Junco hyemalis*)

*Junco hyemalis* subsp. *oreganus*: Oregon Junco (see *Junco hyemalis*)

*Junco hyemalis* subsp. *shufeldti*: Oregon Junco (see *Junco hyemalis*)

*Junco hyemalis* subsp. *thurberi*: Oregon Junco (see *Junco hyemalis*)

***Melospiza georgiana* (Latham, 1790): Swamp Sparrow**

COMMON NAMES: Bruant des Marais (French)42; Coastal Plain Swamp Sparrow (subsp. *nigrescens* Bond and Stewart, 1951 - Invalid, *Melospiza georgiana* subsp. *georgiana* (Latham, 1790) - Valid); Gorrion de la Cieneja (Hispanic)14; Gorrión Pantanero (Spanish)42; Northern Swamp Sparrow (subsp. *ericypyta* Oberholser, 1938); Southern Swamp Sparrow (subsp. *georgiana* (Latham, 1790)); Swamp Sparrow; Western Swamp Sparrow (subsp. *ericypyta* Oberholser, 1938). HABITS: Sparrows generally feed on arthropods (including insects), seeds and small fruits. Nests are bulky cups made of grasses attached to marsh vegetation and located in marsh hummocks and tussocks. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the desertscrub ecological formation. \*14 (022114 - subsp. *ericypyta* (Oberholser) is the subspecies reported as occurring in New Mexico, color presentation), 20, 42 (022114), 55, 69, 73, 84, 106 (022114 - color presentation), **158** (R,TW), **LCNCA**\*

***Melospiza lincolnii* (Audubon, 1834): Lincoln’s Sparrow**

COMMON NAMES: Bruant de Lincoln (French)42; Gorrion Lincoln (Hispanic)14; Gorrión de Lincoln (Spanish)42; Lincoln’s Sparrow; “Tom’s Finch”. HABITS: Feeds on berries, buds, fruits, insects and seeds. Nests are cups made of grasses located under vegetation on the ground and in bogs and muskegs. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (042012 - subspp. *alticola* (Miller and McCabe) and *lincolnii*, color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (042012 - color presentation), **158** (C,W), **LCNCA**\*

***Melospiza melodia* (A. Wilson, 1810): Song Sparrow**

COMMON NAMES: Alameda Song Sparrow (subsp. *pusillula* Ridgway, 1899); Aleutian Song Sparrow (subsp. *sanaka* McGregor, 1900); Amak Song Sparrow (subsp. *amaka* Gabrielson and Lincoln, 1951 - Invalid; *Melospiza melodia* subsp. *sanaka* McGregor, 1900 - Valid); Bischoff Song Sparrow (subsp. *insignis* S.F. Baird, 1869); Bruant Chanteur (French)42; Desert Song Sparrow (subsp. *fallax* (S.F. Baird, 1854)); Giant Song Sparrow (subsp. *maxima* Gabrielson and Lincoln, 1951); Gorrion Cantor (Hispanic)14, Gorrión Cantor (Spanish)42; Kenai Song Sparrow (subsp. *kenaiensis* Ridgway, 1900); Riley Song Sparrow (subsp. *inexpectata* Riley, 1911 - Invalid; *Melospiza melodia* subsp. *merrilli* Brewster, 1896 - Valid); San Pablo Song Sparrow (subsp. *samuelis* (S.F. Baird, 1858)); Santa Barbara Song Sparrow (subsp. *coronatorum* Grinnell and Daggett, 1903 - Invalid; *Melospiza melodia* subsp. *graminea* C.H. Townsend, 1890 - Valid); Semidi Song Sparrow (subsp. *semidiensis* Brooks, 1919 - Invalid?); Song Sparrow; Sooty Song Sparrow (subsp. *rufina* (Bonaparte, 1850)); Suisun Song Sparrow (subsp. *maxillaris* Grinnell, 1909); Yakutat Song Sparrow (subsp. *caurina* Ridgway, 1899). HABITS: Feeds on berries, buds, fruit, insects and seeds. Nests are cups made of grasses located on the ground and in low bushes. HABITAT: Within the range of this species it has been reported from the scrub, grassland, desertscrub and wetland ecological formations. \*14 (060512 - subspp. *fallax* (Baird), *juddi* (Bishop) and *montana* (Henshaw), color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (060512 - includes a listing of subspecies, color presentation), **158** (U,P), **LCNCA** \*

*Melozone aberti* (see *Pipilo aberti*)

*Melozone fusca* (see footnote 106 under *Pipilo fuscus*)

*Melozone fuscus* (see footnote 14 under *Pipilo fuscus*)

***Passerculus sandwichensis* (Gmelin, 1789): Savannah Sparrow**

COMMON NAMES: Aleutian Savannah Sparrow (subsp. *sandwichensis* (Gmelin, 1789)); Belding’s Sparrow; Bruant des Prés (French)42; Chihuahua Savanna Sparrow; Dwarf Savannah Sparrow (subsp. *brooksi* Bishop, 1915 - Invalid, *Passerculus sandwichensis* subsp. *sandwichensis* (Gmelin, 1789) - Valid); Eastern Savannah Sparrow (subsp. *savanna* (A. Wilson, 1811) - Invalid, - *Passerculus sandwichensis* subsp. *sandwichensis* (Gmelin, 1789) - Valid); Gorrion Zanjero (Hispanic)14; Gorrión Sabanero42; Ipswich Sparrow (subsp. *princeps* Maynard, 1872); Large-billed Savannah Sparrow (subsp. *rostratus* (Cassin, 1852)); Large-billed Sparrow; Savannah Sparrow. HABITS: Feeds on gastropods, insects, seeds and spiders. Nests are made up of grasses and located on the ground in depressions, hollows and scrapes. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (022114 - subspp. *anthinus* (Bonaparte), *nevadensis* (Grinnell) and *rufofuscus* (Camras) are the subspecies reported as occurring in New Mexico, color presentation; subspp. *rufofuscus* (Camras) and *rostratus* are the subspecies reported as occurring in Arizona), 20, 42 (022114), 55, 69, 73, 84, 93, 106 (022114 - includes a listing of subspecies, color presentation), **158** (U,W), **LCNCA**\*

*Peucaea carpalis* (see *Aimophila carpalis*)

*Peucaea cassinii* (see footnotes 14 and 106 under *Aimophila cassinii*)

***Pipilo aberti* S.F. Baird, 1852: Abert’s Towhee**

SYNONYMY: *Melozone aberti* (Baird, 1852). COMMON NAMES: Abert’s Towhee; Toqui de Abert (Hispanic)14; Toquí Enmascarado (Spanish)42. HABITS: Feeds on buds, berries, small fruit, insects and seeds. Nests are cups made of grasses located close to the ground in bushes and trees. HABITAT: Within the range of this species it has been reported from the desertscrub and wetland ecological formations. \*14 (042012 - recorded as *Melozone aberti* subsp. *aberti* (Baird), color presentation), 42 (061812), 55 (recorded as *Melozone aberti*), 69, 73, 93, 106 (042012 - color presentation), **158** (U,P), **LCNCA**\*

***Pipilo chlorurus* (Audubon, 1839): Green-tailed Towhee**

SYNONYMY: *Chlorura chlorura* (Audubon, 1839). COMMON NAMES: Green-tailed Towhee; Tohi à Queue Verte (French)42; Toqui Cola Verde (Hispanic)14,; Toquí Cola Verde (Spanish)42. HABITS: Feeds on berries, buds, fruit, insects and seeds. Nests are made of shredded bark and grasses located under brush and on the ground. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042012 - color presentation), 42 (061812), 55, 69, 73, 84, 90, 93, 106 (042012 - color presentation), **158** (C,T,W), **LCNCA**\*

***Pipilo fuscus* Swainson, 1827: Canyon Towhee**

COMMON NAMES: Bichput (Tohono O’odham)90; Brown Towhee; Canyon Towhee; Toqui Canonero (Hispanic)14; Toquí Pardo (Spanish)42; Toquí Pinto (Spanish)90; Vieja (Spanish)90; Yuma Brown Towhee. HABITS: Feeds on berries, buds, fruit, insects and seeds. Nests are large deep cups of grasses and rootlets located in bushes and low trees. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042012 - recorded as *Melozone fuscus* subspp. *mesatus* (Oberholser) and *mesoleucus* (Baird), color presentation), 20 (no record of species), 42 (061812 - no record for either *Melozone fusca* or *Melozone fuscus*), 55 (recorded as *Pipilo fuscus* Swaison), 69 (recorded as *Pipilo fuscus*), 73 (recorded as *Pipilo fuscus*), 84, 90, 93 (recorded as *Pipilo fuscus*), 106 (042012 - recorded as *Melozone fusca* Swainson, 1827, color presentation), **158** (C,P), **LCNCA**\*

***Pipilo maculatus* Swainson, 1827: Spotted Towhee**

COMMON NAMES: Oregon Towhee; Spotted Towhee. HABITS: Feeds on berries, buds, fruit, insects and seeds. Nests are bulky cups made up of strips of bark, stalks of forbs, leaves and twigs and lined with shredded bark, grasses, hairs and pine needles and located low in dense bushes or on and/or close to the ground. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, desertscrub and wetland ecological formations. \*14 (060512 - color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (06051 - color presentation), **158** (U,W), **LCNCA**\*

***Pooecetes gramineus* (Gmelin, 1789): Vesper Sparrow**

COMMON NAMES: Bruant Vespéral (French)42; Gorrión Cola Blanca (Spanish)42; Vesper Sparrow. HABITS: Feeds on berries, buds, fruits, insects, seeds and small fruit. Nests are grass lined cups located on the ground in grass and low vegetation. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (042012 - subsp. *altus* (Marshall); subsp. *confinis* (Baird), color presentation), 20, 42 (061812), 55, 69, 73, 84, 93, 106 (042012 - color presentation), **158** (C,W), **LCNCA**\*

*Rhyncophanes mccownii* (see footnotes 14 and 106 under *Calcarius mccownii*)

***Spizella breweri* Cassin, 1856: Brewer’s Sparrow**

COMMON NAMES: Brewer’s Sparrow (subsp. *breweri* Cassin, 1856 - Invalid; *Spizella breweri* Cassin, 1856 - Valid); Gorrion Brewer (Hispanic)14; Gorrión de Brewer (Spanish)42; Timberline Sparrow (subsp. *taverneri* Swarth and A.C. Brooks, 1925 - Invalid; *Spizella taverneri* Swarth and A.C. Brooks, 1925 - Valid). HABITS: Feeds on berries, buds, fruit, insects and seeds. Nests are cups made of grasses located in low conifers, sagebrush or on the ground. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (022114 - subspp. *breweri* and *taverneri* (Swarth and Brooks) are the subspecies reported as occurring in New Mexico, color presentation), 42 (022114), 55, 69, 73, 84, 90, 93, 106 (042012 - includes a listing of subspecies, color presentation), **158** (C,W), **LCNCA**\*

*Spizella breweri* subsp. *breweri* (see *Spizella breweri*)

***Spizella passerina* (Bechstein, 1798): Chipping Sparrow**

COMMON NAMES: Bruant Familier (French)42; Chipping Sparrow; Gorrión Ceja Blanca (Spanish)42; “Hairbird”. HABITS: Feeds on berries, buds, fruit, insects and seeds. Nests are cups made of grasses and rootlets and lined with hair located in bushes, trees and vines or on the ground. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: The Chipping Sparrow is a predator of the Douglas-fir Tussock Moth (*Orgyia pseudotsugata*) and the Western Spruce Budworm (*Choristoneura occidentalis*). \*14 (060512 - subsp. *arizonae* (Coues), color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (060512 - color presentation), **158** (C,W), **LCNCA**\*

***Zonotrichia leucophrys* (J.R. Forster, 1772): White-crowned Sparrow**

COMMON NAMES: Bruant à Couronne Blanche (French)42; Gambel’s Sparrow; Gorrion Copete Blanco (Hispanic)14; Gorrión Corona Blanca (Spanish)42,90; Intermediate Sparrow; Mountain White-crowned Sparrow (*Z*.*l*. *oriantha* Oberholser, 1932 - Valid); Nuttall’s Sparrow; Tomtol (Tohono O’odham)90; White-crown; White-crowned Sparrow. HABITS: Members of this family feed on berries, buds, fruit, insects and seeds. Nests are cups made of grasses located in bushes or on the ground. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042012 - subspp. *gambelii* (Nuttall) and *oriantha* (Oberholser), color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (042012 - includes a listing of subspecies, color presentation), **158** (C,W), **LCNCA**\*

Falconidae: The Caracara and Falcon Family

***Falco columbarius* Linnaeus, 1758: Merlin**

COMMON NAMES: Black Merlin (subsp. *suckleyi* Ridgway, 1874); Coastal Forest Merlin (subsp. *suckleyi* Ridgway, 1874); Faucon Émerillon (French)42; Halcón Esmerejón (Spanish)42; Merlin; Pigeon Hawk; Prairie Merlin (subsp. *richardsonii* Ridgway, 1871); Smyril (Indo-European: Insular Nordic; Faroese for subsp. *aeselon* Tunstall, 1771)106; Smyrill (Indo-European: Insular Nordic; Icelandic applied to subsp. *aeselon* Tunstall, 1771)106; Taiga Merlin (subsp. *columbarius* Linnaeus, 1758 ); Tundra Merlin (subsp. *columbarius* Linnaeus, 1758 ). HABITS: Feeds on birds, insects and rodents. Nests are made in cavities, cliff ledges, niches, tree tops and on the ground. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (060512 - subspp. *bendirei* (Swann), *columbarius*, *richardsonii* (Ridgway) and *suckleyi* (Ridgway), color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (060512 - includes a listing of subspecies, color presentation), **158** (U,T), **LCNCA**\*

***Falco mexicanus* Schlegel, 1850: Prairie Falcon**

COMMON NAMES: Faucon des Prairies (French)42; Halcon Cafe' (Hispanic)14; Halcón Mexicano (Spanish)42; Prairie Falcon. HABITS: Feeds on birds, insects and rodents. Nests are made on sticks located on cliff niches or on the bare ground. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042012 - color presentation), 42 (072012), 55, 69, 73, 84, 90, 93, 106 (042012 - color presentation), **158** (U,R), **LCNCA**\*

***Falco peregrinus* Tunstall, 1771: Peregrine Falcon**

COMMON NAMES: American Peregrine Falcon (subsp. *anatum* Bonaparte, 1838; Arctic Peregrine Falcon (subsp. *tundrius* C.M. White, 1968); Austral Peregrine Falcon (subsp. *F*.*p*. *cassini* Sharpe, 1873); Australian Peregrine Falcon (subsp. *macropus* Swainson, 1838); Barbary Falcon (subsp. *pelegrinoides* Temminck, 1829 - Invalid; *Falco pelegrinoides* Temminck, 1829 - Valid); Black Shaheen (subsp. *peregrinator* Sundevall, 1837); Duck Hawk (subsp. *anatum* Bonaparte, 1838); Eurasian Peregrine Falcon (subsp. *pereginus* Tunstall, 1771); Faucon Pèlerin (French)42; Faucon Pélerin (French)42; Halcon Arctico (Hispanic); Halcon Peregrino (Hispanic)14; Halcón Peregrino (Spanish)42; Indian Peregrine Falcon (subsp. *peregrinator* Sundevall, 1837); Maltese Falcon (subsp. *brookei* Sharpe, 1873); Mediterranean Falcon (subsp. *brookei* Sharpe, 1873); Peale’s Falcon (subsp. *pealei* Ridgway, 1874); Peregrine; Peregrine Falcon; Shaheen (subsp. *peregrinator* Sundevall, 1837); Shaheen Falcon (*peregrinator* Sundevall, 1837). HABITS: Feeds on bats, birds, insects, reptiles and rodents. Eggs are laid on potholes, scrapes or sticks located on cliff ledges. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: The Peregrine Falcon has been reported as being the fastest creature on earth, able to free fall at speeds exceeding 260 mph. \*14 (042012 - subspp. *anatum* (Bonaparte) and *tundrius* (White), color presentation of subspecies *anatum*), 20, 35, 42 (022114), 55, 69, 73, 84, 90, 93, 106 (042012 - includes a listing of subspecies, color presentation), **158** (U,T), **LCNCA**\*

***Falco sparverius* Linnaeus, 1758: American Kestrel**

COMMON NAMES: American Kestrel; Cernicalo (Hispanic)14; Cernícalo Americano (Spanish)42,90; Crécerelle d'Amérique (French)42; Desert Sparrow Hawk; Sisiki (Tohono O’odham)90; Sparrow Hawk. HABITS: Feeds on amphibians, small birds, insects, reptiles and rodents. Eggs are laid in holes in saguaros and trees and on cliffs. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042012 - subsp. *sparverius* Linnaeus, color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (042012 - includes a listing of subspecies, color presentation), **158** (C,P), **LCNCA**\*

Fringillidae: The Cardueline and Fringilline Finch Family

***Carduelis lawrencei* Cassin, 1850: Lawrence’s Goldfinch**

SYNONYMY: *Spinus lawrencei* (Cassin, 1850). COMMON NAMES: Jilguero Gris (Spanish)42; Lawrence’s Goldfinch. HABITS: Feeds on berries, buds, small fruit, insects and seeds. Nests are small, neat, tightly woven cups located in bushes and small trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042012 - color presentation), 42 (061812), 55, 69, 73, 84, 93, 106 (042012 - color presentation), **158** (R,W), **LCNCA**\*

***Carduelis pinus* (A. Wilson, 1810): Pine Siskin**

SYNONYMY: *Spinus pinus* (A. Wilson, 1810). COMMON NAMES: Jilguero Pinero (Spanish)42; Pine Finch, Pine Siskin, Pinonero Rayado (Hispanic)14; Tarin des Pins (French)42. HABITS: Feeds on insects and seeds. Nests are neat cups made up of grasses and twigs and located on horizontal branches of trees usually conifers. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: The Pine Siskin is a predator of the Douglas-fir Tussock Moth (*Orgyia pseudotsugata*) and Western Spruce Budworm (*Choristoneura occidentalis*). \*14 (060612 - recorded as *Spinus pinus* Wilson: *C*.*p*. subsp. *pinus*, color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (060612 - color presentation), **158** (U,W), **LCNCA**\*

***Carduelis psaltria* (Say, 1823): Lesser Goldfinch**

SYNONYMY: *Spinus psaltria* (Say, 1823). COMMON NAMES: Arkansas Goldfinch; Arkansas Green-back; Dark-backed Goldfinch; Green-backed Goldfinch (subsp. *hesperophila* (Oberholser, 1903)); Jilguero Dominico (Spanish)42; Lesser Goldfinch; Tarweed Canary. HABITS: Feeds on tree buds, insects (larval and adult stages) and seeds. Nests are small cups made of fine plant materials including strips of bark, cocoons, cotton, feathers, grasses, leaves, lichens, mosses, plant stems, rootlets, thistle, twigs, spider webbing and wool with the nest height being from 1 to 30 feet and located in bushes, shrubs and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042112 - subspp. *hesperophilus* (Oberholser) and *psaltria*, color presentation), 42 (061812), 55, 69, 73, 84, 90, 93, 106 (042112 - includes a listing of subspecies, color presentation), **158** (C,P), **LCNCA**\*

***Carduelis tristis* (Linnaeus, 1758): American Goldfinch**

SYNONYMY: *Spinus tristis* (Linnaeus, 1758). COMMON NAMES: American Goldfinch, Chardonneret Jaune (French)42; Common Goldfinch; Eastern Goldfinch; Jilguero Canario (Spanish)42; Pale Goldfinch; Wild Canary; Willow Goldfinch (subsp. *salicamans* (Grinnell, 1897)). HABITS: Feeds on tree buds, insects, maple sap and seeds (mostly). Nests are compact, felted cups made of bark shreds, feathers, grasses, hair, leaves, rootlets and vines with the rim re-enforced with spider webbing and caterpillar silk, the cup is lined with plant down and fibers and wool with the nest constructed on larger species of the Aster Family (Asteraceae), and in forks of bushes, shrubs and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (022114 - subsp. *pallidus* (Mearns) is the subspecies reported as occurring in New Mexico, color presentation), 20, 42 (022114), 55, 69, 73, 84, 93, 106 (022114 - includes a listing of subspecies, color presentation), **158** (U,W), **LCNCA**\*

***Carpodacus mexicanus* (Statius Müller, 1776): House Finch**

COMMON NAMES: “Hollywood Finch”; House Finch; “Linnet”; Pinzón Mexicano (Spanish)42,90; Roselin Familier (French)42. HABITS: Feeds on buds, berries, fruit, insects and seeds. Nests are tightly woven, compact cups made of debris, feathers, grasses, hair, lichens, plant tufts, sticks and twigs located in cavities and in bushes, cacti, shrubs, trees and vines, sometime uses abandoned nests of other birds. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042112 - subsp. *frontalis* (Say), color presentation), 20, 42 (061812), 55, 69, 73, 84, 90, 93, 106 (042112 - color presentation), **158** (C,P), **LCNCA**\*

*Spinus lawrencei* (see *Carduelis lawrencei*)

*Spinus pinus* (see *Carduelis pinus*)

*Spinus psaltria* (see *Carduelis psaltria*)

*Spinus tristis* (see *Carduelis tristis*)

Hirundinidae: The Martin and Swallow Family

***Hirundo rustica* Linnaeus, 1758: Barn Swallow**

COMMON NAMES: Barn Swallow; Golondrina (Hispanic)14; Golondrina Tijereta (Spanish)42; Hirondelle Rustique (French)42; Ladu Swala (“Barn-swallow”, Sweden)106; Swallow. HABITS: Feeds on insects. Nests are cups made of mud lined with feathers located on cliff ledges and man-made structures. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (060612 - subsp. *erythrogaster* Boddaert, color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (060612 - includes a listing of subspecies, color presentation), **158** (C,S), **LCNCA**\*

*Iridoprocne bicolor* (see *Tachycineta bicolor*)

***Petrochelidon pyrrhonota* (Vieillot, 1817): Cliff Swallow**

COMMON NAMES: American Cliff Swallow; “Capistrano Swallows”; Cliff Swallow; Golondrina Risquera (Hispanic)14; Hirondelle à Front Blanc (French)42. HABITS: Feeds on insects. Nests are gourd-shaped mud jugs lined with feathers and grasses located on cliff faces preferably beneath overhangs. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (022114 - subspp. *minima* (Van Rossem and Hachisuka) and *tachina* (Oberholser) are the subspecies reported as occurring in New Mexico, color presentation), 20, 42 (022114), 55, 69, 73, 84, 90, 93, 106 (022114 - color presentation), **158** (C,S), **LCNCA**\*

***Progne subis* (Linnaeus, 1758): Purple Martin**

COMMON NAMES: Golondrina Azulnegra (Spanish)42; Hirondelle Noire (French)42; Martin Azul (Hispanic)14; Purple Martin; Western Purple Martin. HABITS: Feeds on insects. Nests made of feathers, grasses, leaves, mud and stalks located in holes in saguaros and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland, desertscrub and wetland ecological formations. \*14 (060612 - subsp. *subis* (Linnaeus); subsp. *hesperia* (AZ)), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (060612 - includes a listing of subspecies, color presentation: “Purple Martins suffered a severe population crash in the 20th Century widely linked to the release and spread of European Starlings in North America. Starlings and House Sparrows compete with martins for nest cavities. Where Purple Martins once gathered by the thousands, by the 1980s they had all but disappeared.[7]”), **158** (V,T), **LCNCA**\*

***Riparia riparia* (Linnaeus, 1758): Bank Swallow**

COMMON NAMES: Bank Swallow; Collared Sand Martin; European Sand Martin; Golondrina Riberena (Hispanic)14; Golondrina Ribereña (Spanish)42; Hirondelle de Rivage (French)42; Sand Martin. HABITS: Feeds on small insects. Nests are made of feathers, forbs, grasses, rootlets and straw located in chambers at the end of burrows dug into soft, steep soil banks of sand or gravel located near ponds and streams. HABITAT: Within the range of this species it has been reported from the wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formations. \*14 (022114 - subsp. *riparia* (Linnaeus) is the subspecies reported as occurring in New Mexico, color presentation), 20, 55, 69, 73, 84, 93, 106 (022114 - includes a listing of subspecies, color presentation), **158** (U,T), **LCNCA**\*

***Stelgidopteryx serripennis* (Audubon, 1838): Northern Rough-winged Swallow**

COMMON NAMES: Golondrina ala Aserrada (Spanish)42; Hirondelle à Ailes Hérissées (French)42; Golondrina alas Errada (Hispanic)14; Northern Rough-winged Swallow; Rough-winged Swallow. HABITS: Feeds on insects. Nests located in holes in banks, caves and crevices in rock. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland, desertscrub and wetland ecological formations. \*14 (060612 - subspp. *psammochrous* (Griscom) and *serripennis*, color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (060612 - color presentation), **158** (C,S), **LCNCA**\*

***Tachycineta bicolor* (Vieillot, 1808): Tree Swallow**

SYNONYMY: *Iridoprocne bicolor* (Vieillot, 1808). COMMON NAMES: Golondrina Invernal (Hispanic)14; Golondrina Bicolor (Spanish)42; Hirondelle Bicolore (French)42; Tree Swallow. HABITS: Feeds on insects and a small amount of fruit. Nests are cups made up of grasses and thin twig and often lined with feathers and located in cavities and holes in trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland, desertscrub and wetland ecological formations. \*14 (022114 - color presentation), 20, 42 (022114)55, 69, 84, 90, 93, 106 (022114 - color presentation), **158** (U,T), **LCNCA**\*

***Tachycineta thalassina* (Swainson, 1827): Violet-green Swallow**

COMMON NAMES: Golondrina Verde (Hispanic)14; Golondrina Verdemar (Spanish)42; Violet-green Swallow. HABITS: Feeds on insects. Nests are cups made of grasses lined with feathers located in holes in trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042112 - subsp. *lepida* (Mearns), color presentation), 42 (072012), 55, 69, 73, 84, 90, 93, 106 (042112 - color presentation), **158** (C,TS), **LCNCA**\*

Icteridae: The Blackbird, Oriole and Allies Family

***Agelaius phoeniceus* (Linnaeus, 1766): Red-winged Blackbird**

COMMON NAMES: Bicolored Blackbird (subsp. *gubernator* (Wagler, 1832)); Carouge à Épaulettes (French)42; Red-wing; Red-winged Blackbird; S-Wegi Shashani (Tohono O’odham)90; Tordo de Alas Rojas (Hispanic)14; Tordo Sargento (Spanish)42. HABITS: Feeds on small aquatic animals, small fruit, insects and seeds. Nests are a woven grass cup attached to bushes, grasses, marsh reeds and tules. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (060612 - subspp. *arctolegus* (Oberholser), *fortis* (Ridgway), *nevadensis* (Grinnell) and *sonoriensis* (Ridgway), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (060612 - includes a listing of subspecies, color presentation), **158** (U,P), **LCNCA**\*

*Cassidix mexicanus* (see *Quiscalus mexicanus*)

***Dolichonyx oryzivorus* (Linnaeus, 1758): Bobolink**

COMMON NAMES: Boblincoln; Bobolink; “Butter-bird” (Jamaica); Butterbird; Maybird; Goglu des Prés (French)42; Tordo Arrocero (Spanish)42; Meadow-wink; “Ricebird” (southern United States); “Reedbird” (southern United States); Skunk Blackbird. HABITS: Feeds on fruits, insects and insect larvae, seeds and spiders. Nests are cups made of forbs and course grass lined with fine grasses located on the ground in depressions and scrapes in grassy areas. HABITAT: Within the range of this species it has been reported from the grassland ecological formation. \*8, 14 (022114), 20, 42 (022114), 55, 69, 73, 93, 106 (022114 - color presentation), **158** (V,T), **LCNCA**\*

***Euphagus cyanocephalus* (Wagler, 1829): Brewer’s Blackbird**

COMMON NAMES: Brewer’s Blackbird; Quiscale de Brewer (French)42; Tordo Ojo Amarillo (Spanish)42; Tordo Brewer (Hispanic)14. HABITS: Feeds on fruits, insects, seeds, small aquatic life. Nests are bulky grass-lined cups made up of grasses and twigs, plastered with mud located on the ground or in low shrubs or trees. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (060612 - color presentation), 20, 42 (061912), 55, 69, 73, 84, 93, 106 (060612 - color presentation), **158** (U,W), **LCNCA**\*

***Icterus bullockii* (Swainson, 1872): Bullock’s Oriole**

COMMON NAMES: Bolsero Calandria (Spanish)42; Bullock’s Oriole; Calandria Nortina (Hispanic)14; Northern Oriole. HABITS: Feeds on small aquatic animals, small fruit (berries), insects, nectar and seeds. Nests are deep pendent woven baskets made up of bark, grass fiber and animal hair and lined with down, hair and moss and constructed at the end of branches. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations. \*14 (022114 - color presentation), 20, 42 (022114), 55, 69, 73, 84, 90, 93, 106 (022114 - color presentation), **158** (U,S), **LCNCA**\*

***Icterus cucullatus* Swainson, 1827: Hooded Oriole**

COMMON NAMES: Bolsero Encapuchado (Spanish)42; Calandria (Spanish)90; Calandria Copetona (Hispanic)14; Hooded Oriole; S-Oam Shashani (Tohono O’odham)90. HABITS: Feeds on small aquatic animals, small fruit, insects and seeds; nests are a long, hanging basket or woven pouch located under palm fronds, shrubs and yuccas. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations. \*14 (042112 - color presentation), 20, 42 (061912), 55, 69, 73, 84, 93, 106 (042112 - color presentation), **158** (U,S), **LCNCA**\*

***Icterus parisorum* Bonaparte, 1838: Scott’s Oriole**

COMMON NAMES: Bolsero Tunero (Spanish)42, Calandria Matraquera (Hispanic)14; Scott’s Oriole. HABITS: Feeds on fruits, insects and nectar. Nests are hanging pouches made of grasses and leaves located in dried yucca fronds and small trees. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (060612 - color presentation), 42 (061912), 55, 69, 73, 84, 93, 106 (060612 - color presentation), **158** (U,S), **LCNCA**\*

***Icterus pustulatus* (Wagler, 1829): Streak-backed Oriole**

COMMON NAMES: Bolsero Dorso Rayado (Spanish)42; Scarlet-headed Oriole; Streak-backed Oriole. HABITS: In general, orioles feed on fruits and insects. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations. \*14 (022114 - color presentation), 42 (022114), 55, 69, 93, 106 (022114 - includes a listing of subspecies, color presentation), **158** (V,T), **LCNCA**\*

***Molothrus aeneus* (Wagler, 1829): Bronzed Cowbird**

SYNONYMY: *Tangavius aeneus* (Wagler, 1829). COMMON NAMES: Bronze-brown Cowbird (*M*.*a*. *armenti* Cabanis, 1851 - Valid); Bronzed Cowbird; Red-eyed Cowbird; Tordo Ojo Rojo (Spanish)42; Tordo Ojos Rojos (Hispanic)14. HABITS: Feeds on small aquatic animals, small fruit, insects and seeds; parasitic. Eggs are laid in the nests of orioles and other birds. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (042212 - subsp. *loyei* (Parkes and Blake), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042212 - color presentation), **158** (U,S), **LCNCA**\*

***Molothrus ater* (Boddaert, 1783): Brown-headed Cowbird**

COMMON NAMES: Brown-headed Cowbird; Common Cowbird; Dwarf Cowbird; Nevada Cowbird; Tordo (Spanish)90; Tordo Cabeza Café (Spanish)42; Tordo Copete Café (Hispanic)14; Vacher à Tête Brune (French)42. HABITS: Feeds on small aquatic animals, small fruit, insects and seeds; parasitic. Eggs are laid in the nests or other birds. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042212 - subspp. *artemisiae* (Grinnell) and *obscurus* (Gmelin), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042212 - color presentation), **158** (C,P), **LCNCA**\*

***Quiscalus mexicanus* (Gmelin, 1788): Great-tailed Grackle**

SYNONYMY: *Cassidix mexicanus* (Gmelin, 1788). COMMON NAMES: “Blackbird”; Boat-tailed Grackle (a name more appropriately applied to *Quiscalus major* Vieillot, 1819 of the eastern and southern United States coastal marshes and Florida); Chanate Cola Grande (Hispanic)14; “Crow”; “Cuervo” (Mexico)106; Great-tailed Grackle; “Jackdaw”; Mexican Grackle; Zanate (Spanish)90; Zanate Mexicano (Spanish)42. HABITS: Feeds on small aquatic animals, small fruit, insects and seeds. Nests are cups made of sticks, grasses, mud and sticks lined with grasses located in trees, bushes and marsh reeds. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (042212 - subspp. *monsoni* (Phillips) and *prosopidicola* (Lowery), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042212 - color presentation), **158** (U,P), **LCNCA**\*

***Sturnella magna* (Linnaeus, 1758): Eastern Meadowlark**

COMMON NAMES: Alondra del Este (Hispanic)14; Arizona Meadowlark; Eastern Meadowlark; Pradero tortilla-con-chile (Spanish)42; Sturnelle des Prés (French)42; Texas Meadowlark. HABITS: Feeds on arthropods, small aquatic life, fruits (berries), insects and seeds. Nests are dome-shaped saucers made of grasses and herbs located on the ground under tufts of grass. HABITAT: Within the range of this species it has been reported from the grassland and desertscrub ecological formations. \*14 (022114 - subsp. *lilianae* (Oberholser) is the subspecies reported as occurring New Mexico, color presentation), 20, 42 (022114), 55, 69, 73, 84, 93, 106 (022114 - color presentation), **158** (C,P), **LCNCA**\*

***Sturnella neglecta* Audubon, 1844: Western Meadowlark**

COMMON NAMES: Alondra Llanera (Hispanic)14; Pradero Occidental (Spanish)42; Sturnelle de l'Ouest (French)42; Western Meadowlark. HABITS: Feeds on small aquatic animals, small fruit (berries), insects and seeds. Nests are partially domed saucers made woven grasses and located on the ground in grassy tussocks. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (022114 - subspp. *neglecta* and *confluenta* (Rathbun) are the subspecies reported as occurring in New Mexico, color presentation), , 20, 42 (022114), 55, 69, 73, 84, 90, 93, 106 (022114 - color presentation), **158** (U,W), **LCNCA**\*

***Xanthocephalus xanthocephalus* (Bonaparte, 1826): Yellow-headed Blackbird**

COMMON NAMES: Carouge à Tête Jaune (French)42; Tordo Cabeza Amarilla (Hispanic)14; Yellow-headed Blackbird. HABITS: Feeds on small aquatic life, insects, small fruit, seeds and waste grain. Nests are woven cups made of grasses and sedges located above water on cattails, reeds and tules in marshy areas. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (042212 - color presentation), 20, 42 (061912), 55, 69, 73, 84, 93, 106 (042212 - color presentation), **158** (U,S), **LCNCA**\*

*Tangavius aeneus* (see *Molothrus aeneus*)

Laniidae: The Shrike Family

***Lanius excubitor* Linnaeus, 1758: Northern Shrike**

COMMON NAMES: Great American Shrike (subsp. *borealis* Vieillot, 1808); Great Grey Shrike (Europe and Asia); “Greater Butcher Bird” (Europe); “Mudering Pie” (Europe); Northern Shrike; Northern Grey Shrike; Pie-grièche Grise (French)42; Verdugo Norteno (Hispanic)14; “White Whisky John” (England and/or Scotland). HABITS: Feeds on birds, insects, rodents and spiders. Nests are bowls made up of leaves, large twigs and chunks of moss and lined with fine twigs and roots, lichen, hair and feathers and located in bushes and trees. HABITAT: Within the range of this species it has been reported from the woodlands, grassland, desertscrub and wetland ecological formations. \*14 (022114 - subsp. *invictus* (Grinnell) is the subspecies reported as occurring in New Mexico), 20, 42 (022114), 55, 69, 73, 93, 106 (022114 - includes a listing of subspecies, color presentation), **158** (V,W), **LCNCA**\*

***Lanius ludovicianus* Linnaeus, 1766: Loggerhead Shrike**

COMMON NAMES: Alcaudón Verdugo (Spanish)42; “Butcher Bird”; Loggerhead Shrike; Migrant Loggerhead Shrike (subsp. *migrans* W. Palmer, 1898); Pie-grièche Migratrice (French)42; San Clemente Loggerhead Shrike (subsp. *mearnsi* Ridgway, 1903); Verdugo (Hispanic)14; White-rumped Shrike. HABITS: Feeds on small birds, large insects, lizards and small mammals. Nests are made of feathers, rootlets and twigs located in bushes and trees. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (042212 - subsp. *excubitorides* (Swainson), *gambeli* (Ridgway) and *sonoriensis* (Miller), color presentation), 20, 42 (022114), 55, 69, 73, 84, 90, 93, 106 (042212 - color presentation), **158** (U,P), **LCNCA**\*

Mimidae: The Catbird, Mockingbird and Thrasher Family

***Mimus polyglottos* (Linnaeus, 1758): Northern Mockingbird**

COMMON NAMES: Cenzontle (Spanish)14,90; Centzontle Norteño (Spanish)42; Mockingbird; Moqueur Polyglotte (French)42; Northern Mockingbird; Shug (Tohono O’odham)90. HABITS: Feeds on arachnids, berries, crustaceans, fruits, gastropods, insects, mollusks, reptiles and seeds. Nests are bulky cups made of grasses, hair, leaves, mosses, plant stems, rootlets, sticks, twigs and wool and lined with fine plant material and rootlets located near ground in bushes, chollas, shrubs, thickets, dense trees and vines. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042212 - subsp. *leucopterus* (Vigors), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042212 - color presentation), **158** (C,P), **LCNCA**\*

***Oreoscoptes montanus* (J.K. Townsend, 1837): Sage Thrasher**

COMMON NAMES: Cuitlacoche de Chías (Spanish)42; Mirlo de las Chias (Hispanic)14; Sage Thrasher. HABITS: Feeds on fruits (berries) and insects. Nests are bulky cups made of strips of bark, grasses and twigs and located in low growing bushes or on the ground. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations. \*14 (022114 - color presentation), 20, 42 (022114), 55, 69, 73, 84, 90, 93, 106 (022114 - color presentation), **158** (U,W), **LCNCA**\*

***Toxostoma crissale* Henry, 1858: Crissal Thrasher**

SYNONYMY: *Toxostoma dorsale* Henry, 1858. COMMON NAMES: Crissal Thrasher; Cuitlacoche Crisal (Spanish)42; Cuitlacoche Cristal (Hispanic)14. HABITS: Feeds on fruit (berries), insects, seeds and spiders. Their cup-shaped nests are constructed using twigs and lined with finer plant material in shrubs and mesquites. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14(022114 - subsp. *crissale* (Henry) is the subspecies reported as occurring in New Mexico), 42 (022114), 55, 69, 73, 84, 93, 106 (022114 - color presentation), **158** (U,P), **LCNCA**\*

***Toxostoma curvirostre* (Swainson, 1827): Curve-billed Thrasher**

COMMON NAMES: Cuitlacoche; Cuitlacoche Comun (Hispanic)14; Cuitlacoche Pico Curvo (Spanish)42,90; Curve-billed Thrasher; Kudwik (Tohono O’odham)90; Palmer’s Thrasher. HABITS: Feeds on arachnids, berries, crustaceans, diplopods, fruits, gastropods, insects, mollusks and seeds. Nests are woven cups made up of bark, grasses, hair, rootlets, sticks and twigs and located in bushes, cholla cacti and shrubs. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042212 - subsp. *celsum* (Moore), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042212 - color presentation), **158** (C,P), **LCNCA**\*

*Toxostoma dorsale* (see *Toxostoma crissale*)

Motacillidae: The Pipit and Wagtail Family

***Anthus rubescens* (Tunstall, 1771): Buff-bellied Pipit**

COMMON NAMES: Alondra Americana (Hispanic)14; American Pipit (subsp. *rubescens* (Tunstall, 1771)); Bisbita de Agua (Spanish)42; Buff-bellied Pipit; Japanese Pipit (subsp. *japonicus* Temminck and Schlegel, 1847); Pipit d'Amérique (French)42; Siberian Pipit (subsp. *japonicus* Temminck and Schlegel, 1847); Water Pipit. HABITS: Feeds on crustaceans, grubs, insects, small mollusks, seeds and spiders. Nests are grassy cups constructed from fine grasses, horse hair and sedges and located on the ground under shelter. HABITAT: Within the range of this species it has been reported from the tundra, desertscrub and wetland ecological formations. \*14 (022214 - subspp. alticola (Todd), pacificus (Todd) and *rubescens* are the subspecies reported as occurring in New Mexico, color presentation), 20 (recorded as *Anthus spinoletta*, color photograph), 42 (022214 - *Anthus spinoletta rubescens* (Tunstall, 1771) - Invalid is a synonym of *Anthus rubescens* *rubescens* (Tunstall, 1771) - Valid), 55 (recorded as *Anthus spinoletta* (Linnaeus)), 69 (recorded as *Anthus spinoletta*), 73 (recorded as *Anthus spinoletta*), 84 (recorded as the Water Pipit), 90 (recorded as the American Pipit), 93 (recorded as *Anthus spinoletta*, color photograph), 106 (022214 - includes a listing of subspecies, color presentation), **158** (U,W), **LCNCA**\*

*Anthus spinoletta* (see footnotes 20, 55, 69, 73, 84, 90 and 93 under *Anthus rubescens*)

***Anthus spragueii* (Audubon, 1844): Sprgaue’s Pipit**

COMMON NAMES: Alondra Sprague (Hispanic)14; Bisbita Llanera42; Missouri Skylark; Prairie Skylark; Sprgaue’s Pipit; Titlark. HABITS: Feeds on insects, seeds and spiders. Nests are cups constructed of grass in hollows on the ground, dead vegetation is used to create a canopy. HABITAT: Within the range of this species it has been reported from the grassland and desertscrub ecological formations. \*8, 14 (022214), 20, 42 (022214), 55, 69, 73, 84, 93, 106 (022214 - color presentation), **158** (U,W), **LCNCA**\*

Odontophoridae: The Quail Family

***Callipepla squamata* (Vigors, 1830): Scaled Quail**

COMMON NAMES: Altiplano Scaled Quail (subsp. *squamata* (Vigors, 1830)); Blue Racer Quail; Blue Quail; Chestnut-bellied Scaled Quail (subsp. *castanogastris* Brewster, 1883); Codorniz Escamosa (Spanish)14, 42; Cotton Top; Cottontop; Cottontop Quail; Mexican Quail; Northern Scaled Quail (subsp. *pallida* Brewster, 1881); Scaled Partridge; Scaled Quail; Top-knot Quail; Upper Sonoran Scaled Quail (subsp. *hargravei* Rea, 1973). HABITS: Feeds on fruits (berries), buds, leaves, insects and seeds. Nests are located in hollows or depressions under tufts of grasses and shrubs. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (022214 - subsp. *pallida* (Brewster) is the subspecies reported as occurring in New Mexico, color presentation), 20, 42 (022214), 55, 69, 73, 93, 106 (022214 - includes a listing of subspecies, color presentation), **158** (C,P), **LCNCA**\*

***Callipepla gambelii* (Gambel, 1843): Gambel’s Quail**

COMMON NAMES: Arizona Quail; Codorniz Chiquiri [Spanish)42; Codorniz (Gambel) Chiquiri (Spanish)90; Codorniz de Gambel (Hispanic)14; Desert Quail; Fulvous-breasted Quail (*C*.*g*. *fulvipectis* Nelson, 1899); Gambel’s Quail; Kakaichu (Tohono O’odham)90. HABITS: Feeds on insects, plant material and seeds. Eggs are laid in scrapes or grass lined nests located on the ground under prickly-pear cacti. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042212 - subsp. *gambelii*; subsp. *ignoscens* (Friedmann); subsp. *sanus* (Mearns), color presentation), 42 (061912), 55 (recorded as *Lophortyx gambelii*), 69 (note, recorded as *Lophortyx gambelii*), 73 (recorded as *Lophortyx gambelii*), 84, 90, 93 (recorded as *Lophortyx gambelii*), 106 (042212 - includes a listing of subspecies, color presentation), **158** (C,P), **LCNCA**\*

***Cyrtonyx montezumae* (Vigors, 1830): Montezuma Quail**

COMMON NAMES: Codorniz Moctezuma (Spanish)42; Cordoniz Pinta (Hispanic)14; Common Montezuma Quail (subsp. *montezumae* (Vigors, 1830)); Fool Quail; Harlequin Quail; Mearn’s Quail (subsp. *mearnsi* Nelson, 1900); Merriam’s Montezuma Quail (subsp. *merriami* Nelson, 1897); Montezuma Quail; Salle’s Quail (subsp. *sallei* J. Verreaux, 1859); Sandy’s Quail (subsp. *rowleyi* A.R. Phillips, 1966). HABITS: Feeds on insects and plants (including bulbs and tubers). The nests are constructed of grass and have grass domes and are located on the ground in depressions and hollows in grass. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (022214 - subsp. *mearnsi* (Vigors) is the subspecies reported as occurring in New Mexico, color presentation), 42 (022214), 55, 69, 73, 93, 106 (022214 - includes a listing of subspecies, color presentation), **158** (U,P), **LCNCA**\*

Paridae: The Chickadee and Titmouse Family

***Baeolophus wollweberi* (Bonaparte, 1850): Bridled Titmouse**

SYNONYMY: *Parus wollweberi* (Bonaparte, 1850). COMMON NAMES: Bridled Titmouse; Carbonero Embridado (Spanish)42; Copetoncito Mascarita (Hispanic)14. HABITS: Feeds on berries, insects, nuts and seeds. Nests are cups constructed of cottonwood down, grasses, leaves and stems and line with soft materials located in cavities and holes in trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland, desertscrub and wetland ecological formations. \*14 (022214 - color presentation), 42 (022214), 55, 69, 73, 93, 106 (022214 - subsp. *phillipi* (Van Rossem) is the subspecies reported as occurring in New Mexico, color presentation), **158** (U,P), **LCNCA**\*

*Parus wollweberi* (see *Baeolophus wollweberi*)

Parulidae: The Wood Warbler Family

***Dendroica coronata* (Linnaeus, 1766): Yellow-rumped Warbler**

COMMON NAMES: Audubon Warbler; Audubon’s Warbler (subsp. *auduboni* (J.K. Townsend, 1837)); Black-fronted Warbler (subsp. *nigrifrons* Brewster, 1889); Chipe Coronado (Spanish)42; Goldman’s Warbler (subsp. *goldmani* Nelson, 1897); Myrtle Warbler (subsp. *coronata* (Linnaeus, 1766)); Paruline à Croupion Jaune (French)42; Verdin Cola Amarilla (Hispanic)14; Yellow-rumped Warbler. HABITS: Feeds on insects and spiders. Nests are cupped-shaped and made of shredded bark, feathers and twigs and located in trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042212 - recorded as *Setophaga coronata*: subspp. *auduboni* (Audubon’s) and *coronata* (“Myrtle”), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042212 - recorded as *Setophaga coronata* (Linnaeus, 1766), includes a listing of subspecies, color presentation), **158** (C,TW), **LCNCA**\*

***Dendroica nigrescens* (J.K. Townsend, 1837): Black-throated Gray Warbler**

COMMON NAMES: Black-throated Gray Warbler; Black-throated Grey Warbler; Chipe Negrogris (Spanish)42; Paruline Grise (French)42; Verdin Gris Garganta Negra (Hispanic)14. HABITS: Feeds on insects and spiders. Nests are neat, tightly-woven cups made up of grass stalks and plant fibers and lined with feathers and hair often located on horizontal branches in a shrubs and trees. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (022214 - recorded as *Setophaga nigrescens* (Townsend), color presentation), 20, 42 (022214), 55, 69, 73, 84, 90, 93, 106 (060712 - recorded as *Setophaga nigrescens* (Townsend, 1837), color presentation), **158** (U,T), **LCNCA**\*

***Dendroica occidentalis* (J.K. Townsend, 1837): Hermit Warbler**

COMMON NAMES: Chipe Cabeza Amarilla (Spanish)42; Hermit Warbler; Paruline à Tête Jaune (French)42; Verdin Ermitano (Hispanic)14. HABITS: Feeds on insects and spiders. Nests are cup-shaped and made up of bark, grass, pine needles, stems, twigs and rootlets located at the ends of branches in conifer trees. HABITAT: Within the range of this species it has been reported from the forest, desertscrub and wetland ecological formations. \*14 (022214 - recorded as *Setophaga occidentalis* (Townsend), color presentation), 42 (022214), 55, 69, 73, 84, 90, 93, 106 (022214 - recorded as *Setophaga occidentalis* (J.K. Townsend, 1837), color presentation), **158** (U,T), **LCNCA**\*

***Dendroica petechia* (Linnaeus, 1766): Yellow Warbler**

COMMON NAMES: American Yellow Warbler; Barbados Golden Warbler (subsp. *petechia* (Linnaeus, 1766)); Barbados Yellow Warbler (subsp. *petechia* (Linnaeus, 1766)); Barbados Yellow Wood Warbler (subsp. *petechia* (Linnaeus, 1766)); Californian Yellow Warbler (subsp. *brewsteri* Grinnell, 1903); Chipe Amarillo (Spanish)42; Mangrove Warbler (subsp. *erithachorides* S.F. Baird, 1858); Paruline Jaune (French)42; Sonoran Yellow Warbler (subsp. *sonorana* Brewster, 1888); “Summer Yellowbird”; Verdin Amarillo (Hispanic)14; Yellow Warbler. HABITS: Feeds on insects and spiders. Nests are felted cups of plant fibers located in the forks of shrubs and trees. HABITAT: Within the range of this species it has been reported from the desertscrub and wetland ecological formations. \*14 (042212 - recorded as *Setophaga petechia* (Linnaeus): subspp. *amnicola* (Batchelder), *morcomi* (Coale), *rubiginosa* (Pallas) and *sonorana* (Brewster), color presentation), 20, 42 (022214), 55, 69, 73, 84, 90, 93, 106 (042212 - recorded as *Setophaga petechia* (Linnaeus, 1766), includes a listing of subspecies, color presentation), **158** (C,S), **LCNCA**\*

***Dendroica townsendi* (J.K. Townsend, 1837): Townsend’s Warbler**

COMMON NAMES: Chipe Negroamarillo (Spanish)42; Townsend’s Warbler; Verdin Townsend (Hispanic)14. HABITS: Feeds on berries, insects, plant nectar, seeds and spiders. Nests are shallow cups made up of grasses and lined with moss and located on top of branches in trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland, desertscrub and wetland ecological formations. \*14 (060712 - recorded as *Setophaga townsendi* (Townsend), color presentation), 42 (061912), 55, 69, 73, 84, 90, 93, 106 (060712 - recorded as *Setophaga townsendi* (Townsend, 1837), color presentation), **158** (U,T), **LCNCA**\*

***Geothlypis trichas* (Linnaeus, 1766): Common Yellowthroat**

COMMON NAMES: Common Yellowthroat; “Yellow-throat”; Garganta Amarilla Conun (Hispanic)14; Mascarita Común (Spanish)42; Paruline Masquée (French42. HABITS: Feeds on insects, seeds and spiders. Nests are woven cups made up of bark, forbs, grasses, hair and leaves and lined with grasses and hair located on the ground under bushes in marshes and low in vegetation. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formations. \*14 (060712 - subspp. *campicola* (Behle & Aldrich), *chryseola* (Van Rossem) and *occidentalis* (Brewster), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (060712 - color presentation), **158** (C,S,U,W), **LCNCA**\*

***Icteria virens* (Linnaeus, 1758): Yellow-breasted Chat**

COMMON NAMES: Buscabreña (Spanish)42; Long-tailed Chat; Paruline Polyglotte (French)42; Yellow-breasted Chat. HABITS: Feeds on arachnids, berries, crustaceans, insects and spiders. Nests are large open cups made of bark, stems of forbs, grasses, leaves, rootlets and twigs located in briars, bushes, thick shrubs, thickets and small trees. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, scrub, grassland, desertscrub ecological formations. \*14 (042212 - subsp. *auricollis* (Deppe), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042212 - color presentation), **158** (C,S,U,W), **LCNCA**\*

***Myioborus pictus* (Swainson, 1829): Painted Redstart**

SYNONYMY: *Setophaga picta* (Swainson, 1829). COMMON NAMES: Chipe ala Blanca (Spanish)42; Painted Redstart; Painted Whitestart. HABITS: Feeds on insects. Nests are large shallow cups made up of strips of bark, grasses, leaves and plant fibers and lined with fine grasses and hair and located on the ground in hollows among tufts of grass, rocks and roots on steep slopes. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland, desertscrub and wetland ecological formations. \*14 (022214 - subsp. *pictus* (Swainson) is the subspecies reported as occurring in New Mexico, color presentation), 42 (022214), 55, 69, 73, 93, 84, 106 (022214 - includes a listing of subspecies, color presentation), **158** (V,T), **LCNCA**\*

***Oporornis tolmiei* (J.K. Townsend, 1839): MacGillivray’s Warbler**

COMMON NAMES: Chipe de Tolmie (Spanish)42; MacGillivray’s Warbler; Verdin MacGillivray (Hispanic)14. HABITS: Feeds on insects and spiders. Nests are cupped-shaped and made of grasses located in briars, low brush and weeds. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042212 - subspp. *monticola* (Phillips) and *tolmiei*, color presentation), 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042212 - color presentation), **158** (U,T), **LCNCA**\*

*Oreothlypis celata* (see *Vermivora celata*)

*Oreothlypis* *luciae* (see *Vermivora luciae*)

*Oreothlypis ruficapilla* (see *Vermivora ruficapilla*)

*Oreothlypis* *virginiae* (see footnotes 14 and 106 under *Vermivora virginiae*)

***Seiurus noveboracensis* (Gmelin, 1789): Northern Waterthrush**

COMMON NAMES: Alaska Waterthrush; Chipe Charquero (Spainish)42; Grinnell’s Waterthrush; Northern Waterthrush; Paruline des Ruisseaux (French)42. HABITS: Feeds on annelid worms, crustaceans, insects, minnows, mollusks and seeds. Nests are cups made up of strips of bark, leaves, moss and rootlets located on the ground in hollows, amongst roots on stream banks and beside stumps and trees near water. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formations. \*14 (022214 - color presentation), 20, 42 (022214), 55, 69, 73, 84, 93, 106 (022214 - color illustration), **158** (U,T), **LCNCA**\*

*Setophaga coronata* (see footnotes 14 and 106 under *Dendroica coronata*)

*Setophaga nigrescens* (see footnotes 14 and 106 under *Dendroica nigrescens*)

*Setophaga occidentalis* (see footnotes 14 and 106 under *Dendroica occidentalis*)

*Setophaga petechia* (see footnotes 14 and 106 under *Dendroica petechia*)

*Setophaga picta* (see *Myioborus pictus*)

***Setophaga ruticilla* (Linnaeus, 1758): American Redstart**

COMMON NAMES: American Redstart; Chipe Flameante (Spanish)42; Common Redstart; Fire-tail; Northern Redstart (subsp. *tricolora* (Statius Muller, 1776) - Invalid; *Setophaga ruticilla* (Linnaeus, 1758) - Valid); Paruline Flamboyante (French)42; Redstart Flycatcher; Yellow Tailed Warbler. HABITS: Feeds on berries, insects, seeds and spiders. Nests are neat cups made of bark shreds, feathers, grasses, hair, leaf stalks, lichens, plant down, rootlets, spider silk and twigs located in low in bushes and upright forks of shrubs and trees. HABITAT: Within the range of this species it has been reported from the forest, woodlands, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (022214 - subsp. *tricolora* (Muller) is the subspecies reported as occurring in New Mexico, color presentation), 20, 42 (022214), 55, 69, 73, 84, 93, 106 (022214 - color presentation), **158** (V,T), **LCNCA**\*

*Setophaga townsendi* (see footnotes 14 and 106 under *Dendroica townsendi*)

*Setophaga citrina* (see footnotes 14 and 106 under *Wilsonia citrina*)

***Vermivora celata* (Say, 1823): Orange-crowned Warbler**

SYNONYMY: *Oreothlypis celata* (Say, 1823). COMMON NAMES: Chipe Corona Naranja (Spanish)42; Lutescent Warbler; Orange-crowned Warbler; Paruline Verdâtre (French)42; Verdin Copete Naranja (Hispanic)14. HABITS: Feeds on berries, insects, nectar and spiders. Nests are small open cups made up of grasses, rootlets and other plant fibers located in a low shrub or on the ground under vegetation. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (060712 - recorded as *Oreothlypis celata* (Say): subspp. *celeta*, *lutescens* (Ridgway) and *orestera* (Oberholser), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (060712 - recorded as *Oreothlypis celata* (Say, 1823), color presentation), **158** (U,MW), **LCNCA**\*

***Vermivora luciae* (J.G. Cooper, 1861): Lucy’s Warbler**

SYNONYMY: *Oreothlypis* *luciae* (J.G. Cooper, 1861). COMMON NAMES: Chipe Rabadilla Rufa (Spanish)42; Lucy’s Warbler; Verdin Lucy (Hispanic)14. HABITS: Feeds on insects (beetles, caterpillars, leafhoppers) and spiders. Nests are cup-shaped and located in trees, under loose bark or in a cavity or hole. HABITAT: Within the range of this species it has been reported from the desertscrub and wetland ecological formations. \*14 (042212 - recorded as *Oreothlypis* *luciae* (Cooper)), 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042212 - recorded as *Oreothlypis* *luciae* (Cooper, 1861), color presentation), **158** (C,S), **LCNCA**\*

***Vermivora peregrina* (A. Wilson, 1811): Tennessee Warbler**

COMMON NAMES: Chipe Peregrino (Spanish)42; Paruline Obscure (French)42; Tennessee Warbler; Verdin Tennessee (Hispanic)14. HABITS: Feeds on fruit (berries), gastropods, insects (preferring the Spruce Budworm), mollusks, nectar, seeds and spiders. Nests are cups made of fibers, moss and dried grasses, lined with finer grasses, stems and hair and located on or near the ground in bogs, muskegs and woods and at the bases of shrubs. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland grassland and desertscrub ecological formations. \*14 (022214), 20, 42 (022214), 55, 69, 73, 84 (sighting considered to be far from the normal range of this species), 93, 106 (022214 - color presentation), **158** (V,T), **LCNCA**\*

***Vermivora ruficapilla* (A. Wilson, 1811): Nashville Warbler**

SYNONYMY: *Oreothlypis ruficapilla* (A. Wilson, 1811). COMMON NAMES: Calaveras Warbler (subsp. *ridgwayi* Van Rossem, 1929); Chipe de Coronilla42; Nashville Warbler; Paruline à Joues Grises (French)42; Verdin Nashville (Hispanic)14. HABITS: Feeds on insects and spiders. Nests are cup-shaped and made up of grasses, leaves, rootlets and soft vegetation and located in the ground, near the ground or on the ground under a tussock, usually on a steep slope. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, desertscrub and wetland ecological formations. \*14 (060712 - recorded as *Oreothlypis ruficapilla* (Wilson); *V*.*p*. subsp. *ridgwayi* (Van Rossem)), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (060712 - recorded as *Oreothlypis ruficapilla* (Wilson, 1811), color presentation), **158** (U,T), **LCNCA**\*

***Vermivora virginiae* (S.F. Baird, 1860): Virginia’s Warbler**

COMMON NAMES: Chipe de Virginia (Spanish)42; Virginia’s Warbler, Verdin Virginia (Hispanic)14. HABITS: Feeds on insects and spiders. Nests are cup-shaped constructed of strips of bark, roots, moss and grass and located on the ground under brush or in grass. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (022214 - recorded as *Oreothlypis* *virginiae* (Baird)), 42 (022214), 55, 69, 73, 84, 90, 93, 106 (022214 - recorded as *Oreothlypis* *virginiae* (Baird, 1860), color presentation), **158** (U,T), **LCNCA**\*

***Wilsonia citrina* (Boddaert, 1783): Hooded Warbler**

COMMON NAMES: Chipe Encapuchado (Spanish)42; Hooded Warbler, Paruline à Capuchon (French)42; Verdin Copeton (Hispanic)14. HABITS: Feeds on insects and spiders. Nests are cup-shaped and made of leaves and plant fibers lined with grasses and located low in shrubs and trees. HABITAT: Within the range of this species it has been reported from wetland ecological formations. \*14 (022214 - recorded as *Setophaga citrina* (Boddaert, 1783), color presentation), 20, 42 (022214), 55, 69, 106 (022214 - recorded as *Setophaga citrina* (Boddaert, 1783), color presentation), **158** (V,T), **LCNCA**\*

***Wilsonia pusilla* (A. Wilson, 1811): Wilson’s Warbler**

COMMON NAMES: Chipe Corona Negra (Spanish)42; Paruline à Calotte Noire (French)42; Pileolated Warbler; Wilson’s Warbler; Verdin Wilson (Hispanic)14. HABITS: Feeds on insects and spiders. Nests are cups made up of bark, grasses, deer and horse hair, leaves, mosses, plant fibers and stems and located on the ground or near to the ground in shrubs. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland, desertscrub and wetland ecological formations. NOTE: The Wilson’s Warbler is a predator of the Douglas-fir Tussock Moth (*Orgyia pseudotsugata*) and Western Spruce Budworm (*Choristoneura occidentalis*). \*14 (042212 - subspp. *chryseola* (Ridgway), *pileolata* (Pallas) and *pusilla*, color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042212 - includes a listing of subspecies, color presentation), **158** (C,T), **LCNCA**\*

Passeriidae: The Old World Sparrow Family

***Passer domesticus* (Linnaeus, 1758): House Sparrow**

COMMON NAMES: English Sparrow (United States); Gorrión Casero (Spanish)42,90; Gorrion Ingles (Hispanic)14; House Sparrow; O’Odopiwa (Tohono O’odham)90; Moineau Domestique (French)42; Phillip Sparrow; Zacatero (Spanish)90. HABITS: Feeds on fruit, garbage, grain, insects (and insect larvae) and seeds; nests are bulky masses of debris, feathers, forbs, grasses, straw and twigs located in cavities, crannies, ivy, niches, rocks and suspended from trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland, desertscrub and wetland ecological formations. NOTES: EXOTIC Invasive Species, partially responsible for the near extinction of Bluebirds in the United States. The House Sparrow is an agricultural pest feeding on grains. The House Sparrow prefers agricultural and urban areas close to human habitation. \*14 (042212 - color presentation), 20, 42 (061912), 55, 69, 73, 84, 93, 106 (042212 - includes a listing of subspecies, color presentation), **158** (C,P), **LCNCA**\*

Pelecanidae: The Pelican Family

***Pelecanus occidentalis* Linnaeus, 1766: Brown Pelican**

COMMON NAMES: Brown Pelican; Pélican Brun (French)42; Pelícano Pardo (Spanish)42; Pelicano Café (Hispanic)14. HABITS: Feeds mostly on fish but will also eat amphibians and crustaceans. Nests may be made in low trees, bushes or on the ground (in areas without predators) and may be feather-lined scrapes on the ground that are rimmed with soil or bulky, flimsy nests constructed of reeds, grasses, straw and sticks and lined with green plant material. HABITAT: Within the range of this species it has been reported from wetland ecological formations within or adjacent to the forest, woodland and desertscrub ecological formation. NOTES: Only occasionally observed in Tucson, possibly as storm-driven birds. \*14 (022314 - subspp. *californicus* (Ridgway) and *carolinensis* (Gmelin) are the subspecies reported as occurring in New Mexico, color presentation), 20, 42 (022214), 55, 69, 73, 84, 93, 106 (022314 - color presentation), **158** (V,T), **LCNCA**\*

Picidae: The Woodpecker and Wryneck Family

*Centurus uropygialis* (see *Melanerpes uropygialis*)

***Colaptes auratus* (Linnaeus, 1758): Northern Flicker**

COMMON NAMES: Carpintero de Pechera (Spanish)42; Carpintero Norteno (Hispanic)14; Common Flicker; Clape; Gaffer Woodpecker; Gawker Bird; Guadalupe Flicker (subsp. *rufipileus* Ridgway, 1876, extinct circa 1910); Harry-wicket; Heigh-ho; Northern Flicker; Pic Flamboyant (French)42; Red-shafted Flicker (subsp. *cafer* (Gmelin, 1788)); Wake-up; Walk-up; Wick-up; Yarrup; Yellow-shafted Flicker; Yellowhammer. HABITS: Feeds on berries, fruit and insects. Nests are made in hollowed out holes in posts, stumps and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (060812 - subspp. *borealis* (Ridgway) and *collaris* (Vigors), color presentation), 20 (recorded as *Colaptes auratus*: Common Flicker including Yellow-shafted Flicker and Red-shafted Flicker), 42 (061912), 55 (recorded as *Colaptes auratus*: “Yellow-shafted” Flicker and *Colaptes cafer*: “Red-shafted” Flicker), 69 (recorded as *Colaptes auratus*: Yellow-shafted Flicker and *Colaptes cafer*: Red-shafted Flicker), 73 (recorded as *Colaptes auratus*: Common Flicker), 84, 90, 93 (recorded as *Colaptes auratus*: Common Flicker including “Yellow-shafted Flicker” and “Red-shafted Flicker” and “Gilded Flicker”), 106 (060812 - several subspecies mentioned, color presentation), **158** (V,T), **LCNCA**\*

*Colaptes cafer* (see footnotes 55 and 69 under *Colaptes auratus*)

*Dendrocopus scalaris* (see *Picoides scalaris*)

*Dendrocopus villosus* (see *Picoides villosus*)

***Melanerpes formicivorus* (Swainson, 1827): Acorn Woodpecker**

COMMON NAMES: Acorn Woodpecker; Ant-eating Woodpecker; California Woodpecker; Carpintero Bellotero (Spanish)42; Carpintero Encinero (Hispanic)14; Mearns’ Woodpecker. HABITS: Feeds on acorns, ants (and other insects and invertebrates), bird eggs, fruits, grass, lizards, flower nectar, nuts, oak catkins, sap and pine seeds. Eggs are laid in cavities in trees or dead parts of trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (060812 - subsp. *formicivorus* (Swainson), color presentation), 42 (061912), 55, 69, 73, 84, 93, 106 (060812 - color presentation), **158** (C,P), **LCNCA**\*

***Melanerpes uropygialis* (S.F. Baird, 1854): Gila Woodpecker**

SYNONYMY: *Centurus uropygialis* S.F. Baird, 1854. COMMON NAMES: Carpintero del Desierto (Spanish)42,90; Carpintero Gila (Hispanic)14; Gila Woodpecker; Hikiwigi (Tohono O’odham)90. HABITS: Feeds on berries, fruit, honey and wood boring insects. Nests are made in hollowed out holes in saguaros and trees. HABITAT: Within the range of this species it has been reported from the desertscrub and wetland ecological formations. \*14 (042212 - subsp. *uropygialis* (Baird), color presentation), 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042212 - color presentation), **158** (C,P), **LCNCA**\*

***Picoides scalaris* (Wagler, 1829): Ladder-backed Woodpecker**

SYNONYMY: *Dendrocopus scalaris* (Wagler, 1829). COMMON NAMES: Cactus Woodpecker; Carpintero Listado (Hispanic)14; Carpintero Mexicano (Spanish)42; Chehegam (Tohono O’odham)90; Ladder-backed Woodpecker; Pájaro Carpintero (Spanish)90. HABITS: Feeds on wood boring insects and cactus fruits. Nests are made in hollowed out holes in agaves, cacti, posts and yuccas. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (041222 - subsp. *cactophilus* (Oberholser); subsp. *symplectus* (Oberholser), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042212 - color presentation), **158** (C,P), **LCNCA**\*

***Picoides villosus* (Linnaeus, 1766): Hairy Woodpecker**

SYNONYMY: *Dendrocopus villosus* (Linnaeus, 1766). COMMON NAMES: Carpintero Velloso-mayor (Spanish)42; Carpintero Ocotero (Hispanic)14; Chihuahua Woodpecker; Hairy Woodpecker; Pic Chevelu (French)42; White-breasted Woodpecker. HABITS: Feeds on berries, fruits, insects, nuts, seeds and spiders. Eggs are laid on wood chips located in holes in stumps and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland and wetland ecological formations. \*14 (022314 - subspp. *icastus* (Oberholser), *leucothorectis* (Oberholser) and *monticolus* (Anthony) are the subspecies reported as occurring in New Mexico, color presentation), 20, 42 (022314), 55, 69, 73, 93, 106 (022314 - color presentation), **158** (V,T), **LCNCA**\*

***Sphyrapicus nuchalis* S.F. Baird, 1858: Red-naped Sapsucker**

SYNONYMY: *Sphyrapicus varius* subsp. *nuchalis* S.F. Baird, 1858. COMMON NAMES: Carpintero Rojo (Hispanic)14; Chupasavia Nuca Roja (Spanish)42; Red-naped Sapsucker. HABITS: Feeds on berries, insects, tree sap and seeds. Nests are made in hollowed out holes in trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042212 - color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042212 - color presentation), **158** (U,TW), **LCNCA**\*

*Sphyrapicus varius* subsp. *nuchalis* (see *Sphyrapicus nuchalis*)

Podicipedidae: The Grebe Family

***Podilymbus podiceps* (Linnaeus, 1758): Pied-billed Grebe**

COMMON NAMES: Dabchick; Devil-diver; Dive-dapper; Grebe; Grèbe à bec bigarré (French)42; Hell-diver; Pied-billed Grebe; Shin’gebis (‘the Diver, or Grebe’ Longfellow’s *Hiawatha*); Water Witch; Zambullidor Pico Grueso (Spanish)42; Zambullidor Pico Pinto (Hispanic)14. HABITS: Feeds on amphibians (tadpoles and frogs), crayfish, decapods, eels, small fish and aquatic insects. Nests are open bowls located on floating rafts made of aquatic vegetation and marsh plants anchored to reeds in marshy lakes and ponds. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formations. \*14 (060812 - subsp. *podiceps* (Linnaeus), color presentation), 20, 42 (061912), 55, 69, 73, 84, 93, 106 (060812 - color presentation), 153, **158** (U,TW), **LCNCA**\*

Ptilogonatidae: The Silky Flycatcher Family

***Phainopepla nitens* (Swainson, 1838): Phainopepla**

COMMON NAMES: Capulinero (Hispanic)14; Capulinero Negro (Spanish)42,90; Kuigam (Tohono O’odham)90; Northern Phainopepla; Phainopepla. HABITS: Feeds on berries, elderberries, fruits, grapes, small insects, mistletoe berries and vegetables. Nests are shallow cups on the forks of limbs of trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042212 - subsp. *lepida* (Van Tyne), color presentation), 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042212 - color presentation), **158** (C,P), **LCNCA**\*

Rallidae: The Coot, Gallinule and Rail Family

***Fulica americana* Gmelin, 1789: American Coot**

COMMON NAMES: Alae Keo Keo (subsp. *alai* Peale, 1848 - Invalid; *Fulica alai* Peale, 1848 - Valid, Hawaiian)42; American Coot; Coot; Foulque d'Amérique (French); Gallareta Americana (Spanish)14,42; Hawaiian Coot (subsp. *alai* Peale, 1848 - Invalid; *Fulica alai* Peale, 1848 - Valid); Marsh Hen; Mud Hen; Pouldeau (Cajun: Louisiana coast)106; Poule d’Eau (“Water Hen”, French)106; Rice Hen. HABITS: Feeds on algae, arthropods, fish, gastropods, grasses, insects, mollusks, aquatic plants, pond scum and seeds. Nests are shallow reed baskets made of forbs, grasses and other marsh vegetation located among tall reeds and sedges and on rafts of reeds in marshes. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formations. \*14 (060812 - subsp. *americana* (Gmelin), color presentation), 20, 42 (061912), 55, 69, 73, 84, 93, 106 (060812 - color presentation), **158** (U,T), **LCNCA**\*

***Gallinula chloropus* (Linnaeus, 1758): Common Moorhen**

COMMON NAMES: African Common Moorhen (subsp. *meridionalis* (C.L. Brehm, 1831)); ‘Alae ‘Ula (“Red Hawaiian Coot” subsp. *sandvicensis* Streets, 1877, Hawaiian)106; Andean Common Moorhen (subsp. *garmani* Allen, 1876); Antillean Common Moorhen (subsp. *cerceris* Bangs, 1910); Barbados Moorhen (subsp. *barbadensis* Bond, 1954); Black Gallinule; Common Gallinule (subsp. *cachinnans* Bangs, 1915); Common Moorhen; Common Waterhen; Eurasian Common Moorhen (subsp. *chloropus* (Linnaeus, 1758)); Florida Gallinule (subsp. *cerceris* Bangs, 1910, obsolete in application to the Florida Gallinule); Gallineta Frente Roja (Spanish)42; Gallinule Poule-d'eau (French)42; Hawaiian Common Gallinule (subsp. *sandvicensis* Streets, 1877); Hawaiian Common Moorhen (subsp. *sandvicensis* Streets, 1877); Hawaiian Moorhen (subsp. *sandvicensis* Streets, 1877); Indio-Pacific Common Moorhen (subsp. *orientalis* Horsfield, 1821); Madagascan Common Moorhen (subsp. *pyrrhorrhoa* A. Newton, 1861); Mariana Common Gallinule (subsp. *guami* Hartert, 1917); Mariana Common Moorhen (subsp. *guami* Hartert, 1917); Marsh Hen (subsp. *cachinnans* Bangs, 1915); Mor-hen; North American Common Moorhen (subsp. *cachinnans* Bangs, 1915); Pulattat (subsp. *guami* Hartert, 1917, Austronesian: Chamorro; Mariana Islands)106; Southern American Common Moorhen (subsp. *galeata* (Lichtenstein, 1818)); Subandean Common Moorhen (subsp. *pauxilla* Bangs, 1915). HABITS: Feeds on birds, carrion, crustaceans, earthworms, small fishes, fruits, grasses, insects, mollusks, aquatic plants, snails, spiders and tadpoles. Nests are saucers and/or roofed baskets made of reeds, rushes and other dead vegetation located within aquatic plants in marshes or on the ground in grasses. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the woodland, grassland and desertscrub ecological formations. \*14 (060812 - subsp. *cachinnans* (Bangs), color presentation), 20, 42 (061912), 55, 69, 73, 84, 93, 106 (060812 - includes a listing of subspecies, color presentation), **158** (V,T), **LCNCA**\*

***Porzana carolina* (Linnaeus, 1758): Sora**

COMMON NAMES: Carolina Crake (Europe); Carolina Rail; Crake; Marouette de Caroline (French)42; Polluela Sora (Spanish)42; Sora (Hispanic)14; Sora Crake; Sora Rail. HABITS: Feeds on arachnids, crustaceans, duckweed, fish, insects, mollusks, aquatic plants, seeds and snails. The saucer-shaped nests are well concealed and made up of woven grasses, rushes, sedges and stalks located in marshes on platforms over shallow water or on the ground amongst clumps of grass. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formations. \*14 (060912), 20, 42 (061912), 55, 69, 73, 84, 93, 106 (060912 - color presentation), **158** (R,W), **LCNCA**\*

***Rallus limicola* Vieillot, 1819: Virginia Rail**

COMMON NAMES: Gallareta (Hispanic)14; Râle de Virginie (French)42; Rascón Limícola (Spanish)42; Virginia Rail. HABITS: Feeds on arachnids, berries, crustaceans, earthworms, small fishes, frogs, insects, mollusks, aquatic plants, seeds, slugs, snails and small snakes. Platform nests are saucers made of woven cattails, grasses, reeds, rushes and sedges lined with fine materials attached to aquatic plants located in marshes and other fresh bodies of water. HABITAT: Within the range of this species it has been reported from wetland ecological formations in the forest, woodland, grassland and desertscrub ecological formation. \*14 (042212 - subsp. *limicola* Vieillot, color presentation), 20, 42 (072012), 55, 69, 73, 84, 93, 106 (042212 - color presentation), **158** (U,P), **LCNCA**\*

Regulidae: The Kinglet Family

***Regulus calendula* (Linnaeus, 1766): Ruby-crowned Kinglet**

COMMON NAMES: Reyezuelo Copete Rubio (Hispanic)14; Reyezuelo de Rojo (Spanish)42; Reyzuelo (Spanish)90; Roitelet à Couronne Rubis (French)42; Ruby-crowned Kinglet. HABITS: Feeds on arachnids, berries, fruits, insects, tree sap, spiders and seeds. Nests are spherical and made up of lichens and moss located under the tips of branches in conifer trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: The Ruby-crowned Kinglet is a predator of the Douglas-fir Tussock Moth (*Orgyia pseudotsugata*) and Western Spruce Budworm (*Choristoneura occidentalis*). \*14 (060912 - subsp. *calendula* (Linnaeus), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (060912 - includes a listing of subspecies, color presentation), **158** (C,W), **LCNCA**\*

Remizidae: The Verdin Family

***Auriparus flaviceps* (Sundevall, 1850): Verdin**

COMMON NAMES: Baloncillo (Spanish)42,90; Gisop (Tohono O’odham)90; Verdin (Hispanic)14. HABITS: Feeds on berries, insects, insect eggs and larvae and seeds. Nests are spheres of thorny twigs lined with grasses and feathers located in bushes, chollas, shrubs, trees and the stems of the Desert Mistletoe. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (042212 - subsp. *ornatus* (Lawrence), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042212 - color presentation), **158** (U,P), **LCNCA**\*

Scolopacidae: The Curlew, Sandpiper and Allies Family

***Calidris mauri* (Cabanis, 1857): Western Sandpiper**

COMMON NAMES: Bécasseau d'Alaska (French)42; Playero Occidental (Spanish)42; Chicihicuilote (Hispanic)14; Western Sandpiper. HABITS: Feeds on small crustaceans, insects and insect larvae, mollusks and worms. Nests are laid in a depression or scrape on the ground usually under vegetation. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the tundra, forest, woodland, grassland and desertscrub ecological formations. \*14 (022314 - color presentation), 20 (recorded as *Calidris mauri*), 42 (022314), 55 (recorded as *Ereunetes mauri* Cabanis), 69 (recorded as *Ereunetes mauri*), 73 (recorded as *Calidris mauri*), 84, 93 (recorded as *Calidris mauri*), 106 (022314 - color presentation), **158** (U,T), **LCNCA**\*

*Capella gallinago* (see *Gallinago gallinago*)

***Gallinago gallinago* (Linnaeus, 1758): Common Snipe**

SYNONYMY: *Capella gallinago* (Linnaeus, 1758). COMMON NAMES: Agachona Común (Spanish)42; Bécassine des Marais (French)42; Common Snipe; English Snipe; “Heather Bleat”; “Horse Gowk”; Jacksnipe; “Mire Snipe”; Snipe; “Snite”; Wilson’s Snipe. HABITS: Feeds on arachnids, crustaceans, earthworms, insects, mollusks and plant material. Nests are cups, hollows and scrapes lined with grasses in well-hidden locations on the ground in clumps of vegetation, mashes, wet meadows and muskegs. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, grassland, desertscrub and wetland ecological formations. \*14 (022314 - subsp. *delicata* (Ord) is the subspecies reported as occurring in New Mexico, color presentation), 20, 42 (022314), 55, 69, 73, 84, 93, 106 (022314 - includes a listing of subspecies, color presentation), **158** (U,W), **LCNCA**\*

***Phalaropus tricolor* (Vieillot, 1819): Wilson’s Phalarope**

SYNONYMY: *Steganopus tricolor* Vieillot, 1819. COMMON NAMES: Chorlillo Nadador (Hispanic)14; Falaropo Pico Largo (Spanish)42; Phalarope de Wilson (French)42; Wilson’s Phalarope. HABITS: Feeds on crustaceans, insects and seeds. Nests are made of grasses located in depressions on the ground in meadows near water. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formations. \*14 (022314 - color presentation), 20, 42 (022314), 55, 69, 73, 84, 93, 106 (022314 - color presentation), **158** (U,T), **LCNCA**\*

*Steganopus tricolor* (see *Phalaropus tricolor*)

***Tringa solitaria* A. Wilson, 1813: Solitary Sandpiper**

COMMON NAMES: Chevalier Solitaire (French)42; Chicihicuilote Solitario (Hispanic)14; Playero Solitario (Spanish)42; Solitary Sandpiper. HABITS: Feeds on amphibians, annelid worms, arachnids, crustaceans, insects and insect larvae and small frogs. Utilizes abandoned bird nests located in trees in muskegs and near streams. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formation. \*14 (022314 - subspp. *cinnamomea* (Brewster) and *solitaria* are the subspecies reported as occurring in New Mexico), 20, 42 (022314), 55, 69, 73, 84, 93, 106 (022314 - color presentation), **158** (R,T), **LCNCA**\*

Sittidae: The Nuthatch Family

***Sitta carolinensis* Latham, 1790: White-breasted Nuthatch**

COMMON NAMES: Rocky Mountain Nuthatch; Saltapalo Pecho Blanco (Hispanic)14; Sita Pecho Blanco (Spanish)42; Sittelle à Poitrine Blanche (French)42; White-breasted Nuthatch. HABITS: Feeds on berries, fruits, insects, nuts and seeds. Nests are located in cavities and holes in trees and lined with shredded bark, chips, fine grass and fur. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland and wetland ecological formations. \*14 (022314 - subsp. *nelsoni* (Mearns) is the subspecies reported as occurring in New Mexico, color presentation, 20, 42 (022314), 55, 69, 73, 93, 106 (022314 - includes a listing of subspecies, color presentation), **158** (U,P), **LCNCA**\*

Strigidae: The Typical Owl Family

***Athene cunicularia* (Molina, 1782): Burrowing Owl**

SYNONYMY: *Speotyto cunicularia* (Molina, 1782). COMMON NAMES: Billy Owl; Burrowing Owl; Chevêche des Terriers (French)42; Ground Owl; Lechuza Llanera (Spanish)90; Long-legged Owl; North American Burrowing Owl; Northern Burrowing Owl; Prairie Dog Owl; Prairie Owl; Tecolote Llanero (Spanish)42; Western Burrowing Owl. HABITS: Feeds on small birds, frogs, large insects, lizards, small mammals, scorpions and snakes. Nests are grass lined and located at the end of a rodent burrow in open ground. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations. \*8, 14 (042212 - subsp. *hypugaea* (Bonaparte), color presentation), 20, 42 (022314), 55 (recorded as *Speotyto cunicularia* (Molina)), 69 (recorded as *Speotyto cunicularia*), 73, 84, 90, 93, 106 (042212 - listing of subspecies, color presentation), **158** (V,T), **LCNCA**\*

***Bubo virginianus* (Gmelin, 1788): Great Horned Owl**

COMMON NAMES: Arctic Horned Owl (subsp. *wapacuthu* (Gmelin, 1788) - Invalid; *Bubo virginianus subarcticus* Hoy, 1853 - Valid); Baha California Great Horned Owl (subsp. *elachistus* Brewster, 1902); Buho (Spanish)90; Búho Cornudo (Spanish)42; Calfornian Great Horned Owl (subsp. *pacificus* Cassin, 1854); “Cat Owl”; Central American Great Horned Owl (subsp. *mesembrinus* (Oberholser, 1904)); Coastal Great Horned Owl (subsp. *saturatus* Rigway, 1877); Common Great Horned Owl (subsp. *virginianus* (Gmelin, 1788)); Desert Great Horned Owl (subsp. *pallescens* Stone, 1897); Grand-duc d'Amérique (French)42; Great Horned Owl; Horned Owl; North Andean Great Horned Owl (subsp. *nigrescens* Berlepsch, 1884); Northeastern Great Horned Owl (subsp. *heterocnemis* (Oberholser, 1904)); Northern Great Horned Owl (subsp. *subarcticus* Hoy, 1853); Northwestern Great Horned Owl (subsp. *lagophonus* (Oberholser, 1904)); Rocky Mountains Great Horned Owl (subsp. *pinorum* (Dickerman and Johnson, 2008) - Invalid?); South American Great Horned Owl (subsp. *nacurutu* (Vieillot, 1817)); Subarctic Great Horned Owl (subsp. *subarcticus* Hoy, 1853); Tecolote Cornudo (Spanish)90; Tecolote Cuernudo (Hispanic)14; Tiger Owl; Yucatan Great Horned Owl (subsp. *mayensis* Nelson, 1901). HABITS: Feeds on frogs, small birds, crayfish, decapods, fishes, insects, lizards and small mammals. Eggs are laid in the deserted nests of other birds and sometimes lining the nest with feathers located on the ground or in crevices, potholes, trees and on bluffs and cliffs. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (060913 - subspp. *occidentalis* (Stone) and *pallescens* (Stone), color presentation), 20, 42 (011614), 55, 69, 73, 84, 90, 93, 106 (011614 - includes a listing of subspecies, color presentation), **158** (C,P), **LCNCA**\*

***Glaucidium brasilianum* (Gmelin, 1788): Ferruginous Pigmy-owl**

COMMON NAMES: Cactus Ferruginous Pigmy Owl (subsp. *cactorum* Van Rossem 1937); Cactus Ferruginous Pigmy-owl (subsp. *cactorum* Van Rossem 1937); Ferruginous Owl, Ferruginous Pigmy-owl; Tecolote Bajeño (Spanish)42. HABITS: Feeds on amphibians, small birds, earthworms, frogs, insects, reptiles and small rodents. Nests are located in cavities and abandoned woodpecker holes in saguaros and trees. HABITAT: Within the range of this species it has been reported from the desertscrub and wetland ecological formations. \*8, 14 (060912 - subsp. *cactorum* (AZ)), 42 (061912), 55, 69, 73, 84, 90, 93, 106 (060912 - color presentation), **158** (H,T), **LCNCA**\*

***Megascops kennicottii* (Elliot, 1867): Western Screech-owl**

SYNONYMY: *Otus kennicottii* (Elliot, 1867). COMMON NAMES: Kennicott’s Screech Owl; Kennicott’s Screech-owl; Tecolote Chillon (Hispanic)14; Tecolote Chillón (Spanish)90; Tecolote Occidental (Spanish)42; Western Screech Owl; Western Screech-owl. HABITS: Feeds on birds, crustaceans, decapods, earthworms, fish, frogs, insects, lizards, small mammals, scorpions, spiders and toads. Nests are located in cavities in cacti, snags and trees. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (022314 - *O*.*k*. subspp. *aikeni* (Brewster) and *cinerascens* (Ridgway) are the subspecies reported as occurring in New Mexico, color presentation), 42 (022314), 84, 90, 106 (022314 - includes a listing of subspecies, color presentation), **158** (U,P), **LCNCA**\*

***Micrathene whitneyi* (J.G. Cooper, 1861): Elf Owl**

COMMON NAMES: Elf Owl; Kuhkwul (Tohono O’odham)90; Socorro Elf Owl (*M*.*w*. *graysoni* Ridgway, 1886 - Valid: extinct circa 1970); Tecolote Enano (Spanish)42,90; Tecolotito (Hispanic)14. HABITS: Feeds on centipedes, insects (beetles, crickets, grasshoppers, moths) and scorpions. Nesting takes place in abandoned woodpecker holes in cottonwoods, saguaros, sycamores and other trees. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (060912 - subsp. *whitneyi* (Cooper), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (060912 - includes a listing of subspecies, color presentation), **158** (U,S), **LCNCA**\*

***Otus flammeolus* (Kaup, 1852): Flammulated Owl**

COMMON NAMES: Flammulated Owl, Flammulated Screech Owl, Flammulated Scops Owl, Scops Owl, Tecolote (Hispanic)14, Tecolote Ojo Oscuro (Spanish)42. HABITS: Feeds on small birds, centipedes, daddy longlegs, insects (including beetles, crickets and small butterflies and moths), small mammals, scorpions, solfugids and spiders. Nests are located in abandoned woodpecker holes and cavities in trees and are bare in that they use no nesting materials. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland, desertscrub and wetland ecological formations. The Flammulated Owl is a predator of the Douglas-fir Tussock Moth (*Orgyia pseudotsugata*) and Western Spruce Budworm (*Choristoneura occidentalis*). \*8, 14 (022314 - color presentation), 42 (022314), 55, 69, 73, 93, 106 (022314 - color presentation), **158** (H,T), **LCNCA**\*

*Otus kennicottii* (see *Megascops kennicottii*)

Sturnidae: The Myna and Starling Family

***Sturnus vulgaris* Linnaeus, 1758: European Starling**

COMMON NAMES: Azores Starling (subsp. *granti*, Hartert, 1903); Common Starling (subsp. *vulgaris* Linnaeus, 1758); Estornino Pinto (Spanish)42; Étourneau Sansonnet (French)42; European Starling; Faroese Starling (subsp. *faroensis* Feilden, 1872); Shetland Starling (subsp. *zetlandicus* Hartert, 1918); Starling. HABITS: Feeds on amphibians, arachnids, berries, crustaceans, decapods, fruits, grains, grubs, insects, mollusks, nectars, seeds, spiders and worms. Nests are made up of bark, dry grass, hair, leaves, lichen, moss, rootlets, straw, sticks and twigs and lined with down, feathers, soft leaves and wool and may be located in abandoned bird nests, depressions, cavities in cliffs, trees, posts, rocks, shrubs, trees and in underground burrows. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: EXOTIC Invasive Species. Starlings can damage crops, cause substantial loss to feeding operations for cattle, and compete with native birds for nesting sites and food. \*14 (042312 - color presentation), 20, 42 (022314), 55, 69, 73, 84, 90, 93, 106 (042312 - includes a listing of subspecies, color presentation), **158** (C,P), **LCNCA**\*

Sylviidae: The Gnatcatcher and Old World Warbler Family

***Polioptila caerulea* (Linnaeus, 1766): Blue-gray Gnatcatcher**

COMMON NAMES: Blue-gray Gnatcatcher; Blue-grey Gnatcatcher; Gobemoucherons Gris-bleu (French)42; Perlita Azulgris (Spanish)42; Pisita Gris (Hispanic)14; Western Gnatcatcher. HABITS: Feeds on insects. Nests are small cups made up of lichens, plant down and spider webs and located on the limbs of trees. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042312 - subsp. *amoenissima* (Grinnell), color presentation), 20, 42 (072112), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (U,T), **LCNCA**\*

***Polioptila melanura* Lawrence, 1857: Black-tailed Gnatcatcher**

COMMON NAMES: Black-tailed Gnatcatcher; Perlita del Desierto (Spanish)42,90; Pisita Cola Negra (Hispanic)14; Plumbeous Gnatcatcher; Schuk Mookam Gisop (Tohono O’odham)90. HABITS: Feeds on small insects and spiders. The nests are felted open cups made up of strips of bark, forbs, grasses, plant fibers and spider webbing and lined with finer and softer material, and located low to the ground in the forks of branches of shrubs. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (042312 - subsp. *melanura* (Lawrence), color presentation), 42 (061912), 55, 69, 73, 84, 90, 93, 106 (0042312 - color presentation), **158** (U,P), **LCNCA**\*

Thraupidae: The Tanager Family

***Piranga flava* (Vieillot, 1822): Hepatic Tanager**

COMMON NAMES: Hepatic Tanager; (including subsp. *hepatica* Swaison, 1827); Prianga Encinera (Hispanic)14; Red Tanager; Tángara Encinera (Spanish)42; Tooth-billed Tanager (subsp. *lutea* (Lesson, 1834)). HABITS: Feeds on flower nectar, fruits insects and spiders. Nests are shallow saucers made of shredded bark, forbs, grasses and rootlets located on low horizontal and forked branches of trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub and wetland ecological formations. NOTE: The genus *Piranga* may have been moved from the Tanager Family [Thraupidae] to the Cardinal Family [Cardinalidae]. \*14 (022314 - subspp. *dextra* (Bangs) and *hepatica* (Swainson) are the subspecies reported as occurring in New Mexico, color presentation), 42 (022314)55, 69, 73, 93, 106 (022314 - color presentation), **158** (V,T), **LCNCA**\*

***Piranga ludoviciana* (A. Wilson, 1811): Western Tanager**

COMMON NAMES: Louisiana Tanager; Piranga Cabeza Roja (Hispanic)14; Tangara à Tête Rouge (French)42; Tángara Capucha Roja (Spanish)42; Western Tanager. HABITS: Feeds on berries, small fruits (hawthorn apples, cherries, elderberries, mulberries, raspberries, serviceberries), insects and agave nectar. Nests are shallow flimsy saucers made up of shredded bark, grasses, pine needles, rootlets, weed stalks and twigs and located on the horizontal branches of trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: Western Tanagers are major consumers of the Western Spruce Budworm (*Choristoneura occidentalis*) and may also eat the larvae of the Douglas-fir Tussock Moth (*Orgyia pseudotsugata*). The genus *Piranga* may have been moved from the Tanager Family [Thraupidae] to the Cardinal Family [Cardinalidae]. \*14 (042312 - color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (C,T), **LCNCA**\*

***Piranga rubra* (Linnaeus, 1758): Summer Tanager**

COMMON NAMES: Cooper’s Tanager; Piranga Avispera (Hispanic)14; Summer Tanager; Tángara Roja (Spanish)42; Tangara Vermillon (French)42. HABITS: Feeds on berries, insects and small fruits. Nests are shallow cups made of shredded bark and grasses and located on the horizontal branches of trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland, desertscrub and wetland ecological formations. NOTE: The genus *Piranga* may have been moved from the Tanager Family [Thraupidae] to the Cardinal Family [Cardinalidae]. \*14 (060912 - subsp. *cooperi* (Ridgway); subsp. *rubra*, color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (060912 - color presentation), **158** (C,S), **LCNCA**\*

Threskiornithidae: The Ibis and Spoonbill Family

***Plegadis chihi* (Vieillot, 1817): White-faced Ibis**

COMMON NAMES: Atotola Carra Blanco (Hispanic)14; Glossy Ibis (a name applied to other species); Ibis à Face Blanche (French)42; Ibis Cara Blanca42; White-faced Glossy Ibis; White-faced Ibis. HABITS: Feeds on annelid worms, arachnids, crayfishes, decapods, fishes, frogs, gastropods, insects, mammals and mollusks; nests are large cupped platforms made of forbs, grasses, reeds and sticks located in marshes, standing reeds, shrubs and trees. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formations. NOTE: Reportedly an introduction from the Old World arriving in North America in 1817. \*8, 14 (022314 - color presentation), 20, 42 (022314), 55, 69, 73, 84, 93, 106 (022314 - color presentation), **158** (U,T), **LCNCA**\*

Trochilidae: The Hummingbird Family

***Archilochus alexandri* (Bourcier and Mulsant, 1846): Black-chinned Hummingbird**

COMMON NAMES: Black-chinned Hummingbird; Chuparosa (Hispanic)14; Colibrí Barba Negra (Spanish)42,90; Wipismal (Tohono O’odham)90. HABITS: Feeds on small insects and nectar collected from flowers. Nests are tiny cups made up of lichens and plant wool that is woven together with spider webbing, and located in shrubs and trees. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*10, 14 (042312 - color presentation), 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (C,S), **LCNCA**\*

**C*alypte anna* (Lesson, 1829): Anna’s Hummingbird**

COMMON NAMES: Anna’s Hummingbird; Chuparosa Anna (Hispanic)14; Colibrí Cabeza Roja (Spanish)42,90; Wipismal (Tohono O’odham)90. HABITS: Feeds on small insects and nectar collected from flowers. Nests are tiny woven cups made up of lichens, mosses and very small twigs bound together with spider silk, often being lined with down feathers and hair and located in vines, shrubs and trees. HABITAT: Within the range of this species it has been reported from the woodland, scrub, desertscrub and wetland ecological formations. \*10, 14 (042312 - color presentation), 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (U,T), **LCNCA**\*

***Calypte costae* (Bourcier, 1839): Costa’s Hummingbird**

COMMON NAMES: Chuparosa Costa (Hispanic)14; Colibrí Cabeza Violeta (Spanish)42; Costa’s Hummingbird. HABITS: Feeds on small insects and nectar collected from flowers. Nests are small woven cups made up of down, plant fibers and leaves and coated with lichen located on limbs of shrubs and trees. HABITAT: Within the range of this species it has been reported from the scrub, grassland, desertscrub and wetland ecological formations. \*10, 14 (042312 - color presentation), 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (U,T), **LCNCA**\*

***Cynanthus latirostris* Swainson, 1827: Broad-billed Hummingbird**

COMMON NAMES: Broad-billed Hummingbird; Chuparosa Pico Ancho (Hispanic)14; Colibrí Pico Ancho (Spanish)42. HABITS: Feeds on small insects and nectar collected from flowers. Nests are loosely woven, rough cups located on vertical branches. HABITAT: Within the range of this species it has been reported from the desertscrub and wetland ecological formations. \*10, 14 (060912 - subsp. *magicus* (Mulsant and Verreaux), color presentation), 42 (022314), 55, 69, 73, 84, 90, 93, 106 (060912 - color presentation), **158** (U,T), **LCNCA**\*

***Heliomaster constantii* (Delattre, 1843): Plain-capped Starthroat**

COMMON NAMES: Colibrí Picudo (Spanish)42; Constant’s Starthroat; Plain-capped Starthroat. HABITS: Feed on small insects and nectar collected from flowers. HABITAT: Within the range of this species it has been reported from wetland ecological formations. \*10, 14 (022314 - described as being a “possible” in New Mexico and “accidental” in Arizona, color presentation), 20 (no record of species), 42 (022314), 55 (no record of species), 69 (no record of species), 73 (no record of species), 93 (noted in the List of Accidental Species as a Mexican species),106 (022314 - color presentation), **158** (V,S), **LCNCA**\*

*Selasphorus calliope* (see footnote 106 under *Stellula calliope*)

***Selasphorus platycercus* (Swainson, 1827): Broad-tailed Hummingbird**

COMMON NAMES: Broad-tailed Hummingbird, Chuparosa Cola Ancha (Hispanic)14; Zumbador Cola Ancha (Spanish)42. HABITS: Feeds on small insects and nectar collected from flowers. Nests are tiny cups made up of lichen and plant down woven together and bound to a branch with spider webs and located in bushes and small trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*10, 14 (022314 - subsp. *platycercus* (Swainson) is the subspecies reported as occurring in New Mexico, color presentation), 42 (022314), 55, 69, 73, 84, 93, 106 (022314 - color presentation), **158** (U,T), **LCNCA**\*

***Selasphorus rufus* (Gmelin, 1788): Rufous Hummingbird**

COMMON NAMES: Rufous Hummingbird; Wipismal (Tohono O’odham)90; Zumbador Rufo (Spanish)42,90. HABITS: Feeds on small insects and nectar collected from flowers. Nests are lichen-covered cups located in shrubs and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*10, 14 (042312 - color presentation), 20, 42 (072112), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (C,T), **LCNCA**\*

***Stellula calliope* (Gould, 1847): Calliope Hummingbird**

COMMON NAMES: Calliope Hummingbird; Chuparosa Calliope (Hispanic)14; Colibrí Garganta Rayada (Spanish)42. HABITS: Feeds on small insects, nectar collected from flowers, sap and spiders. Nests are open cups constructed of lichen and moss and located in shrubs and trees and often on large pine cones. HABITAT: Within the range of this species it has been reported from the forest, grassland, desertscrub and wetland ecological formations. \*10, 14 (022314 - color presentation), 42 (022314), 55, 69, 73, 84, 90, 93, 106 (022314 - recorded as *Selasphorus calliope* (Gould, 1847), color presentation), **158** (U,T), **LCNCA**\*

Troglodytidae: The Wren Family

***Campylorhynchus brunneicapillus* (Lafresnaye, 1835): Cactus Wren**

COMMON NAMES: Cactus Wren; Hokkad (Tohono O’odham)90; Matraca del Desierto (Hispanic)90; Saltapared del Disierto (Hispanic)14. HABITS: Feeds on small frogs, fruits, insects (ants, beets, grasshoppers, wasps), small reptiles, seeds and spiders. Nests are spheroid masses made up of grasses and straw and lined with feathers and hair and located in cacti, yuccas and thorny bushes. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (042312 - subsp. *couesi* (Sharpe), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (C,P), **LCNCA**\*

***Catherpes mexicanus* (Swainson, 1829): Canyon Wren**

COMMON NAMES: Canyon Wren; Chivirín Barranqueño (Spanish)42; Saltapared Risquero (Hispanic)14. HABITS: Feeds on small insects and spiders. Nests are shallow cups made of feathers, grasses, leaves, moss, plant down, spider webbing and twigs and lined with fur or hair and located in caves, crevices and on cliffs, bare rocks and talus. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (022414 - subsp. *conspersus* (Ridgway), color presentation), 20, 42 (022414), 55, 69, 73, 84, 93, 106 (022414 - includes a listing of subspecies, color presentation), **158** (U,P), **LCNCA**\*

***Cistothorus palustris* (A. Wilson, 1810): Marsh Wren**

SYNONYMY: *Telmatodytes palustris* (A. Wilson, 1810). COMMON NAMES: Chivirín Pantanero (Spanish)42; Long-billed Marsh-wren; Long-billed Marsh Wren; Marsh Wren; Saltapared del la Cienega (Hispanic)14; Troglodyte des Marais (French)42; Western Marsh Wren. HABITS: Feeds on arachnids (spiders), gastropods (snails), insects and mollusks. Nests are round balls or domed made of grasses located above water in cattails, reeds, rushes and stalks talus. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (060912 - subsp. *iliacus* (Ridgway); subsp. *plesius* (Oberholser), color presentation), 20, 42 (022414), 55, 69, 73, 84, 93, 106 (060912 - color presentation), **158** (U,TW), **LCNCA**\*

***Salpinctes obsoletus* (Say, 1823): Rock Wren**

COMMON NAMES: Chivirín Saltarroca (Spanish)42; Rock Wren; Saltapared Rocosa (Hispanic)14. HABITS: Feeds on insects and spiders. Nests are cups made up of bark, grasses, moss, rootlets and weeds lined with feathers, hairs and wool and located in rock crannies. HABITAT: Within the range of this species it has been reported from the scrub, grassland, desertscrub and wetland ecological formations. \*14 (042312 - subsp. *obsoletus* (Say), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (U,P), **LCNCA**\*

*Telmatodytes palustris* (see *Cistothorus palustris*)

***Thryomanes bewickii* (Audubon, 1827): Bewick’s Wren**

COMMON NAMES: Baird’s Wren; Bewick’s Wren; Chivirín Cola Oscura (Spanish)42; Guadalupe Bewick’s Wren (subsp. *brevicauda* (Ridgway, 1876): extinct circa 1890s); Saltapared Tapetatero (Hispanic)14; San Clemente Bewick’s Wren (subsp. *leucophrys* (Anthony, 1895): extinct circa 1940s). HABITS: Feeds on insects and spiders. The cup-shaped nests are made up of twigs and located in rock crannies, crevices and holes. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (060912 - subspp. *cryptus* (Oberholser) and *eremophilus* (Oberholser), color presentation), 20, 42 (022414), 55, 69, 73, 84, 90, 93, 106 (060912 - includes a listing of subspecies, color presentation), **158** (C,P), **LCNCA**\*

***Troglodytes aedon* Vieillot, 1809: House Wren**

COMMON NAMES: Chivrin Garganta Café (subsp. *brunneicollis* P.L. Sclater, 1858)42; Chivirín Saltapared (Spanish)42; Guadalupe House Wren (subsp. *guadeloupensis* (Cory, 1886): possibly extinct); House Wren; Parkman’s Wren; Saint Lucia House Wren (subsp. *mesoleucus* (P.L. Sclater, 1876)); Saltapared Cucacrachero (Hispanic)14; Toglodyte Familier (French)42. HABITS: Feeds on insects, snails and spiders. Large cup nests are constructed of small dry sticks and twigs and lined with strips of bark, feathers, hair, moss, rootlets, spider cocoons and/or wool and located in various cavities, including holes in trees, and in other bird nests. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (060912 - subsp. *parkmannii* (Audubon), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (060912 - includes a listing of subspecies, color presentation), **158** (C,T), **LCNCA**\*

***Troglodytes troglodytes* (Linnaeus, 1758): Winter Wren**

COMMON NAMES: Chivirín Chochín (Spanish)42; Troglodyte Mignon (French)42; Saltapared Invernal (Hispanic)14; Winter Wren; Wren (Europe). HABITS: Feeds on arachnids (spiders) and insects (including pupae). Round nests are made up of grass, lichen, moss, sticks and twigs located in banks and crevices and on down logs, rocks, tree roots and snags. HABITAT: Within the range of this species it has been reported from the forest and wetland ecological formations. \*14 (022414 - subspp. *hiemalis* (Vieillot) and *pacificus* (Baird) are the subspecies reported as occurring in New Mexico), 20, 42 (022414), 55, 69, 73, 93, 106 (022414 - includes a listing of subspecies, color presentation), **158** (R,W), **LCNCA**\*

Trogonidae: The Trogon Family

***Trogon elegans* Gould, 1834: Elegant Trogon**

COMMON NAMES: “Coppery-tailed” Trogon; Elegant Trogon; Trogón Elegante (Spanish)42. HABITS: Feeds on small fruits (berries), insects and other arthropods and small lizards. Eggs are laid in cavities in banks and in live or dead trees. HABITAT: Within the range of this species it has been reported from the woodland ecological formation and from wetland ecological formations within the forest, woodland and scrub ecological formations. NOTES: The Elegant Trogon is very sensitive to disturbance by humans, including bird-watching and calling. Disturbance by humans may result in unsuccessful breeding attempts, and may cause abandonment of nest, eggs and young. \*8, 14 (022414 - subsp. *canescens* (Van Rossem) is the subspecies reported as occurring in New Mexico, color presentation), 42 (022414), 55, 69, 73, 93, 106 (022414 - includes a listing of subspecies, color presentation), **158** (V,T), **LCNCA** \*

Turdidiae: The Bluebird, Solitaire and Thrush Family

***Catharus guttatus* (Pallas, 1811): Hermit Thrush**

COMMON NAMES: Grive Solitaire (French)42; Cuictlacoche Ermitano (Hispanic)14; Hermit Thrush; Zorzal Cola Rufa (Spanish)42. HABITS: Feeds on berries, wild fruit, grubs, insects, seeds, snails, spiders and worms. Nests are cups made up of leaves, moss, rootlets and twigs located on or near to the ground. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (060912 - subspp. *auduboni* (Baird), *guttatus*, *nanus* (Audubon), *sequoiensis* (Bedding) and *slevini* (Grinnell), color presentation), 20 (recorded as *Catharus guttatus*), 42 (022414), 55 (recorded as “*Hylocichla*” *guttata*), 69 (recorded as *Hylocichla guttata*), 73 (recorded as *Catharus guttatus*), 84, 90, 93 (recorded as *Catharus guttatus*), 106 (060912 - color presentation), **158** (U,TW), **LCNCA**\*

***Catharus ustulatus* (Nuttall, 1840): Swainson’s Thrush**

COMMON NAMES: Alma’s Thrush; Cuitlacoche Swainson (Hispanic)14; Grive à Dos Olive (French)42; Olive-backed Thrush; Russet-backed Thrush; Swainson’s Thrush; Swamp Robin; Zorzal de Swainson (Spanish)42. HABITS: Feeds on berries, fruits, insects (including grubs), seeds, spiders and worms. Nests are cups made up of ferns, grasses, leaves, moss, rootlets, sedges and twigs and lined with lichens and dead leaves located on the horizontal branches of shrubs and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland, desertscrub and wetland ecological formations. NOTES: The Swainson’s Thrush is a predator of the Douglas-fir Tussock Moth (*Orgyia pseudotsugata*) and Western Spruce Budworm (*Choristoneura occidentalis*). \*14 (022414 - subspp. *swainsoni* (Tschudi) and *ustulatus* are the subspecies reported as occurring in New Mexico), 20 (recorded as *Catharus ustulatus*), 42 (022414), 55 (recorded as “*Hylocichla*” *swaisonii*), 69 (recorded as *Hylocichla swaisonii*), 73 (recorded as *Catharus ustulatus*), 84, 93 (recorded as *Catharus ustulatus*), 106 (022414 - includes a listing of subspecies, color presentation), **158** (U,M), **LCNCA**\*

*Hylocichla guttata* (see footnotes 55 and 69 under *Catharus guttatus*)

*Hylocichla ustulata* (see footnotes 55 and 69 under *Catharus ustulatus*)

***Myadestes townsendi* (Audubon, 1838): Townsend’s Solitaire**

COMMON NAMES: Clarín norteño (Spanish)42; Jilguero (Hispanic)14; Solitaire de Townsend (French)42; Townsend’s Solitaire. HABITS: Feeds on berries, insects and seeds. Nests are cups made of bark, grasses, leaves, pine needles and sticks and lined with rootlets located on or close to the ground in holes, on banks, cliffs, stumps, amongst roots and on talus slopes. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (022414 - subsp. *townsendi* (Audubon) is the subspecies reported as occurring in New Mexico, color presentation), 42 (022414), 55, 69, 73, 84, 93, 106 (022414 - color illustration), **158** (U,W), **LCNCA**\*

***Sialia currucoides* (Bechstein, 1798): Mountain Bluebird**

COMMON NAMES: Azulejo Pálido (Spanish)42; Merlebleu Azuré (French)42; Mountain Bluebird; Ventura de Montana (Hispanic)14. HABITS: Feeds on berries, fruits, grubs, insects, seeds, snails, spiders and worms. Nests are made up of grasses and lined with bark chips or feathers and located in holes in tree stubs, trees or in cliffs. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042312 - color presentation), 20, 42 (072112), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (R,W), **LCNCA**\*

***Sialia mexicana* Swainson, 1832: Western Bluebird**

COMMON NAMES: Azulejo Garganta Azul (Spanish)42; Chestunt-backed Bluebird; Merle-bleu de l'Ouest (French)42; Mexican Bluebird; Ventura Azul (Hispanic)14; Western Bluebird. HABITS: Feeds on berries, fruits, grubs, insects, seeds, snails, spiders, and worms. Nests are made up of grasses located in cavities. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (061012 - subsp. *bairdi* (Ridgway), color presentation), 42 (061912), 55, 69, 73, 84, 90, 93, 106 (061012 - color presentation), **158** (U,W), **LCNCA**\*

***Turdus migratorius* Linnaeus, 1766: American Robin**

COMMON NAMES: American Robin; Merle d'Amérique (French)42, Mirlo Primavera (Spanish)42; North American Robin; Ope’chee (‘the Robin’ Longfellow’s *Hiawatha*); Primavera (Hispanic)14; Robin. HABITS: Feeds on berries, earthworms, fruits, insects (caterpillars, beetle grubs, grasshoppers), small mollusks, seeds, snails and spiders. Nests are bowls made up of feathers, grasses, rootlets and small twigs and walled with mud, fine grass and soft materials; the nests are located in the forks or on the branches of shrubs or trees. The average life span for the American Robin is 2 years with 14 years being the longest lifespan known for this species. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (061012 - subspp. *migratorius* and *propinquus* (Ridgway), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (061012 - includes a listing of subspecies, color presentation), 153, **158** (U,T), **LCNCA**\*

Tyrannidae: The Tyrant Flycatcher Family

***Camptostoma imberbe* P.L. Sclater, 1857: Northern Beardless-tyrannulet**

COMMON NAMES: Beardless Flycatcher; Beardless-tyrannulet; Mosquero Lampiño (Spanish)42; Northern Beardless Flycatcher; Northern Beardless Tyrannulet; Northern Beardless-tyrannulet. HABITS: Feeds on berries, insects and spiders. The nests are made up of grasses and leaves and are domed or globular with a side entrance; the nest is located in matted trees, tree tangles and clumps of mistletoe. HABITAT: Within the range of this species it has been reported from wetland ecological formations. \*14 (061012 - subsp. *ridgwayi* (Brewster), color presentation), 20, 42 (061912), 55, 69, 73, 93, 106 (061012 - color presentation), **158** (U,S), **LCNCA**\*

*Contopus borealis* (see *Contopus cooperi*)

***Contopus cooperi* (Nuttall, 1831): Olive-sided Flycatcher**

SYNONYMY: *Contopus borealis* (Swainson, 1832); *Nuttallornis borealis* (Swainson, 1832). COMMON NAMES: Mosquerito Olfvo (Hispanic)14; Moucherolle à Côtés Olive (French)42; Olive-sided Flycatcher. HABITS: Feeds on flying insects. Nests are shallow open cups or saucers made of roots, stalks and twigs located on forks of horizontal tree branches. HABITAT: Within the range of this species it has been reported from the forest, woodland, grassland, desertscrub and wetland ecological formations. \*14 (022414 - color presentation), 14 (022414), 20, 55, 69, 73, 84, 90, 93, 106 (022414 - color presentation), **158** (U,T), **LCNCA**\*

***Contopus sordidulus* P.L. Sclater, 1859: Western Wood Pewee**

COMMON NAMES: Pibí Occidental (Spanish)42; Western Wood Pewee; Western Wood-pewee. HABITS: Feeds on insects which may be taken by gleaning or hawking. Nests are tightly built grass or lichen-covered cups located on the horizontal branches of trees or in cavities in trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042312 - subspp. *saturatus* (Bishop) and *veliei* (Coues), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (U,S), **LCNCA**\*

*Nuttallornis borealis* (see *Contopus cooperi*)

***Empidonax difficilis* S.F. Baird, 1858: Pacific-slope Flycatcher**

COMMON NAMES: Pacific-slope Flycatcher; Mosquero Californiano (Spanish)42; Mosquerito Pacifico (Hispanic)14; Western Flycatcher. HABITS: Feeds on flying insects, caterpillars and spiders. Nests are cups made of rootlets and twigs lined with bark and moss located on ledges or in cut banks and tree trunks. HABITAT: Within the range of this species it has been reported from the forest, woodland and wetland ecological formations. \*14 (022413 - subsp. *difficilis* (Baird) is the subspecies reported as occurring New Mexico), 42 (022413), 55, 69, 73, 90, 93, 106 (022414 - color presentation), **158** (U,T: listed as a “Western” Flycatcher), **LCNCA** (listed as under Western Flycatcher as *Empidonax difficilis*)\*

***Empidonax hammondii* (Xantus de Vesey, 1858): Hammond’s Flycatcher**

COMMON NAMES: Hammond’s Flycatcher; Mosquerito de Hammond (Hispanic)14; Mosquero de Hammond (Spanish)42. HABITS: Feeds on insects. Nests are neat cups made up of woven plant fibers saddled on the horizontal forks of branches of conifer trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (022414 -color presentation), 42 (022414), 55, 69, 73, 84, 90, 93, 106 (022414 - color presentation), **158** (U,TW), **LCNCA**\*

***Empidonax oberholseri* A.R. Phillips: Dusky Flycatcher**

COMMON NAMES: American Dusky Flycatcher; Dusky Flycatcher; Mosquerito Obscuro (Hispanic)14; Mosquero Oscuro (Spanish)42; Wright’s Flycatcher. HABITS: Feeds on insects. Nests are neat cups made up of fibers, grasses and twigs located in vertically forked branches of bushes, saplings and small trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (022414), 42 (022414), 55, 69, 73, 90, 93, 106 (022414 - color presentation), **158** (U,TW), **LCNCA**\*

***Empidonax occidentalis* Nelson, 1897: Cordilleran Flycatcher**

COMMON NAMES: Cordilleran Flycatcher; Mosquero Barranqueño (Spanish)42; Western Flycatcher. HABITS: Feeds on insects. Nests are cups made of rootlets and twigs and lined with bark and moss located on ledges in cavities, cut banks, tree trunks and on the forks in a horizontal branches of trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (022414 - color presentation), 42 (022414), 84, 106 (022414 - color presentation), **158** (U,T: listed as a “Western” Flycatcher), **LCNCA** (listed as under Western Flycatcher as *Empidonax occidentalis*)\*

***Empidonax traillii* (Audubon, 1828): Willow Flycatcher**

COMMON NAMES: Alder Flycatcher; Little Flycatcher; Mosquero Saucero (Spanish)42; Moucherolle des Saules (French)42; Traill’s Flycatcher; Willow Flycatcher. HABITS: Feeds on berries and insects. Nests are bulky, loose cups made up of bark, feathers, forbs, grasses, hair, lichens and mosses and lined with fine fibers which are located low in shrubs on forked braches. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland, desertscrub and wetland ecological formations. \*8, 14 (042312 - subspp. *adastus* (Oberholser), *brewsteri* (Oberholser) and *extimus* (Phillips) are the subspecies reported as occurring in New Mexico, color presentation of subsp. *extimus*), 20, 42 (022414), 55, 69, 73, 84, 93, 106 (042312 - color presentation), **158** (R,S), **LCNCA**\*

***Empidonax wrightii* S.F. Baird, 1858: Gray Flycatcher**

COMMON NAMES: American Gray Flycatcher; Gray Flycatcher; Grey Flycatcher; Mosquerito Gris (Hispanic)14; Mosquero Gris (Spanish)42. HABITS: Feeds on insects which may be taken by gleaning or hawking. Nests are woven cups which may be made up of strips of bark, grass stalks and other plant material and lined with softer materials such as soft grasses, feathers, hair and wool; the nests are located in sagebrush and on branches or in the limb-trunk crotches of junipers, pinyon pine and other small shrubs and trees. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042312 - color presentation), 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (U,TW), **LCNCA**\*

***Myiarchus cinerascens* (Lawrence, 1851): Ash-throated Flycatcher**

COMMON NAMES: Ash-throated Flycatcher; Copeton Cinezo (Hispanic)14; Papamoscas Cenizo (Spanish)42,90; Tyran à Gorge Cendrée (French)42. HABITS: Feeds on insects which may be taken by gleaning or less often by hawking, it may also feed on fruits and small mammals and reptiles. Nests are made of various materials including snake skins and located in cavities, knotholes and woodpecker holes in posts, trees and yuccas. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042312 - subsp. *cinerascens* (Lawrence), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (C,S), **LCNCA**\*

***Myiarchus tuberculifer* (Orbigny and Lafresnaye, 1837): Dusky-capped Flycatcher**

COMMON NAMES: Copeton Comun (Hispanic)14; Dusky-capped Flycatcher; Olivaceous Flycatcher; Papamoscas Triste (Spanish)42. HABITS: Feeds on insects, spiders and fruits. Nests are located in pre-existing cavities and holes in snags and trees. HABITAT: Within the range of this species it has been reported from the woodland, desertscrub and wetland ecological formations. \*14 (022414 - subsp. *olivaceus* (Ridgway) is the subspecies reported as occurring in New Mexico, color presentation), 42 (022414), 55, 69, 73, 106 (022414 - color presentation), **158** (U,T), **LCNCA**\*

***Myiarchus tyrannulus* (Statius Müller, 1776): Brown-crested Flycatcher**

COMMON NAMES: Arizona Crested Flycatcher; Brown-crested Flycatcher; Mexican Crested Flycatcher; Mexican Flycatcher; Mosquerito Cafe' (Hispanic)14; Papamoscas Tirano (Spanish)42,90; Weid’s Crested Flycatcher. HABITS: Feeds on insects and fruit. Nests lined with feathers and hairs are located in cavities in posts and trees including the Saguaro Cactus. HABITAT: Within the range of this species it has been reported from the forest, woodland, desertscrub and wetland ecological formations. \*14 (042312 - subsp. *magister* (Ridgway), color presentation), 20, 42 (061912), 55, 69, 73, 84, 106 (042312 - color presentation), **158** (U,S), **LCNCA**\*

***Pyrocephalus rubinus* (Boddaert, 1783): Vermilion Flycatcher**

COMMON NAMES: Cardenalito (Hispanic)14; Darwin’s Flycatcher (subsp. *nanus* Gould, 1839); Galapagos Flycatcher (subsp. *nanus* Gould, 1839); Mosquero Cardenal (Spanish)42; Vermilion Flycatcher. HABITS: Feeds on insects, flycatchers feed mostly on insects (beetles, flies, grasshoppers) that are usually taken by hawking. Nests are flat saucers made of feathers, fibers, rootlets, stems, twigs and spider webbing lined with animal or plant hair and lichen located on the horizontal crotches and forks of branches of conifers. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations. \*14 (042312 - subspp. *flammeus* (Van Rossem) and *mexicanus* (Sclater), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (C,S), **LCNCA**\*

***Sayornis nigricans* (Swainson, 1827): Black Phoebe**

COMMON NAMES: Black Phoebe; Gihsupi (Tohono O’odham)90; Papamoscas Negro (Spanish)14,42. HABITS: Feeds on arachnids, insects and fishes. Nests are thick cups made of bark, feathers, plant fibers, forbs, grasses, hair, moss and rootlets lined with soft material including feathers and hair; mud must be available from habitat for nest construction; the nest may be located in caves, on ledges, in the exposed roots of trees close to water and/or plastered to cliff faces. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (061012 - subsp. *semiatra* (Vigors), color presentation), 42 (061912), 55, 69, 73, 84, 90, 93, 106 (061012 - includes a listing of subspecies, color presentation), **158** (C,P), **LCNCA**\*

***Sayornis phoebe* (Latham, 1790): Eastern Phoebe**

COMMON NAMES: Eastern Phoebe; Moucherolle Phébi (French)42; Papamoscas (Hispanic)14; Papamoscas Fibí (Spanish)42. HABITS: Feeds on arachnids, berries, fishes, fruits, hairworms, insects and myriapods. Nests are open cups with a mud base and constructed of feathers, fibers, forbs, grasses, hair lichens and mosses and plastered to caves, crevices in rocks, cliffs, rocky ledges and roots of fallen trees. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the forest, woodland, grassland and desertscrub ecological formations. \*14 (022414 - color presentation), 20, 42 (022414), 55, 69, 73, 84 (sighting considered to be far from the normal range of this species), 106 (022414 - color presentation), **158** (V,T), **LCNCA**\*

***Sayornis saya* (Bonaparte, 1825): Say’s Phoebe**

COMMON NAMES: Moucherolle à Ventre Roux (French)42; Papamoscas Boyero (Hispanic)14; Papamoscas Llanero (Spanish)42; Say’s Phoebe. HABITS: Feeds on berries and flying insects. Nests may be cup-shaped or brackets made up of grasses, moss, mud and wool and lined with hair and other fine materials; the nests may be located on ledges or rock walls. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042312 - subspp. *saya* and *yukonensis* (Bishop), color presentation), 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (C,R), **LCNCA**\*

***Tyrannus melancholicus* (Vieillot, 1819): Tropical Kingbird**

COMMON NAMES: Couch’s Kingbird; Lichtenstein’s Kingbird; Olive-backed Kingbird; Tirano Tropical (Spanish)42; Tropical Kingbird; West Mexican Kingbird. HABITS: Feeds on fruit (berries) and insects. Nests are flimsy cups or saucers made of forbs, grasses, rootlets and twigs lined with plant fibers and located on horizontal branches of trees. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the grassland and desertscrub ecological formations. \*8, 14 (022514 - color presentation), 20, 42 (022514), 55, 69, 73, 84, 93, 106 (022514 - color presentation), **158** (H,S), **LCNCA**\*

***Tyrannus tyrannus* (Linnaeus, 1758): Eastern Kingbird**

COMMON NAMES: Eastern Kingbird; Madrugador del Este (Hispanic)14; Tirano Dorso Negro (Spanish)42; Tyran Tritri (French)42. HABITS: Feeds on berries, fish (rarely taken), fruit and insects. Nests are study cups or saucers made of bark, feathers, forbs, grasses, hairs, mosses, plant down, rootlets, twigs and twine lined with hair and rootlets located in bushes, tree stumps and on the horizontal branches of trees. HABITAT: Within the range of this species it has been reported from wetland ecological formations. \*14 (022514 - color presentation), 20, 42 (022514), 55, 69, 73, 93, 106 (022514 - color presentation), **158** (V,T), **LCNCA**\*

***Tyrannus verticalis* Say, 1823: Western Kingbird**

COMMON NAMES: Arkansas Kingbird; Madrugador Avispero (Hispanic)14; Tirano Pálido (Spanish)42; Tyran de l'Ouest (French)42; Western Kingbird. HABITS: Feeds on berries and insects which are taken by gleaning or hawking. Nests are bulky, neatly-lined saucers or cups made up of grasses, twigs and wool lined with matted hair and located in bushes and on horizontal branches of trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042312 - color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (C,S), **LCNCA**\*

***Tyrannus vociferans* Swainson, 1826: Cassin’s Kingbird**

COMMON NAMES: Cassin’s Kingbird; Madrugador Chilero (Hispanic)14; Tirano Gritón (Spanish)42. HABITS: Feeds on berries, fruits and flying insectswhich are taken by hawking. Nests are bulky cups lined with grasses, hair, twigs and wool and located on horizontal branches of trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042312 - subsp. *vociferans* (Swainson), color presentation), 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (C,S), **LCNCA**\*

Tytonidae: The Barn Owl Family

***Tyto alba* (Scopoli): Barn Owl**

COMMON NAMES: Barn Owl; Canary Barn-owl (subsp. *gracilirostris* (Hartert, 1905)); Cave Owl; Church Owl; Common Barn Owl; Common Barn-owl; Barnyard Owl; Death Owl; Delicate Owl; Demon Owl; Dobby Owl; Effraie de Clochers (French)42; Galápagos Barn-owl (subsp. *punctatissima* (G.R. Grey, 1839)); Ghost Owl; Golden Owl; Hissing Owl; Hobby Owl; Hobgoblin Owl; Lechuza (Spanish)14,90; Lechuza de Campanario (Spanish)42; Monkey-faced Owl; Night Owl; Rat Owl; Screech Owl; Scritch Owl; Silver Owl; Stone Owl; Straw Owl; White Owl; White-breasted Owl. HABITS: Feeds on birds, frogs, insects, small mammals and toads. Nests may be made on either a litter of disgorged fur pellets or a bare surface located in caves, hollow trees or other cavities. HABITAT: Within the range of this species it has been reported from the scrub, grassland, desertscrub and wetland ecological formations. \*14 (061012 - subsp. *pratincola* (Bonaparte), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (061012 - includes a listing of subspecies, color presentation. “Compared to other owls of similar size, the Barn Owl has a much higher metabolic rate, requiring relatively more food. Pound for pound, Barn Owls consume more rodents – often regarded as pests by humans – than possibly any other creature. This makes the Barn Owl one of the most economically valuable wildlife animals to farmers. Farmers often find these owls more effective than poison in keeping down rodent pests, and they can encourage Barn Owl habitation by providing nest sites.[19]”), **158** (U,R), **LCNCA**\*

Vireonidae: The Vireo Family

***Vireo bellii* Audubon, 1844: Bell’s Vireo**

COMMON NAMES: Arizona Bell’s Vireo; Arizona Vireo; Bell’s Vireo; Least Bell’s Vireo (subsp. *pusillus* Coues, 1866); Vireo Aceitunado (Hispanic)14; Vireo de Bell (Spanish)42. HABITS: Feeds on insects, mollusks, snails and spiders. Nests are pensile well camouflaged cups made up of downy plant fibers, insect silk, grasses, spider webbing, sticks and wool suspended from branches of dense bushes, shrubs, vines (including the shrubs and vines of the Pacific [or Western] Poison Oak, *Toxicodendron* *diversilobum* (Torr. & A. Gray) Greene) and low trees. HABITAT: Within the range of this species it has been reported from wetland ecological formations within the woodland, grassland and desertscrub ecological formations. \*8, 14 (042312 - subspp. *arizonae* and *medius*, color presentation), 20, 42 (022514), 55, 69, 73, 84, 93, 106 (042312 - color presentation), **158** (U,S), **LCNCA** \*

***Vireo gilvus* (Vieillot, 1808): Warbling Vireo**

COMMON NAMES: Vireo Gorgojaedor (Hispanic)14; Vireo Gorjeador (Spanish)42; Viréo Mélodieux (French)42; Warbling Vireo. HABITS: Feeds on berries, insects, snails and spiders. Nests are tiny basket-like cups hanging from forked branches in trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: Warbling Vireos in the Pacific Northwest are predators of the Western Spruce Budworm and the Douglas-fir Tussock Moth (Torgersen and Torgersen, 1995) \*88\*14. \*14 (061012 - subsp. *swainsonii* (Baird), color presentation), 20, 42 (061912), 55, 69, 73, 84, 90, 93, 106 (061012 - color presentation), **158** (C,M), **LCNCA**\*

***Vireo huttoni* Cassin, 1851: Hutton’s Vireo**

COMMON NAMES: Hutton’s Vireo; Stephen’s Vireo; Vireo Hutton (Hispanic)14; Vireo Reyezuelo (Spanish)42. HABITS: Feeds on insects. Nests are suspended cups made up of down or moss and lined with feathers and moss located hanging from the branches of shrubs and trees or the fork of a tree. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042312 - subsp. *stephenii* (Brewster), color presentation), 42 (061912), 55, 69, 73, 84, 90, 93, 106 (042312 - color presentation), **158** (U,P), **LCNCA**\*

***Vireo solitarius* (A. Wilson, 1810): Blue-headed Vireo**

COMMON NAMES: Blue-headed Greenlet; Blue-headed Vireo; Mountain Vireo; Solitary Vireo; Viréo à Tête Bleue (French)42;, Vireo Anteojillo (Spanish)42; Vireo Solitario (Hispanic)14. HABITS: Feeds on berries, fruit, gastropods, insects and insect larvae, mollusks and spiders. Nests may be bulky cups or neat baskets made from long fibers, grasses and twigs, lined with soft material and camouflaged with bark chips, catkins, leaves, lichens, plant down and spider webbing and constructed between the forked branches of shrubs and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: The Solitary Vireo is a predator of the Douglas-fir Tussock Moth (*Orgyia pseudotsugata*) and Western Spruce Budworm (*Choristoneura occidentalis*). \*14 (022514), 20, 42 (022514), 55, 69, 73, 84, 93, 106 (022514 - color presentation), **158** (U,T), **LCNCA**\*

***Vireo vicinior* Coues, 1866: Gray Vireo**

COMMON NAMES: Gray Vireo; Grey Vireo; Vireo Gris (Hispanic/Spanish)14,42. HABITS: Feeds on insects. Nests are cups made of strips of bark, cocoons, grasses, plant fibers and spider webbing located hanging from forked branches in bushes and shrubs. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (022514 - color presentation), 42 (022514), 55, 69, 73, 84, 93, 106 (022514 - color presentation), **158** (H,T), **LCNCA**\*

CLASS MAMMALIA: The MAMMALS

This listing has been developed, in part, using the listing of Mammals created for

the Empire-Cienega Planning Area which is located within portions of several townships.

Species listed as “**LCNCA**” were observed in the general area, but may or may

not have been observed within the boundaries of this township.

Antilocapridae: The Pronghorn Family

***Antilocapra americana* (Ord, 1815): Pronghorn**

COMMON NAMES: American Pronghorn (subsp. *americana* (Ord, 1815)); Antelope; Berrendo (Spanish)42; Chihuahuan Pronghorn (subsp. *mexicana* Merriam, 1901); Chihuahuan Pronghorn Antelope (subsp. *mexicana* Merriam, 1901); Mexican Pronghorn (subsp. *mexicana* Merriam, 1901); Oregon Pronghorn (subsp. *oregona* V. Bailey, 1932); Peninsular Pronghorn (subsp. *peninsularis* Nelson, 1912); Prong Buck; Prong-horn; Pronghorn; Pronghorn Antelope; Prong-horned Antelope; Sonoran Pronghorn (subsp. *sonoriensis* Goldman, 1945); Sonoran Pronghorn Antelope (subsp. *sonoriensis* Goldman, 1945). HABITS: Feeds on cacti, forbs, grasses and shrubs. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: A pioneer of Tucson, Arizona, states that in the early days it was not uncommon to have bands of antelope circling the wagon on the trip between Tucson and Nogales.65 \*8, 14 (022514 - subspp. *americana* (Ord, 1815) and subsp. *mexicana* Merriam, 1901 are two subspecies recognized as occurring in New Mexico though the mixing of the populations has made the identification of subspecies difficult; subspp. *mexicana* Merriam, 1901 and *sonoriensis* Goldman, 1945 are the subspecies recorded as occurring in Arizona, color presentation of *Antilocapra americana americana*), 42 (022514), **55** (recorded as *Antilocapra americana* Ord. Prong-horned Antelope. Formerly widely distributed in grassland areas throughout the state; presently restricted to areas of favorable habitat.), 65 (*Antilocapra americana* *mexicana*), 73, 106 (042312 - includes a listing of subspecies, color presentation), 100 (color photograph), 110 (Sonoran Pronghorn (*Antilocapra americana* *sonoriensis*): Historic Range: Southwest Arizona, south of the Bill Williams River and east to the Santa Cruz River. In Mexico, the northern part of the State of Sonora.), 118 (recorded as *Antilocapra americana* *americana* (Ord) - Distribution: mapping and records for northeastern and northwestern Arizona; *Antilocapra americana* *mexicana* Merriam - Distribution: Southeastern Arizona, and *Antilocapra americana* *sonoriensis* Goldman - Distribution: Southwestern Arizona. Figure 111, Page 255), 148 (color presentation)\*

***Antilocapra americana* subsp. *mexicana* Merriam, 1901: Chihuahuan Pronghorn**

COMMON NAMES: “Antelope”; Chihuahuan Pronghorn; Chihuahuan Pronghorn Antelope; Mexican Pronghorn; Prong-horn; Pronghorn, Pronghorn Antelope; Prong-horned Antelope. HABITS: The species feeds on cacti, forbs, grasses and shrubs. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations. NOTES: EXTIRPATED from southeastern Arizona, several reintroductions have taken place. A pioneer of Tucson, Arizona, states that in the early days it was not uncommon to have bands of antelope circling the wagon on the trip between Tucson and Nogales.65 \*8 (Historically throughout south-eastern and south-central Arizona.), 14 (042312 - subsp. *americana* (Ord); subsp. *mexicana* Merriam, 1901; subsp. *sonoriensis* Goldman, 1945, color presentation of *Antilocapra americana americana*. Historically occurred in grass-shrub valleys and grasslands of southeastern and south-central Arizona), 42 (061912), 55 (species: recorded as *Antilocapra americana* Ord. Prong-horned Antelope. Formerly widely distributed in grassland areas throughout the state; presently restricted to areas of favorable habitat.), 65 (A pioneer of Tucson, Arizona, states that in the early days it was not uncommon to have bands of antelope circling the wagon on the trip between Tucson and Nogales.), 73 (species), 100 (color photograph of species), 106 (042312), **118** (recorded as *Antilocapra americana* *mexicana* Merriam - Distribution: Southeastern Arizona. Figure 111, Page 255), 148 (color presentation), **LCNCA**\*

Bovidae: The Cow, Sheep and Allies Family

***Bison bison* (Linnaeus, 1758): American Bison**

SYNONYMY: *Bos bison* Linnaeus, 1758. COMMON NAMES: American Bison; American Buffalo; American Plains Bison (subsp. *bison* (Linnaeus, 1758)); American Wood Bison (subsp. *athabascae* Rhoads, 1898; subsp. *bison* (Linnaeus, 1758)); Ancient Bison (subsp. *bison antquus* - Invalid; *Bison antquus* Leidy, 1852 - Valid); Bison (subsp. *bison* (Linnaeus, 1758)); Bisonte (Hispanic)14; Bisonte Americano (Spanish)42; Buffalo; Cibolas (term used to refer to the Buffalo and Buffalo-hunting Indians by early Mexican and Spanish explorers)14; Mountain Bison; Pezhekee’ (‘the Bison’ Longfellow’s Hiawatha; Pemi’can is the meat of the deer or buffalo dried and pounded); Plains Bison (subsp. *bison* (Linnaeus, 1758)); Prairie Bison; Tatanka (Lakota Sioux); Wood Bison (subsp. *athabascae* Rhoads, 1898; subsp. *bison* (Linnaeus, 1758)); Woodland Bison; Zu-ke-ta kah-noo-nah (used by the Indians for the smaller southern Buffalo, Texas and the Pecos Valley)14; Zu-ta kah-noo-nah (used by the Indians for the larger northern Buffalo, ranged from the Arkansas River and northward)14. HABITS: Feeds on grasses and sedges and other herbaceous vegetation to about 5 feet in height. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: Native to North America. Herds have been reduced from an estimated 30 to 200 million head in the mid-1800’s to around 350,000 head at present (mostly animals being raised for human consumption) with possibly fewer than 4,000 head (brought up from fewer than 550 Plains Bison in the United States) that had been continuously “free-roaming” animals. The American Bison (*Bison bison*) is a direct descendant of the Ancient Bison (*Bison antquus* Leidy, 1852) which was once hunted by the Clovis peoples along the San Pedro River in southern ‘Arizona’. \*8 (according to BISON-M the Arizona Game and Fish Department, Heritage Data Management System, Bison bison has been listed under the Natural Heritage Arizona State Rank "SRFSE" ("SRF" = "State Reported Falsely"; "SE" = "State Exotic")), 14 (042312 - recorded as *Bos bison* (Linnaeus) color presentation), 42 (072112), 55 (no record of species), 63 (052809), 73, 100, 106 (032213 - includes a listing of subspecies and a separate record for *Bison antquus* Leidy, 1852, color presentation), 118 (included in the Hypothetical List of Mammals possibly occurring in Arizona, satisfactory record of which is lacking. *Bison bison* subsp. (unnamed). “Although Coues (1867) indicated that buffalo “formerly ranged over Arizona - now absent,” there is no good evidence that they occurred in the state within historic times except as introductions (for example see Bailey, 1935:1).”), 148 (color presentation), 153\*

*Bos bison* (see *Bison bison*)

***Ovis canadensis* Shaw, 1804: Rocky Mountain Bighorn Sheep**

COMMON NAMES: American Bighorn; Audubon’s Bighorn Sheep (subsp. *auduboni* Merriam, 1901: extinct circa 1925); Badlands Bighorn (subsp. *auduboni* Merriam, 1901); Berrego Cimarron (Hispanic)14; Berrego Cimarron del Desierto (Hispanic); Big Horn; Bighorn; Bighorn Sheep (subsp. *canadensis* Shaw, 1804); Borrego Cimarrón (Spanish)42; California Bighorn Sheep (subsp. *californiana* Douglas, 1829); Desert Bighorn (subsp. *mexicana* Merriam, 1901; subsp. *nelsoni* Merriam, 1897); Desert Bighorn Sheep (subsp. *mexicana* Merriam, 1901; subsp. *nelsoni* Merriam, 1897); Mexican Bighorn Sheep (subsp. *mexicana* Merriam, 1901); Mountain Sheep; Nelson’s Bighorn Sheep (subsp. *nelsoni* Merriam, 1897); Peninsular Bighorn Sheep (subsp. *cremnobates* Elliot, 1904); Rocky Mountain Bighorn (subsp. *canadensis* Shaw, 1804); Rocky Mountain Bighorn Sheep (subsp. *canadensis* Shaw, 1804); Sierra Nevada Bighorn (subsp. *sierrae* Grinnell, 1912 - Invalid, *Ovis canadensis* subsp. *californiana* Douglas, 1829 - Valid); Sierra Nevada Bighorn Sheep (subsp. *sierrae* Grinnell, 1912 - Invalid, *Ovis canadensis* subsp. *californiana* Douglas, 1829 - Valid); Texas Big Horn Sheep; Texas Bighorn Sheep; Weems’ Bighorn Sheep (subsp. *weemsi* Goldman, 1937). HABITS: Feeds on agave, brittle bush, bursage, bush muhly, cacti, catclaw, cholla, coffeeberry, desert fluffgrass, desert ironwood, desert thorn, fairy duster, filaree, galleta, grama, jojoba, mesquite, mallow, Nevada joint fir, plantain, prickly-pear, ratany, ricegrass, saguaro, saltbush, threeawn and turpentine broom. Young are dropped in small scraped out depressions located in protected places on inaccessible peaks. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042312 - subsp. *canadensis*, color presentation; subsp. *mexicana* (Merriam), color presentations; subsp. *nelsoni*), 42 (022514), **55** (recorded as *Ovis canadensis* Shaw. Bighorn. Probably formerly statewide in mountainous or rocky situations; presently restricted to scattered low desert mountains.), 65, 73, 100 (color photograph), 106 (042312 - listing of subspecies, color presentation), 118 (recorded as *Ovis canadensis* *mexicana* Merriam - Distribution: Probably formerly statewide in mountainous situations. Figure 112, Page 257), 148 (color presentation)\*

***Ovis canadensis* subsp. *mexicana* Merriam, 1901: Desert Bighorn Sheep**

COMMON NAMES: Berrego Cimarron del Desierto (Hispanic)14; Big Horn; Bighorn; Bighorn Sheep; Desert Bighorn; Desert Bighorn Sheep; Mexican Bighorn Sheep; Mountain Sheep. HABITS: The species feeds on agave, brittle bush, bursage, bush muhly, cacti, catclaw, cholla, coffeeberry, desert fluffgrass, desert ironwood, desert thorn, fairy duster, filaree, galleta, grama, jojoba, mesquite, mallow, Nevada joint fir, plantain, prickly-pear, ratany, ricegrass, saguaro, saltbush, threeawn and turpentine broom; young are dropped in small scraped out depressions located in protected places on inaccessible peaks. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042312 - subsp. *canadensis*, color presentation; subsp. *mexicana* (Merriam), color presentations; subsp. *nelsoni*), 42 (061912 - no subspecies listed), 55 (species: recorded as *Ovis canadensis* Shaw. Bighorn. Probably formerly statewide in mountainous or rocky situations; presently restricted to scattered low desert mountains.”), 65 (species), 73 (species), 100 (color photograph of species, species record), 106 (042312 - color presentation of species), **118** (recorded as *Ovis canadensis* *mexicana* Merriam - Distribution: Probably formerly statewide in mountainous situations. Figure 112, Page 257), 148 (color presentation)\*

Canidae: The Dog and Allies Family

***Canis latrans* Say, 1823: Coyote**

COMMON NAME: American Jackal; Barking Coyote; Belize Coyote (subsp. *goldmani* Merriam, 1904); California Valley Coyote (subsp. *ochropus* Eschscholtz, 1829); Colima Coyote (subsp. *vigilis* Merriam, 1897); Coyote (English, French, Hispanic, Spanish: derived from the Náhuatl word “cóyotl”)14,42,106; Durango Coyote (subsp. *impavidus* J.A. Allen, 1903); Honduras Coyote (subsp. *hondurensis* Goldman, 1936); Lower Rio Grande Coyote (subsp. *microdon* Merriam, 1897); Mearns Coyote (subsp. *mearnsi* Merriam, 1897); Mexican Coyote (subsp. *cagotis* C.E.H. Smith, 1839); Mountain Coyote (subsp. *lestes* Merriam, 1897); Northeastern Coyote (subsp. *thamnos* Jackson, 1949); Northern Coyote (subsp. *incolatus* Hall, 1934); Northwest Coast Coyote (subsp. *umpquensis* Jackson, 1949); Peninsula Coyote (subsp. *peninsulae* Merriam, 1897); Plains Coyote (subsp. *latrans* Say, 1823); Prairie Wolf; San Pedro Martir Coyote (subsp. *clepticus* Elliot, 1903); Salvador Coyote (subsp. *dickeyi* Nelson, 1932); Southeastern Coyote (subsp. *frustor* Woodhouse, 1851); Texas Plains Coyote (subsp. *texensis* Bailey, 1905); Tiburón Island Coyote (subsp. *jamesi* Townsend, 1912). HABITS: Feeds on amphibians, berries, birds, carrion, fruits, gophers, insects, mice, rabbits, reptiles and squirrels. The young are born in dens that may be dug in the ground or located in caves. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042412 - subspp. *lestes* (Merriam), *mearnsi* (Merriam) and *texensis* (V. Bailey), color presentation), 42 (061912), **55** (recorded as *Canis latrans* Say. Coyote. Statewide (120 - 9,100 feet).), 65 (color photograph), 73, 100 (color photograph), 106 (042412 - includes a listing of subspecies, color presentation), 118 (recorded as *Canis latrans mearnsi* Merriam - Distribution: Statewide. Figure 87, Page 217), 148 (color presentation), **LCNCA**, **MBJ**/**WTK** (November 3, 2009 - Coyote scat observed)\*

***Canis latrans* subsp. *mearnsi* Merriam, 1897: Coyote**

COMMON NAMES: Coyote; Mearns Coyote. HABITS: The species feeds on amphibians, berries, birds, carrion, fruits, gophers, insects, mice, rabbits, reptiles and squirrels. The young are born in dens that may be dug in the ground or located in caves. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042412 - subsp. *lestes* (Merriam); subsp. *mearnsi* (Merriam); subsp. *texensis* (V. Bailey), color presentation of species), 42 (061912), 55 (species: recorded as *Canis latrans* Say. Coyote. Statewide (120 - 9,100 feet).), 65 (color photograph of species, species record), 73 (species), 100 (color photograph of species, species record), 106 (042412 - species, color presentation of species), **118** (recorded as *Canis latrans mearnsi* Merriam - Distribution: Statewide. Figure 87, Page 217), 148 (color presentation)\*

***Canis lupus* Linnaeus, 1758: Gray Wolf**

COMMON NAMES: Buffalo Wolf (subsp. *nubilus* Say, 1823); Common Wolf; Domestic Dog (*C*.*l*. *familiaris* Linnaeus, 1758 - Valid); Dusky Wolf (subsp. *nubilus* Say, 1823); Gray Wolf; Grey Wolf; Intermountain Gray Wolf; Great Plains Wolf (subsp. *nubilus* Say, 1823); Intermountain Gray Wolf; Lobo (Spanish)65; Lobo Gris (Hispanic)14; Lobo Gris (Spanish)42; Lobo Mexicano (Hispanic: applied to *C*.*l*. *baileyi* Nelson and Goldman, 1929 - Valid)14; Loup (French)42; Mexican Gray Wolf (subsp. *baileyi* Nelson and Goldman, 1929); Mexican Grey Wolf (subsp. *baileyi* Nelson and Goldman, 1929); Mexican Wolf (subsp. *baileyi* Nelson and Goldman, 1929); Northern Plains Gray Wolf (subsp. *nubilus* Say, 1823); Southern Rocky Mountain Wolf (subsp. *youngi* Goldman, 1937); Southern Rocky Mountain Gray Wolf (subsp. *youngi* Goldman, 1937); Timber Wolf; Wolf. HABITS: Feeds on berries, birds, fish, fruits, insects, deer, elk, javelina, livestock, small mammals, bighorn sheep, pronghorn and rabbits. Maternity dens are chambers without nests usually located in the ground on high ground, under rock ledges, slopes of canyon walls or hills near water. HABITAT: Within the range of this species it has been reported from forest, woodland, grassland and wetland ecological formations. NOTES: The Mexican Gray Wolf is the smallest subspecies of gray wolf in North America. This wolf generally avoids desert areas. At one time the Mexican Gray Wolf was extirpated from Arizona; however, successful re-introduction efforts are bringing it back from near extinction. \*8, 14 (042412 - subsp. *baileyi* Nelson and Goldman; subsp. *nubilus* Say; subsp. *youngi* Goldman, color presentation), 42 (061912), **55** (recorded as *Canis lupus* Frisch. Gray Wolf. Formerly throughout the eastern portions of the state, at present rare or approximately extinct.), 73, 100 (color photograph), 106 (042312 - includes a listing of subspecies, color presentation), 110 (recorded as *Canis lupus baileyi* - shows the historic range as being roughly that portion of Pima County east of the Tohono O’odham Nation), 118 (recorded as *Canis lupus baileyi* Nelson and Goldman - Distribution: Southeastern Arizona. Figure 88, Page 219), 148 (color presentation)\*

***Canis lupus* subsp. *baileyi* Nelson and Goldman, 1929: Mexican Gray Wolf**

COMMON NAMES: Lobo (Spanish)65; Lobo Mexicano (Hispanic)14; Mexican Gray Wolf; Mexican Grey Wolf; Mexican Wolf. HABITS: Feeds on berries, birds, fish, fruits, insects, deer, elk, javelina, livestock, small mammals, bighorn sheep, pronghorn and rabbits. Maternity dens are chambers without nests usually located in the ground on high ground, under rock ledges, slopes of canyon walls or hills near water. HABITAT: Within the range of this species it has been reported from forest, woodland, grassland and wetland ecological formations. NOTES: The Mexican Gray Wolf is the smallest subspecies of gray wolf in North America. This wolf generally avoids desert areas. At one time the Mexican Gray Wolf was extirpated from Arizona; however, successful re-introduction efforts are bringing it back from near extinction. \*8, 14 (0042412 - subsp. *baileyi* Nelson and Goldman; subsp. *nubilus* Say; subsp. *youngi* Goldman, color presentation), 42 (061912), 55 (species: recorded as *Canis lupus* Frisch. Gray Wolf. Formerly throughout the eastern portions of the state, at present rare or approximately extinct.), 73 (species), 100 (species, color photograph of species), 106 (042312 - species, color presentation of species), 110 (recorded as *Canis lupus baileyi* - shows the historic range as being roughly that portion of Pima County east of the Tohono O’odham Nation), **118** (recorded as *Canis lupus baileyi* Nelson and Goldman - Distribution: Southeastern Arizona. Figure 88, Page 219), 148 (color presentation)\*

***Urocyon cinereoargenteus* (Schreber, 1775): Common Gray Fox**

COMMON NAMES: Arizona Gray Fox (subsp. *scottii* Mearns, 1891); Common Gray Fox; Gray Fox; Renard Gris (French)42; Scott’s Gray Fox (subsp. *scottii* Mearns, 1891); Southern Gray Fox (subsp. *scottii* Mearns, 1891); Zorra Gris (Hispanic)14; Zorra Gris (Spanish)42. HABITS: The species feeds on birds, desert cottontails, hackberry and prickly-pear fruits, grasses, insects (crickets and grasshoppers), juniper berries, lizards, manzanita berries, nuts, small rodents and snakes. Nests are made of bark, grasses and leaves and located in underground burrows, small caves, piles of rock, amongst boulders, crevices in cliffs and in hollows in trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: The Gray Fox climbs trees. \*14 (042412 - subsp. *scottii* (Mearns), color presentation), 42 (061912), **55** (recorded as *Urocyon cinereoargenteus* (Schreber). Gray Fox. Statewide with the possible exception of the northeast portion (120 - 5,800 feet).), 65 (species, color photograph), 73, 100 (color photograph), 106 (042412 - includes a listing of subspecies, color presentation), 118 (recorded as *Urocyon cinereoargenteus scottii* Mearns - Distribution: Probably statewide. Figure 90, Page 222), 148 (color presentation), **LCNCA**\*

***Urocyon cinereoargenteus* subsp. *scottii* Mearns, 1891: Common Gray Fox**

COMMON NAMES: Arizona Gray Fox; Common Gray Fox; Gray Fox; Scott’s Gray Fox; Southern Gray Fox; Zorra Gris (Hispanic)14. HABITS: The species feeds on birds, desert cottontails, hackberry and prickly-pear fruits, grasses, insects (crickets and grasshoppers), juniper berries, lizards, manzanita berries, nuts, small rodents and snakes. Nests are made of bark, grasses and leaves and located in underground burrows, small caves, piles of rock, amongst boulders, crevices in cliffs and in hollows in trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: The Gray Fox climbs trees. \*14 (042412 - subsp. *scottii* (Mearns), color presentation of species), 42 (061912), 55 (species: recorded as *Urocyon cinereoargenteus* (Schreber). Gray Fox. Statewide with the possible exception of the northeast portion (120 - 5,800 feet).), 65 (species, color photograph of species), 73 (species), 100 (species, color photograph of species), 106 (042412 - species), **118** (recorded as *Urocyon cinereoargenteus scottii* Mearns - Distribution: Probably statewide. Figure 90, Page 222), 148 (color presentation)\*

***Vulpes macrotis* Merriam, 1888: Kit Fox**

SYNONYMY: *Vulpes macrotis* subsp. *macrotis* Merriam, 1888; *Vulpes macrotis* subsp. *mutica* Merriam, 1902. COMMON NAMES: Kit Fox; Desert Kit Fox (subsp. *arispus* Elliot, 1904 - Invalid?); Large-eared Kit Fox (subsp. *macrotis* Merriam, 1888 - Invalid: extinct circa 1903; *Vulpes macrotis* Merriam, 1888 - Valid); San Joaquin Kit Fox (subsp. *mutica* Merriam, 1902 - Invalid; *Vulpes macrotis* Merriam, 1888 - Valid); Southern California Kit Fox (subsp. *macrotis* Merriam, 1888 - Invalid: extinct circa 1903; *Vulpes macrotis* Merriam, 1888 - Valid); Swift-footed Fox (subsp. *arispus* Elliot, 1904 - Invalid?); Zorra del Desierto (Hispanic)14. HABITS: Feeds on berries, birds, cottontail rabbits, crickets, grasses, grasshoppers, ground squirrels, jack rabbits, kangaroo rats, lizards and pocket mice. The young are born in dens in underground burrows that have been excavated in soft soils. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Vulpes velox* (Say, 1823): The Swift Fox is generally considered a separate species by most authors. \*14 (042412 - subsp. *macrotis* (Merriam); subsp. *neomexicanus* (Merriam)), 42 (022514), **55** (recorded as *Vulpes macrotis* Merriam. Kit Fox. Widely distributed at lower elevations throughout the southern part of the state (120 - 5,000 feet).), 65, 73, 100 (color photograph), 106 (042412 - color presentation), 118 (recorded as *Vulpes macrotis* *arispus* Elliot - Distribution: Lower elevations in western and southern part of the state; *Vulpes macrotis* *neomexicana* Merriam - Distribution: Extreme southeastern Arizona. Figure 89, Page 220), 148 (color presentation)\*

*Vulpes macrotis* subsp. *macrotis* (see *Vulpes macrotis*)

*Vulpes macrotis* subsp. *mutica* (see *Vulpes macrotis*)

***Vulpes macrotis* subsp. *arispus* Elliot - Invalid?, 1904: Kit Fox**

COMMON NAMES: Desert Kit fox; Kit Fox; Swift-footed Fox; Zorra del Desierto (Hispanic)14. HABITS: The species feeds on berries, birds, cottontail rabbits, crickets, grasses, grasshoppers, ground squirrels, jack rabbits, kangaroo rats, lizards and pocket mice. The young are born in dens in underground burrows that have been excavated in soft soils. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Vulpes velox* (Say, 1823): The Swift Fox is generally considered a separate species by most authors. \*14 (042412 - subsp. *macrotis* (Merriam); subsp. *neomexicanus* (Merriam)), 42 (061912), 55 (species: recorded as *Vulpes macrotis* Merriam. Kit Fox. Widely distributed at lower elevations throughout the southern part of the state (120 - 5,800 feet).) 65 (species), 73 (species), 100 (color photograph of species), 106 (042412 - species, color presentation of species), **118** (recorded as *Vulpes macrotis* *arispus* Elliot - Distribution: Lower elevations in western and southern part of the state. Figure 89, Page 220), 148 (color presentation)\*

*Vulpes velox* (see NOTE under *Vulpes macrotis* and/or *Vulpes macrotis arispus*)

Castoridae: The Beaver Family

***Castor canadensis* Kuhl, 1820: American Beaver**

SYNONYMY: *Castor canadensis* subsp. *acadicus* Bailey, 1942; *Castor canadensis* subsp. *belugae* Taylor, 1916; *Castor canadensis* subsp. *canadensis* Kuhl, 1820; *Castor canadensis* subsp. *carolinensis* Rhoads, 1898; *Castor canadensis* subsp. *concisor* Warren and Hall, 1939; *Castor canadensis* subsp. *frondator* Mearns, 1897; *Castor canadensis* subsp. *leucodontus* Gray, 1869; *Castor canadensis* subsp. *mexicanus* Bailey, 1913; *Castor canadensis* subsp. *michiganensis* Bailey, 1913; *Castor canadensis* subsp. *missouriensis* Bailey, 1919; *Castor canadensis* subsp. *phaeus* Heller, 1909; *Castor canadensis* subsp. *texensis* Bailey, 1905. COMMON NAMES: Admiralty Beaver (subsp. *phaeus* Heller, 1909); Ahmeek’ (‘the Beaver’ Longfellow’s *Hiawatha*); American Beaver; Bank Beaver; Beaver; Canadian Beaver (subsp. *canadensis* Kuhl, 1820); Carolina Beaver (subsp. *carolinensis* Rhoads, 1898); Castor (French)42; Castor (Hispanic)14; Castor Americano (Spanish)42; Castor Cat; Colorado Beaver (subsp. *concisor* Warren and Hall, 1939); Cook Inlet Beaver (subsp. *belugae* Taylor, 1916 ); Flat Tail; Missouri River Beaver (subsp. *missouriensis* Bailey, 1919); New England Beaver (subsp. *acadicus* Bailey, 1942); North American Beaver; Pacific Beaver (subsp. *leucodontus* Gray, 1869); Rio Grande Beaver (subsp. *mexicanus* Bailey, 1913); Sonora Beaver (subsp. *frondator* Mearns, 1897); Texas Beaver (subsp. *texensis* Bailey, 1905); Washington Beaver (subsp. *pacificus* Rhoads, 1898 - Invalid? - possibly synonymous with *Castor canadensis* subsp. *leucodontus* Gray, 1869); Woods Beaver (subsp. *michiganensis* Bailey, 1913). HABITS: Feeds on bark, branches, buds, leaves or needles and twigs of alder, aspen, birch, cattail, cottonwood, maple, mesquite, tamarix and willow, and the roots of pond lilies and other tuberous plants; kits are born in lodges or dens dug into banks, nest materials include stalks and leave of tules, sedges, herbs and fine rootlets. HABITAT: Within the range of this species it has been reported that riparian habitats are required with beaver reported from creeks, streams, rivers, marshes, ciénegas, ponds and lakes in the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: Donald F. Hoffmeister noted in Mammals of Arizona that “Beaver in Arizona attempt to colonize some streams that are exceedingly small or have a very limited flow of water.”145 Beaver dams help reduce erosion, collect and retain organic matter and sediment and raise water tables (Las Cienegas National Conservation Area, Appendix 1, Chapter 3). Beaver dams may help to reduce flooding and provide habitat for other animals including otters and waterfowl. The full moon in November was called the ‘Beaver Moon’ by the earliest native peoples of northeastern North America because the beaver used the light to this moon to strengthen their dams and lodges in preparation for winter. The extent of the historical distribution of the American Beaver in Pima County is unknown; however, it has been reported that the Tohono O’odham people hunted and ate beaver. \*14 (042412 - subsp. *concisor* (Warren and Hall); subsp. *frondator* Mearns; subsp. *missouriensis* V. Bailey; subsp. *mexicanus* V. Bailey), 42 (022514), 49, 55 (recorded as *Castor canadensis* Kuhle. Beaver. Formerly widespread in all of the permanent streams of the state; now restricted in distribution), 73, 100 (color photograph), 106 (042412 - includes a listing of subspecies, color presentation. “Early American exploration of the San Pedro River, like most rivers in western North America, was driven by the pursuit of beaver pelts. James Ohio Pattie and his father led a party of fur trappers down the Gila River and then down the San Pedro River in 1826 which was so successful that he called the San Pedro the Beaver River. [2] In the 19th century the river was a meandering stream with fluvial marshlands, riparian forest, Sporobolus grasslands and extensive beaver ponds. As the beaver were removed by fur trapping and cattle denuded the riparian vegetation, the river down-cut and then widened in a process of arroyo formation observed on many rivers in the Southwest.[9] The beaver were finally extirpated by 1920's dynamiting of the beaver dams from soldiers from Fort Huachuca to prevent malaria. By the mid-20th century the once perennial river only flowed during the rainy season and beaver, fluvial marshlands and Sporobolus grasslands were uncommon.[9][10] Physician naturalist Edgar Alexander Mearns’ 1907 Mammals of the Mexican boundary of the United States reported beaver (*Castor* *canadensis*) on the San Pedro River and Babocomari Creek.[11] Mearns claimed that the San Pedro River beaver represented a new subspecies *Castor* *canadensis* *frondator* or "Sonora beaver" that ranged from Mexico up to Wyoming and Montana.[12]” from Wikipedia: San Pedro River, Arizona), 118 (recorded as *Castor canadensis* *repentinus* Goldman - Distribution: Formerly in the Colorado River from the Grand Canyon southward to Mexico and *Castor canadensis* *frondator* Mearns - Distribution: Formerly San Pedro and Gila River drainages. Figure 60, Page 155), 143 (note on the Tohono O’odham hunting beaver and included beaver in their diet), 148 (color presentation), 153, ADS (on-line September 9, 2012, reprint of a Tucson Citizen article dated August 14, 1969. Tucson Tails: Unfamiliar Critter is Beaver - included the following statement “A historian reports the Santa Cruz “was all of 10 feet deep in the early days when Father Kino was establishing the San Xavier Mission. And during days of drought, deep holes in the river provided enough water to prevent the beavers’ extinction.””), WTK (The headwaters of the Babocomari River, Cienega Creek and Sonoita Creek are located near Sonoita, Arizona. With the Beaver being plentiful in the San Pedro and Babocomari Rivers it would seem possible that they were also present in the Cienega Creek, which flows into the Pantano and Rillito Creeks, and the Sonoita Creek, which flows into the Santa Cruz River, which in turn flow into the Gila and Salt Rivers. ), MIX FM (94.9 MIX fm, November 28, 2012, Bobby Rich Morning Mix: Beaver Moon), **WTK** (it might be a bit of a stretch to place the Beaver at the major springs in this township, but here it is)\*

Cervidae: The Deer and Allies Family

*Cervus canadensis* (see note in SYNONYMY under *Cervus elaphus*)

***Cervus elaphus* Linnaeus, 1758: Elk**

SYNONYMY: (Note: *Cervus canadensis* Linnaeus, 1758 / (Erxleben, 1777) is a synonym of *Cervus elaphus* *canadensis* Erxleben, 1777). COMMON NAMES: Ala-Shan Wapiti (subsp. *alashanicus* Bobrinski and Flierov, 1935); Alashan Wapiti (subsp. *alashanicus* Bobrinski and Flierov, 1935); Altai Maral (*C*.*e*. *sibirica* (*Cervus canadensis sibiricus*) Severtzov, 1873 - Invalid?)106,148; Altai Wapiti (*C*.*e*. (*Cervus canadensis*) *asiaticus* Severtzov, 1873 / Lydekker, 1898 - Invalid?); American Elk; Arizona Wapiti (*C*.*e*. (*Cervus canadensis*) *merriami* Nelson, 1902 - Invalid?: extinct circa 1923); Atlantica Deer (subsp. *atlanticus* Lönnberg, 1906); Atlas Deer (subsp. *barbarus* Bennett, 1848); Austria Deer (subsp. *austriacus* - Invalid?); Bactrian Deer (subsp. *bactrianus* Lydekker, 1900 - Invalid, *Cervus elaphus* subsp. *yarkandensis* Blanford, 1892 - Valid); Baikal Wapiti (*C*.*e*. (*Cervus canadensis*) *baicalensis* Lydekker, 1915 - Invalid?; *C*.*e*. (*Cervus canadensis*) *isubra* Noack, 1889 - Invalid?)148; Baltic Deer (subsp. *balticus* Matschie, 1907 - Invalid?); Barasingha Deer (subsp. *hanglu* Wagner, 1844); Barbary Deer (subsp. *barbarus* Bennett, 1848); Barbary Stag (subsp. *barbarus* Bennett, 1848); Bukharian Deer (subsp. *bactrianus* Lydekker, 1900 - Invalid, *Cervus elaphus* subsp. *yarkandensis* Blanford, 1892 - Valid); California Wapiti (subsp. *nannodes* Merriam, 1905); Canadian Wapiti (*C*.*e*. (*Cervus canadensis*) *roosevelti* Merriam, 1897 - Invalid?); Carpathian Red Deer (subsp. *carpathicus* Tatarinov, 1956 - Invalid?); Carpathian Red Deer (subsp. *hippelaphus* Kerr, 1792 - Invalid?); Caspian Red Deer (subsp. *maral* Gray, 1850); Central European Red Deer (subsp. *hippelaphus* Kerr, 1792 - Invalid?); Ciervo Común (Spanish)42; Common Red Deer (subsp. *elaphus* Linnaeus, 1758); Corsican Red Deer (subsp. *corsicanus* Erxleben, 1777); Dwarf Wapiti (subsp. *nannodes* Merriam, 1905); Eastern Elk (*Cervus canadensis* Erxleben, 1777 - Invalid, *Cervus canadensis canadensis* Linnaeus, 1758 - Invalid, *Cervus elaphus* subsp. *canadensis* Erxleben, 1777 - Valid); Eastern Red Deer (subsp. *montanus* Botezat, 1903 - Invalid?); Elk; Hangual Deer (subsp. *hanglu* Wagner, 1844); Hangul148; Hangul (subsp. *hanglu* Wagner, 1844)106; Kansu Deer (subsp. *kansuensis* Pocock, 1912); Kansu Red Deer (subsp. *kansuensis* Pocock, 1912); Kashmir Deer (subsp. *hanglu* Wagner, 1844); Kashmir Stag (subsp. *hanglu* Wagner, 1844; subsp. *wallichii* G. Cuvier, 1823); MacNeill’s Deer (subsp. *macneilli* Lydekker, 1909); Manchurian Elk (subsp. *xanthopygus* Milne-Edwards, 1867); Manchurian Wapiti (subsp. *xanthopygus* Milne-Edwards, 1867)106; Manitoba Elk (*C*.*e*. (*Cervus canadensis*) *manitobensis* Millais, 1915- Invalid?); Manitoban Elk (*C*.*e*. (*Cervus canadensis*) *manitobensis* Millais, 1915- Invalid?); Maral Deer (subsp. *maral* Gray, 1850); Maral Red Deer (subsp. *maral* Gray, 1850); Merriam’s Elk (*C*.*e*. (*Cervus canadensis*) *merriami* Nelson, 1902 - Invalid?: extinct circa 1923); Merriam’s Wapiti (*C*.*e*. (*Cervus canadensis*) *merriami* Nelson, 1902- extinct circa 1923, Invalid?); Olympic Elk (*C*.*e*. (*Cervus canadensis*) *occidentalis* Hamilton Smith, 1827 - Invalid?; *C*.*e*. (*Cervus canadensis*) *roosevelti* Merriam, 1897- Invalid?); Red Deer; Rocky Mountain Elk (*C*.*e*. (*Cervus canadensis*) *nelsoni* Bailey, 1935 - Invalid?); Rocky Mountain Wapiti (*C*.*e*. (*Cervus canadensis*) *nelsoni* Bailey, 1935 - Invalid?); Roosevelt Elk (*C*.*e*. (*Cervus canadensis*) *roosevelti* Merriam, 1897- Invalid?); Roosevelt Wapiti (*C*.*e*. (*Cervus canadensis*) *occidentalis* Hamilton Smith, 1827 - Invalid?; *C*.*e*. *(Cervus canadensis) roosevelti* Merriam, 1897- Invalid?); Roosevelt’s Wapiti (*C*.*e*. (*Cervus canadensis*) *roosevelti* Merriam, 1897- Invalid?); San Joaquin Valley Elk (subsp. *nannodes* Merriam, 1905); Scottish Red Deer (subsp. *scoticus* Lonnberg, 1906 - Invalid?); Shingielt Red Deer (*C*.*e*. (*Cervus canadensis*) *wachei* Noack, 1902 - Invalid?); Short-faced Carpathian Red Deer (subsp. *campestris* Botezat, 1903 - Invalid?); Shou (subsp. *affinis* Hodgson, 1841 - Invalid?)148; Shou (subsp. *wallichii* G. Cuvier, 1823)106; Shou Deer (subsp. *wallichii* G. Cuvier, 1823); “Siberian Elk” (*C*.*e*. *sibirica* (*Cervus canadensis sibiricus*) Severtzov, 1873 - Invalid?); Sichuan Deer (subsp. *macneilli* Lydekker, 1909); Sikkim Stag (subsp. *affinis* Hodgson, 1841 - Invalid?; subsp. *wallichii* G. Cuvier, 1823); Spanish Red Deer (subsp. *hispanicus* Helzheimer, 1909); Swedish Red Deer (subsp. *elaphus* Linnaeus, 1758); Tian Shan Maral (subsp. *songaricus* Severtzov, 1873)106; Tian Shan Wapiti (subsp. *songaricus* Severtzov, 1873)106; Tien-Shan Wapiti (subsp. *songaricus* Severtzov, 1873)148; Tibetan Red Deer (subsp. *wallichii* G. Cuvier, 1823); Tule Elk (subsp. *nannodes* Merriam, 1905); Venado Alazan (Hispanic)14; Wallich’s Deer (subsp. *wallichii* G. Cuvier, 1823); Wapiti14; Wapiti (French: applied to subsp. *elaphus* Linnaeus, 1758)42; Western Elk (*C*.*e*. (*Cervus canadensis*) *occidentalis* Hamilton Smith, 1827 - Invalid?; *C*.*e*. (*Cervus canadensis*) *roosevelti* Merriam, 1897- Invalid?); Western European Red Deer (subsp. *carpathicus* Tatarinov, 1956 - Invalid?); Western European Red Deer (subsp. *elaphus* Linnaeus, 1758); Yarkand Deer (subsp. *yarkandensis* Blanford, 1892). HABITS: Feeds on agaves (basal portions of fleshy leaves, green flower stalks and flowers); asters; bear grass; eriogonums; goosefoot; grasses; lupines; mushrooms; sedges, and other mountain plants and will browse aspen; cliffrose; conifer needles; manzanita; mountain mahogany; oak (acorns and leaves); rabbitbrush; sagebrush; serviceberry; snowberry, and willow. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: The Elk known as *Cervus elaphus* subsp. *merriami*, which was native to Arizona, is now extinct with the last reported sighting being made in the White Mountains in 1923. This extinction was brought about by unregulated hunting. Merriam’s Elk is believed to have been extirpated from New Mexico by 1900 and from Arizona in 1923. By 1913, *Cervus canadensis* subsp. *nelsoni*, were being transplanted into Arizona. *Cervus elaphus* is native to central and southern North America. \*14 (042812 - subsp. *merriami* (Nelson); subsp. *nelsoni* (V. Bailey), color presentation), 42 (022514), **55** (recorded as *Cervus canadensis* (Erxleben). Elk. Formerly probably occurred in most of the higher mountains of the state; was exterminated and reintroduced (in 1913); presently occurs at higher elevations in the central part of the state.), 73, 100 (color photograph), 106 (061212 - includes a listing of subspecies, color presentation; there is a separate “page” for Wapiti - *Cervus canadensis* (Erxleben, 1777)), 118 (recorded as *Cervus canadensis* *merriami* Nelson - Distribution: Extinct; probably formerly occurred in most of the higher mountains of the state. Figure 108, Page 251, and *Cervus canadensis* *nelsoni* Bailey - Distribution: Introduced into Arizona (in 1913 and later) from Yellowstone National Park, Wyoming. Now established.), 148 (color photographs, including color photographs of many of the subspecies), 149\*

***Cervus elaphus* subsp. *merriami* Nelson, 1902 - Invalid?: Merriam’s Elk**

SYNONYMY: *Cervus canadensis* subsp. *merriami* Nelson, 1902 - Invalid?, 1902. COMMON NAMES: Arizona Wapiti; Merriam’s Elk; Merriam’s Wapiti; Wapiti14. HABITS: The species feeds on agaves (basal portions of fleshy leaves, green flower stalks and flowers); asters; bear grass; eriogonums; goosefoot; grasses; lupines; mushrooms; sedges, and other mountain plants and will browse aspen; cliffrose; conifer needles; manzanita; mountain mahogany; oak (acorns and leaves); rabbitbrush; sagebrush; serviceberry; snowberry, and willow. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations, this subspecies has been reported from forests and wetland ecological formations. NOTES: The Elk known as *Cervus elaphus* subsp. *merriami*, which was native to Arizona, is now extinct with the last reported sighting being made in the White Mountains in 1923. This extinction was brought about by unregulated hunting. Merriam’s Elk is believed to have been extirpated from New Mexico by 1900 and from Arizona in 1923. By 1913, *Cervus canadensis* subsp. *nelsoni*, were being transplanted into Arizona. \*14 (042812 - subsp. *merriami* (Nelson); subsp. *nelsoni* (V. Bailey)), 42 (061912 - no record of this subspecies), 55 (species: recorded as *Cervus canadensis* (Erxleben). Elk. Formerly probably occurred in most of the higher mountains of the state; was exterminated and reintroduced (in 1913); presently occurs at higher elevations in the central part of the state.), 73 (species), 100 (color photograph of species, species record), 106 (061312 - recorded as *Cervus elaphus*: *Cervus canadensis* *merriami*), **118** (recorded as *Cervus canadensis* *merriami* Nelson - Distribution: Extinct; probably formerly occurred in most of the higher mountains of the state. Figure 108, Page 251), 148, 149 (no record)\*

***Odocoileus hemionus* (Rafinesque, 1817): Mule Deer**

COMMON NAMES: Black-tailed Deer (subsp. *columbianus* (Richardson, 1829)); subsp. *hemionus* (Rafinesque, 1817); Blacktail Deer (subsp. *columbianus* (Richardson, 1829)); Burro (subsp. *crooki* Mearns, 1897 - Invalid?); Burro Mule Deer (subsp. *eremicus* Mearns, 1897); California Mule Deer (subsp. *californicus* (Caton, 1876)); Cedros Island Mule Deer (subsp. *cerrosensis* Merriam, 1898); Cerros Island (older name for Cedros Island) Mule Deer subsp. *cerrosensis* Merriam, 1898); Columbian Black-tailed Deer (subsp. *columbianus* (Richardson, 1829)); Crook Black-tailed Deer (subsp. *crooki* Mearns, 1897 - Invalid?); Desert Mule Deer (subsp. *crooki* Mearns, 1897 - Invalid?, subsp. *eremicus* Mearns, 1897); Inyo Mule Deer (subsp. *inyoensis* Cowan, 1933); Mule Deer; Peninsula Mule Deer (subsp. *peninsulae* (Lydekker, 1898)); Rocky Mountain Mule Deer (subsp. *hemionus* (Rafinesque, 1817)); Sitka Deer (subsp. *sitkensis* Merriam, 1898); Sitka Black-tailed Deer (subsp. *sitkensis* Merriam, 1898); Southern Mule Deer (subsp. *fuliginatus* Cowan, 1933); Tiburon Island Mule Deer (subsp. *sheldoni* Goldman, 1939); Venado Bura (Spanish)42; Venado Pardo (Hispanic)14. HABITS: Feeds on acorns, beans, branches, fruits, leaves or needles, nuts, seeds and/or twigs of aspen, barberry, bitterbrush, blackberry, buckbrush, buckwheat, calliandra, ceanothus, catclaw, cedar, cliffrose, dogwood, Douglas fir, huckleberry, joint fir, jojoba, juniper, mountain mahogany, mountainlover, oak, pinyon, ponderosa pine, poplar, sagebrush, saltbush, serviceberry, thimbleberry, white fir, wild cherry, willow and yew, and grasses lupines, mistletoe, moss, mushrooms, salal, sedges and spurges. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042412 - subsp. *hemionus*; subsp. *crooki* (Mearns), color presentation), 42 (022514), **55** (recorded as *Odocoileus hemionus* (Rafinesque). Black-tailed or Mule Deer. Statewide, but not of uniform distribution (250 - 9,000 feet).), 65, 73, 100 (color photograph), 106 (042412 - includes a listing of subspecies, color presentation), 118 (recorded as *Odocoileus hemionus crooki* (Mearns) - Distribution: Northeastern, central and southeastern part of the state. Figure 109, Page 252), 148 (color presentation), **LCNCA**\*

***Odocoileus hemionus* subsp. *crooki* Mearns, 1897 - Invalid?: Mule Deer**

COMMON NAMES: Burro; Crook Black-tailed Deer; Desert Mule Deer; Mule Deer; Venado Pardo (Hispanic)14. HABITS: The species feeds on acorns, beans, branches, fruits, leaves or needles, nuts, seeds and/or twigs of aspen, barberry, bitterbrush, blackberry, buckbrush, buckwheat, calliandra, ceanothus, catclaw, cedar, cliffrose, dogwood, Douglas fir, huckleberry, joint fir, jojoba, juniper, mountain mahogany, mountainlover, oak, pinyon, ponderosa pine, poplar, sagebrush, saltbush, serviceberry, thimbleberry, white fir, wild cherry, willow and yew, and grasses lupines, mistletoe, moss, mushrooms, salal, sedges and spurges. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042412 - subsp. *hemionus*; subsp. *crooki* (Mearns), color presentation of species), 42 (061912 - no record of this subspecies), 55 (species: recorded as *Odocoileus hemionus* (Rafinesque) Black-tailed or Mule Deer. Statewide, but not of uniform distribution (250 - 9,000 feet).), 65, 73 (species), 100 (species, color photograph of species), 106 (042412 - species, color presentation of species), **118** (recorded as *Odocoileus hemionus crooki* (Mearns) - Distribution: Northeastern, central and southeastern part of the state. Figure 109, Page 252), 148 (color presentation)\*

***Odocoileus virginianus* (Zimmermann, 1780): White-tailed Deer**

COMMON NAMES: Acapulco White-tailed Deer (subsp. *acapulcensis* (Caton, 1877)); Andean White-tailed Deer (subsp. *peruvianus* (Gray, 1874)); Arizona White-tailed Deer (subsp. *couesi* (Coues and Yarrow, 1875)); Arizona Whitetail (subsp. *couesi* (Coues and Yarrow, 1875)); Avery Island White-tailed Deer (subsp. *mcilhennyi* F.W. Miller, 1928); Blackbeard Island White-tailed Deer (subsp. *nigribarbis* Goldman and Kellogg, 1940); Bulls Island White-tailed Deer (subsp. *taurinsulae* Goldman and Kellogg, 1940); Carmen Mountains Jorge Deer (subsp. *carminis* Goldman and Kellogg, 1940); Central American White-tailed Deer (subsp. *truei* Merriam, 1898 - Invalid?); Cerf de Virginie (French)42; Chiapas White-tailed Deer (subsp. *nelsoni* Merriam, 1898); Chiriqui White-tailed Deer (subsp. *chiriquensis* J.A. Allen, 1910); Coiba Island White-tailed Deer (subsp. *rothschildi* (Thomas, 1902)); Columbian White-tailed Deer (subsp. *leucurus* (Douglas, 1929)); Coues White-tailed (subsp. *couesi* (Coues and Yarrow, 1875)); Coues White-tailed Deer (subsp. *couesi* (Coues and Yarrow, 1875)); Coues’ Deer (subsp. *couesi* (Coues and Yarrow, 1875)); Coues’ White-tailed Deer (subsp. *couesi* (Coues and Yarrow, 1875)); Dakota White-tailed Deer (subsp. *dacotensis* Goldman and Kellogg, 1940); Desert Whitetail (subsp. *couesi* (Coues and Yarrow, 1875)); Fantail (subsp. *couesi* (Coues and Yarrow, 1875)); Fantail Deer (subsp. *couesi* (Coues and Yarrow, 1875)); Florida Coastal White-tailed Deer (subsp. *osceola* (Bangs, 1896)); Florida Keys White-tailed Deer (subsp. *clavium* Barbour and G.M. Allen, 1922); Florida White-tailed Deer (subsp. *seminolus* Goldman and Kellogg, 1940); Hilton Head Island White-tailed Deer (subsp. *hiltonensis* Goldman and Kellogg, 1940); Hunting Island White-tailed Deer (subsp. *venatorius* Goldman and Kellogg, 1940); Kansas White-tailed Deer (subsp. *macrourus* (Rafinesque, 1817)); Key Deer (subsp. *clavium* Barbour and G.M. Allen, 1922); Maso (Yaqui); Lichtenstein’s White-tailed Deer (subsp. *mexicanus* (Gmelin, 1788)); Mexican Lowland White-tailed Deer (subsp. *thomasi* Merriam, 1898); Mexican White-tailed Deer (subsp. *mexicanus* (Gmelin, 1788)); Miquihuan White-tailed Deer (subsp. *miquihuanensis* Goldman and Kellogg, 1940); Nelson’s White-tailed Deer (subsp. *nelsoni* Merriam, 1898); Nicaragua White-tailed Deer (subsp. *truei* Merriam, 1898 - Invalid?); Northern Plains White-tailed Deer (subsp. *dacotensis* Goldman and Kellogg, 1940); Northern Rocky Mountains White-tailed Deer (subsp. *ochrourus* V. Bailey, 1932); Northern Vera Cruz White-tailed Deer (subsp. *veraecrucis* Goldman and Kellogg, 1940); Northern (Woodland) White-tailed Deer (subsp. *borealis* Miller, 1900); Northern Woodland White-tailed Deer (subsp. *borealis* Miller, 1900); Northwest White-tailed Deer (subsp. *ochrourus* V. Bailey, 1932); Oaxaca White-tailed Deer (subsp. *oaxacensis* Goldman and Kellogg, 1940); Osceola’s White-tailed Deer (subsp. *osceola* (Bangs, 1896)); Peruvian Venado Deer (subsp. *peruvianus* (Gray, 1874)); Plains White-tailed Deer (subsp. *macrourus* (Rafinesque, 1817)); Rafinesque’s White-tailed Deer (subsp. *macrourus* (Rafinesque, 1817)); Rain Forest White-tailed Deer (subsp. *toltecus* (Saussure, 1860)); Rothschild’s White-tailed Deer (subsp. *rothschildi* (Thomas, 1902)); Sandhill White-tailed Deer (subsp. *texanus* (Mearns, 1898)); Sinaloa White-tailed Deer (subsp. *sinaloae* J.A. Allen, 1903); Sonora White-tailed Deer (subsp. *couesi* (Coues and Yarrow, 1875)); Sonoran Fantail (subsp. *couesi* (Coues and Yarrow, 1875)); South American White-tailed Deer (subsp. *gymnotis* (Wiegmann, 1833); subsp. *peruvianus* (Gray 1874)); Southern White-tailed Deer (subsp. *virginianus* (Zimmermann, 1780)); Tamaulipas White-tailed Deer (subsp. *miquihuanensis* Goldman and Kellogg, 1940); Tawny Northwest White-tailed Deer (subsp. *ochrourus* V. Bailey, 1932); Texas White-tailed Deer (subsp. *texanus* (Mearns, 1898)); Thomas’s White-tailed Deer (subsp. *thomasi* (Merriam, 1898)); True’s White-tailed Deer (subsp. *truei* Merriam, 1898 - Invalid?); Venado Cola Blanca (Hispanic)14; Venado Cola Blanca (Spanish)42; Virginia Deer; Virginia White-tailed Deer (subsp. *virginianus* (Zimmermann, 1780)); Western White-tailed Deer (subsp. *macrourus* (Rafinesque, 1817)); White-tailed Deer (subsp. *virginianus* (Zimmermann, 1780)); Whitetail; Whitetail Deer; Yucatán White-tailed Deer (subsp. *toltecus* (Saussure, 1860); subsp. *yucatanensis* (Hays, 1872)). HABITS: The species feeds on fungi, grass and acorns, branches, buds, cones, fruits, leaves, mast, needles and /or twigs of alder, barberry, buckbrush, calliandra, catclaw acacia, Emory and scrub oaks and other evergreen oaks, hackberry, hemlock, holly-leaf buckthorn, juniper, mesquite, mountainlover, Oregon-grape, pinyon, ratany, sagebrush, skunkbush, spiderwort, spruce, willow, yellow-leaf silktassel. Young are generally dropped along ridges and hillsides. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042412 - subspp. *couesi* (Coues and Yarrow) and *texana* (Mearns), color presentation), 42 (022514), **55** (recorded as *Odocoileus virginianus* (Zimmermann). White-tailed Deer. Southeastern Arizona (1,200 - 9,000 feet).), 65, 73, 100 (color photograph), 106 (042412 - includes a listing of subspecies, color presentation), 118 (recorded as *Odocoileus virginianus* *couesi* (Coues & Yarrow) - Distribution: Southern Arizona. Figure 110, Page 254), 148 (color presentation), **LCNCA**\*

***Odocoileus virginianus* subsp. *couesi* (Coues & Yarrow, 1875): Coues’ White-tailed Deer**

COMMON NAMES: Arizona Whitetail; Arizona White-tailed Deer; Coues’ Deer; Coues White-tailed; Coues’ White-tailed Deer; Desert Whitetail; Fantail; Fantail Deer; Maso (Yaqui); Sonora White-tailed Deer; Sonoran Fantail; Venado Cola Blanca (Hispanic)14; Virginia Deer; Whitetail; White-tailed Deer; Whitetail Deer. HABITS: The species feeds on fungi, grass and acorns, branches, buds, cones, fruits, leaves, mast, needles and /or twigs of alder, barberry, buckbrush, calliandra, catclaw acacia, Emory and scrub oaks and other evergreen oaks, hackberry, hemlock, holly-leaf buckthorn, juniper, mesquite, mountainlover, Oregon-grape, pinyon, ratany, sagebrush, skunkbush, spiderwort, spruce, willow, yellow-leaf silktassel. Young are generally dropped along ridges and hillsides. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042412 - subsp. *couesi* (Coues and Yarrow); subsp. *texana* (Mearns), color presentation of species), 42 (022514), 55 (species: recorded as *Odocoileus virginianus* (Zimmermann). White-tailed Deer. Southeastern Arizona (1,200 - 9,000 feet).), 65, 73 (species), 100 (color photograph of species), 106 (042412 - color presentation), **118** (recorded as *Odocoileus virginianus* *couesi* (Coues & Yarrow) - Distribution: Southern Arizona. Figure 110, Page 254), 148 (color presentation)\*

Erethizontidae: The Porcupine Family

***Erethizon dorsatus* (Linnaeus, 1758): Common Porcupine**

SYNONYMY: *Erethizon dorsatum* (Linnaeus, 1758). COMMON NAMES: American Porcupine; Arizona Porcupine (subsp. *couesi* Mearns, 1897); Canadian Porcupine; Canadian Tree Porcupine; Common Porcupine; Coues’ Tree Porcupine (subsp. *couesi* Mearns, 1897); Kagh (? “Give me of your quills, O Hedgehog! All your quills, O Kagh, the Hedgehog!” Longfellow’s *Hiawatha*); North American Porcupine; Porc-épic d'Amérique (French)42; Porcupine; Puerco Espin (Hispanic)14; Puercoespín Norteamericano (Spanish)42; Rocky Mountain Porcupine (subsp. *epixanthus* Brandt, 1835); Western Porcupine (subsp. *epixanthus* Brandt, 1835); Yellow-haired Porcupine (subsp. *epixanthus* Brandt, 1835). HABITS: Feeds on the bark of cedar, fir, hemlock, mesquite and pine trees and ocotillo and on acorns, apple trees, ash leaves, aspen trees, basswood, young beech trees and beachnuts, buckbrush (Ceanothus sp.), buds, clover, dwarf mistletoe, fungi, grass (juveniles), herbs (juveniles), leaves, lupine, oak leaves, pine needles, fruits of pricklypear cacti, skunk cabbage, sugar maples and twigs. Shelter is sought in caves, hollow logs, mine shafts, piles of rocks, rocky slopes and rock walls. The young are born in dens (no nest structure) located in the cavities of dying tree, tree stumps, caves, under rocks and man-made structures. Dens may be used for many years and generations. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042512 - subsp. *couesi* (Mearns); subsp. *epixanthum* (Brandt)), 42 (061912), **55** (recorded as *Erethizon dorsatum* Linnaeus. Porcupine. Probably statewide but more common in wooded areas (3,000 - 9,000 feet).), 65, 73, 100 (color photograph), 106 (042512 - recorded as *Erethizon dorsatum* (Linnaeus, 1758), includes a listing of subspecies, color presentation), 118 (recorded as *Erethizon dorsatum* *couesi* Mearns - Distribution: Statewide in mountains and riparian situations. Figure 86, Page 215), 148 (color presentation), 153, 153, **LCNCA**\*

***Erethizon dorsatus* subsp. *couesi* Mearns, 1897: Common Porcupine**

SYNONYMY: *Erethizon dorsatum* subsp. *couesi* (Mearns, 1897). COMMON NAMES: American Porcupine; Arizona Porcupine; Canadian Porcupine; Common Porcupine; Coues’ Tree Porcupine; North American Porcupine; Porcupine; Puerco Espin (Hispanic)14. HABITS: Feeds on the bark of cedar, fir, hemlock, mesquite and pine trees and ocotillo and on acorns, apple trees, ash leaves, aspen trees, basswood, young beech trees and beachnuts, buckbrush (Ceanothus sp.), buds, clover, dwarf mistletoe, fungi, grass (juveniles), herbs (juveniles), leaves, lupine, oak leaves, pine needles, fruits of pricklypear cacti, skunk cabbage, sugar maples and twigs. Shelter is sought in caves, hollow logs, mine shafts, piles of rocks, rocky slopes and rock walls. The young are born in dens (no nest structure) located in the cavities of dying tree, tree stumps, caves, under rocks and man-made structures. Dens may be used for many years and generations. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042512 - subsp. *couesi* (Mearns); subsp. *epixanthum* (Brandt)), 42 (061912), 55 (species: recorded as *Erethizon dorsatum* Linnaeus. Porcupine. Probably statewide but more common in wooded areas (3,000 - 9,000 feet).), 65 (species), 73 (species), 100 (color photograph of species, species record), 106 (042512 - species including a listing of subspecies, color presentation of species), **118** (recorded as *Erethizon dorsatum* *couesi* Mearns - Distribution: Statewide in mountains and riparian situations. Figure 86, Page 215), 148 (color presentation of species)\*

*Erethizon dorsatum* (see *Erethizon dorsatus*)

*Erethizon dorsatum* subsp. *couesi* (see *Erethizon dorsatus* subsp. *couesi*)

Felidae: The Cat Family

*Felis concolor* (see *Puma concolor*)

*Felis concolor* subsp. *azteca* (see *Puma concolor* subsp. *couguar*)

*Felis concolor* subsp. *browni* (see *Puma concolor* subsp. *couguar*)

*Felis onca* (see *Panthera onca*)

*Felis onca* subsp. *arizonensis* (see *Panthera onca* subsp. *arizonensis*)

*Felis pardalis* (see *Leopardus pardalis*)

*Felis pardalis* subsp *sonoriensis* (see *Leopardus pardalis* subsp *sonoriensis*)

*Felis rufus* (see *Lynx rufus*)

*Felis rufus* subsp. *baileyi* (see *Lynx rufus* subsp. *baileyi*)

*Felis yaguarondi* (see *Puma yagouaroundi*)

*Felis yaguarondi* subsp. *cacomitli* (see footnote 118 under *Puma yagouaroundi*)

*Herpailurus yaguarondi* (see *Puma yagouaroundi*)

***Leopardus pardalis* (Linnaeus, 1758): Ocelot**

SYNONYMY: *Felis pardalis* (Linnaeus, 1758). COMMON NAMES: Dwarf Leopard; Leopard-cat; McKenney’s Wildcat; Ocelot; Ocelote (Spanish)42; Painted Leopard; Sonoran Ocelot (subsp. *sonoriensis* (Goldman, 1925)); Tiger-cat; Tigrillo (Mexico)145. HABITS: (Feeds on amphibians, lesser anteaters, armadillos, birds, fish, insects, land crabs, small to medium-sized mammals (including mice, rats and rabbits among others) and reptiles (including lizards, snakes and land tortoises). Kittens are born in a nest lined with grass or other materials located in rocky bluffs, caves, rocky dens, hollow logs or dense thickets. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: EXTIRPATED. \*8, 14 (042512 - subsp. *sonoriensis* is the subspecies reported as occurring in Arizona), 42 (061912), **55** (recorded as *Felis pardalis* Linnaeus. Ocelot. Formerly southeastern Arizona as far north as Fort Verde; no recent records.), 100 (color photograph), 106 (042512 - includes a listing of subspecies), 118 (recorded as *Felis pardalis sonoriensis* Goldman - Distribution: Formerly southeastern Arizona as far north as Ft. Verde. Figure 104, Page 244), 148 (color presentation)\*

***Leopardus pardalis* subsp *sonoriensis* (Goldman, 1925): Sonoran Ocelot**

SYNONYMY: *Felis pardalis* subsp. *sonoriensis* Goldman, 1925. COMMON NAMES: Dwarf Leopard; McKenney’s Wildcat; Ocelot; Ocelote (Spanish); Painted Leopard; Sonoran Ocelot. HABITS: (Feeds on amphibians, lesser anteaters, armadillos, birds, fish, insects, land crabs, small to medium-sized mammals (including mice, rats and rabbits among others) and reptiles (including lizards, snakes and land tortoises). Kittens are born in a nest lined with grass or other materials located in rocky bluffs, caves, rocky dens, hollow logs or dense thickets. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: EXTIRPATED. \*8 (species), 14 (042512 - subsp. *sonoriensis* is the subspecies reported as occurring in Arizona), 42 (061912), 55 (species: recorded as *Felis pardalis* Linnaeus. Ocelot. Formerly southeastern Arizona as far north as Fort Verde; no recent records.), 100 (species, color photograph of species), 106 (042512 - includes a listing of subspecies), **118** (recorded as *Felis pardalis sonoriensis* Goldman - Distribution: Formerly southeastern Arizona as far north as Ft. Verde. Figure 104, Page 244), 148 (color presentation of species)\*

***Lynx rufus* (Schreber, 1777): Bobcat**

SYNONYMY: *Felis rufus* Schreber, 1777. COMMON NAMES: Bailey Bobcat (subsp. *baileyi* Merriam, 1890); Bailey’s Lynx (subsp. *baileyi* Merriam, 1890); Bobcat (subsp. *rufus* (Schreber, 1777)); Desert Bobcat (subsp. *baileyi* Merriam, 1890); Gato Montes (Hispanic)14; Lince Americano (Spanish)42; Lynx Roux (French)42; Mexican Bobcat (subsp. *escuinapae* J.A. Allen, 1903); Plateau Bobcat (subsp. *baileyi* Merriam, 1890); Red Lynx; Wildcat. HABITS: Feeds on almost any meat source available including ground nesting birds, carrion, domestic cats, cottontail rabbits, deer, foxes, insects, jackrabbits, lizards, small mammals, opossums, porcupines, raccoons, reptiles, rodents, bighorn sheep, skunks and woodchucks. Shelter may be taken in a rock cleft, thickets or on the branches of trees. Young are born in dens located in rocky caves, rock shelters, recesses and protected areas with nests made of leaves and other dry plant material. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042512 - subsp. *baileyi* (Merriam), color presentation), 42 (061912), **55** (recorded as *Lynx rufus* (Schreber). Bobcat. Statewide (120 - 9,300 feet).), 65, 73, 100 (color photograph), 106 (042512 - includes a listing of subspecies, color presentation), 118 (recorded as *Lynx rufus baileyi* Merriam - Distribution: Statewide. Figure 106, Page 247), 148 (color presentation), **LCNCA**\*

***Lynx rufus* subsp. *baileyi* Merriam, 1890: Desert Bobcat**

COMMON NAMES: Bailey Bobcat; Bailey’s Lynx; Bobcat; Desert Bobcat; Gato Montes (Hispanic)14; Plateau Bobcat; Wildcat. HABITS: Feeds on almost any meat source available including ground nesting birds, carrion, domestic cats, cottontail rabbits, deer, foxes, jackrabbits, lizards, small mammals, opossums, porcupines, raccoons, reptiles, rodents, bighorn sheep, skunks and woodchucks. Shelter may be taken in a rock cleft, thickets or on the branches of trees. Young are born in dens located in rocky caves, rock shelters, recesses and protected areas with nests made of leaves and other dry plant material. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042512 - subsp. *baileyi* (Merriam), color presentation), 42 (061912), 55 (species: recorded as *Lynx rufus* (Schreber). Bobcat. Statewide (120 - 9,300 feet).), 65, 73 (species), 100 (species, color photograph of species), 106 (042512 - species, includes a listing of subspecies, color presentation), **118** (recorded as *Lynx rufus baileyi* Merriam - Distribution: Statewide. Figure 106, Page 247), 148 (color presentation)\*

***Panthera onca* (Linnaeus, 1758): Jaguar**

SYNONYMY: *Felis onca* Linnaeus, 1758. COMMON NAMES: Amazonian Jaguar (subsp. *onca* (Linnaeus, 1758)); Arizona Jaguar (subsp. *arizonensis* (Goldman, 1932)); American Leopard; Black Panther; Blank Panther; Central American Jaguar (subsp. *centralis* (Mearns, 1901)); El Tigre (Spanish: Mexico); Goldman’s Jaguar (subsp. *goldmani* (Mearns, 1901)); Hernandez’s Jaguar (subsp. *hernandesii* (J.E. Gray, 1857)); Jaguar; Jaguar (Hispanic)14; Jaguar (Spanish)42; Jaguarete (Spanish)8; Mexican Jaguar (subsp. *hernandesii* (J.E. Gray, 1857)); Mexican Tiger; Panther; Paraguayan Jaguar (subsp. *paraguensis* (Hollister, 1914)); Parana Jaguar (subsp. *palustris* (Ameghino, 1888)); Peruvian Jaguar (subsp. *peruviana* (de Blainville, 1843)); Tigre65,145; Veracruz Jaguar (subsp. *veraecrucis* (Nelson and Goldman, 1933)); West Mexican Jaguar (subsp. *hernandesii* (J.E. Gray, 1857)); Yaguar8; Yukatan Jaguar (subsp. *goldmani* (Mearns, 1901)). HABITS: Feeds on armadillos, birds, caiman, capybaras, deer, fish, frogs, livestock, pacas, peccaries (javelina), mice, rabbits, tapirs, turtles and other vertebrates. Young are born in dens located in caves, rocky areas, dense brush and thickets. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: EXTIRPATED from Arizona. \*8, 14 (042512 - subsp. *arizonensis* (Goldman)), 42 (061912), **55** (recorded as *Felis onca* Linnaeus. Jaguar. Probably formerly rare throughout the state. Today an occasional individual is found in the southern part of the state.), 65, 100 (color photograph), 106 (042512 - includes a listing of subspecies, color presentation), 118 (recorded as *Felis onca arizonensis* Goldman - Distribution: Probably formerly rare throughout the state. Today an occasional individual found in the southern part of the state. Figure 104, Page 244), 148 (color presentation), **ADS** (Thursday, June 27, 2013, Section A, Page 1, Jaguar roves near Rosemont mise site)\*

***Panthera onca* subsp. *arizonensis* (Goldman, 1932): Arizona Jaguar**

COMMON NAMES: Arizona Jaguar; El Tigre (Spanish: Mexico); Jaguar; Jaguar (Hispanic)14; Jaguar (Spanish)42. HABITS: Feeds on armadillos, birds, caiman, capybaras, deer, fish, frogs, livestock, pacas, peccaries (javelina), mice, rabbits, tapirs, turtles and other vertebrates. Young are born in dens located in caves, rocky areas, dense brush and thickets. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: EXTIRPATED from Arizona. \*8, 14 (042512 - subsp. *arizonensis* Goldman), 42 (061912), 55 (species, recorded as *Felis onca* Linnaeus. Jaguar. Probably formerly rare throughout the state. Today an occasional individual is found in the southern part of the state.), 65 (species), 100 (species, color photograph of species), 106 (042512 - species, includes a listing of subspecies, color presentation), **118** (recorded as *Felis onca arizonensis* Goldman - Distribution: Probably formerly rare throughout the state. Today an occasional individual found in the southern part of the state. Figure 104, Page 244), 148 (color presentation)\*

***Puma concolor* (Linnaeus, 1771): Cougar**

SYNONYMY: *Felis concolor* Linnaeus, 1771. COMMON NAMES: Adirondack Cougar (subsp. *couguar* (Kerr, 1792)); Amazon Cougar (subsp. *discolor* (Schreber, 1777) Invalid?, *Puma concolor* subsp. *puma* (Molina, 1782) - Valid?); American Lion; Andes Puma (subsp. *araucanus* (Osgood, 1943) - Invalid, *Puma concolor* subsp. *puma* (Molina, 1782) - Valid); Argentine Puma (subsp. *cabrerae* Pocock, 1940); Anthony’s Puma (subsp. *anthonyi* (Nelson and Goldman, 1931)); Baja California Cougar (subsp. *improcera* (Phillips, 1912) - Invalid, *Puma concolor* subsp. subsp. *couguar* (Kerr, 1792) - Valid); Bolivian Cougar (subsp. *osgoodi* (Nelson and Goldman, 1943) - Invalid, *Puma concolor* subsp. *concolor* (Linnaeus, 1771) - Valid); Brazilian Cougar (subsp. *concolor* (Linnaeus, 1771)); Brown Tiger; California Cougar (subsp. *californica* (May, 1896) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid); California Lion; California Mountain Lion (subsp. *californica* (May, 1896) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid); Cat-a-Mountain; Catamount; Catamount Cat (a mountain Red Tiger); Central American Puma (subsp. *costaricensis* (Merriam, 1901)); Chilean Puma (subsp. *puma* (Molina, 1782)); Columbian Cougar (subsp. *bangsi* (Merriam, 1901) - Invalid, *Puma concolor* subsp. *concolor* (Linnaeus, 1771) - Valid); Costa Rican Puma (subsp. *costaricensis* (Merriam, 1901)); Cougar; Deer Tiger; Eastern Cougar (subsp. *couguar* (Kerr, 1792)); Eastern Puma (subsp. *couguar* (Kerr, 1792)); Eastern South American Cougar (subsp. *capricornensis* (Goldman, 1946) - Invalid, *Puma concolor* subsp. *anthonyi* (Nelson and Goldman, 1931) - Valid); El Leon (Mexico); Ecuador Cougar (subsp. *soderstromii* (Lömberg, 1913) - Invalid, *Puma concolor* subsp. *concolor* (Linnaeus, 1771) - Valid); Florida Cougar (subsp. *coryi* (Bangs, 1899) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid); Florida Panther (subsp. *coryi* (Bangs, 1899) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid); Ghost Cat; Indian Devil; Green’s Puma (subsp. *greeni* (Nelson and Goldman, 1931) - Invalid, *Puma concolor* subsp. *anthonyi* (Nelson and Goldman, 1931) - Valid); Hudson’s Puma (subsp. *hudsoni* (Cabrera, 1958) - Invalid?, *Puma concolor* subsp. *cabrerae* Pocock, 1940 - Valid?); Incan Cougar (subsp. *incanum* (Nelson and Goldman, 1929) - Invalid, *Puma concolor* subsp. *concolor* (Linnaeus, 1771) - Valid); Kaibab Cougar (subsp. *kaibabensis* (Nelson and Goldman, 1931) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid); King Cat; Leon de Montana (Hispanic); Louisiana Cougar (subsp. *arundivaga* (Hollister, 1911) - Invalid?, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid?); Mato Grosso Cougar (subsp. *acrocodia* (Goldman, 1943) - Invalid, *Puma concolor* subsp. *anthonyi* (Nelson and Goldman, 1931) - Valid); Mayan Cougar (subsp. *mayensis* (Nelson and Goldman, 1929) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid); Mexican Cougar (subsp. *azteca* (Merriam, 1901) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid); Mexican Lion; Missoula Cougar (subsp. *missoulensis* (Goldman, 1943) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid); Mountain Lion (subsp. *concolor* (Linnaeus, 1771)); Mountain Screamer; North American Cougar (subsp. *couguar* (Kerr, 1792)); Northern South American Cougar (subsp. *concolor* (Linnaeus, 1771)); Northwestern Cougar (subsp. *oregonensis* (Rafinesque, 1832) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid); Olympic Mountains Cougar (subsp. *olympus* (Merriam, 1897) - Invalid?, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid?); Oregon Cougar (subsp. *oregonensis* (Rafinesque, 1832) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid); Painted Cat; Painter; Panther; Patagonia Cougar (subsp. *patagonica* (Merriam, 1901) - Invalid, *Puma concolor* subsp. *puma* (Molina, 1782) - Valid); Pearson’s Puma (subsp. *pearsoni* (Thomas, 1901) - Invalid, *Puma concolor* subsp. *puma* (Molina, 1782) - Valid); Puma; Puma (subsp. *concolor* (Linnaeus, 1771)); Puma (Spanish)42; Red Tiger (Belize); Rocky Mountain Cougar (subsp. *hippolestes* (Merriam, 1897) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid); Silver Lion; Sneak Cat; Southern South American Cougar (subsp. *puma* (Molina, 1782) - Valid); Texas Mountain Lion (subsp. *stanleyana* (Goldman, 1938) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid); Vancouver Island Cougar (subsp. *vancouverensis* (Nelson and Goldman, 1932) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid); Wisconsin Cougar (subsp. *schorgeri* (Jackson, 1955) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid); Yuma Cougar (subsp. *browni* (Merriam, 1903) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid); Yuma Mountain Lion (subsp. *browni* (Merriam, 1903) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid); Yuma Puma (subsp. *browni* (Merriam, 1903) - Invalid, *Puma concolor* subsp. *couguar* (Kerr, 1792) - Valid). HABITS: Feeds on beavers, bighorn sheep, birds, black bears, bobcats, cottontail rabbits, coyotes, deer (its major prey species in Arizona), elk, jackrabbits, javelina, livestock, porcupines, pronghorn, raccoons, skunks and small mammals. Kittens are born in dens located in protected areas such as shallow caves, crevices, downed logs, rock shelters and impenetrable thickets. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: Running should be curtailed in areas where Mountain Lions are known to frequent, a person running may elicit an attack response from a nearby Mountain Lion. Mountain Lions are extremely agile and have great jumping power and have been reported as being able to leap to a height of 18 feet into a tree. \*8 (*Puma concolor* (Linnaeus)), 14 (042512 - subsp. *azteca* (Merriam); subsp. *kaibabensis* (Nelson and Goldman); subsp. *stanleyana* (Goldman), color presentation. The Yuma Mountain Lion (*Felis concolor browni*) is included as a separate record.), 42 (022614), **55** (recorded as *Felis concolor* Linnaeus. Mountain Lion. Statewide (200 - 8,000 feet).), 65, 73, 100 (color photograph), 106 (062012 - includes a listing of subspecies, color presentation. Taken from the “Cougar” page: As with many predators, a cougar may attack if cornered, if a fleeing human stimulates their instinct to chase, or if a person "plays dead". Standing still however may cause the cougar to consider a person easy prey.[109] Exaggerating the threat to the animal through intense eye contact, loud but calm shouting, and any other action to appear larger and more menacing, may make the animal retreat. Fighting back with sticks and rocks, or even bare hands, is often effective in persuading an attacking cougar to disengage.[5] [73] ... Preceding attacks on humans, cougars display aberrant behavior, such as activity during daylight hours, a lack of fear of humans, and stalking humans.[110]), 118 (recorded as *Felis concolor azteca* Merriam - Distribution: Statewide except extreme western and northwestern parts; *Felis concolor browni* (Merriam) - Distribution: Southwestern part of the state, and *Felis concolor kaibabensis* Nelson and Goldman - Distribution: Northwestern Arizona, north and west of the Colorado River. Figure 105, Page 245), 145, 148 (color presentation), **LCNCA**\*

*Puma concolor* subsp. *azteca* (see *Puma concolor* subsp. *couguar*)

*Puma concolor* subsp. *browni* (see *Puma concolor* subsp. *couguar*)

*Puma concolor* subsp. *californica* (see *Puma concolor* subsp. *couguar*)

*Puma concolor* subsp. *coryi* (see *Puma concolor* subsp. *couguar*)

*Puma concolor* subsp. *cougar* (see *Puma concolor* subsp. *couguar*)

***Puma concolor* subsp. *couguar* (Kerr, 1792): North American Cougar**

SYNONYMY: *Felis concolor* subsp. *azteca* Merriam, 1901; *Felis concolor* subsp. *browni* Merriam, 1903; *Puma concolor* subsp. *azteca* (Merriam, 1901); *Puma concolor* subsp. *browni* (Merriam, 1903); *Puma concolor* subsp. *californica* (May, 1896); *Puma concolor* subsp. *coryi* (Bangs, 1899); *Puma concolor* subsp. *cougar* (Kerr, 1792); *Puma concolor* subsp. *hippolestes* (Merriam, 1897); *Puma concolor* subsp. *improcera* (Phillips, 1912); *Puma concolor* subsp. *kaibabensis* (Nelson and Goldman, 1931); *Puma concolor* subsp. *mayensis* (Nelson and Goldman, 1929); *Puma concolor* subsp. *missoulensis* (Goldman, 1943); *Puma concolor* subsp. *oregonensis* (Rafinesque, 1832); *Puma concolor* subsp. *schorgeri* (Jackson, 1955); *Puma concolor* subsp. *stanleyana* (Goldman, 1938); *Puma concolor* subsp. *vancouverensis* (Nelson and Goldman, 1932). COMMON NAMES: Adirondack Cougar; American Lion; Baja California Cougar; Brown Tiger; California Lion; Cat-a-Mountain; Catamount; Catamount Cat (a mountain Red Tiger); Cougar; Deer Tiger; Eastern Cougar; Eastern Puma; El Leon (Mexico); Florida Cougar; Florida Panther; Ghost Cat; Indian Devil; Kaibab Cougar; King Cat; Leon de Montana (Hispanic); Mayan Cougar; Mexican Cougar; Mexican Lion; Missoula Cougar; Mountain Lion; Mountain Screamer; North American Cougar; Northwestern Cougar; Oregon Cougar; Painted Cat; Painter; Panther; Puma; Rocky Mountain Cougar; Silver Lion; Sneak Cat; Texas Mountain Lion (*P*.*c*. *couguar* (Kerr, 1792)); Vancouver Island Cougar; Wisconsin Cougar; Yuma Cougar; Yuma Mountain Lion; Yuma Puma. HABITS: Feeds on beavers, bighorn sheep, birds, black bears, bobcats, cottontail rabbits, coyotes, deer (its major prey species in Arizona), elk, jackrabbits, javelina, livestock, porcupines, pronghorn, raccoons, skunks and small mammals. Kittens are born in dens located in protected areas such as shallow caves, crevices, downed logs, rock shelters and impenetrable thickets. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: Running should be curtailed in areas where Mountain Lions are known to frequent, a person running may elicit an attack response from a nearby Mountain Lion. Mountain Lions are extremely agile and have great jumping power and have been reported as being able to leap to a height of 18 feet into a tree. \*8 (*Puma concolor* (Linnaeus)), 14 (042512 - subsp. *azteca* (Merriam); subsp. *kaibabensis* (Nelson and Goldman); subsp. *stanleyana* (Goldman), color presentation. The Yuma Mountain Lion (*Felis concolor browni*) is included as a separate record.), 42 (062012), 55 (species: recorded as *Felis concolor* Linnaeus. Mountain Lion. Statewide (200 - 8,000 feet).), 65 (species), 73 (species), 85 (052906 - species), 100 (color photograph of species, species record), 106 (062012 - species, includes a listing of subspecies, color presentation of species. Taken from the “Cougar” page: As with many predators, a cougar may attack if cornered, if a fleeing human stimulates their instinct to chase, or if a person "plays dead". Standing still however may cause the cougar to consider a person easy prey.[109] Exaggerating the threat to the animal through intense eye contact, loud but calm shouting, and any other action to appear larger and more menacing, may make the animal retreat. Fighting back with sticks and rocks, or even bare hands, is often effective in persuading an attacking cougar to disengage.[5] [73] ... Preceding attacks on humans, cougars display aberrant behavior, such as activity during daylight hours, a lack of fear of humans, and stalking humans.[110]), **118** (recorded as *Felis concolor azteca* Merriam - Distribution: Statewide except extreme western and northwestern parts. Figure 105, Page 245 and *Felis concolor browni* (Merriam) - Distribution: Southwestern part of the state. Figure 105, Page 245), 145, 148 (color presentation)\*

*Puma concolor* subsp. *hippolestes* (see *Puma concolor* subsp. *couguar*)

*Puma concolor* subsp. *improcera* (see *Puma concolor* subsp. *couguar*)

*Puma concolor* subsp. *kaibabensis* (see *Puma concolor* subsp. *couguar*)

*Puma concolor* subsp. *mayensis* (see *Puma concolor* subsp. *couguar*)

*Puma concolor* subsp. *missoulensis* (see *Puma concolor* subsp. *couguar*)

*Puma concolor* subsp. *oregonensis* (see *Puma concolor* subsp. *couguar*)

*Puma concolor* subsp. *schorgeri* (see *Puma concolor* subsp. *couguar*)

*Puma concolor* subsp. *stanleyana* (see *Puma concolor* subsp. *couguar*)

*Puma concolor* subsp. *vancouverensis* (see *Puma concolor* subsp. *couguar*)

***Puma yagouaroundi* (É. Geoffroy Saint-Hilaire, 1803): Jaguarundi**

SYNONYMY: *Felis yaguarondi* Lacépède, 1809; *Herpailurus yaguarondi* (Lacépède, 1809). COMMON NAMES: Eyra (a name given to the red phase)106; Gato Colorado (Spanish)106; Gato Moro (Spanish)106; Geoffroy’s Jaguarundi (subsp. *yagouaroundi* (E. Geoffroy Saint-Hilaire, 1803)); Guatemalan Jaguarundi (subsp. *fossata* (Mearns, 1901)); Gulf Coast Jaguarundi (subsp. *cacomitli* (Berlandier, 1859); Jaguarundi (a name given to the gray phase, Spanish)106; Jaguarundi Cat; Panamanian Jaguarundi (subsp. *panamensis* (J.A. Allen, 1904); León Brenero (Spanish)106; Leoncillo (“Little Lion”, Spanish)106; Onza (Spanish)106; Sinaloan Jaguarundi (subsp. *tolteca* (Thomas, 1898)); Tigrillo (Spanish)106. HABITS: Feeds on birds, fish, fruits, small to medium-size mammals, and reptiles. Dens are located in brush, thickets and under downed trees. HABITAT: Within the range of this species it has been reported from woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8 (*Herpailurus yaguarondi tolteca*), 14 (042512 - *Herpailurus yaguarondi* subsp. *tolteca* (AZ), 42 (062112), **55** (recorded as *Felis yaguarondi* Fischer. Jaguarundi. Rare in the southern part of the state; no recent records.), 100 (color photograph), 106 (042512 - includes a listing of subspecies, color presentation), **118** (recorded as *Felis yaguarondi cacomitli* Berlandier - Distribution: Rare in southern part of the state. Pages 246-247), 148 (recorded as *Herpailurus yaguarondi*, color presentation)\*

Geomyidae: The Pocket Gopher Family

***Thomomys bottae* (Eydoux & Gervais, 1836): Botta’s Pocket Gopher**

COMMON NAMES: Bailey’s Pocket Gopher (subsp. *lachuguilla* Bailey, 1902); Botta’s Pocket Gopher; Cebolleta Pocket Gopher (subsp. *paguatae* Hooper, 1940); Cervine Pocket Gopher (subsp. *cervinus* J.A. Allen, 1895); Desert Pocket Gopher (subsp. *desertorum* Merriam, 1901); Espanola Pocket Gopher (subsp. *pervagus* Merriam, 1901); Faw-colored Pocket Gopher (subsp. *cervinus* J.A. Allen, 1895); Fulvous Pocket Gopher (subsp. *fulvus* Woodhouse, 1852); Golden Pocket Gopher (subsp. *aureus* J.A. Allen, 1893); Graham Mountains Pocket Gopher (subsp. *grahamensis* Goldman, 1931 - Invalid?); Guadalupe Pocket Gopher (subsp. *guadalupensis* Goldman, 1936); Guadalupe Southern Pocket Gopher (subsp. *guadalupensis* Goldman, 1936); Harquahala Pocket Gopher (subsp. *subsimilis* Goldman, 1933); Harquahala Southern Pocket Gopher (subsp. *subsimilis* Goldman, 1933); Hualapai Pocket Gopher (subsp. *hualpaiensis* Grinnell and Hill, 1936 - Invalid, *Thomomys bottae* subsp. *desertorum* Merriam, 1901 - Valid); Juarez Pocket Gopher (subsp. *toltecus* J.A. Allen, 1893); Lachuguilla Pocket Gopher (subsp. *lachuguilla* Bailey, 1902); Mearns’ Pocket Gopher (subsp. *mearnsi* Bailey, 1914); Mearns’ Southern Pocket Gopher (subsp. *mearnsi* Bailey, 1914); Phoenix Pocket Gopher (subsp. *cervinus* J.A. Allen, 1895); Pinal Mountains Pocket Gopher (subsp. *pinalensis* Goldman, 1938); Prospect Valley Pocket Gopher (subsp. *muralis* Goldman, 1936 - Invalid?); Reddish Brown Pocket Gopher (subsp. *fulvus* Woodhouse, 1852); Roaming Pocket Gopher (subsp. *pervagus* Merriam, 1901); Ruidosa Pocket Gopher (subsp. *ruidosae* Hall, 1932); Santa Catalina Southern Pocket Gopher (subsp. *catalinae* Goldman, 1931); Searchlight Pocket Gopher (subsp. *suboles* Goldman, 1928 - Invalid?); Southwestern Pocket Gopher; Toltec Pocket Gopher (subsp. *toltecus* J.A. Allen, 1893); Tularosa Pocket Gopher (subsp. *tularosae* Hall, 1932); Tuza de Botta (Hispanic)14; Tuza de Botta (Spanish)42; Valley Pocket Gopher; White Pocket gopher (subsp. *albatus* Grinnell, 1912); Yellow Pocket Gopher (subsp. *aureus* J.A. Allen, 1893). HABITS: Feeds on bulbs, grasses, herbaceous plants, roots and tubers. Young are born in nests in underground burrows. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042612 - subspp. *actuosus*, *albatus*, *alexandrae*, *alienus*, *aureus*, *catalinae*, *cervinus*, *collis*, *connectens*, *cultellus*, *desertorum*, *fulvus*, *grahamensis*, *guadalupensis*, *hualpaiensis*, *lachuguilla*, *mearnsi*, *modicus*, *morulus*, *muralis*, *opulentus*, *paguatae*, *pectoralis*, *peramplus*, *pervagus*, *pinalensis*, *planirostris*, *planorum*, *pusillus*, *rufidulus*, *ruidosae*, *suboles*, *subsimilis*, *toltecus* and *tularosae*), 42 (022614), **55** (recorded as *Thomomys bottae* (Eydoux and Gervais). Valley Pocket Gopher. Widely distributed throughout the state at all elevations.), 65, 73, 100 (color photograph), 106 (042612 - color presentation), 118 (Distribution: mapping and records show numerous varieties throughout Arizona, only those shown as occurring in Pima County are listed here. *Thomomys bottae* *catalinae* Goldman - Distribution: Known only from the higher elevations of the Santa Catalina Mountains, Pima County. *Thomomys bottae* *comobabiensis* Huey - Distribution: Slopes of Comobabi Mountains, Pima County. *Thomomys bottae* *growlerensis* Huey - Distribution: Known from southwestern Pima County. *Thomomys bottae* *hueyi* Goldman - Distribution: Known only from the higher elevations in the Rincon Mountains, Pima County. *Thomomys bottae* *modicus* Goldman - Distribution: Known from the Santa Cruz and Altar Valleys. *Thomomys bottae* *phasma* Goldman - Distribution: Known from southeastern Yuma County. *Thomomys bottae* *proximus* Burt & Campbell - Distribution: Oak Zone of the Santa Rita and Huachuca Mountains. *Thomomys bottae* *pusillus* Goldman - Distribution: Known only from the region of the type locality [Coyote Mountains, 3,000 feet, Pima County, Arizona]. Figure 46, Page 107), 148 (021314 - color presentation)\*

***Thomomys bottae* subsp. *proximus* Burt and Campbell, 1934 - Invalid?: Botta’s Pocket Gopher**

COMMON NAMES: Botta’s Pocket Gopher; Southwestern Pocket Gopher; Tuza de Botta (Hispanic); Valley Pocket Gopher. HABITS: The species feeds on bulbs, grasses, herbaceous plants, roots and tubers. Young are born in nests in underground burrows. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042612 - subspp. *actuosus*, *albatus*, *alexandrae*, *alienus*, *aureus*, *catalinae*, *cervinus*, *collis*, *connectens*, *cultellus*, *desertorum*, *fulvus*, *grahamensis*, *guadalupensis*, *hualpaiensis*, *lachuguilla*, *mearnsi*, *modicus*, *morulus*, *muralis*, *opulentus*, *paguatae*, *pectoralis*, *peramplus*, *pervagus*, *pinalensis*, *planirostris*, *planorum*, *pusillus*, *rufidulus*, *ruidosae*, *suboles*, *subsimilis*, *toltecus* and *tularosae*), 42 (022614 - no record of subspecies), 55 (species: recorded as *Thomomys bottae* (Eydoux and Gervais). Valley Pocket Gopher. Widely distributed throughout the state at all elevations.), 65 (species), 73 (species), 100 (species, color photograph of species), 106 (052906 - species), **118** (recorded as *Thomomys bottae* *proximus* Burt and Campbell - Distribution: Oak Zone of the Santa Rita and Huachuca Mountains. Figure 46, Page 107), 148 (021314 - color presentation of species), **LCNCA**\*

***Thomomys umbrinus* (Richardson, 1829): Southern Pocket Gopher**

COMMON NAMES: Pajarito Southern Pocket Gopher (for subspecies *quercinus*, Hispanic)14; Pygmy Pocket Gopher148; Santa Rita Mountains Pocket Gopher (subsp. *burti*)148; Southern Pocket Gopher; Southern Pocket Gopher (subsp. *intermedius*, Hispanic)14; Tuza del Sur (subsp. *emotus*, Hispanic)14; Tuza Mexicana (Spanish)42. HABITS: Feeds on roots and sometimes on *Agave* spp. Lives in underground burrows in the mountains. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland and wetland ecological formations. \*14 (021314 - subspp. *emotus* (Goldman), *intermedius* Mearns and *quercinus*), 42 (021314), 55 (recorded as *Thomomys umbrinus* (Richardson). Southern Pocket Gopher. Known from the Santa Rita, Patagonia, Huachuca and Pajarito mountains (4,300-6,200 feet).), 73, 100, 118 (recorded as *Thomomys umbrinus* *burti* Huey - Distribution: Known from the Oak-zones of the Santa Rita, Patagonia and Huachuca Mts. Figure 47, Page 122), 148 (021314 - color presentation), **LCNCA**\*

***Thomomys umbrinus* subsp. *burti* Huey, 1932 - Invalid?: Santa Rita Mountains Pocket Gopher**

COMMON NAMES: Southern Pocket Gopher. HABITS: The species feeds on roots and sometimes on *Agave* spp. Lives in underground burrows in the mountains. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland and wetland ecological formations. \*14 (021314 - no record of this subspecies), 42 (021314 - no record of subspecies *burti*), 55 (species: recorded as *Thomomys umbrinus* (Richardson). Southern Pocket Gopher. Known from the Santa Rita, Patagonia, Huachuca and Pajarito mountains (4,300-6,200 feet).), 73 (species), 100 (species), **118** (recorded as *Thomomys umbrinus* *burti* Huey - Distribution: Known from the Oak-zones of the Santa Rita, Patagonia and Huachuca Mts. Figure 47, Page 122), 148 (021314 - color presentation of species)\*

Heteromyidae: The Kangaroo Rat and Pocket Mouse Family

***Chaetodipus baileyi* (Merriam, 1894): Bailey’s Pocket Mouse**

SYNONYMY: *Perognathus baileyi* Merriam, 1894. COMMON NAMES: Bailey Pocket Mouse; Bailey’s Pocket Mouse; Raton de Bailey (Hispanic)14; Ratón-de Abazones Sonorense (Spanish)42. HABITS: The species feeds on vegetation, and fruits and seeds of cacti, grasses and other herbs. Nests are located underground burrows. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, and desertscrub ecological formations. \*14 (042612 - subsp. *baileyi* (Merriam)), 42 (062112), 55 (recorded as *Perognathus baileyi* Merriam. Bailey’s Pocket Mouse. Widely distributed in the southern part of the state (900 - 4,700 feet).) , 65 (genus), 73, 100 (color photograph), 106 (042612 - color presentation), 118 (recorded as *Chaetodipus baileyi* *baileyi* Merriam - Distribution: Grasslands of southeastern Arizona. Figure 51, Page 133), 148 (color presentation), **LCNCA**\*

***Chaetodipus hispidus* (Baird, 1858): Hispid Pocket Mouse**

SYNONYMY: *Perognathus hispidus* Baird, 1858. COMMON NAME: Hispid Pocket Mouse; Ratón-de Abazones Crespo (Spanish)42. HABITS: Feeds on insects (grasshoppers), leaves and seeds. Nests are constructed of grasses and located in underground burrows. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042612 - subsp. *hispidus*; subsp. *conditi*), 42 (062112), 55 (recorded as *Perognathus hispidus* Baird. Hispid Pocket Mouse. Locally common in grasslands of southeastern part of the state; an isolated population occurs near Camp Verde (3,200 - 5,000 feet).), 65 (genus), 73, 100, 106 (042612 - includes a listing of subspecies), 118 (recorded as *Perognathus hispidus* *conditi* Allen - Distribution: Grasslands of southeastern Arizona. Figure 51, Page 132), 148 (color presentation), **LCNCA**\*

***Chaetodipus hispidus* subsp. *conditi* (J.A. Allen, 1894) - Invalid?: Hispid Pocket Mouse**

SYNONYMY: *Perognathus hispidus* subsp. *conditi* J.A. Allen, 1894 - Invalid?. COMMON NAME: Hispid Pocket Mouse. HABITS: The species feeds on insects (grasshoppers), leaves and seeds. Nests are constructed of grasses and located in underground burrows. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042612 - subsp. *hispidus*; subsp. *conditi*), 42 (062112 - no subspecies listed), 55 (species: recorded as *Perognathus hispidus* Baird. Hispid Pocket Mouse. Locally common in grasslands of southeastern part of the state; an isolated population occurs near Camp Verde (3,200 - 5,000 feet).), 65 (genus), 73 (species), 100 (species), 106 (042612 - species, includes a listing of subspecies), **118** (recorded as *Perognathus hispidus* *conditi* Allen - Distribution: Grasslands of southeastern Arizona. Figure 51, Page 132), 148 (color presentation of species)\*

***Chaetodipus intermedius* (Merriam, 1889): Rock Pocket Mouse**

SYNONYMY: *Perognathus intermedius* Merriam, 1889. COMMON NAMES: Black Mountain Pocket Mouse (subsp. *nigrimontis* Blossom, 1933 - Invalid, *Chaetodipus intermedius* subsp. *intermedius* (Merriam, 1889) - Valid); Gila Pocket Mouse (subsp. *phasma* (Goldman, 1918)); Intermediate Pocket Mouse (subsp. *intermedius* (Merriam, 1889)); Raton de Rocas de Bosla (Hispanic)14; Ratón-de Abazones de Roca (Spanish)42;; Rock Pocket Mouse. HABITS: Feeds on seeds. Burrows are dug in soil near to or under rocks. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042612 - subspp. *atar* Dice, *crititus*, *intermedius*, *nigrimontis*, *phasma*, *rupestris* Benson and *umbrosus*), 42 (022614), 55 (recorded as *Perognathus intermedius* Merriam. Rock Pocket Mouse. Widely distributed in rocky areas in the Colorado River valley, western and southern Arizona (120 - 6,000 feet).”), 65 (genus), 73 (*Perognathus intermedius*), 100, 106 (042612), 118 (recorded as *Chaetodipus intermedius crinitis* Benson - Distribution: Known from south of the upper Colorado River. *Chaetodipus intermedius intermedius* Merriam - Distribution: Known from Mohave County southward and eastward, across most of the state to Cochise County. *Chaetodipus intermedius nigrimontis* Blossom - Distribution: Known only from the vicinity of the type locality (Black Mountain, 10 mi SW Tucson). *Chaetodipus intermedius phasma* Goldman - Distribution: Known from southern Yuma County and extreme southwestern Pima County. *Chaetodipus intermedius pinicate* Blossum - Distribution: Known from the Pinicate lava area in southern Yuma County. *Chaetodipus intermedius umbrosus* Benson - Distribution: Known from grassland area just south of the Mogollon Rim. Figure 54, Page 141), 148 (color presentation), **LCNCA**\*

***Chaetodipus intermedius* subsp. *intermedius* (Merriam, 1889): Intermediate Pocket Mouse**

SYNONYMY: *Perognathus intermedius* subsp. *intermedius* Merriam, 1889; *Chaetodipus intermedius* subsp. *nigrimontis* (Blossom, 1933); *Perognathus intermedius* subsp. *nigrimontis* Blossom, 1933. COMMON NAMES: Intermediate Pocket mouse; Raton de Rocas de Bosla (Hispanic)14;; Rock Pocket Mouse. HABITS: The species feeds on seeds. Burrows are dug in soil near to or under rocks. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042612 - subspp. *atar* Dice, *crititus*, *intermedius*, *nigrimontis*, *phasma*, *rupestris* Benson and *umbrosus*), 42 (022614 - no subspecies listed), 55 (species: recorded as *Perognathus intermedius* Merriam. Rock Pocket Mouse. Widely distributed in rocky areas in the Colorado River valley, western and southern Arizona (120 - 6,000 feet).), 65 (genus), 73 (species, recorded as *Perognathus intermedius*), 100 (species), 106 (042612 - species), **118** (recorded as *Chaetodipus intermedius intermedius* Merriam - Distribution: Known from Mohave County southward and eastward, across most of the state to Cochise County. Figure 54, Page 141 and *Chaetodipus intermedius nigrimontis* Blossom - Distribution: Known only from the vicinity of the type locality. (Black Mountain, 10 mi SW Tucson). Figure 54, Page 141), 148 (color presentation of species)\*

*Chaetodipus intermedius* subsp. *nigrimontis* (see *Chaetodipus intermedius* subsp. *intermedius*)

***Chaetodipus penicillatus* (Woodhouse, 1852): Desert Pocket Mouse**

SYNONYMY: *Perognathus penicillatus* Woodhouse, 1852. COMMON NAMES: Desert Pocket Mouse; Price Pocket Mouse (subsp. *pricei* (J.A. Allen, 1894)); Raton del Desierto (Hispanic)14; Ratón-de Abazones Desértico (Spanish)42; Sonoran Desert Pocket Mouse. HABITS: Feeds on insects, green vegetation and seeds (of broomweed, creosote bush, grasses, greythorn, herbs and mesquite). Nests are made in underground burrows. HABITAT: Within the range of this species it has been reported from the scrub, grassland, desertscrub and wetland ecological formations. \*14 (042712 - subsp. *pricei* (J.A. Allen)), 42 (022614), 55 (recorded as *Perognathus penicillatus* Woodhouse. Desert Pocket Mouse. Widely distributed in desert and low grasslands of southern and western Arizona (120 - 5,200 feet.).), 65 (genus), 73 (recorded as *Perognathus penicillatus*), 100 (color photograph), 106 (061412 - color presentation), 118 (recorded as *Perognathus penicillatus angustirostris* Osgood - Distribution: Known from southern Yuma County. *Perognathus penicillatus eremicus* Mearns - Distribution: Known from extreme southeastern Arizona. *Perognathus penicillatus penicillatus* Woodhouse - Distribution: Known from southern Mohave and northern Yuma Counties. *Perognathus penicillatus pricei* Allen - Distribution: Known from south-central Arizona and *Perognathus penicillatus sobrinus* Goldman - Distribution: Perhaps occurs in extreme northwestern Arizona. Figure 53, Page 137), 148 (color presentation), **LCNCA**\*

***Chaetodipus penicillatus* subsp. *pricei* (J.A. Allen, 1894): Price Pocket Mouse**

SYNONYMY: *Perognathus penicillatus* subsp. *pricei* J.A. Allen, 1894. COMMON NAMES: Desert Pocket Mouse; Price Pocket Mouse; Raton del Desierto (Hispanic)14; Sonoran Desert Pocket Mouse. HABITS: The species feeds on insects, green vegetation and seeds (of broomweed, creosote bush, grasses, greythorn, herbs and mesquite). Nests are made in underground burrows. HABITAT: Within the range of this species it has been reported from the scrub, grassland, desertscrub and wetland ecological formations. \*14 (042712 - subsp. *pricei* (J.A. Allen)), 42 (022614), 55 (species: recorded as *Perognathus penicillatus* Woodhouse. Desert Pocket Mouse. Widely distributed in desert and low grasslands of southern and western Arizona (120 - 5,200 feet).), 65 (genus), 73 (species, recorded as *Perognathus penicillatus*), 100 (species, color photograph of species), 106 (061412 - species, color presentation of species), 118 (recorded as *Perognathus penicillatus pricei* Allen - Distribution: Known from south-central Arizona. Figure 53, Page 137), 148 (color presentation of species)\*

***Dipodomys merriami* Mearns, 1890: Merriam’s Kangaroo Rat**

COMMON NAMES: Merriam Kangaroo Rat; Merriam’s Kangaroo Rat; Rata de Nopalera Merriam (Hispanic)14; Rata-canguro de Merriam (Spanish)42. HABITS: Feeds on ants, green plant material and seeds (of creosote bush, grama grass, mesquite, ocotillo and purselane). Nests are made in underground burrows often located under bushes. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042712 - subsp. *ambiguus* (Merriam); subsp. *olivaceus* (Swarth), color presentation), 42 (062112), 55 (recorded as *Dipodomys merriami* Mearns. Merriam’s Kangaroo Rat. Widely distributed in western and southern parts of the state (120 - 5,000 feet).), 65 (color photograph), 73, 100 (color photograph), 106 (061412 - includes a listing of subspecies, color presentation), 118 (recorded as *Dipodomys merriami* *merriami* Mearns - Distribution: Occurs throughout most of the western and southern part of the state. *Dipodomys merriami* *regillus* Goldman - Distribution: Known from extreme southern Yuma County and *Dipodomys merriami* *vulcani* Benson - Distribution: Known from northern Arizona north of the Colorado River. Figure 56, Page 145), 148 (color presentation), **LCNCA**\*

***Dipodomys merriami* subsp. *merriami* Mearns, 1890: Merriam’s Kangaroo Rat Rat**

COMMON NAMES: Merriam Kangaroo Rat; Merriam’s Kangaroo Rat; Rata de Nopalera Merriam (Hispanic)14; Rata-canguro de Merriam (Spanish)42. HABITS: The species feeds on ants, green plant material and seeds (of creosote bush, grama grass, mesquite, ocotillo and purselane). Nests are made in underground burrows often located under bushes. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042712 - subsp. *ambiguus* (Merriam); subsp. *olivaceus* (Swarth), color presentation of species), 42 (062112), 55 (species: recorded as *Dipodomys merriami* Mearns. Merriam’s Kangaroo Rat. Widely distributed in western and southern parts of the state (120 - 5,000 feet).), 65 (species, color photograph of species), 73 (species), 100 (species, color photograph of species), 106 (061412 - includes a listing of subspecies, color presentation of species), **118** (recorded as *Dipodomys merriami* *merriami* Mearns - Distribution: Occurs throughout most of the western and southern part of the state. Figure 56, Page 145), 148 (color presentation)\*

***Dipodomys ordii* Woodhouse, 1853: Ord’s Kangaroo Rat**

COMMON NAMES: Five-toed Kangaroo Rat; Long-footed Kangaroo Rat (subsp. *longipes* (Merriam, 1890)); Mountain Kangaroo Rat (subsp. *montanus* Baird, 1855); Ord’s Kangaroo Rat (subsp. *ordii* Woodhouse, 1853); Painted Desert Kangaroo Rat (subsp. *longipes* (Merriam, 1890)); Rata de Nopalera Ord (Hispanic)14; Rata-canguro Común (Spanish)42; Richardson’s Kangaroo Rat (subsp. *richardsoni* (J.A. Allen, 1891)). HABITS: Feeds on fruits, subterranean fungi, insects (grasshoppers and moths), leaves, mosses, needles and seeds. The nest is made in underground burrows. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042812 - subspp. *longipes* (Merriam), *medius* (Setzer), *montanus* (Baird), *ordii* and *richardsoni* (J.A. Allen)), 42 (226142), 55 (recorded as *Dipodomys ordii* Woodhouse. Ord’s Kangaroo Rat. Widely distributed in grasslands in northern and eastern parts of the state (2,700-7,000 feet).), 85 (082608), 100 (color photograph), 106 (042812 - color presentation), 118 (recorded as *Dipodomys ordii* *ordii* Woodhouse - Distribution: Grasslands of southeastern Arizona. Figure 57, Page 149), 148 (color presentation), **LCNCA**\*

***Dipodomys ordii* subsp. *ordii* Woodhouse, 1853: Ord’s Kangaroo Rat**

COMMON NAMES: Five-toed Kangaroo Rat; Ord’s Kangaroo Rat; Rata de Nopalera Ord (Hispanic)14. HABITS: The species feeds on fruits, subterranean fungi, insects (grasshoppers and moths), leaves, needles and seeds. The nest is made in underground burrows. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042812 - subspp. *longipes* (Merriam), *medius* (Setzer), *montanus* (Baird), *ordii* and *richardsoni* (J.A. Allen)), 42 (022614), 55 (species: recorded as *Dipodomys ordii* Woodhouse. Ord’s Kangaroo Rat. Widely distributed in grasslands in northern and eastern parts of the state (2,700-7,000 feet).), 73 (species), 100 (species, color photograph), 106 (042812 - species, color presentation of species), **118** (recorded as *Dipodomys ordii* *ordii* Woodhouse - Distribution: Grasslands of southeastern Arizona. Figure 57, Page 149), 148 (color presentation of species)\*

***Dipodomys spectabilis* Merriam, 1890: Banner-tailed Kangaroo Rat**

COMMON NAMES: Bailey Kangaroo Rat (subsp. *baileyi* Goldman, 1923); Banner-tailed Kangaroo Rat; Kangaroo Rat; Large Kangaroo Rat (subsp. *spectabilis* Merriam, 1890); Notable Kangaroo Rat; Rata de Nopalera (Hispanic)14; Rata-canguro Cola de Bandera (Spanish)42. HABITS: Feeds on grasses, forbs, succulent plants, insects, rodents and seeds. Nests are made up of chaff, stems and leaves of grass located in underground burrows in firm soils. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042812 - subspp. *baileyi* (Goldman, 1923), *perblandus* and *spectabilis*), 42 (022614), 55 (recorded as *Dipodomys spectabilis* Merriam. Banner-tailed Kangaroo Rat. Locally common in grasslands of southeastern Arizona (1,300 - 5,000 feet).), 65 (color photograph), 85 (052906), 100 (color photograph), 106 (042812), 118 (recorded as *Dipodomys spectabilis perblandus* Goldman - Distribution: Known from the grasslands of southern Pinal and Pima County and *Dipodomys spectabilis spectabilis* Merriam - Distribution: Known from the grasslands of Cochise County. Figure 55, Page 143), 148 (color presentation), **LCNCA**\*

***Dipodomys spectabilis* subsp. *perblandus* Goldman, 1933: Banner-tailed Kangaroo Rat**

COMMON NAMES: Banner-tailed Kangaroo Rat; Kangaroo Rat; Rata de Nopalera (Hispanic)14. HABITS: The species feeds on grasses, forbs, succulent plants, insects, rodents and seeds. Nests are made up of chaff, stems and leaves of grass located in underground burrows in firm soils. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042812 - subspp. *baileyi* (Goldman, 1923), *perblandus* and *spectabilis*), 42 (022614), 55 (species: recorded as *Dipodomys spectabilis* Merriam. Banner-tailed Kangaroo Rat. Locally common in grasslands of southeastern Arizona (1,300 - 5,000 feet).), 65 (species, color photograph), 100 (species, color photograph), 106 (042812 - species), **118** (recorded as *Dipodomys spectabilis perblandus* Goldman - Distribution: Known from the grasslands of southern Pinal and Pima County. Figure 55, Page 143), 148 (color presentation of species)\*

*Perognathus baileyi* (see *Chaetodipus baileyi*)

***Perognathus flavus* Baird, 1855: Silky Pocket Mouse**

COMMON NAME: Baird’s Pocket Mouse (subsp. *flavus* Baird, 1855); Baird’s Pocket Mouse; Goodpaster’s Silky Pocket Mouse (subsp. *goodpasteri* Hoffmeister, 1956); Hopi Silky Pocket Mouse (subsp. *hopiensis* Goldman, 1932); Ratón-de Abazones Sedoso (Spanish)42; Silky Pocket Mouse; Springerville Pocket Mouse (subsp. *goodpasteri* Hoffmeister, 1956). HABITS: Feeds on seeds, nuts and invertebrates (though very few are taken). Nests are located in underground burrows. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (061412 - subspp. *flavus* (Baird), *gilvus* (Osgood), *goodpasteri* (Hoffmeister) and *hopiensis* (Goldman)), 42 (022614), 55 (recorded as *Perognathus flavus* Baird. Silky Pocket Mouse. Locally common in grasslands throughout the state (2,900 - 6,500 feet).), 65 (genus), 73, 100 (color photograph), 106 (061412), 118 (recorded as *Perognathus flavus flavus* Baird - Distribution: Southeastern part of the state. Figure 48, Page 124), 148 (color presentation), **LCNCA**\*

***Perognathus flavus* subsp. *flavus* Baird, 1855: Silky Pocket Mouse**

COMMON NAME: Silky Pocket Mouse. HABITS: The species feeds on seeds, nuts and invertebrates (though very few are taken). Nests are located in underground burrows. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (061412 - subspp. *flavus* (Baird), *gilvus* (Osgood), *goodpasteri* (Hoffmeister) and *hopiensis* (Goldman)), 42 (022614), 55 (species: recorded as *Perognathus flavus* Baird. Silky Pocket Mouse. Locally common in grasslands throughout the state (2,900 - 6,500 feet).), 65 (genus), 73 (species), 100 (species, color photograph of species), 106 (061412 - species), **118** (recorded as *Perognathus flavus flavus* Baird - Distribution: Southeastern part of the state. Figure 48, Page 124), 148 (color presentation of species)\*

*Perognathus hispidus* (see *Chaetodipus hispidus*)

*Perognathus hispidus* subsp. *conditi* (see *Chaetodipus hispidus* subsp. *conditi*)

*Perognathus intermedius* (see *Chaetodipus intermedius*)

*Perognathus intermedius* subsp. *intermedius* (see *Chaetodipus intermedius* subsp. *intermedius*)

*Perognathus intermedius* subsp. *nigrimontis* (see *Chaetodipus intermedius* subsp. *intermedius*)

*Perognathus penicillatus* (see *Chaetodipus penicillatus*)

*Perognathus penicillatus* subsp. *pricei* (see *Chaetodipus penicillatus* subsp. *pricei*)

Leporidae: The Hare and Rabbit Family

***Lepus alleni* Mearns, 1890: Antelope Jackrabbit**

COMMON NAME: Allen’s Jack Rabbit (subsp. *alleni* Mearns, 1890); Allen’s Jackrabbit (*L*.*a*. *alleni* Mearns, 1890); Antelope Jack Rabbit; Antelope Jackrabbit; Liebre Antilope (Spanish)42. HABITS: Feeds on cacti, Catclaw Acacia, grasses, herbs and the bark, buds and leaves of mesquite. Young are born in a nest that is usually located above ground. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042912), 42 (022614), 55 (recorded as *Lepus alleni* (Mearns). Antelope Jack Rabbit. Occurs in the central third of the southern half of the state.), 65, 73, 100 (color photograph), 106 (042912 - includes a listing of subspecies, color presentation), 118 (recorded as *Lepus alleni* subsp. *alleni* Mearns - Distribution: Occurs in the central third of the southern half of the state. Figure 31, Page 68), 148 (color presentation), **LCNCA**\*

***Lepus alleni* subsp. *alleni* Mearns, 1890: Allen’s Jackrabbit**

COMMON NAME: Allen’s Jack Rabbit; Allen’s Jackrabbit; Antelope Jack Rabbit; Antelope Jackrabbit. HABITS: The species feeds on cacti, Catclaw Acacia, grasses, herbs and the bark, buds and leaves of mesquite. Young are born in a nest that is usually located above ground. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042912 - species), 42 (062112), 55 (species: recorded as *Lepus alleni* (Mearns). Antelope Jack Rabbit. Occurs in the central third of the southern half of the state.), 65 (species), 73 (species), 100 (species, color photograph of species), 106 (042912 - species, including a listing of subspecies, color presentation of species), **118** (recorded as *Lepus alleni* subsp. *alleni* Mearns - Distribution: Occurs in the central third of the southern half of the state. Figure 31, Page 68), 148 (color presentation)\*

***Lepus californicus* Gray, 1837: Black-tailed Jackrabbit**

COMMON NAMES: American Desert Hare; Arizona Jackrabbit (subsp. *eremicus* Allen, 1894); Black-tailed Jack Rabbit; Black-tailed Jackrabbit; Blackeared Jackrabbit (subsp. *melanotis* Mearns, 1890); Colorado Desert Jackrabbit (subsp. *deserticola* Mearns, 1896); Desert Jackrabbit (subsp. *deserticola* Mearns, 1896; subsp. *eremicus* J.A. Allen, 1894); Great Plains Jackrabbit (subsp. *melanotis* Mearns, 1890); “Jackass Rabbit”; Liebre Cola Negra (Hispanic)14; Liebre Cola Negra (Spanish)42; Texas Jackrabbit (subsp. *texianus* Waterhouse, 1848); Western Desert Jackrabbit (subsp. *deserticola* Mearns, 1896). HABITS: Feeds on grasses, mesquite leaves and prickly-pear cacti. Young are born in nests located either above or below ground in forms that have been lined with breast hair, after birth the young are moved to separate nests and cared for individually by the female. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042912 - subsp. *melanotis* (Mearns) and *texianus* (Waterhouse), color presentation), 42 (022614), **55** (recorded as *Lepus californicus* Gray. Black-tailed Jack Rabbit. Statewide.), 65, 73, 100 (color photograph), 106 (042912 - includes a listing of subspecies, color presentation), 118 (recorded as *Lepus californicus deserticola* Mearns - Distribution: Occurs in the western half of the state; *Lepus californicus eremicus* J.A. Allen - Distribution: Southeastern Arizona, and *Lepus californicus texianus* Waterhouse - Distribution: Occurs in the northeastern quarter of the state. Figure 32, Page 69), 148 (color presentation)\*

***Lepus californicus* subsp. *eremicus* J.A. Allen, 1894: Desert Jackrabbit**

COMMON NAMES: Arizona Jackrabbit; Black-tailed Jack Rabbit; Desert Jackrabbit; “Jackass Rabbit”. HABITS: The species feeds on grass, mesquite leaves and prickly-pear cacti. Young are born in nests located either above or below ground in forms that have been lined with breast hair, after birth the young are moved to separate nests and cared for individually by the female. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042912 - subsp. *melanotis* (Mearns) and *texianus* (Waterhouse), color presentation), 42 (022614), 55 (species: recorded as *Lepus californicus* Gray. Black-tailed Jack Rabbit. Statewide.), 65 (species), 73 (species), 100 (species, color photograph of species), 106 (species, includes a listing of subspecies, color presentation of species), **118** (recorded as *Lepus californicus eremicus* J.A. Allen - Distribution: Southeastern Arizona. Figure 32, Page 69), 148 (color presentation), **LCNCA**\*

***Sylvilagus audubonii* (Baird, 1858): Desert Cottontail**

COMMON NAME: Arizona Cottontail (subsp. *arizonae* (Mearns, 1896)); Audubon’s Cottontail; Cedar Belt Cottontail (subsp. *cedrophilus* (Nelson, 1907) - Invalid?); Colorado Cottontail (subsp. *warreni* Nelson, 1907); Conejo del Desierto (Hispanic)14; Desert Cottontail; Desert Cottontail Rabbit; Lesser Deseert Cottontail (subsp. *minor* (Mearns, 1896)); Little Cottontail (subsp. *minor* (Mearns, 1896)); New Mexico Cottontail (subsp. *neomexicana* (Nelson, 1907) - Invalid?); Sacramento Valley Cottontail (subsp. *audubonii* (Baird, 1858)). HABITS: Feeds on green plants, cacti, bark and twigs. Young are born into nests lined with forbs, grasses and the female’s fur which are located on the ground and in brush piles, piles of rocks, and burrows abandoned by other animals. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042912 - subspp. *cedrophilus* (Nelson), *minor* (Mearns) and *neomexicana* (Nelson), color presentation), 42 (022614), **55** (recorded as *Sylvilagus audubonii* (Baird). Desert Cottontail. Common at elevations below 6,000 feet throughout the state.), 65, 73, 100 (color photograph), 106 (042912 - color presentation), 118 (recorded as *Sylvilagus audubonii* *arizonae* (J.A. Allen) - Distribution: Widely distributed at elevations up to 6,000 feet in the western half of the state; *Sylvilagus audubonii* *minor* (Mearns) - Distribution: Known only from the southeastern part of the state, and *Sylvilagus audubonii* *warreni* Nelson - Distribution: Known only from the northeastern part of the state. Figure 34, Page 74), 148 (color presentation)\*

***Sylvilagus audubonii* subsp. *arizonae* (Mearns, 1896): Arizona Cottontail**

COMMON NAME: Arizona Cottontail. HABITS: The species feeds on green plants, cacti, bark and twigs. Young are born into nests lined with forbs, grasses and the female’s fur which are located on the ground and in brush piles, piles of rocks, and burrows abandoned by other animals. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (042912 - subspp. *cedrophilus* (Nelson), *minor* (Mearns) and *neomexicana* (Nelson), color presentation), 42 (022614), 55 (species: recorded as *Sylvilagus audubonii* (Baird). Desert Cottontail. Common at elevations below 6,000 feet throughout the state.), 65 (species), 73 (species), 100 (species, color photograph of species), 106 (042912 - species, color presentation of species), 118 (recorded as *Sylvilagus audubonii* *arizonae* (J.A. Allen) - Distribution: Widely distributed at elevations up to 6,000 feet in the western half of the state. Figure 34, Page 74), 148 (color presentation), **LCNCA**\*

Mephitidae: The Skunk Family

***Conepatus leuconotus* (Lichtenstein, 1832): Common Hog-nosed Skunk**

COMMON NAMES: American Hog-nosed Skunk; Big Thicket Hog-nosed Skunk (subsp. *telmalestes* Bailey, 1905: extinct); Common Hog-nosed Skunk; Eastern Hog-nosed Skunk; Hog-nosed Skunk; Hognose Skunk; Mexican Hog-nosed Skunk (subsp. *leuconotus* (Lichtenstein, 1832)); Rooter Skunk; White-spotted Skunk; Zorrillo Nariz de Puerco (Hispanic)14; Zorrillo-narigón Norteño (Spanish: applied to subsp. *leuconotus* (Lichtenstein, 1832))42; Zorrillo-narigón Occidental (Spanish)42. HABITS: Feeds on arachnids, birds, insects, small mammals, mollusks, plant material, reptiles and worms. These skunks take refuge in caves, crevices in rocks and in the ground. Rocky areas are used for denning with the young born beneath rocks, grasses are used for nesting. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (043012 - subspp. *mearnsi* (Merriam) and *venaticus* (Goldman)), 42 (022614), **55** (recorded as *Conepatus mesoleucus* Lichtenstein. Hog-nosed Skunk. Southeastern part of the state (2,000 - 6,000 feet).), 65, 73 (*Conepatus mesoleucus*), 100 (*Conepatus mesoleucus*, color photograph), 106 (043012 - includes a listing of subspecies, color presentation), 118 (recorded as *Conepatus mesoleucus venaticus* Goldman - Distribution: South central and southeastern Arizona. Figure 102, Page 241), 148 (color presentation), 149\*

***Conepatus leuconotus* subsp. *leuconotus* (Lichtenstein, 1832): Common Hog-nosed Skun**k

SYNONYMY: *Conepatus leuconotus* subsp. *texensis* Merriam, 1902; *Conepatus leuconotus* subsp. *venaticus* Goldman, 1922; *Conepatus mesoleucus* (Lichtenstein, 1832); *Conepatus mesoleucus* subsp. *venaticus* Goldman, 1922. COMMON NAMES: Common Hog-nosed Skunk; Hog-nosed Skunk; Hognose Skunk; Mexican Hog-nosed Skunk; Rooter Skunk (Texas); Zorrillo Nariz de Puerco (Hispanic)14; Zorrillo-narigón Norteño (Spanish applied to *Conepatus mesoleucus*)42. HABITS: The species feeds on arachnids, birds, insects, small mammals, mollusks, plant material, reptiles and worms. These skunks take refuge in caves, crevices in rocks and in the ground. Rocky areas are used for denning with the young born beneath rocks, grasses are used for nesting. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (0043012 - subspp. *mearnsi* (Merriam) and *venaticus* (Goldman)), 42 (022614), 55 (species, recorded as *Conepatus mesoleucus* Lichtenstein. Hog-nosed Skunk. Southeastern part of the state (2,000 - 6,000 feet).), 65 (species), 73 (species, *Conepatus mesoleucus*), 100 (species record (*Conepatus mesoleucus*), color photograph of species), 106 (043012 - species, includes a listing of subspecies, color presentation of species), **118** (recorded as *Conepatus mesoleucus venaticus* Goldman - Distribution: South central and southeastern Arizona. Figure 102, Page 241), 148 (color presentation of species), 149\*

*Conepatus leuconotus* subsp. *texensis* (see *Conepatus leuconotus* subsp. *leuconotus*)

*Conepatus leuconotus* subsp. *venaticus* (see *Conepatus leuconotus* subsp. *leuconotus*)

*Conepatus mesoleucus* (see *Conepatus leuconotus* subsp. *leuconotus*)

*Conepatus mesoleucus* subsp. *venaticus* (see *Conepatus leuconotus* subsp. *leuconotus*)

***Mephitis macroura* Lichtenstein, 1832: Hooded Skunk**

COMMON NAMES: Hooded Skunk; Miller’s Skunk ((subsp. *milleri* Mearns, 1897); Mofeta Rayada (Spanish)106; Moufette à Capuchon (French)106; Northern Hooded Skunk (subsp. *milleri* Mearns, 1897); Pay (Maya)106; Southern Skunk; White-sided Skunk; Zorrillo (Hispanic)14,106; Zorrillo-listado del Sur (Spanish)42. HABITS: Feeds on small birds (and bird eggs), insects and other invertebrates, rodents and plant material (including prickly-pear). The young are born in a dens located in burrows or among rocks. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (043012 - subsp. *milleri* (Mearns)), 42 (062112), **55** (recorded as *Mephitis macroura* (Lichtenstein). Hooded Skunk. Southeastern part of the state (2,000 - 6,000 feet).), 65, 73, 100 (color photograph), 106 (043012 - color presentation), 118 (recorded as *Mephitis macroura milleri* (Mearns) - Distribution: South central and southeastern Arizona. Figure 101, Page 240), 148 (color presentation), **LCNCA**\*

***Mephitis macroura* subsp. *milleri* Mearns, 1897: Hooded Skunk**

COMMON NAMES: Hooded Skunk; Millers Skunk; Northern Hooded Skunk; Zorrillo (Hispanic)14. HABITS: The species feeds on small birds (and bird eggs), insects and other invertebrates, rodents and plant material (including prickly-pear). The young are born in a dens located in burrows or among rocks. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (043012 - subsp. *milleri* (Mearns)), 42 (062112), 55 (species: recorded as *Mephitis macroura* (Lichtenstein). Hooded Skunk. Southeastern part of the state (2,000 - 6,000 feet).), 65 (species), 73 (species), 100 (species, color photograph of species), 106 (043012 - color presentation), **118** (recorded as *Mephitis macroura milleri* (Mearns) - Distribution: South central and southeastern Arizona. Figure 101, Page 240), 148 (color presentation of species)\*

***Mephitis mephitis* (Schreber, 1776): Striped Skunk**

COMMON NAMES: Arizona Skunk (subsp. *estor* Merriam, 1890); Long-tailed Texas Skunk (subsp. *varians* Gray, 1837); Mouffette Rayée (French)42; Northern Plains Skunk (subsp. *hudsonica* Richardson, 1829); Striped Skunk; Zorrillo Rayado (Hispanic)14; Zorrillo-listado del Norte (Spanish)42. HABITS: Feeds on amphibians, berries, the eggs of ground nesting birds, carrion, crayfish, earthworms, fishes, frogs, fruits, insects (ants, beetles, crickets, grasshoppers, honeybees, wasps), small mammals (mice, moles, rats, squirrels, voles), mollusks, plant material, reptiles, snails and spiders. The young are born in nests made of dried grasses and leaves located in dirt banks, underground burrows abandoned by other animals, downed logs, pits and rock outcrops. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: The Striped Skunk is most active dusk through dawn. This species is the chief carrier of rabies in the United States and those active during the daylight hours frequently being found to be rabid. \*14 (043012 - subspp. *estor* (Merriam), *hudsonica* (Richardson) and *varians* (Gray), color presentation), 42 (022614), **55** (recorded as *Mephitis mephitis* (Schreber). Striped Skunk. Statewide (300 - 9,000 feet).), 65 (color photograph), 73, 100 (color photograph), 106 (043012 - includes a listing of subspecies, color presentation), 118 (recorded as *Mephitis mephitis* *estor* Merriam - Distribution: Statewide. Figure 100, Page 239), 148 (color presentation), **LCNCA**\*

***Mephitis mephitis* subsp. *estor* Merriam, 1890: Arizona Skunk**

COMMON NAMES: Arizona Skunk; Striped Skunk; Zorrillo Rayado (Hispanic)14. HABITS: The species feeds on amphibians, berries, the eggs of ground nesting birds, carrion, crayfish, earthworms, fishes, frogs, fruits, insects (ants, beetles, crickets, grasshoppers, honeybees, wasps), small mammals (mice, moles, rats, squirrels, voles), mollusks, plant material, reptiles, snails and spiders. The young are born in nests made of dried grasses and leaves located in dirt banks, underground burrows abandoned by other animals, downed logs, pits and rock outcrops. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: The Striped Skunk is most active dusk through dawn. This species is the chief carrier of rabies in the United States and those active during the daylight hours frequently being found to be rabid. \*14 (043012 - subspp. *estor* (Merriam), *hudsonica* (Richardson) and *varians* (Gray), color presentation), 42 (022614), 55 (species: recorded as *Mephitis mephitis* (Schreber). Striped Skunk. Statewide (300 - 9,000 feet).), 65 (species, color photograph of species), 73 (species), 100 (species, color photograph of species), 106 (043012 - species, includes a listing of subspecies, color presentation of species), **118** (recorded as *Mephitis mephitis* *estor* Merriam - Distribution: Statewide. Figure 100, Page 239), 148 (color presentation)\*

***Spilogale gracilis* Merriam, 1890: Western Spotted Skunk**

SYNONYMY: *Spilogale putorius* subsp. *gracilis* Merriam, 1890. COMMON NAMES: Channel Islands Spotted Skunk (subsp. *amphialus* Dickey, 1929); Spotted Skunk; Western Spotted Skunk; Zorillo Pinto (Hispanic)14. HABITS: Feeds on arachnids, berries, birds and bird eggs, carrion, fruits, insects, small mammals, scorpions and seeds. Dens are made in rock crevices and hollow logs. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (043012 - considers *Spilogale putorius* *gracilis* Merriam is a synonym for *Spilogale gracilis* the Western Spotted Skunk, and *Spilogale putorius* *leucoparia* is a synonym for *Spilogale putorius* the Eastern Spotted Skunk), 42 (062112), **55** (recorded as *Spilogale putorius* (Linnaeus). Spotted Skunk. Probably statewide (120 - 7,000 feet).), 65 (recorded as *Spilogale putorius*), 73 (recorded as *Spilogale gracilis*), 100 (recorded as *Spilogale gracilis*, color photograph), 106 (043012 - includes a listing of subspecies, color presentation), **118** (recorded as *Spilogale putorius gracilis* Merriam - Distribution: Probably statewide. Figure 99, Page 237), 148 (color presentation)\*

*Spilogale putorius* (see footnotes 14, 55, 65 and 85 under *Spilogale gracilis*)

*Spilogale putorius* subsp. *gracilis* (see *Spilogale gracilis*)

Molossidae: The Free-tailed Bat Family

***Eumops perotis* (Schinz, 1821): Western Mastiff Bat**

COMMON NAMES: Bonnet Bat; California Mastiff Bat (subsp. *californicus* Merriam, 1890 - Invalid?); Greater Bonneted Bat; Greater Mastiff Bat; Greater Western Bonneted Bat; Greater Western Mastiff Bat (subsp. *californicus* Merriam, 1890 - Invalid?); Mastiff Bat; Murcielago Mastiff (Hispanic)14; Murciélago-con Bonete Mayor (Spanish)42; Western Bonneted Bat; Western Mastiff Bat. HABITS: Feeds on crickets, long-horned grasshoppers, moths and other small insects. Roosts in crevices and shallow caves in cliffs and rock walls at lower elevations. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8 (*Eumops perotis* *californicus*), 14 (050112 - subsp. *californicus*), 42 (022714 - no subspecies listed), **55** (recorded as *Eumops perotis* (Schinz). Western Mastiff Bat. Rare; in small colonies in rock crevices at lower elevations in the western and southern part of the state.), 65, 73, 92, 100 (color photograph), 106 (050112 - color presentation), 118 (recorded as *Eumops perotis* *californicus* (Merriam) - Distribution: Probably throughout southern Arizona in the Lower Sonoran Life Zone. Figure 29, Page 65), 148 (color presentation)\*

***Eumops perotis* subsp. *californicus* Merriam, 1890 - Invalid?: Greater Western Mastiff Bat**

COMMON NAMES: Bonnet Bat; California Mastiff Bat; Greater Mastiff Bat; Greater Western Bonneted Bat; Greater Western Mastiff Bat; Mastiff Bat; Murcielago Mastiff (Hispanic)14; Western Mastiff Bat. HABITS: The species feeds on crickets, long-horned grasshoppers, moths and other small insects. Roosts in crevices and shallow caves in cliffs and rock walls at lower elevations. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (050112 - subsp. *californicus*), 42 (062112 - no subspecies listed), 55 (species: recorded as *Eumops perotis* (Schinz). Western Mastiff Bat. Rare; in small colonies in rock crevices at lower elevations in the western and southern part of the state.), 65 (species), 73 (species), 92 (species), 100 (species, color photograph of species), 106 (050112 - color presentation), **118** (recorded as *Eumops perotis* *californicus* (Merriam) - Distribution: Probably throughout southern Arizona in the Lower Sonoran Life Zone. Figure 29, Page 65), 148 (color presentation)\*

***Nyctinomops femorosaccus* (Merriam, 1889): Pocketed Free-tailed Bat**

SYNONYMY: *Tadarida femorosacca* (Merriam)- Invalid?. COMMON NAMES: Palm Springs Free-tailed Bat; Pocketed Free-tailed Bat; Murcielago Cola Libra en Bolsa (Hispanic)14; Murciélago-cola Suelta de Bolsa (Spanish)42. HABITS: Feeds on ants, leafhoppers, moths, wasps and other insects. Roosts in rocky crevices. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (050112), 42 (062112), 55 (recorded as *Tadarida femorosacca* (Merriam). Pocketed Free-tailed Bat. Rare; found at lower elevations in the western and southern part of the state.), 100, 106 (050112 - color presentation), **118** (recorded as *Tadarida femorosacca* (Merriam) - Distribution: Probably occurs throughout the Lower Sonoran Life Zone of southern Arizona. Figure 27, Page 63), 148 (color presentation)\*

***Nyctinomops macrotis* (Gray, 1840): Big Free-tailed Bat**

SYNONYMY: *Tadarida macrotis* (Gray, 1840) - Invalid?; *Tadarida molossa* (Pallas) - Invalid?. COMMON NAMES: Big Free-tailed Bat; Cuban Free-tailed Bat; Murcielago Cola Libre (Hispanic)14; Murciélago-cola Suelta Mayor (Spanish)42; Greater Broad-eared Free-tailed Bat. HABITS: Feeds on insects. Roosts in rocky cliffs, crevices, fissures, caves and holes in trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations ecological formations. \*8, 14 (050112), 42 (062112), **55** (recorded as *Tadarida molossa* (Pallas). Big Free-tailed Bat. Rare; statewide, mainly at elevations below 5,000 feet.), 73, 100 (color photograph), 106 (050112 - color presentation), **118** (recorded as *Tadarida molossa* (Pallas) - Distribution: Probably occurs throughout the Lower Sonoran Life Zone of Arizona. Figure 28, Page 64), 148 (color presentation), 149\*

***Tadarida brasiliensis* (I. Geoffroy, 1824) (subsp *mexicana* (Saussure, 1860 - Invalid?) is the only subspecies reported as occurring in Arizona): Brazilian Free-tailed Bat**

COMMON NAMES: Brazilian Free-tailed Bat; Guano Bat; Mexican Free-tail Bat; Mexican Free-tailed Bat; Mexican Freetail Bat; Murcielago Braziliano (Hispanic)14; Murciélago-cola Suelta Brasileño (Spanish)42. HABITS: Feeds on small insects (ants, beetles, dragonflies, flies, leafhoppers, moths, true bugs, wasps). Roosts in caverns; caves; crevices in rocks; fissures in cliffs; buildings; mines, and under bridges. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: Bacardi rum features the Mexican free-tailed bat as its icon because of the species pollination of sugar cane as well as for their consumption of insects that damage the sugar cane crop. \*8, 14 (050112 - subsp. *mexicana*), 42 (062112), **55** (recorded as *Tadarida brasiliensis* (I.Geof. St.-Hilaire). Mexican Free-tailed Bat. Locally abundant throughout the state, especially at elevations below 5,000 feet.), 65, 73, 92, 100 (color photograph), 106 (050112 - includes a listing of subspecies, color presentation), 118 (recorded as *Tadarida brasiliensis* *mexicana* (Saussure) - Distribution: Probably statewide in some part of the year. Figure 26, Page 62), 148 (color presentation)\*

***Tadarida brasiliensis* subsp *mexicana* (Saussure, 1860) - Invalid?: Brazilian Free-tailed Bat**

COMMON NAMES: Brazilian Free-tailed Bat; Guano Bat; Mexican Free-tail Bat; Mexican Free-tailed Bat; Mexican Freetail Bat; Murcielago Braziliano (Hispanic)14. HABITS: The species feeds on small insects (ants, beetles, dragonflies, flies, leafhoppers, moths, true bugs, wasps). HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (050112 - subsp. *mexicana*), 42 (062112 - no subspecies listed), 55 (species: recorded as *Tadarida brasiliensis* (I.Geof. St.-Hilaire). Mexican Free-tailed Bat. Locally abundant throughout the state, especially at elevations below 5,000 feet.), 65 (species), 73 (species), 92 (species), 100 (species, color photograph of species), 106 (050112 - species, includes a listing of subspecies, color presentation of species), **118** (recorded as *Tadarida brasiliensis* *mexicana* (Saussure) - Distribution: Probably statewide in some part of the year. Figure 26, Page 62), 148 (color presentation)\*

*Tadarida femorosacca* (see *Nyctinomops femorosaccus*)

*Tadarida macrotis* (see *Nyctinomops macrotis*)

*Tadarida molossa* (see *Nyctinomops macrotis*)

Muridae: The Mouse and Rat Family

***Baiomys taylori* (Blossum & Burt): Northern Pygmy Mouse**

COMMON NAMES: Northern Pygmy Mouse; Raton Enono Norteno (Hispanic)14; Ratón-pigmeo Norteño (Spanish)42; Taylor’s Mouse148. HABITS: Feeds on grass, leaves, seeds, the fruit and stems of prickly-pear cacti, mesquite beans and snails; reported from mountains, prairies, savannas, plains, grasslands and riparian areas. Nests are balls of grass located underground low in vegetation. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland and wetland ecological formations. \***8**, 14 (021414 - recorded as *Baiomys taylori* (Blossum & Burt)), 42 (021414 - recorded as *Baiomys taylori* Thomas, 1887), 55 (recorded as *Baiomys taylori* (Thomas). Northern Pygmy Mouse. Rare in the southeastern grasslands of the state.), 73, 100 (color photograph 89), 118 (recorded as *Baiomys taylori* (Blossum & Burt) - Distribution: Dense grasslands of southeastern Arizona between elevations 4,000 and 5,000 feet. Figure 66, Page 169), 148 (021414 - recorded as *Baiomys taylori* Thomas, 1887, color presentation), **LCNCA**\*

***Neotoma albigula* Hartley, 1894: White-throated Wood Rat**

COMMON NAMES: Colorado Valley Woodrat (subsp. *venusta* True, 1894 - Invalid?); La Plata White-throated Wood Rat (subsp. *laplataensis* F.W. Miller, 1933 - Invalid?); Packrat; Rata-cambalachera Garganta Blanca (Spanish)42; Trade Rat; White-throated Packrat; White-throated Wood Rat. HABITS: Feeds on ants, beetles, cacti (flowers, fruits, stems), flowers, forbs, fruits, grasses, juniper, leaves, mesquite (bark, flowers, leaves, seeds), green plant material, reptiles, seeds and yucca leaves. Nests are built under mesquite, cholla and prickly-pear cacti, or in rocky crevices using sticks, pieces of cholla and prickly-pear cacti, and rubbish, sometimes with underground burrows. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050112 - subspp. *albigula*, *laplataensis* F.W. Miller, *melas* (Dice), *mearnsi*, *warreni* (Merriam) and *venusta*, color presentation), 42 (022714 - no subspecies listed), 55 (recorded as *Neotoma albigula* Hartley. White-throated Wood Rat. Widely distributed at elevations below 7,000 feet throughout all of the state south of the Colorado River (120 - 8,000 feet).), 65 (color photograph), 73, 100 (color photograph), 106 (050112 - includes a listing of subspecies, color presentation), 118 (recorded as *Neotoma albigula* *albigula* Hartley - Distribution: Occurs commonly south of the Mogollon Rim; *Neotoma albigula* *mearnsi* Goldman - Distribution: Know from southern Yuma County; *Neotoma albigula* *laplataensis* F.W. Miller - Distribution: Known from northeastern Arizona, and *Neotoma albigula* *venusta* True - Distribution: Known from western Arizona. Figure 76, Page 193), 148 (color presentation), **LCNCA**\*

***Neotoma albigula* subsp. *albigula* Hartley, 1894 - Invalid?: White-throated Wood Rat**

COMMON NAMES: Packrat; Trade Rat; White-throated Packrat; White-throated Wood Rat. HABITS: The species feeds on ants, beetles, cacti (flowers, fruits, stems), flowers, forbs, fruits, grasses, juniper, leaves, mesquite (bark, flowers, leaves, seeds), green plant material, reptiles, seeds and yucca leaves. Nests are built under mesquite, cholla and prickly-pear cacti, or in rocky crevices using sticks, pieces of cholla and prickly-pear cacti, and rubbish, sometimes with underground burrows. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050112 - subsp. *albigula*; subsp. l*aplataensis* (F.W. Miller); subsp. *melas* (Dice); subsp. *mearnsi*; subsp. *warreni* (Merriam); subsp. *venusta*, color presentation), 42 (062112 - no subspecies listed), 55 (species: recorded as *Neotoma albigula* Hartley. White-throated Wood Rat. Widely distributed at elevations below 7,000 feet throughout all of the state south of the Colorado River (120 - 8,000 feet).), 65 (species, color photograph of species), 73 (species), 100 (species, color photograph of species), 106 (050112 - species, includes a listing of subspecies, color presentation of species), **118** (recorded as *Neotoma albigula* *albigula* Hartley - Distribution: Occurs commonly south of the Mogollon Rim. Figure 76, Page 193), 148 (species, color presentation of species)\*

***Onychomys leucogaster* (Wied-Neuwied, 1841): Northern Grasshopper Mouse**

COMMON NAMES: Northern Grasshopper Mouse; Raton Chapulinero Norteno (Hispanic)14; Ratón-saltamontes Norteño (Spanish)42. HABITS: Feeds on carrion, forbs, grasses, insects, leaves, lizards, small mice, scorpions, sedges, seeds and spiders; nests are located in underground burrows. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021414), 42 (021414), **55** (recorded as *Onychomys leucogaster* (Wied-Neuwied). Northern Grasshopper Mouse. Widely distributed in the grasslands of the northern and eastern parts of the state (3,100 - 7,000 feet).), 65 (genus), 73, 100 (color photographs 94&95), 106 (053006 - genus), 118 (recorded as *Onychomys leucogaster melanophrys* Merriam - Distribution: Northwestern Arizona north of the Colorado River (Figure 61); *Onychomys leucogaster pallescens* Merriam - Distribution: Grasslands of northeastern Arizona (Figure 61); *Onychomys leucogaster fulginosus* Merriam - Distribution: High grasslands east of San Francisco Peak (Figure 61); *Onychomys leucogaster ruidosae* Stone and Rehn - Distribution: Grasslands of central and southheastern Arizona (Figure 61), and *Onychomys leucogaster capitulatus* Hollister - Distribution: Known only from prospect valley (Figure 61), **LCNCA**\*

***Onychomys leucogaster* subsp. *ruidosae* Stone and Rehn, 1903: Ruidosa Northern Grasshopper Mouse**

COMMON NAMES: New Mexico Grasshopper Mouse; Northern Grasshopper Mouse; Raton Chapulinero Norteno (Hispanic)14; Ratón-saltamontes Norteño (Spanish)42. HABITS: Feeds on carrion, forbs, grasses, insects, leaves, lizards, small mice, scorpions, sedges, seeds and spiders; nests are located in underground burrows. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021414 - species), 42 (021414 - no listing of subspecies), 55 (species, recorded as *Onychomys leucogaster* (Wied-Neuwied). Northern Grasshopper Mouse. Widely distributed in the grasslands of the northern and eastern parts of the state (3,100 - 7,000 feet).), 65 (genus), 73 (species), 100 (species, color photographs of species 94&95), 106 (053006 - genus), **118** (recorded as *Onychomys leucogaster ruidosae* Stone and Rehn - Distribution: Grasslands of central and southeastern Arizona (Figure 61), 148 (021414 - color presentation of species)\*

***Onychomys torridus* (Coues, 1874): Southern Grasshopper Mouse**

COMMON NAMES: Raton Chapulinero del Sur (Hispanic)14; Ratón-saltamontes Sureño (Spanish)42; Scorpion Mouse; Southern Grasshopper Mouse. HABITS: Feeds on arthropods, beetles, grasshoppers, insects, lizards, scorpions, seeds and small vertebrates including other species of mice. Nests are located in underground burrows. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050112 - subsp. *torridus* (Coues)), 42 (062112), **55** (recorded as *Onychomys torridus* (Coues). Southern Grasshopper Mouse. Widely distributed in the western and southern parts of the state (120 - 5,000 feet).), 65 (genus), 73, 100 (color photograph), 106 (050112), 118 (recorded as *Onychomys torridus longicaudus* Merriam - Distribution: Extreme northwestern Arizona; *Onychomys torridus perpallidus* Mearns - Distribution: Western Arizona, and *Onychomys torridus* *torridus* (Coues) - Distribution: Southeastern quarter of the state. Figure 62, Page 161), 148 (color presentation), **LCNCA**\*

***Onychomys torridus* subsp. *torridus* (Coues, 1874) - Invalid?: Southern Grasshopper Mouse**

COMMON NAMES: Raton Chapulinero del Sur (Hispanic)14; Scorpion Mouse; Southern Grasshopper Mouse. HABITS: The species feeds on arthropods, beetles, grasshoppers, insects, lizards, scorpions, seeds and small vertebrates including other species of mice. Nests are located in underground burrows. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050112 - subsp. *torridus* (Coues)), 42 (062112 - no subspecies listed), 55 (species: recorded as *Onychomys torridus* (Coues). Southern Grasshopper Mouse. Widely distributed in the western and southern parts of the state (120 - 5,000 feet).), 65 (genus), 73 (species), 100 (species, color photograph of species), 106 (050112 - species), **118** (recorded as *Onychomys torridus* *torridus* (Coues) - Distribution: Southeastern quarter of the state. Figure 62, Page 161), 148 (color presentation of species)\*

***Peromyscus boylii* (Baird, 1855): Brush Mouse**

COMMON NAMES: Brush Mouse; Ratón Arbustero (Spanish); Raton de Arbustos (Hispanic)14. HABITS: Feeds on acorns, arachnids, small berries, carrion, fungi, insects (cutworms among other insects), mistletoe, pricklypear cacti and seeds; nests are made of dried forbs, grasses, leaves and rootlets located in underground burrows, abandoned woodrat dens, in piles of brush or sticks, cavities, crevices in rocks, cliffs, on the ground, holes in logs, stumps and trees, under rocks or in talus. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021414 - subsp. *rowleyi* (J.A. Allen, 1893)), 42 (021414), **55** (recorded as *Peromyscus boylii* (Baird). Brush Mouse. Known from higher elevation throughout the state (3,000 - 9,000 feet).), 65 (genus), 73, 100 (color photograph), 106 (053006 - gen.), 118 (recorded as *Peromyscus boylii rowleyi* (Allen) - Distribution: Generally at higher elevations throughout the state south of the Colorado River. Figure 71, Page 181), 148 (021414 - recorded as *Peromyscus boylii*, color presentation), **LCNCA**\*

***Peromyscus boylii* subsp. *rowleyi* J.A. Allen, 1893: Brush Mouse**

COMMON NAMES: Brush Mouse; Raton de Arbustos (Hispanic); Rowley White-footed Mouse148; Rowley’s Pine Mouse148; Rowley’s Wood Mouse148. HABITS: The species feeds on acorns, arachnids, small berries, carrion, fungi, insects (cutworms among other insects), mistletoe, pricklypear cacti and seeds; nests are made of dried forbs, grasses, leaves and rootlets located in underground burrows, abandoned woodrat dens, in piles of brush or sticks, cavities, crevices in rocks, cliffs, on the ground, holes in logs, stumps and trees, under rocks or in talus. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021414), 42 (021414 - no record of subspecies), 55 (species, recorded as *Peromyscus boylii* (Baird). Brush Mouse. Known from higher elevation throughout the state (3,000 - 9,000 feet).), 65 (genus), 73 (species), 100 (species, color photograph of species), 106 (082608 - genus), **118** (recorded as *Peromyscus boylii rowleyi* (Allen) - Distribution: Generally at higher elevations throughout the state south of the Colorado River. Figure 71, Page 181), 148 (021414 - color presentation of species)\*

***Peromyscus eremicus* (Baird, 1858): Cactus Mouse**

COMMON NAMES: Anthony Desert Mouse (subsp. *anthonyi* Merriam, 1887 - Invalid?); Anthony’s Cactus Mouse (subsp. *anthonyi* Merriam, 1887 - Invalid?); Apache Desert Mouse (subsp. *anthonyi* Merriam, 1887 - Invalid?); Black Mountain Cactus Mouse (subsp. *pullus* Blossom, 1933 - Invalid?); Cactus Mouse; Desert Mouse; Desert White-footed Mouse (subsp. *eremicus* Baird, 1858 - Invalid?); Pinacate Cactus Mouse (subsp. *papagensis* Goldman, 1917 - Invalid?); Raton de Cactaceas (Hispanic)14; Ratón de Cactus (Spanish)42. HABITS: Feeds on flowers, small fruits, insects, green plant material and seeds. Nests are made within the abandoned burrows of other animals, clumps of cacti and among rocks. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050112 - subspp. *anthonyi* Merriam, *eremicus* and *pullus*, color presentation), 42 (022714 - no subspecies listed), **55** (recorded as *Peromyscus eremicus* (Baird). Cactus Mouse. Widely distributed in western and southern Arizona (120 - 6,000 feet).), 65 (genus), 73, 100 (color photograp), 106 (050112 - color presentation), 118 (recorded as *Peromyscus eremicus anthonyi* (Merriam) - Distribution: Southeastern part of the state; *Peromyscus eremicus eremicus* (Baird) - Distribution: Almost all of the western and southern part of the state; *Peromyscus eremicus papagensis* Goldman - Distribution: Known only from the Pinacate lava in southern Yuma County, and *Peromyscus eremicus pullus* Blossum - Distribution: Known only from Black Mountain 10 mi. SSW Tucson, Pima County, Arizona. Figure 67, Page 171), 148 (color presentation), **LCNCA**\*

***Peromyscus eremicus* subsp. *eremicus* (Baird, 1858) - Invalid?: Desert Mouse**

COMMON NAMES: Cactus Mouse; Desert White-footed Mouse; Raton de Cactaceas (Hispanic)14. HABITS: The species feeds on flowers, small fruits, insects, green plant material and seeds. Nests are made within the abandoned burrows of other animals, clumps of cacti and among rocks. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050112 - species, subsp. *anthonyi* Merriam; subsp. *eremicus*; subsp. *pullus*, color presentation of species), 42 (062112 - no subspecies listed), 55 (species: recorded as *Peromyscus eremicus* (Baird). Cactus Mouse. Widely distributed in western and southern Arizona (120 - 6,000 feet).), 65 (genus), 73 (species), 100 (species, color photograph of species), 106 (050112 - species, color presentation of species), **118** (recorded as *Peromyscus eremicus eremicus* (Baird) - Distribution: Almost all of the western and southern part of the state. Figure 67, Page 171), 148 (color presentation of species)\*

***Peromyscus leucopus* (Rafinesque, 1818): White-footed Mouse**

COMMON NAME: Apache Wood Mouse (subsp. *arizonae* J.A. Allen, 1894 - Invalid?); Arizona White-footed Mouse (subsp. *arizonae* J.A. Allen, 1894 - Invalid?); Raton Patas Blancas (Hispanic)14; Souris à Pattes Blanches (French)42; White-footed Mouse; Wood Mouse; Woodmouse (Texas). HABITS: Feeds on berries, crustaceans, fungi, insects and other invertebrates, nuts, seeds and possibly small vertebrates. Nests are made of shredded bark, feathers, forbs, grasses, hair, leaves, mosses and plant fibers located in concealed places in banks, burrows, cavities in live and dead trees, holes in the ground, under rocks, in shrubs and tree stumps and logs. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: The White-footed Mouse may live to be 8 years of age. \*14 (061512 - subspp. *arizonae* (J.A. Allen) and *tornillo* (Mearns)), 42 (022714 - no subspecies listed), **55** (recorded as *Peromyscus leucopus* (Rafinesque. White-footed Mouse. Known from eastern and central parts of the state (2,300 - 6,500 feet).), 65 (genus), 73, 100 (color photograph), 106 (050112 - color presentation), 118 (recorded as *Peromyscus leucopus arizonae* (Allen) - Distribution: Southeastern part of the state and *Peromyscus leucopus ochraceus* Osgood - Distribution: Along the Little Colorado River and an isolated population on the south edge of the Mogollon Rim which probably represents an unnamed race. Figure 70, Page 180), 148 (color presentation), **LCNCA**\*

***Peromyscus leucopus subsp. arizonae* J.A. Allen, 1894 - Invalid?: Arizona White-footed Mouse**

COMMON NAME: Apache Wood Mouse; Arizona White-footed Mouse; Raton Patas Blancas (Hispanic)14; White-footed Mouse; Wood Mouse. HABITS: Feeds on berries, crustaceans, fungi, insects and other invertebrates, nuts, seeds and possibly small vertebrates. Nests are made of shredded bark, feathers, forbs, grasses, hair, leaves, mosses and plant fibers located in concealed places in banks, burrows, cavities in live and dead trees, holes in the ground, under rocks, in shrubs and tree stumps and logs. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (061512 - subsp. *arizonae* (J.A. Allen); subsp. *tornillo* (Mearns)), 42 (062112 - no subspecies listed), 55 (species: recorded as *Peromyscus leucopus* (Rafinesque. White-footed Mouse. Known from eastern and central parts of the state (2,300 - 6,500 feet).), 65 (genus), 73 (species), 100 (color photograph of species, species), 106 (050112 - species, color presentation of species), **118** (recorded as *Peromyscus leucopus arizonae* (Allen) - Distribution: Southeastern part of the state. Figure 70, Page 180), 148 (color presentation of species)\*

***Peromyscus maniculatus* (Wagner, 1845): Deer Mouse**

COMMON NAMES: Arizona Wood Mouse (subsp. *rufinus* Merriam, 1890 - Invalid?); Chihuahua Deer Mouse (subsp. *blandus* Osgood, 1904 - Invalid?); Chihuahua Plains Mouse (subsp. *blandus* Osgood, 1904 - Invalid?); Deer Mouse; Gentle Field Mouse (subsp. *blandus* Osgood, 1904 - Invalid?); Prairie Deer Mouse; Raton Venado (Hispanic); Ratón Norteamericano (Spanish)42; Sonoran Deer Mouse (subsp. *sonoriensis* Le Conte, 1853 - Invalid?); Sonoran White-footed Mouse (subsp. *sonoriensis* Le Conte, 1853 - Invalid?); Souris Sylvestre (French)42; Tawny Field Mouse (subsp. *rufinus* Merriam, 1890 - Invalid?); Tawny White-footed Mouse (subsp. *rufinus* Merriam, 1890 - Invalid?); Wagner’s Field Mouse; White-footed Mouse. HABITS: Feeds on bark, berries, bones, centipedes, earthworms, small fruits, fungi, insects, leaves, nuts and snails. Nests are built in buildings, underground burrows, rock crevices debris, in and under logs, and clumps of vegetation. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050112 - subspp. *blandus* (Osgood) and *rufinus* (Merriam)), 42 (022714 - no subspecies listed), **55** (recorded as *Peromyscus maniculatus* (Wagner). Deer Mouse. Statewide (120 - 11,400 feet).), 65 (genus), 73, 100 (color photograph), 106 (050112 - color presentation), 118 (recorded as *Peromyscus maniculatus* *blandus* Osgood - Distribution: Extreme southeastern part of the state; *Peromyscus maniculatus* *rufinus* (Merriam) - Distribution: Higher elevations throughout the state, and *Peromyscus maniculatus sonoriensis* (Le Conte) - Distribution: Grasslands at lower elevations throughout the state. Figure 69, Page 177), 148 (color presentation), **LCNCA**\*

***Peromyscus maniculatus* subsp. *sonoriensis* Le Conte, 1853 - Invalid?: Sonoran Deer Mouse**

COMMON NAMES: Deer Mouse; Sonoran Deer Mouse; Sonoran White-footed Mouse. HABITS: The species feeds on bark, berries, bones, centipedes, earthworms, small fruits, fungi, insects, leaves, nuts and snails. Nests are built in buildings, underground burrows, rock crevices debris, in and under logs, and clumps of vegetation. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050112 - subsp. *blandus* (Osgood); subsp. *rufinus* (Merriam)), 42 (062112 - no subspecies listed), 55 (species, recorded as *Peromyscus maniculatus* (Wagner). Deer Mouse. Statewide (120 - 11,400 feet).), 65 (genus), 73 (species), 100 (species, color photograph of species), 106 (050112 - color presentation of species), **118** (recorded as *Peromyscus maniculatus sonoriensis* (Le Conte) - Distribution: Grasslands at lower elevations throughout the state. Figure 69, Page 177), 148 (color presentation of species)\*

***Reithrodontomys fulvescens* J.A. Allen, 1894: Fulvous Harvest Mouse**

COMMON NAME: Fulvous Harvest Mouse; Oposura Harvest Mouse; Ratón-cosechero Leonado42; Sonoran Harvest Mouse. HABITS: Feeds on insects and other invertebrates and seeds; nests are made of grasses and sedges and can be located in burrows or up to 4 feet above ground level. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: *Reithrodontomys fulvescens* is native to south-central and southern North America and Central America. \***8**, 14 (050112 - subsp. *canus*; subsp. *fulvescens*), 42 (072112 - no record of subspecies), **55** (recorded as *Reithrodontomys fulvescens* J.A. Allen. Fulvous Harvest Mouse. Known only from eastern Pima, western Cochise and Santa Cruz counties (2,700-5,300 feet).), 73, 100 (color photograph), 106 (050112), 118 (recorded as *Reithrodontomys fulvescens* *fulvescens* Allen - Distribution: Known only from southern Arizona. Figure 65, Page 166), 148 (color presentation), **LCNCA**\*

***Reithrodontomys fulvescens* subsp. *fulvescens* J.A. Allen, 1894: Fulvous Harvest Mouse**

COMMON NAME: Fulvous Harvest Mouse. HABITS: The species feeds on insects and other invertebrates and seeds; nests are made of grasses and sedges and can be located in burrows or up to 4 feet above ground level. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: The species, *Reithrodontomys fulvescens*, is native to south-central and southern North America and Central America. \*14 (050112 - subsp. *canus*; subsp. *fulvescens*), 42 (072112 - no record of subspecies), 55 (species, recorded as *Reithrodontomys fulvescens* J.A. Allen. Fulvous Harvest Mouse. Known only from eastern Pima, western Cochise and Santa Cruz counties (2,700-5,300 feet).), 73 (species), 100 (species, color photograph of species), 106 (050112 - species), **118** (recorded as *Reithrodontomys fulvescens* *fulvescens* Allen - Distribution: Known only from southern Arizona. Figure 65, Page 166), 148 (color presentation of species)\*

***Reithrodontomys megalotis* (Baird, 1858): Western Harvest Mouse**

COMMON NAME: Arizona Harvest Mouse (subsp. *arizonensis* Allen, 1895 - Invalid?); Aztec Harvest Mouse (subsp. *aztecus* J.A. Allen, 1893 - Invalid?); Big-eared Harvest Mouse (subsp. *megalotis* (Baird, 1858) - Invalid?); Chiricahua Western Harvest Mouse (subsp. *arizonensis* Allen, 1895 - Invalid?); Ratón-cosechero Común (Spanish)42; Western Harvest Mouse. HABITS: Feeds on arachnids, grasses, insects (larvae and adults) and seeds of grasses, forbs and shrubs. Spherical nests are made of woven plant material and lined with plant fibers and can be located near the ground or above the ground in dense vegetation. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050112 - subspp. *arizonensis*, *aztecus* J.A. Allen and *megalotis*), 42 (022714 - no subspecies listed), **55** (recorded as *Reithrodontomys megalotis* (Baird). Western Harvest Mouse. Statewide (120 - 8,000 feet).), 73, 100 (color photograph), 106 (050112 - color presentation), 118 (recorded as *Reithrodontomys megalotis* *arizonensis* (Allen) - Distribution: Known only from the region of the type locality (Chiricahua Mountains); *Reithrodontomys megalotis* *aztecus* (Allen) - Distribution: Extreme northeastern part of state, and *Reithrodontomys megalotis* *megalotis* (Baird) - Distribution: At medium and low elevations statewide except extreme northeastern part of the state. Figure 64, Page 164), 148 (color presentation), **LCNCA**\*

***Reithrodontomys megalotis* subsp. *megalotis* (Baird, 1858) - Invalid?: Chiricahua Western Harvest Mouse**

COMMON NAME: Big-eared Harvest Mouse; Western Harvest Mouse. HABITS: The species feeds on arachnids, grasses, insects (larvae and adults) and seeds of grasses forbs and shrubs. Spherical nests are made of woven plant material and lined with plant fibers and can be located near the ground or above the ground in dense vegetation. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050112 - subsp. *arizonensis*; subsp. *aztecus* J.A. Allen; subsp. *megalotis*), 42 (062112 - no subspecies listed), 55 (species, recorded as *Reithrodontomys megalotis* (Baird). Western Harvest Mouse. Statewide (120 - 8,000 feet).), 73 (species), 100 (species, color photograph of species), 106 (050112 - species, color presentation of species), **118** (recorded as *Reithrodontomys megalotis* *megalotis* (Baird) - Distribution: At medium and low elevations statewide except extreme northeastern part of the state. Figure 64, Page 164), 148 (color presentation of species)\*

***Reithrodontomys montanus* (Baird, 1855): Plains Harvest Mouse**

COMMON NAME: Mountain Harvest Mouse; Plains Harvest Mouse; Ratón-cosechero de pradera (Spanish)14. HABITS: Feeds on foliage, insects and seeds; nests are lined with soft plant fibers (including milkweed or thistle down) and located either in underground burrows or on the ground, under stones, rocks and rock outcrops. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: The home range of this species is about one-half acre. *Reithrodontomys montanus* is native to southwest-central and southern North America. \*14 (080809 - subsp. *montanus* (Baird)), 42 (021414), **55** (recorded as *Reithrodontomys montanus* (Baird). Plains Harvest Mouse. Rare; known only from a few specimens from the grasslands of Pima and Cochise counties.), 73, 100, 106 (080809), 118 (recorded as *Reithrodontomys montanus* *montanus* (Baird) - Distribution: Grasslands of southeastern Arizona. Figure 63, Page 162), 148 (021414 - color presentation), **LCNCA**\*

***Reithrodontomys montanus* subsp. *montanus* Baird, 1855: Plains Harvest Mouse**

COMMON NAME: Plains Harvest Mouse; San Luis Valley Harvest Mouse. HABITS: The species feeds on foliage, insects and seeds; nests are lined with soft plant fibers (including milkweed or thistle down) and located either in underground burrows or on the ground, under stones, rocks and rock outcrops. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: The home range of this species is about one-half acre. The species, *Reithrodontomys montanus*, is native to southwest-central and southern North America. \*14 (080809 - subsp. *montanus* (Baird)), 42 (021414 - no record of subspecies), 55 (species, recorded as *Reithrodontomys montanus* (Baird). Plains Harvest Mouse. Rare; known only from a few specimens from the grasslands of Pima and Cochise counties.), 73 (species), 100 (species), 106 (080809 - species), **118** (recorded as *Reithrodontomys montanus* *montanus* (Baird) - Distribution: Grasslands of southeastern Arizona. Figure 63, Page 162), 148 (021414 - color presentation of species)\*

***Sigmodon* *arizonae* Mearns, 1890: Arizona Cotton Rat**

COMMON NAMES: Arizona Cotton Rat; Camp Verde Cotton Rat (subsp. *arizonae* Mearns, 1890: extinct); Camp Verde Arizona Cotton Rat (subsp. *arizonae* Mearns, 1890: extinct); Cienega Cotton Rat (subsp. *cienegae* Howell, 1919 - Invalid?); Colorado River Cotton Rat (subsp. *plenus* Goldman, 1928); Cotton Rat; Jackson Cotton Rat (subsp. *jacksoni* Goldman, 1918 - Invalid?); Large Cotton Rat (subsp. *major* Bailey, 1902 - Invalid?); Rata-algodonera de Arizona (Spanish)42; Yavapai Arizona Cotton Rat (subsp. *jacksoni* Goldman, 1918 - Invalid?). HABITS: Possibly feeding on berries, carcasses, fruits, insects and seeds. The nests are made of grasses and other plant material. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations. \*14 (050112 - subspp. *arizonae* (A.B. Howell), *cienegae* (A.B. Howell) and *jacksoni* (A.B. Howell)), 42 (022714), 55 (no record of species, possibly recorded as *Sigmodon hispidus* Say and Ord. Hispid Cotton Rat. Known from scattered riparian and grassland areas in southern part of the state (120-5,000 feet).), 73 (note), 100, 106 (050112 - includes a listing of subspecies), 148 (color presentation), **LCNCA**\*

***Sigmodon arizonae* subsp. *ciengae* A.B. Howell, 1919 - Invalid?: Cienega Cotton Rat**

SYNONYMY: *Sigmodon hispidus* subsp. *cienegae* A.B. Howell, 1919 - Invalid?. COMMON NAMES: Arizona Cotton Rat; Cienega Cotton Rat; Cotton Rat. HABITS: Possibly feeding on berries, carcasses, fruits, insects and seeds. The nests are made of grass. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations. \*14 (050112 - subsp. *arizonae* (A.B. Howell); subsp. *cienegae* (A.B. Howell); subsp. *jacksoni* (A.B. Howell)), 42 (062112 - no record of this subspecies), 55 (no record of subspecies or species, possibly recorded as *Sigmodon hispidus* Say and Ord. Hispid Cotton Rat. Known from scattered riparian and grassland areas in southern part of the state (120-5,000 feet).), 73 (note on species), 100 (species), 106 (050112 - species, includes a listing of subspecies), **118** (recorded as *Sigmodon hispidus* subsp. *cienegae* A.B. Howell - Distribution: Locally common in southeastern Arizona. Figure 74, Page 188), 148 (color presentation of species)\*

***Sigmodon fulviventer* J.A. Allen, 1889: Tawny-bellied Cotton Rat**

SYNONYMY: *Sigmodon minimus* (Mearns, 1894). COMMON NAMES: Fulvous Cotton Rat; Least Cotton Rat; Rata-algodonera VientreLeonado (Spanish); Small Tawny-bellied Cotton Rat; Tawny-bellied Cotton Rat. HABITS: Nests are made of woven grasses located along runways among vegetation, under rocks and in rock outcrops. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021414 - subsp. *goldmanii* V. Bailey; subsp. *minimus* (Mearns)), 42 (021414), **55** (recorded as *Sigmodon minimus* (Mearns). Least Cotton Rat. Known from scattered grassland areas in southeastern Arizona (3,800-5,200 feet).), 100, 106 (053005 - genus), 118 (recorded as *Sigmodon minimus* *minimus* (Mearns) - Distribtion: Known from scattered localities in southeastern Arizona. Figure 75, Page 190), 148 (021414 - color presentation), **LCNCA**\*

***Sigmodon fulviventer* subsp. *minimus* Mearns, 1894 - Invalid?: Tawny-bellied Cotton Rat**

SYNONYMY: *Sigmodon minimus* subsp. *minimus* (Mearns, 1894). COMMON NAMES: Fulvous Cotton Rat; Least Cotton Rat; Rata-algodonera VientreLeonado (Spanish); Small Tawny-bellied Cotton Rat; Tawny-bellied Cotton Rat. HABITS: Nests are made of woven grasses located along runways among vegetation, under rocks and in rock outcrops. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021414), 42 (021414 - no record of subspecies), 55 (species, recorded as *Sigmodon minimus* (Mearns). Least Cotton Rat. Known from scattered grassland areas in southeastern Arizona (3,800-5,200 feet).), 100 (species), 106 (053005 - genus), **118** (recorded as *Sigmodon minimus* *minimus* (Mearns) - Distribution: Known from scattered localities in southeastern Arizona. Figure 75, Page 190), 148 (021414 - color presentation of species)\*

***Sigmodon hispidus* Say and Ord, 1825: Hispid Cotton Rat**

COMMON NAMES: Hispid Cotton Rat, Rata Algodon (Hispanic); Rata-algodonera Crespa (Spanish)42. HABITS: Feeds on insects, plant leaves, seeds and stems and quail eggs and chicks. Nests are made of grasses and located under logs and rocks and in rock outcrops and other debris. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (082608 - subsp. *eremicus*), 42 (021414), 55 (recorded as *Sigmodon hispidus* Say and Ord. Hispid Cotton Rat. Known from scattered riparian and grassland areas in southern part of state (120-5,000 feet).), 73, 100 (color photograph 99), 106 (053005 - genus), **118** (recorded as *Sigmodon hispidus cienegae* A.B. Howell - Distribution: Locally common in southeastern Arizona. Figure 74, Page 188; *Sigmodon hispidus confinus* Goldman - Distribution: Known only from part of Graham County. Figure 74, Page 188; *Sigmodon hispidus arizonae* Mearns - Distribution: Known from part of Gila drainage in central Arizona. Figure 74, Page 188; *Sigmodon hispidus jacksoni* Goldman - Distribution: Known only from the type locality. Figure 74, Page 188; *Sigmodon hispidus plunus* Goldman - Distribution: Known from along the Colorado River in northern Yuma County. Figure 74, Page 188, and *Sigmodon hispidus eremicus* Mearns - Distribution: Known only from the Colorado River in southern Yuma County. Figure 74, Page 188), 148 (021414 - color presentation), **LCNCA**\*

*Sigmodon hispidus* subsp. *cienegae* (see *Sigmodon arizonae* subsp. *ciengae*)

*Sigmodon minimus* (see footnote 55 under *Sigmodon fulviventer*)

*Sigmodon minimus* subsp. *minimus* (see *Sigmodon fulviventer* subsp. *minimus*)

***Sigmodon ochrognathus* V. Bailey, 1902: Yellow-nosed Cotton Rat**

COMMON NAMES: Ochraceous-faced Cotton Rat148; Rata-algodonera Nariz Amarilla (Spanish)42; Rata Nariz Amarilla (Hispanic)14; Yellow-nosed Cotton Rat. HABITS: Feeds on green plant material; nests are made of grass and plant fibers and located in agaves, beargrass, thickets of tall grass, piles of dead leaves, sotol and underground in abandoned gopher burrows. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland and wetland ecological formations. \***8**, 14 (021414), 42 (021414), 55 (recorded as *Sigmodon ochrognathus* V. Bailey. Yellow-nosed Cotton Rat. Known from scattered localities in Cochise and Santa Cruz Counties (6,100 - 8,400 feet).), 73, 100, 106 (053005 - genus), 118 (recorded as *Sigmodon ochrognathus* *montanus* Benson - Distribution: Known only from the Huachuca Mountains. Figure 75, Page 190), 148 (021414 - color presentation), **LCNCA**\*

Mustelidae: The Weasel and Allies Family

***Taxidea taxus* (Schreber, 1777): American Badger**

COMMON NAMES: American Badger; Badger; Berlandier’s Badger (subsp. *berlandieri* Baird, 1758); North American Badger; Mexican Badger (subsp. *berlandieri* Baird, 1758); Tejon (Hispanic)14; Tejón (“Badger”, a name also applied to the Coati, Spanish)106; Texas Badger (subsp. *berlandieri* Baird, 1758); Tlalcoyote (Spanish)42,106. HABITS: Feeds on amphibians, ground dwelling birds (and eggs), carrion, fish, insects, burrowing rodents (moles, voles, gophers, ground squirrels, mice, woodrats, pack rats, prairie dogs, marmots, groundhogs), cottontails, pikas, jackrabbits, skunks, snakes and some plant material such as corn, peas, beans and mushrooms and fungi. Temporary shelter is taken in burrows. The young are born in natal dens in underground burrows. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050212 - subsp. *berlandieri* (Baird), color presentation), 42 (022714), **55** (recorded as *Taxidea taxus* (Schreber). Badger. Statewide (120 - 7,000 feet).), 65, 73, 100 (color photograph), 106 (050212 - includes a listing of subspecies, color presentation), **118** (recorded as *Taxidea taxus* - Distribution: Statewide. Figure 98, Page 235), 145, 148 (color presentation), **LCNCA**\*

***Taxidea taxus* subsp. *berlandieri* Baird, 1858: Berlandier’s Badger**

COMMON NAMES: Berlandier’s Badger; Mexican Badger; Tejon (Hispanic)14; Texas Badger. HABITS: The species feeds on amphibians, ground dwelling birds (and eggs), carrion, fish, insects, burrowing rodents (moles, voles, gophers, ground squirrels, mice, woodrats, pack rats, prairie dogs, marmots, groundhogs), cottontails, pikas, jackrabbits, skunks, snakes and some plant material such as corn, peas, beans and mushrooms and fungi. Temporary shelter is taken in burrows. The young are born in natal dens in underground burrows. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050212 - subsp. *berlandieri* (Baird), color presentation), 42 (062112), 55 (species, recorded as *Taxidea taxus* (Schreber). Badger. Statewide (120 - 7,000 feet).), 65 (species), 73 (species), 100 (species, color photograph of species), 106 (050212 - species, includes a listing of subspecies, color presentation of species), 118 (recorded as *Taxidea taxus* - Distribution: Statewide. Figure 98, Page 235), **145** (described the range of *Taxidea taxus* *berlandieri* Baird as being throughout the state but absent from higher elevations), 148 (color presentation)\*

Phyllostomidae: The Leaf-nosed Bat Family

***Choeronycteris mexicana* Tschudi, 1844: Mexican Long-tongued Bat**

COMMON NAMES: Hognose Bat; Hog-nosed Bat; Long-tongued Bat; Mexican Hog-nosed Bat; Mexican Long-tongued Bat; Murcielago Lengua Larga Mexicano (Hispanic)14; Murciélago Trompudo (Spanish)42. HABITS: Feeds on fruits, insects, nectar and pollen. Roosts are located under bridges, and in shallow caves, rock fissures and mine tunnels. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (050212), 42 (062112), 55 (recorded as *Choeronycteris mexicana* Tschudi. Mexican Long-tailed Bat. Uncommon; usually found near the fronts of shallow caves and mine tunnels. Known from Pima, Santa Cruz and Cochise counties.), 73, 92, 100 (color photograph), 106 (050212 - color presentation), **118** (recorded as *Choeronycteris mexicana* Tschudi - Distribution: Known only from the southeastern part of the state. Figure 8, Page 33), 148 (color presentation), **LCNCA**\*

*Leptonycteris curasoae* subsp. *yerbabuenae* (see *Leptonycteris yerbabuenae*)

*Leptonycteris nivalis* (see footnote 55 under *Leptonycteris yerbabuenae*)

*Leptonycteris nivalis* subsp. *nivalis* (see footnote 118 under *Leptonycteris yerbabuenae*)

*Leptonycteris nivalis* subsp. *sanborni* (see *Leptonycteris yerbabuenae*)

*Leptonycteris nivalis* subsp. *yerbabuenae* (see *Leptonycteris yerbabuenae*)

*Leptonycteris sanborni* (see *Leptonycteris yerbabuenae*)

***Leptonycteris yerbabuenae* Martinez and Villa, 1940: Lesser Long-nosed Bat**

SYNONYMY: *Leptonycteris curasoae* subsp. *yerbabuenae* Martinez and Villa, 1940; *Leptonycteris nivalis* subsp. *sanborni* Hoffmeister, 1957 - Invalid?; *Leptonycteris nivalis* subsp. *yerbabuenae* Martinez and Villa, 1940; *Leptonycteris sanborni* Hoffmeister, 1957. COMMON NAMES: “Leptos” (a name applied by bat enthusiasts); Lesser Long-nosed Bat; Little Long-nosed Bat; Mexican Long-nosed Bat; Murcielago de Sanborn (Hispanic)14; North American Long-nosed Bat; Sanborn’s Long-nosed Bat; Sanborn’s Southern Long-nosed Bat; Southern Long-nosed Bat; Yerba Buena Long-nosed Bat. HABITS: Feeds on insects, nectar, pollen and the nectar and soft-bodied fruits of agaves and cacti. Roosts are located in caves, rock crevices, abandoned mines and tunnels. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: Long-nosed bats are pollinators of Agaves, Cardons, Organ Pipe Cacti and Saguaros. \***8**, 14 (0502-12 - Populations may be compromised by roost-site disturbance, loss of food sources and direct killing by humans.), 35 (This species is vulnerable to disturbances at roosting sites by cave explorers.), 42 (062112), 55 (species, recorded as *Leptonycteris nivalis* (Saussure). Long-nosed Bat. Locally common in moist caves. Known from Pinal, Pima, Santa Cruz and Cochise Counties.), 92 (recorded as *Leptonycteris sanborni*), 100 (species, recorded as *Leptonycteris curasoae* and *Leptonycteris nivalis*, color photographs), 106 (050212 - color presentation), 110 (recorded as *Leptonycteris sanborni*), **118** (recorded as *Leptonycteris nivalis nivalis* (Saussure) - Distribution: Known only from the southeastern part of the state. Figure 9, Page 35), 148 (color presentation), **LCNCA**\*

***Macrotus californicus* Baird, 1857: California Leaf-nosed Bat**

COMMON NAMES: California Big-eared Bat; California Large-eared Bat; California Leaf-nosed Bat; Leaf-nosed Bat; Leafnose Bat; Murciélago-orejón Californiano (Spanish)42. HABITS: Feeds on beetles, butterflies, caterpillars, cicadas, crickets, dragonflies, grasshoppers, leafhoppers, moths and other insects. Roosts are located in caves, deep grottos and abandoned mine tunnels. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. NOTE: Human disturbance of roosting caves is a major threat. \*8, 14 (050212), 42 (062112), 55 (recorded as *Macrotus californicus* Baird. Leaf-nosed Bat. Locally common in shallow caves, mine tunnels and under bridges. Occurs widely at lower elevations in the western and southern parts of the state.”), 73, 92, 100 (color photograph), 106 (061612 - color presentation), **118** (recorded as *Macrotus californicus* Baird - Distribution: Known from lower elevations in the southern and western parts of the state. Figure 7, Page 32), 148 (color presentation)\*

Procyonidae: The Raccoon and Allies Family

***Bassariscus astutus* (Lichtenstein, 1830): Ringtail**

COMMON NAMES: Arizona Ringtail (subsp. *arizonensis* Goldman, 1932); Arizona Ring-tailed Cat (subsp. *arizonensis* Goldman, 1932); Band-tailed Cat; Cacomistle; Cacomixtle Norteño (Spanish)42; Cat Squirrel; Civet Cat; Common Raccoon-fox; Coon Cat; Gato Minero (Hispanic)14; Mexican Ring-tailed Cat (subsp. *yumanensis* Huey, 1937); Miner’s Cat; Nevada Ring-tailed Cat (subsp. *nevadensis* Miller, 1913); Ringtail; Ringtail Cat; Ring-tailed Cat; Tawny Raccoon-fox (subsp. *flavus* Rhoads, 1893); Texas Ring-tailed Cat (subsp. *flavus* Rhoads, 1893); Yuma Ringtail (subsp. *yumanensis* Huey, 1937); Yuma Ring-tailed Cat (subsp. *yumanensis* Huey, 1937). HABITS: Feeds on berries, birds, fruits, carrion, crickets, eggs, insects, lizards, small mammals, snakes and spiders. Nests are made of grass located in dens in underground burrows, caves, cliffs, rocky outcrops, cavities in logs, stumps and trees and man-made structures. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8 (subsp. *arizonensis*; subsp. *nevadensis*; subsp. *yumanensis*), 14 (050212- subsp. *arizonensis* (Goldman); subsp. *flavus* (Rhoads), color presentation), 42 (030314), **55** (recorded as *Bassariscus astutus* (Lichenstein). Ringtail. Statewide (120 - 6,500 feet).), 65 (color photograph), 73, 100 (color photograph), 106 (050212 - includes a listing of subspecies, color presentation), 118 (recorded as *Bassariscus astutus* *arizonensis* Goldman - Distribution: Statewide except extreme southeastern and southwestern parts; *Bassariscus astutus* *flavus* Rhoads - Distribution: Extreme southeastern part of the state, and *Bassariscus astutus* *yumanensis* Huey - Distribution: Southwestern Arizona. Figure 93, Page 227), 148 (color presentation), **LCNCA**\*

***Bassariscus astutus* subsp. *arizonensis* Goldman, 1932: Arizona Ringtail**

COMMON NAMES: Arizona Ring-tailed Cat; Band-tailed Cat; Cacomistle; Civet Cat; Coon Cat; Gato Minero (Hispanic)14; Miner’s Cat; Ringtail; Ringtail Cat; Ring-tailed Cat. HABITS: The species feeds on berries, birds, fruits, carrion, crickets, eggs, insects, lizards, small mammals, snakes and spiders. Nests are made of grass located in dens in underground burrows, caves, cliffs, rocky outcrops, cavities in logs, stumps and trees and man-made structures. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (050212- subsp. *arizonensis* (Goldman); subsp. *flavus* (Rhoads), color presentation), 42 (062112), 55 (species, recorded as *Bassariscus astutus* (Lichenstein). Ringtail. Statewide (120 - 6,500 feet).), 65 (species, color photograph of species), 73 (species), 100 (species, color photograph of species), 106 (050212 - species, includes a listing of subspecies, color presentation of species), **118** (recorded as *Bassariscus astutus* *arizonensis* Goldman - Distribution: Statewide except extreme southeastern and southwestern parts. Figure 93, Page 227), 148 (color presentation)\*

***Nasua narica* (Linnaeus, 1766): White-nosed Coati**

COMMON NAMES: Antoon106; Boqueron Coati (subsp. *panamensis* Allen, 1904 - Invalid?); Chula14,65; Chulo14; Coati (Indian Name)14; Coatí Norteño (Spanish)42; Coatimundi (generally applied to roving male Coati)106; Cozumel Island Coati (subsp. *nelsoni* Merriam, 1901); Dark Coati (subsp. *molaris* Merriam, 1902); El Gato Solo (Los Gatos en Familia)14; Manzanillo Coati (subsp. *molaris* Merriam, 1902); Nelson’s Coati (subsp. *nelsoni* Merriam, 1901); Pallid Coati (subsp. *molaris* Merriam, 1902); Panamanian Coati (subsp. *panamensis* Allen, 1904 - Invalid?); Pizote14,106; Red Coati (subsp. *rufus* Goldman, 1932 - Invalid?); Tamaulipas Coati (subsp. *molaris* Merriam, 1902); Tejón (means Badger, but is a name that is also applied to the Coati, Spanish)106; White-nosed Coati; Yucatan Coati (subsp. *yucatanica* J.A. Allen, 1904); Yucatanian Coati (subsp. *yucatanica* J.A. Allen, 1904). HABITS: Feeds on the berries of juniper and manzanita, birds, carrion, eggs, fruits, insects (including among others crickets and grasshoppers) and other invertebrates, prickly pear fruit, lizards, small mammals, nuts, snakes, tubers, worms and yucca fruits. Young are born in dens located in caves, crevices in rocks, mines shafts and cavities among tree roots. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050212 - color presentation), 42 (062112), 55 (recorded as *Nasua narica* (Linnaeus). Coati. In woodland situations in the Graham, Chiricahua, Huachuca, Patagonia and Pena Blanca mountains (5,000 to 7,500 feet).), 65 (Reported that “eyewitness accounts by ranchers established that they (*Nasua narica*) were in the Rincon Mountains in what is now part of the Saguaro National Monument in the very early 1900s.” Page 42), 73, 100 (color photograph), 106 (050212 - includes a listing of subspecies, color presentation), 118 (recorded as *Nasua narica pallida* Allen - Distribution: Mountains of southern and southeastern part of the state. Figure 95, Page 230), 148 (color presentation), 149, **LCNCA**\*

***Nasua narica* subsp. *molaris* Merriam, 1902: Manzanillo Coati**

COMMON NAMES: Coati (Indian Name)14; Coatimundi (applied to roving male Coati)106; Dark Coati; Manzanillo Coati; Pallid Coati; Tamaulipas Coati; Tejón (means Badger, but is a name that is also applied to the Coati, Spanish). HABITS: The species feeds on the berries of juniper and manzanita, birds, carrion, eggs, fruits, insects (including among others crickets and grasshoppers) and other invertebrates, prickly pear fruit, lizards, small mammals, nuts, snakes, tubers, worms and yucca fruits. Young are born in dens located in caves, crevices in rocks, mines shafts and cavities among tree roots. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050212 - species, color presentation), 42 (062112), 55 (species, recorded as *Nasua narica* (Linnaeus). Coati. In woodland situations in the Graham, Chiricahua, Huachuca, Patagonia and Pena Blanca mountains (5,000 to 7,500 feet).), 65 (species, reported that “eyewitness accounts by ranchers established that they (*Nasua narica*) were in the Rincon Mountains in what is now part of the Saguaro National Monument in the very early 1900s.” Page 42), 73 (species), 100 (species, color photograph), 106 (050212 - species, includes a listing of subspecies, color presentation of species), **118** (recorded as *Nasua narica pallida* Allen - Distribution: Mountains of southern and southeastern part of the state. Figure 95, Page 230), 148 (color presentation), 149\*

*Nasua narica* subsp. *pallida* (see footnote 118 under *Nasua narica* subsp. *molaris*)

***Procyon lotor* (Linnaeus, 1758): Common Raccoon**

COMMON NAMES: Ahrah-koon-em (“[the] One Who Rubs, Scrubs, and Scratches with Its Hands”, Proto-Algonquian)106; Alabama Raccoon (subsp. *varius* Nelson and Goldman, 1930 - Invalid?); Araiguma (transcribed Japanese)106; Arathkone (transcribed Powhatan)106; Aroughcun (transcribed Powhatan)106; Bahama Raccoon (subsp. *maynardi* Bangs, 1898); Bahamas Raccoon (subsp. *maynardi* Bangs, 1898); Bahamian Raccoon (subsp. *maynardi* Bangs, 1898); Baja California Raccoon (subsp. *grinnelli* Nelson and Goldman, 1930); Barbados Raccoon (subsp. *gloveralleni* Nelson and Goldman, 1930: extinct); California Raccoon (subsp. *psora* Gray, 1842); Campeche Raccoon (subsp. *hernandezii* Wagler, 1831); Coastal Marsh Raccoon (subsp. *lotor* (Linnaeus, 1758)); Colorado Desert Raccoon (subsp. *pallidus* Merriam, 1900); Common Raccoon; Coon (colloquial abbreviation)106; Costa Rican Raccoon (subsp. *hernandezii* Wagler, 1831); Desert Raccoon (subsp. *pallidus* Merriam, 1900); Dickey’s Raccoon (subsp. *hernandezii* Wagler, 1831); Eastern Raccoon (subsp. *lotor* (Linnaeus, 1758)); Florida Raccoon (subsp. *elucus* Bangs, 1898); Guadeloupe Raccoon (subsp. *minor* Miller, 1911 - Invalid?); Hernandez Raccoon (subsp. *hernandezii* Wagler, 1831); Hilton Head Island Raccoon (subsp. *solutus* Nelson and Goldman, 1931 - Invalid?); Isthmian Raccoon (subsp. *pumilus* Miller, 1911); Key Vaca Raccoon (subsp. *auspicatus* Nelson, 1930); Key West Raccoon (subsp. *incautus* Nelson, 1930); Mapache (Spanish: from the Uto-Aztecan, Náhuatl [Aztec] word Mapachitli “[the] One Who Takes Everything in Its Hands” )106; Mapache Común (Spanish)42; Matecumbe Key Raccoon (subsp. *inesperatus* Nelson, 1930); Mexican Plateau Raccoon (subsp. *hernandezii* Wagler, 1831); Mexican Raccoon (subsp. *hernandezii* Wagler, 1831); Mississippi Delta Raccoon (subsp. *megalodous* Lowery, 1943); Mosómedve (Hungarian)106; North American Raccoon; Northern Raccoon; Orsetto Lavatore (Italian)106; Pacific Raccoon (subsp. *pacificus* Merriam, 1899); Pacific Northwest Raccoon (subsp. *pacificus* Merriam, 1899); Pale Raccoon (subsp. *pallidus* Merriam, 1900); Pallid Raccoon (subsp. *pallidus* Merriam, 1900); Raccoon; Racoon; Racuno (Hispanic)14; Ratäo-lavadeiro (Portuguese: Portugal)106; Raton Laveur (French)42,106; Saint Simon Island Raccoon (subsp. *litoreus* Nelson and Goldman, 1930); Salvadore Raccoon (subsp. *hernandezii* Wagler, 1831); San Diego Raccoon (subsp. *psora* Gray, 1842); Sleepy Raccoon (subsp. *hernandezii* Wagler, 1831); Snake River Valley Raccoon (subsp. *excelsus* Nelson and Goldman, 1930); Southwestern Raccoon (subsp. *psora* Gray, 1842); Ten Thousand Islands Raccoon (subsp. *marinus* Nelson, 1930); Texas Raccoon (subsp. *fuscipes* Mearns, 1914); Thousand Island Raccoon (subsp. *marinus* Nelson, 1930); Torch Key Raccoon (subsp. *incautus* Nelson, 1930); Tres Marias Raccoon (subsp. *insularis* Merriam, 1898); Upper Mississippi Valley Raccoon (subsp. *hirtus* Nelson & Goldman, 1930); Vancouver Raccoon (subsp. *vancouverensis* Nelson and Goldman, 1930); Waschbär (German)106. HABITS: Feeds on annelid worms, berries, birds, nestlings and eggs, carrion, crayfishes, small fishes, frogs, fruits, insects, small mammals, nuts, shellfish, turtles and turtle eggs and vegetables. Nests are made of leaves located in dens in small caves, amongst boulders, rocky crevices in cliffs and cavities in trees. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: Racoons are never very far from permanent water. \*14 (050212 - subsp. *hirtus* (Nelson & Goldman); subsp. *mexicanus* (Baird); subsp. *pallidus* (Merriam)), 42 (062112), **55** (recorded as *Procyon lotor* (Linnaeus). Raccoon. Riparian situations along the Colorado, Little Colorado and Gila river systems and in the grasslands of the southeastern portion of the state (120 - 6,900 feet).), 65 (color photograph), 73, 100 (color photograph), 106 (050212 - includes a listing of subspecies, color presentation), 118 (recorded as *Procyon lotor* subsp. *mexicanus* Baird - Distribution: Southeastern Arizona; *Procyon lotor* subsp. *pallidus* Merriam - Distribution: Northern and Western Arizona. Figure 94, Page 229), 148 (color presentation), 149, **LCNCA**\*

***Procyon lotor* subsp. *hernandezii* Wagler, 1831: Mexican Plateau Raccoon**

COMMON NAMES: Hernandez Raccoon; Mexican Plateau Raccoon; Mexican Raccoon; Raccoon; Racuno (Hispanic)14. HABITS: Feeds on annelid worms, berries, birds, nestlings and eggs, carrion, crayfishes, small fishes, frogs, fruits, insects, small mammals, nuts, shellfish, turtles and turtle eggs and vegetables. Nests are made of leaves located in dens in small caves, amongst boulders, rocky crevices in cliffs and cavities in trees. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: Racoons are never very far from permanent water. \*14 (050212 - subsp. *hirtus* (Nelson & Goldman); subsp. *mexicanus* (Baird); subsp. *pallidus* (Merriam)), 42 (062112), 55 (species, recorded as *Procyon lotor* (Linnaeus). Raccoon. Riparian situations along the Colorado, Little Colorado and Gila River systems and in the grasslands of the southeastern portion of the state (120 - 6,900 feet).), 65 (color photograph), 73 (species), 100 (species, color photograph of species), 106 (050212 - species, includes a listing of subspecies, color presentation of species), **118** (recorded as *Procyon lotor mexicanus* Baird - Distribution: Southeastern Arizona. Figure 94, Page 229), 148 (color presentation), 149\*

*Procyon lotor* subsp. *mexicanus* (see footnotes 14 and 118 under *Procyon lotor* subsp. *hernandezii*)

Sciuridae: The Squirrel and Allies Family

***Ammospermophilus harrisii* (Audubon and Bachman, 1854): Harris’ Antelope Squirrel**

COMMON NAMES: Ardilla de Tierra Harris (Hispanic)14; Ardilla-antilope de Sonora (Spanish)42; Bahia Kino Antelope Squirrel (subsp. *kinoensis* Huey, 1937 - Invalid?,subsp. *saxicolus* (Mearns, 1896) - Valid); Gray-tailed Antelope Squirrel (subsp. *harrisii* (Audubon and Bachman, 1854)); Harris Antelope Squirrel; Harris’ Antelope Squirrel; Harris’ Antelope-squirrel; Harris’s Antelope Squirrel; Rock Spermophile (subsp. *saxicolus* (Mearns, 1896)); Yuma Antelope Squirrel (subsp. *saxicolus* (Mearns, 1896)). HABITS: Feeds on fruits, insects, plants and seeds. Dens are located in underground burrows. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (050212 - subsp. *harrisii*), 42 (021514), **55** (recorded as *Citellus harrisii* (Audubon & Bachman). Harris Antelope Squirrel. Southern and western parts of the state at elevations below 6,500 feet.), 65 (color photograph), 73, 100 (color photograph), 106 (050212 - color presentation), 118 (recorded as *Citellus harrisii harrisii* (Audubon & Bachman) - Distribution: Southern and western Arizona except for most of Yuma County. *Citellus harrisii saxicola* (Mearns) - Distribution: Southwestern Arizona. Figure 38, Page 85), 148 (021514 - color presentation), 149, **LCNCA**\*

***Ammospermophilus harrisii* subsp. *harrisii* (Audubon and Bachman, 1854): Harris’ Antelope Squirrel**

COMMON NAMES: Ardilla de Tierra Harris (Hispanic)14; Gray-tailed Antelope Squirrel; Harris Antelope Squirrel; Harris’ Antelope Squirrel; Harris’ Antelope-squirrel; Harris’s Antelope Squirrel;. HABITS: The species feeds on fruits, insects, plants and seeds. Dens are located in underground burrows. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (050212 - subsp. *harrisii*), 42 (021514), 55 (species, recorded as *Citellus harrisii* (Audubon & Bachman). Harris Antelope Squirrel. Southern and western parts of the state at elevations below 6,500 feet.), 65 (species, color photograph of species), 73 (species), 100 (species, color photograph of species), 106 (050212 - color presentation), **118** (recorded as *Citellus harrisii harrisii* (Audubon & Bachman) - Distribution: Southern and western Arizona except for most of Yuma County, Page 85), 148 (color presentation), 149\*

*Citellus harrisii* (see footnote 55 under *Ammospermophilus harrisii*)

*Citellus harrisii* subsp. *harrisii* (see footnotes 14 and 118 under *Ammospermophilus harrisii* subsp. *harrisii*)

*Citellus spilosoma* (see footnote 55 under *Xerospermophilus spilosoma*)

*Citellus spilosoma* subsp. *canescens* (see footnotes 118 and 148 under *Xerospermophilus spilosoma* subsp. *canescens*)

*Citellus tereticaudus* (see footnote 55 under *Xerospermophilus tereticaudus*)

*Citellus tereticaudus* subsp. *neglectus* (see footnote 118 under *Xerospermophilus tereticaudus* subsp. *neglectus*)

*Citellus variegatus* (see footnotes 55 and 118 under *Otospermophilus variegatus*)

*Citellus variegatus* subsp. *grammurus* (see footnote 118 under *Otospermophilus variegatus* subsp. *grammurus*)

*Citellus variegatus* subsp. j*uglans* (see *Otospermophilus variegatus* subsp. *grammurus*)

***Cynomys ludovicianus* (Ord, 1815): Black-tailed Prairie Dog**

COMMON NAMES: Arizona Black-tailed Prairie Dog (also applied to subsp. *arizonensis*); Black-tailed Prairie Dog; Blacktail Prairie Dog; “Dog”; Perro-llanero Cola Negra (Spanish)42. HABITS: Feeds on the leaves, seeds and stems and occasionally on the roots of grasses (and sometimes herbs and shrubs). Shelter is taken in underground burrows. Birthing takes place in nest cavities or dens located deep in their underground burrows. HABITAT: Within the range of this species it has been reported from the woodland (casual use), scrub (casual use), grassland, desertscrub (casual use) and wetland ecological formations. NOTES: The Black-tailed Prairie Dog is believed to have been EXTIRPATED in Arizona, reintroduction efforts are currently underway. Prairie Dogs are extremely susceptible to plague and their rapid die-off may serve as an indicator of the presence of this disease. \*14 (092209 - separate entries for both subsp. *arizonensis* (Ord) and subsp. *ludovicianus*, subsp. *arizonensis* is the only subspecies recognized as having occurred in Arizona.), 42 (021414), **55** (recorded as *Cynomys ludovicianus* (Ord). Black-tailed Prairie Dog. Now probably extinct; formerly locally common in grasslands of the southeastern part of the state.), 65, 73, 106 (092209), 118 (recorded as *Cynomys ludovicianus* *arizonensis* Mearns - Distribution: Now extinct, formerly in southeastern Arizona. Figure 35, Page 77), 148 (021414 - color presentation), **ADS** (Tuesday, September 22, 2009, Section A, Page 1, Second group of prairie dogs released)\*

***Cynomys ludovicianus* subsp. *arizonensis* Mearns, 1890: Arizona Black-tailed Prairie Dog**

COMMON NAMES: Arizona Black-tailed Prairie Dog (also applied to the species). HABITS: The species feeds on the leaves, seeds and stems and occasionally on the roots of grasses (and sometimes herbs and shrubs). Shelter is taken in underground burrows. Birthing takes place in nest cavities or dens located deep in their underground burrows. HABITAT: Within the range of this species it has been reported from the woodland (casual use), scrub (casual use), grassland, desertscrub (casual use) and wetland ecological formations. NOTES: The Black-tailed Prairie Dog is believed to have been EXTIRPATED in Arizona, reintroduction efforts are currently underway. Prairie Dogs are extremely susceptible to plague and their rapid die-off may serve as an indicator of the presence of this disease. \*14 (092209 - separate entries for both subsp. *arizonensis* (Ord) and subsp. *ludovicianus*, subsp. *arizonensis* is the only subspecies recognized as having occurred in Arizona.), 42 (021414), 55 (species, recorded as *Cynomys ludovicianus* (Ord). Black-tailed Prairie Dog. Now probably extinct; formerly locally common in grasslands of the southeastern part of the state.), 65 (species), 73 (species), 106 (092209), **118** (recorded as *Cynomys ludovicianus* *arizonensis* Mearns - Distribution: Now extinct, formerly in southeastern Arizona. Figure 35, Page 77), 148 (021414 - color presentation), ADS (Tuesday, September 22, 2009, Section A, Page 1, Second group of prairie dogs released)\*

***Otospermophilus variegatus* (Erxleben, 1777): Rock Squirrel**

SYNONYMY: *Spermophilus variegatus* Erxleben, 1777. COMMON NAMES: Ardilla Coluda (Hispanic)14; Ardillón de Roca (Spanish)42; Black-backed Rock Squirrel (*S*.*v*. subsp. *buckleyi* Slack, 1861 - Invalid; *Otospermophilus variegatus* subsp. *buckleyi* (Slack, 1861) - Valid); Brown-headed Rock Squirrel (*S*.*v*. subsp. *rupestris*, J. Allen, 1903 - Invalid; *Otospermophilus variegatus* subsp. *rupestris*, (J. Allen, 1903) - Valid); Buckley’s Spermophile (*S*.*v*. subsp. *buckleyi* Slack, 1861 - Invalid; *Otospermophilus variegatus* subsp. *buckleyi* (Slack, 1861) - Valid); Bushy-tailed Spermophile (*S*.*v*. subsp. *grammurus* Say, 1823 - Invalid; *Otospermophilus variegatus* subsp. *grammurus* (Say, 1823) - Valid); Malapais Rock Squirrel (*S*.*v*. subsp. *tularosae* Benson, 1932 - Invalid; *Otospermophilus variegatus* subsp. *tularosae* (Benson, 1932) - Valid); Mexican Rock Squirrel (*S*.*v*. subsp. *variegatus* Erxleben, 1777 - Invalid; *Otospermophilus variegatus* subsp. *variegatus* (Erxleben, 1777) - Valid); Rock Squirrel; Say’s Rock Squirrel (*S*.*v*. subsp. *grammurus* (Say, 1823) - Invalid; *Otospermophilus variegatus* subsp. *grammurus* (Say, 1823) - Valid); Tiburon Rock Squirrel (*S*.*v*. subsp. *tiburonensis* Jones and Manning, 1989 - Invalid; *Otospermophilus variegatus* subsp. *grammurus* (Say, 1823) - Valid); Tularosa Rock Squirrel (*S*.*v*. subsp. *tularosae* Benson, 1932 - Invalid; *Otospermophilus variegatus* subsp. *tularosae* (Benson, 1932) - Valid); Utah Rock Squirrel (*S*.*v*. subsp. *utah* Merriam, 1903 - Invalid; *Otospermophilus variegatus* subsp. *utah* (Merriam, 1903) - Valid); Varied Squirrel; Walnut Rock Squirrel (*S*.*v*. subsp. *juglans* V. Bailey, 1913 - Invalid; *Otospermophilus variegatus* subsp. *grammurus* (Say, 1823) - Valid). HABITS: Feeds on acorns, berries, small birds, chicks and eggs, carrion, insects, fruits, small mammals, nuts and seeds. Nests are made of leaves, pine needles and plant fibers and located in dens in underground burrows between boulders, rock crevices and talus. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050212 - subspp. *grammurus* (Say) and *tularosae* (Benson), color presentation), 42 (030314), **55** (recorded as *Citellus variegatus* (Erxleben). Rock Squirrel. Statewide, especially at elevations below 6,000 feet.), 65 (color photograph), 73, 100 (color photograph), 106 (050212 - color presentation), 118 (recorded as *Citellus variegatus grammurus* (Say) - Distribution: Statewide, especially common below 6000 feet. Figure 37, Page 82), 148 (021514 - color presentation), 149 (021514), **LCNCA**\*

***Otospermophilus variegatus* subsp. *grammurus* (Say, 1823): Say’s Rock Squirrel**

SYNONYMY: *Citellus variegatus* subsp. j*uglans* V. Bailey, 1913; *Spermophilus variegatus* subsp. *tiburonensis* Jones and Manning, 1989. COMMON NAMES: Rock Squirrel. HABITS: The species feeds on acorns, berries, small birds, chicks and eggs, carrion, insects, fruits, small mammals, nuts and seeds burrows. Nests are made of leaves, pine needles and plant fibers and located in dens in underground burrows between boulders, rock crevices and talus. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050212 - subspp. *grammurus* (Say), and *tularosae* (Benson), color presentation), 42 (030314), 55 (species, recorded as *Citellus variegatus* (Erxleben). Rock Squirrel. Statewide, especially at elevations below 6,000 feet.), 65 (species, color photograph of species), 73 (species), 100 (species, color photograph of species), 106 (050212 - species, color presentation of species), **118** (recorded as *Citellus variegatus grammurus* (Say) - Distribution: Statewide, especially common below 6000 feet. Figure 37, Page 82), 148 (021514 - color presentation), 149 (021514)\*

*Spermophilus spilosoma* (see *Xerospermophilus spilosoma*)

*Spermophilus spilosoma* subsp. *canescens* (see *Xerospermophilus spilosoma* subsp. *canescens*)

*Spermophilus tereticaudus* (see *Xerospermophilus tereticaudus*)

*Spermophilus tereticaudus* subsp. *neglectus* (see *Xerospermophilus tereticaudus* subsp. *neglectus*)

*Spermophilus variegatus* (see *Otospermophilus variegatus*)

*Spermophilus variegatus* subsp. *tiburonensis* (see *Otospermophilus variegatus* subsp. *grammurus*)

***Xerospermophilus spilosoma* (Bennett, 1833): Spotted Ground Squirrel**

SYNONYMY: *Spermophilus spilosoma* Bennett, 1833. COMMON NAMES: Apache Ground Squirrel (*S*.*s*. subsp. *macrospilotus* Merriam, 1890 - Invalid?; *Xerospermophilus spilosoma* subsp. *canescens* (Merriam, 1890) - Valid?); Apache Spotted Ground Squirrel (subsp. *canescens* (Merriam, 1890)); Ardillón Punteado (Spanish)42; Ardilla de la Tierra Pinta (Hispanic)14; Babicora Spotted Ground Squirrel (subsp. *bavicorensis* Anderson, 1972); Bailey’s Spermophile (subsp. *marginatus* (V. Bailey, 1890)); Bennett’s Spotted Ground Squirrel (subsp. *spilosoma* (Bennett, 1833)); Big Spotted Ground Squirrel (*S*.*s*. subsp. *macrospilotus* Merriam, 1890 - Invalid?; *Xerospermophilus spilosoma* subsp. *canescens* (Merriam, 1890) - Valid?); Brown Ground Squirrel (subsp. *marginatus* (V. Bailey, 1890)); Dark Spotted Spermophile (*S*.*s*. subsp. *obsidianus* Merriam, 1890 - Invalid?; *Xerospermophilus spilosoma* subsp. *canescens* (Merriam, 1890) - Valid?); Desert Ground Squirrel (subsp. *cryptospilotus* (Merriam, 1890)); Desert Spotted Ground Squirrel (subsp. *cryptospilotus* (Merriam, 1890)); Desert Spermophile (subsp. *cryptospilotus* (Merriam, 1890)); Drab Gray Spermophile (subsp. *canescens* (Merriam, 1890)); Dusky Spotted Ground Squirrel (*S*.*s*. subsp. *obsidianus* Merriam, 1890 - Invalid?; *Xerospermophilus spilosoma* subsp. *canescens* (Merriam, 1890) - Valid?); El Paso Spotted Ground Squirrel (*S*.*s*. subsp. *arens* V.Bailey, 1902 - Invalid; *Xerospermophilus spilosoma* subsp. *canescens* (Merriam, 1890) - Valid); Kennicott Ground Squirrel (subsp. *obsoletus* (Kennicott, 1863)); Kennicott Spermophile (subsp. *obsoletus* (Kennicott, 1863)); Languishing Spermophile (*S*.*s*. subsp. *arens* V.Bailey, 1902 - Invalid; *Xerospermophilus spilosoma* subsp. *canescens* (Merriam, 1890) - Valid); Large Spotted Ground Squirrel (*S*.*s*. subsp. *major* Merriam, 1890 - Invalid?; *Xerospermophilus spilosoma* subsp. *marginatus* (V. Bailey, 1890) - Valid?); New Mexico Spotted Ground Squirrel (*S*.*s*. subsp. *major* Merriam, 1890 - Invalid?; *Xerospermophilus spilosoma* subsp. *marginatus* (V. Bailey, 1890) - Valid?); Northern Spotted Ground Squirrel (subsp. *obsoletus* (Kennicott, 1863)); Padre Island Ground Squirrel (subsp. *annectens* Merriam, 1893); Pallid Spotted Ground Squirrel (subsp. *pallescens* (A.H. Howell, 1928)); Park Ground Squirrel (subsp. *pratensis* (Merriam, 1890)); Spotted Ground Squirrel; Spotted Sand Squirrel (*S*.*s*. subsp. *arens* V.Bailey, 1902 - Invalid; *Xerospermophilus spilosoma* subsp. *canescens* (Merriam, 1890) - Valid); Spotted Spermophile. HABITS: Feeds on cacti, insects (beetles and grasshoppers), young green plant material, reptiles and seeds. Nests are made of grasses and hair and located in dens in underground burrows. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021414 - subspp. *canescens* (Merriam); *cryptospilotus* (Merriam), and *marginatus* (V. Bailey)), 42 (021414), **55** (recorded as *Citellus spilosoma* (Bennett). Spotted Ground Squirrel. Locally common in grasslands in eastern, central and northern parts of the state.), 65 (recorded as *Citellus spilosoma*), 73 (recorded as *Spermophilus spilosoma*), 100 (recorded as *Spermophilus spilosoma*), 106 (053106 - gen.), 118 (recorded as *Citellus spilosoma* *canescens* (Merriam) - Distribution: Known from the desert grasslands of southeastern Arizona. Figure 36, Page 79), 148 (021414 - recorded as *Spermophilus spilosoma*, color presentation), **LCNCA**\*

***Xerospermophilus spilosoma* subsp. *canescens* (Merriam, 1890): Apache Spotted Ground Squirrel**

SYNONYMY: *Spermophilus spilosoma* subsp. *canescens* Merriam, 1890. COMMON NAMES: Apache Spotted Ground Squirrel; Drab Gray Spermophile; Spotted Ground Squirrel (a name also applied to the species). HABITS: The species feeds on cacti, insects (beetles and grasshoppers), young green plant material, reptiles and seeds. Nests are made of grasses and hair and located in dens in underground burrows. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (021414 - subspp. *canescens* (Merriam); *cryptospilotus* (Merriam), and *marginatus* (V. Bailey)), 42 (021514), 55 (species, recorded as *Citellus spilosoma* (Bennett). Spotted Ground Squirrel. Locally common in grasslands in eastern, central and northern parts of the state.), 65 (species, recorded as *Citellus spilosoma*), 73 (species, recorded as *Spermophilus spilosoma*), 100 (species, recorded as *Spermophilus spilosoma*), 106 (053106 - genus), **118** (recorded as *Citellus spilosoma* *canescens* (Merriam) - Distribution: Known from the desert grasslands of southeastern Arizona. Figure 36, Page 79), 148 (021514- recorded as *Spermophilus spilosoma canescens*, color presentation)\*

***Xerospermophilus tereticaudus* (Baird, 1858): Round-tailed Ground Squirrel**

SYNONYMY: *Spermophilus tereticaudus* Baird, 1858. COMMON NAMES: Ardillón Cola Redonda (Spanish)42,106; Arizona Round-tailed Ground Squirrel (*S*.*t*. subsp. *arizonicus* (Grinnell, 1918) - Invalid; *Xerospermophilus tereticaudus* subsp. *neglectus* (Merriam, 1889) - Valid); Coachella Valley Round-tailed Ground Squirrel (subsp. *chlorus* (Elliot, 1904)); Death Valley Round-tailed Ground Squirrel (*S*.*t*. subsp. *eremonomus* (Elliot, 1904) - Invalid; *Xerospermophilus tereticaudus* subsp. *tereticaudus* (Baird, 1858) - Valid); Death Valley Spermophile (*S*.*t*. subsp. *eremonomus* (Elliot, 1904) - Invalid; *Xerospermophilus tereticaudus* subsp. *tereticaudus* (Baird, 1858) - Valid); Dolan Spring Ground Squirrel (subsp. *neglectus* (Merriam, 1889)); Neglected Spermophile (subsp. *neglectus* (Merriam, 1889)); Pale Spermophile (subsp. *chlorus* (Elliot, 1904)); Palm Springs Ground Squirrel (subsp. *chlorus* (Elliot, 1904)); Palm Springs Round-tailed Ground Squirrel (subsp. *chlorus* (Elliot, 1904)); Round-tailed Ground Squirrel; Trinidad Valley Ground-squirrel (subsp. *apricus* (Huey, 1927)); Yuma Round-tailed Ground Squirrel (*S*.*t*. subsp. *tereticaudus* (Huey, 1926) - Invalid; *Xerospermophilus tereticaudus* subsp. *tereticaudus* (Baird, 1858) - Valid). HABITS: Feeds on the buds of burroweed and mesquite; the leaves of shrubs; the flowers of ocotillo, palo verde, plantain, and saltbush; on the seeds of creosote bush and mesquite, and cacti, grasses, insects (ants, grasshoppers, termites), observed taking Gambel’s Quail chicks and visiting road kill. Nests are made of plant fibers and stems and located in dens in underground burrows. HABITAT: Within the range of this species it has been reported from the desertscrub ecological formation. \*14 (050212), 42 (030314), **55** (recorded as *Citellus tereticaudus* Baird. Round-tailed Ground Squirrel. Lower Sonoran Life-zone of the southwestern part of the state (below 3,200 feet).), 65, 73, 100 (color photograph), 106 (050212 - includes a listing of subspecies, color presentation), 118 (recorded as *Citellus tereticaudus neglectus* (Merriam) - Distribution: Lower Sonoran Life Zone of southwestern Arizona. Figure 39, Page 90), 148 (021514 - color presentation)\*

***Xerospermophilus tereticaudus* subsp. *neglectus* (Merriam, 1889): Arizona Round-tailed Ground Squirrel**

SYNONYMY: *Spermophilus tereticaudus* subsp. *neglectus* Merriam, 1889. COMMON NAMES: Arizona Round-tailed Ground Squirrel; Dolan Spring Ground Squirrel Neglected Spermophile; Round-tailed Ground Squirrel (a name also applied to the species). HABITS: The species feeds on the buds of burroweed and mesquite; the leaves of shrubs; the flowers of ocotillo, palo verde, plantain, and saltbush; on the seeds of creosote bush and mesquite, and cacti, grasses, insects (ants, grasshoppers, termites), observed taking Gambel’s Quail chicks and visiting road kill. Nests are made of plant fibers and stems and located in dens in underground burrows. HABITAT: Within the range of this species it has been reported from the desertscrub ecological formation. \*14 (050212), 42 (030314), 55 (recorded as *Citellus tereticaudus* Baird. Round-tailed Ground Squirrel. Lower Sonoran Life-zone of the southwestern part of the state (below 3,200 feet).), 65, 73, 100 (color photograph), 106 (050212 - includes a listing of subspecies, color presentation), **118** (recorded as *Citellus tereticaudus neglectus* (Merriam) - Distribution: Lower Sonoran Life Zone of southwestern Arizona. Figure 39, Page 90), 148 (021514 - color presentation)\*

Soricidae: The Shrew Fmaily

***Notiosorex crawfordi* (Coues, 1877): Desert Shrew**

COMMON NAMES: Crawford’s Desert Shrew (*N*.*c*. *crawfordi* (Coues, 1877) - Invalid?); Crawford’s Gray Shrew; Desert Shrew; Gray Shrew; Musarana del Deseirto Crawford (Hispanic)14; Musaraña-desértica Norteña (Spanish)42. HABITS: Feeds on centipedes, insects, lizards, small mice, scorpions, sowbugs and spiders. Nests are made of shredded bark and leaves and located in packrat dens or under dead agaves. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050212 - subsp. *crawfordi*, color presentation), 42 (061712), **55** (recorded as *Notiosorex crawfordi* (Coues). Desert Shrew. Locally common, widely distributed statewide at elevations below 6,000 feet, especially in riparian situations.), 65, 73, 100 (color photograph), 106 (050212 - color presentation), 118 (recorded as *Notiosorex crawfordi* *crawfordi* (Coues) - Distribution: Probably occurs statewide at elevations below 6000 feet. Figure 5, Page 30), 148 (color presentation)\*

***Notiosorex crawfordi* subsp. *crawfordi* (Coues, 1877) - Invalid?: Crawford’s Desert Shrew**

COMMON NAMES: Crawford’s Desert Shrew; Crawford’s Gray Shrew; Desert Shrew; Gray Shrew; Musarana del Deseirto Crawford (Hispanic)14. HABITS: The species feeds on centipedes, insects, lizards, small mice, scorpions, sowbugs and spiders. Nests are made of shredded bark and leaves and located in packrat dens or under dead agaves. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050212 - subsp. *crawfordi*, color presentation of species), 42 (061712 - no subspecies listed), 55 (species, recorded as *Notiosorex crawfordi* (Coues). Desert Shrew. Locally common, widely distributed statewide at elevations below 6,000 feet, especially in riparian situations.), 65 (species), 73 (species), 100 (species, color photograph of species), 106 (050212 - color presentation of species), **118** (recorded as *Notiosorex crawfordi* *crawfordi* (Coues) - Distribution: Probably occurs statewide at elevations below 6000 feet. Figure 5, Page 30), 148 (color presentation of species), **LCNCA**\*

***Sorex vagrans* (Baird, 1857): Vagrant Shrew**

COMMON NAMES: Ashland Shrew (subsp. *trigonirostris* Jackson, 1922 - Invalid?); Charming Shrew (subsp. *amoenus* Merriam, 1895 - Invalid?, subsp. *vagrans* Baird, 1857 - Valid?); Dobson Shrew (subsp. *dobsoni* Merriam, 1891 - Invalid?); Nevada Wandering Shrew (subsp. *nevadensis* Merriam, 1895 - Invalid?); Salt Marsh Vagrant Shrew (subsp. *halicoetes* Grinnell, 1913); Salt Marsh Wandering Shrew (subsp. *halicoetes* Grinnell, 1913); Shasta Shrew (subsp. *shastensis* Merriam 1899 - Invalid?); Sierra Nevada Shrew (subsp. *amoenus* Merriam, 1895 - Invalid?); Sierra Shrew (subsp. *amoenus* Merriam, 1895 - Invalid?); Vagrant Shrew; Vancouver Shrew (subsp. *vancouverensis* Swarth, 1912); Wandering Shrew. HABITS: Feeds on earthworms; insect larvae, small mammals, plant material, salamanders, slugs, snails, spiders and other invertebrates as well as the Endogone fungi. Takes shelter in the runways of voles. Nests are made under logs or in stumps. HABITAT: Within the range of this species it has been reported from forest and wetland ecological formations. \*14 (080609 - no record), 42 (021514), **55** (recorded as *Sorex vagrans* Baird. Vagrant Shrew. Common at higher elevations in northern part of the stateand from isolated mountains in southern part of the state: Graham, Santa Catalina, Santa Rita, Huachuca and Chiricahua Mountains.), 73, 100 (color photograph), 106 (080609), **118** (recorded as *Sorex vagrans monticola* Merriam - Distribution: Known from the Tunitcha Mountains, Apache county, in the San Francisco Peaks southeastwardly to the White Mountains and from isolated mountains in the southern part of the state. Figure 3, Page 27), 148 (021514 - color presentation)\*

Tayassuidae: The Javelina Family

*Dicotyles tajacu* (see *Pecari tajacu*)

*Dicotyles tajacu* subsp. *sonoriensis* (see *Pecari tajacu* subsp. *sonoriensis*)

*Pecari angulatus* (see footnote 65 under *Pecari tajacu* and/or *Pecari tajacu* subsp. *sonoriensis*)

***Pecari tajacu* (Linnaeus, 1758): Collared Peccary**

SYNONYMY: *Dicotyles tajacu* (Linnaeus, 1758); *Tayassu tajacu* (Linnaeus, 1758). COMMON NAMES: Armeria Peccary (subsp. *humeralis* (Merriam, 1901)); Báquiro106; Bank’s Collard Peccary (subsp. *bangsi* Goldman, 1917); Boquete Peccary (subsp. *crusnigram* (Bangs, 1902)); Chiriqui Collard Peccary (subsp. *crusnigram* (Bangs, 1902)); Collared Peccary; Columbia Collared Peccary (subsp. *torvus* (Bangs, 1898)); Dwarf Peccary (subsp. *nanus* (Merriam, 1901)); Heavy Peccary (subsp. *crassus* (Merriam, 1901)); Honduras Collared Peccary (subsp. *nigrescens* Goldman, 1926); Jabalina (Hispanic)14; Javelina; Lesser Mexican Collard Peccary (subsp. *nanus* (Merriam, 1901)); Mexican Hog; Mexican Collard Peccary (subsp. *crassus* (Merriam, 1901)); Musk Hog; Nelson’s Collared Peccary (subsp. *nelsoni* Goldman, 1926); Panaman Collard Peccary (subsp. *crusnigram* (Bangs, 1902)); Pecari de Collar (Spanish)42; Peccary; Pigelina (Arizona); Quenk (Trinidad)106; Saíno106; Sonoran Collared Peccary (*sonoriensis* (Mearns, 1897)); Sonora Peccary (*sonoriensis* (Mearns, 1897)); Texan Collard Peccary (subsp. *angulatus* (Cope, 1889)); Wild Hog; Wild Pig; Yucatan Collared Peccary (subsp. *yucatanensis* (Meriam, 1901)); Yucatan Peccary (subsp. *yucatanensis* (Meriam, 1901)); Zajino (subsp. *bangsi* Goldman, 1917). HABITS: Feeds on agaves, amphibians, berries, bulbs, fruits, fungi, grasses, insects, mesquite beans, nuts, roots, palm nuts, succulent plants, prickly-pear and other cacti, reptiles, rodents, roots, sotol, tubers and worms. Javelina bed down during the day in thick brush and prickly-pear thickets and at night in burrows usually under the roots of trees. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050312 - subsp. *sonoriensis* (Mearns), color presentation), 42 (021514), **55** (recorded as *Tayassu tajacu* (Linnaeus), Javelina. Southeastern and central parts of the state (1,200 - 6,000 feet).), 65 (recorded as *Pecari angulatus*), 73 (recorded as *Dicotyles tajacu*), 100 (recorded as *Tayassu tajacu*, color photograph), 106 (050312 - color presentation), 118 (recorded as *Tayassu tajacu* *sonoriensis* (Mearns) - Distribution: Southern part of the state. Figure 107, Page 249), 148 (021514 - color presentation), 149, **LCNCA**\*

***Pecari tajacu* subsp. *sonoriensis* (Mearns, 1897): Sonoran Collared Peccary**

SYNONYMY: *Dicotyles tajacu* subsp. *sonoriensis* (Mearns, 1897); *Tayassu tajacu* subsp. *sonoriensis* (Mearns, 1897). COMMON NAMES: Collared Peccary; Jabalina (Hispanic)14; Javelina; Musk Hog; Peccary; Pigelina (Arizona); Sonora Peccary; Sonoran Collared Peccary. HABITS: The species feeds on agaves, amphibians, berries, bulbs, fruits, fungi, grasses, insects, mesquite beans, nuts, roots, palm nuts, succulent plants, prickly-pear and other cacti, reptiles, rodents, roots, sotol, tubers and worms. Javelina bed down during the day in thick brush and prickly-pear thickets and at night in burrows usually under the roots of trees. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050312 - subsp. *sonoriensis* (Mearns), color presentation), 42 (021514), 55 (species, recorded as *Tayassu tajacu* (Linnaeus). Javelina. Southeastern and central parts of the state (1,200 - 6,000 feet).), 65 (species, recorded as *Pecari angulatus*), 73 (species, recorded as *Dicotyles tajacu*), 100 (species, recorded as *Tayassu tajacu*, color photograph of species), 106 (050312 - color presentation of species), **118** (recorded as *Tayassu tajacu* *sonoriensis* (Mearns) - Distribution: Southern part of the state. Figure 107, Page 249), 148 (021514 - color presentation), 149\*

*Tayassu tajacu* (see *Pecari tajacu*)

*Tayassu tajacu* subsp. *sonoriensis* (see see *Pecari tajacu* subsp. *sonoriensis*)

Ursidae: The Bear Family

*Euarctos americanus* (see *Ursus americanus*)

*Euarctos americanus* subsp. *amblyceps* (see *Ursus americanus* subsp. *amblyceps*)

***Ursus americanus* Pallas, 1780: Black Bear**

SYNONYMY: *Euarctos americanus* (Pallas, 1780) - Invalid?. COMMON NAMES: Alexander Black Bear (subsp. *pugnax* Swarth, 1911); American Black Bear (subsp. *americanus* Pallas, 1780); Awasos (Algonquian: Abenaki)106; ‘Baribal’ (French, Italian, Spanish)106; Black Bear; Blue Bear (subsp. *emmonsii* Dall, 1895); British Columbia Bear (subsp. *altifrontalis* Elliot, 1903); California Black Bear (subsp. *californiensis* Miller, 1900); Cinnamon Bear (subsp. *cinnamomum* Audubon and Bachman, 1854); Dall Black Bear (subsp. *pugnax* Swarth, 1911); Dall Island Black Bear (subsp. *pugnax* Swarth, 1911); Daxpitchée (Siouan: Crow)106; Desert Black Bear (subsp. *eremicus* Merriam, 1904); Eastern Black Bear (subsp. *americanus* Pallas, 1780); Emmons Bear (subsp. *emmonsii* Dall, 1895); Emmons’s Glacier Bear (subsp. *emmonsii* Dall, 1895); Everglades Bear (subsp. *floidanus* Merriam, 1896); Fighting Bear (subsp. *machetes* Elliot, 1903); Florida Black Bear (subsp. *floidanus* Merriam, 1896); Floridan Bear (subsp. *floidanus* Merriam, 1896); Glacier Bear (subsp. *emmonsii* Dall, 1895; subsp. *glacilis* Kells, 1897 - Invalid?); Gv-ni-ge-yo-na (Iroquoian: Tsalagi)106; Haida Gwaii Black Bear (subsp. *carlottae* Osgood, 1901); Hoonaw (Uto-Aztecan: Hopi)106; Hunter’s Bear (subsp. *perniger* J.A. Allen, 1910; subsp. *hunteri* Anderson, 1944 - Invalid?); Jóona (Uto-Aztecan: Mayo [Yoreme] )106; Judumi (Uto-Aztecan: O’odham) )106 Kenai Peninsula Bear (subsp. *perniger* J.A. Allen, 1910); Kermode Bear (subsp. *kermodei* Hornaday, 1905); Kenai Black Bear (subsp. *perniger* J.A. Allen, 1910); Kiááyo (Algonquian: Blackfoot)106; Kmákan (Yuman: Kiliwa)106; Louisiana Black Bear (subsp. *luteolus* Griffith, 1821); Mahkwa (Algonquian: Kickapoo)106; Makwa (Algonquian)106; Makwaa (Algonquian: Ojibwe)106; Maskwa (Algonquian: Cree)106; Mato (Siouan: Lakota [Sioux] )106; Mexican Black Bear (subsp. *eremicus* Merriam, 1904); Minnesota Black Bear(subsp. *americanus* Pallas, 1780); Mishe-Mo’kwa (? ‘the Great Bear’ Longfellow’s *Hiawatha*); New Mexico Black Bear (subsp. *amblyceps* Baird, 1859); Newfoundland Black Bear (subsp. *hamiltoni* Cameron, 1957); North American Black Bear; Northwestern Black Bear (subsp. *altifrontalis* Elliot, 1903); Ohoí (Uto-Aztecan: Guarijío)106; Ojuí (Uto-Aztecan: Tarahumara)106; Olympic Black Bear (subsp. *altifrontalis* Elliot, 1903); Oso Negro (Hispanic)14; Oso Negro (Spanish)42; Ours Noir (French)42; Queen Charlotte Black Bear (subsp. *carlottae* Osgood, 1901); S’eek (Na-Dené: Tlingit)106; Shash [Łizhinígíí] (Athabaskan: Navajo)106; Shoot-zhraii (Athabaskan: Gwich’in)106; Sonborger’s Black Bear (subsp. *americanus* Pallas, 1780; subsp. *songborgeri* Bangs, 1898 - Invalid?); Spirit Bear (subsp. *kermodei* Hornaday, 1905); S˄S (Athabaskan: Carrier)106; Texan Black Bear (subsp. *luteolus* Griffith, 1821); Tlācamāyeh (Uto-Aztecan: Náhuatl)106; Tsah (Athabaskan: Dene)106; Vancouver Bear (subsp. *vancouveri* Hall, 1928); Vancouver Island Black Bear (subsp. *vancouveri* Hall, 1928); Weda' (Uto-Aztecan: Shoshone)106; West Mexico Black Bear (subsp. *machetes* Elliot, 1903); Yáaka' (Plateau Penutian: Sahaptian [Nez Perce] )106; Yáka (Plateau Penutian: Sahaptian [Sahaptin] )106. HABITS: Feeds on acorns, ants, beetles, berries, buds, carrion, crickets, currants, fish, fruits, grapes, grubs, insects, leaves, pinyon nuts, prickly-pear fruit, raspberries, sprouts, small to medium-size mammals and other vertebrates and twigs. Shelter is taken in dense cover and they climb trees to escape danger. Nests are made of grasses leaves, mud and sticks located in a den. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: Winnipeg (aka “Winnie” 1915-1934) of “Winnie the Pooh” fame was a female Black Bear cub, and Black Bear cubs were also involved in the naming of Smokey the Bear and the Teddy Bear. \*14 (050312 - subsp. *amblyceps* (Baird), color presentation), 42 (022714), **55** (recorded as *Euarctos americanus* (Pallas). Black Bear. Formerly common throughout the mountainous areas of the state, now greatly reduced in numbers and distribution.), 73, 100 (color photograph), 106 (050312 - includes a listing of subspecies, color presentation), 118 (recorded as *Euarctos americanus amblyceps* (Baird) - Distribution: Probably formerly occurred throughout the state, at least in mountainous areas. Figure 91, Page 224), 148 (021514 - color presentation), 153, ADS (Bear killed in SaddleBrooke relatively unafraid of humans, Wednesday, June 6, 2012, Page A2)\*

***Ursus americanus* subsp. *amblyceps* Baird, 1859: New Mexico Black Bear**

SYNONYMY: *Euarctos americanus* subsp. *amblyceps* (Baird, 1859). COMMON NAMES: Black Bear; New Mexico Black Bear; Oso Negro (Hispanic)14. HABITS: The species feeds on acorns, ants, beetles, berries, buds, carrion, crickets, currants, fish, fruits, grapes, grubs, insects, leaves, pinyon nuts, prickly-pear fruit, raspberries, sprouts, small to medium-size mammals and other vertebrates and twigs. Shelter is taken in dense cover and they climb trees to escape danger. Nests are made of grasses leaves, mud and sticks located in a den. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050312 - subsp. *amblyceps* (Baird), color presentation), 42 (061712), 55 (species, recorded as *Euarctos americanus* (Pallas). Black Bear. Formerly common throughout the mountainous areas of the state, now greatly reduced in numbers and distribution.), 73 (species), 100 (species, color photograph of species), 106 (050312 - includes a listing of subspecies, color presentation), **118** (recorded as *Euarctos americanus amblyceps* (Baird) - Distribution: Probably formerly occurred throughout the state, at least in mountainous areas. Figure 91, Page 224), 148 (021514 - color presentation of species)\*

*Ursus arctos* (see footnotes 14 and 100 under *Ursus arctos* subsp. *horribilis*)

***Ursus arctos* subsp. *horribilis* Ord, 1815: Grizzly Bear**

COMMON NAMES: American Grizzly Bear (subsp. *horribilis* Ord, 1815); Apache Grizzly (subsp. *horribilis* Ord, 1815; *Ursus horribilis* subsp. *apache* Merriam, 1916 - Invalid?); Arizona Brown Bear (subsp. *horribilis* Ord, 1815; *Ursus horribilis* subsp. *arizonae* Merriam, 1916 - Invalid?); Arizona Grizzly (subsp. *horribilis* Ord, 1815; *Ursus horribilis* subsp. *arizonae* Merriam, 1916 - Invalid?); Baird Grizzly (subsp. *horribilis* Ord, 1815; *Ursus horribilis* subsp. *bairdi* Merriam, 1914 - Invalid?); Big Plains Grizzly (subsp. *horribilis* Ord, 1815); Brown Bear (*Ursus arctos* Linnaeus, 1758; subsp. *arctos* Linnaeus, 1758; subsp. *horribilis* Ord, 1815; subsp. *pruinosus* Blyth, 1854); Grizzly; Grizzly Bear (*Ursus arctos* Linnaeus, 1758; subsp. *horribilis* Ord, 1815); ); Mishe-Mo’kwa (? ‘the Great Bear’ Longfellow’s *Hiawatha* Navajo Grizzly (subsp. *horribilis* Ord, 1815; *Ursus horribilis* subsp. *navaho* Merriam, 1914 - Invalid?); New Mexico Grizzly (subsp. *horribilis* Ord, 1815; *Ursus horribilis* subsp. *bairdi* Merriam, 1914 - Invalid?); North American Brown Bear; Oso Gris (Hispanic)14; (Oso Pardo (Spanish)42; Silvertip (subsp. *horribilis* Ord, 1815); Silvertip Bear; Sonora Grizzly (subsp. *horribilis* Ord, 1815; *Ursus horribilis* subsp. *kennerlyi* Merriam, 1914 - Invalid?); Texas Brown Bear (subsp. *horribilis* Ord, 1815; *Ursus horribilis* subsp. *texensis* Merriam, 1914 - Invalid?); Texas Grizzly (subsp. *horribilis* Ord, 1815; *Ursus horribilis* subsp. *texensis* Merriam, 1914 - Invalid?). HABITS: The species feeds on berries, carrion, fish (bass, salmon and trout), fungi, grasses, insects (Army Cutworm moths), leaves, large mammals (Bison, Black Bear, Caribou, Deer, Elk, Moose and Mountain Goats) and small mammals (rodents), nuts (Whitebark Pine nuts), roots and sprouts. The Grizzly Bear beds down in depressions in thickets. Dens are excavated from under rocks or located in caves, crevices or hollow trees. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: The last confirmed “kill” in Arizona was made on the slopes of Mount Baldy (Apache County) in the summer of 1939. Pad marks and two-colored, four inch long hairs of a Grizzly Bear were observed in the Sierra Madre of southwestern Chihuahua as late as 1959. Grizzly Bears were killed-off by American immigrants because of the risks posed to humans and livestock. The Grizzly Bear has been EXTIRPATED from Arizona. \*14 (050312 - *Ursus arctos* subspp. *horriaeus* Baird, 1858 - Extinct and *perturbans* Merriam - Extinct), 39 (recorded as *Ursus horribilis* - included the following note when referring to Grizzly Bears in the Tucson Area “Jack O’Connor told us of a kill in the Catalinas in 1915. Up until 1912, there were quite a few grizzly bears in the Catalinas and also the Galiuros. The Santa Cruz River bottom was a favorite hangout of these bears, all the way from Nogales to the Tucson area. We have a few authentic reports of desert grizzlies, but Jack talked with some old timers who hunted them in the river bottom.” It reported that the majority of grizzly bears in Arizona were found in the east-central part of the state. The bears entire range, however, stretched from Bill Williams Mountain southeast to Springerville, the Chuska Mountains of the Four Corners area, then south to the Chiricahuas, west to Nogales, north using the Santa Cruz River as a western boundary to the Tucson area. Also the Santa Ritas, Catalinas, Galiuros, the Pinals, Sierra Anchas, the Young country of Canyon and Cherry Creeks, the Mazatzals, Pine Mountain, the Bradshaws, Mingus Mountain, the Camp Wood area and Sycamore Canyon, south of Bill Williams Mountain. The following dates of last known “kills” were provided: Arizona on September 13, 1935 (however, there was a possible sighting in 1936); California in August 1922; New Mexico has two “last” kills one in the spring of 1923 and the other in 1933; Texas on November 2, 1890, and Utah on August 22, 1923. A grizzly bear was killed in the Sierra del Pinitos in Sonora Mexico, a few miles southeast of Nogales, Arizona, on June 18, 1955. This booklet included the listing of six subspecies taken in Arizona: *Ursus horribilis apache*, the Apache Grizzly; *Ursus horribilis arizonae* Merriam, the Arizona Grizzly; *Ursus horribilis baird*, the New Mexico Grizzly; *Ursus horribilis kennerlyi*, the Sonora Grizzly; *Ursus horribilis navajo*, the Navajo Grizzly, and *Ursus horribilis texensis*, the Texas Grizzly), 40 (recorded as *Ursus arctos* - Grizzly Bears were historically present in the Rincon and Santa Catalina Mountains and along the Santa Cruz River bottom from Nogales to Tucson.), 42 (072714), **55** (recorded as *Ursus horribilis* Ord. Grizzly Bear. Formerly throughout the mountainous areas of the state, now extinct in Arizona.), 73 (recorded as *Ursus horribilis*), 100 (species, recorded as *Ursus arctos*, color photograph), 106 (050312 - color presentation), **118** (recorded as *Ursus horribilis* - Distribution: Formerly statewide, now extinct in Arizona. Figure 92, Page 225), 139, ADS (Monday, January 30, 2012, Series reminds: Once grizzlies roamed nearby, Section A, Pages 1&4. This article reported that Grizzlies occurred in the Rincon Mountains until the 1920’s. It also reported the trapping and killing of a grizzly in 1921 just south of Rincon Peak at 8,000 feet in elevation.), 148 (color presentation), 149, 153\*

*Ursus horribilis* (see footnotes 39, 55, 73 and 118 under *Ursus arctos* subsp. *horribilis*)

*Ursus horribilis* subsp. *apache* (see footnote 39 under *Ursus arctos* subsp. *horribilis*)

*Ursus horribilis* subsp. *arizonae* (see footnote 39 under *Ursus arctos* subsp. *horribilis*)

*Ursus horribilis* subsp. *bairdi* (see footnote 39 under *Ursus arctos* subsp. *horribilis*)

*Ursus horribilis* subsp. *kennerlyi* (see footnote 39 under *Ursus arctos* subsp. *horribilis*)

*Ursus horribilis* subsp. *navaho* (see footnote 39 under *Ursus arctos* subsp. *horribilis*)

*Ursus horribilis* subsp. *texensis* (see footnote 39 under *Ursus arctos* subsp. *horribilis*)

Vespertilionidae: The Plain-nosed Bat Family

***Antrozous pallidus* (Le Conte, 1856): Pallid Bat**

COMMON NAMES: Big-eared Pale Bat; Desert Bat; Desert Palid Bat (subsp. *pallidus* Le Conte, 1856 - Invalid?); Le Conte’s Palid Bat (subsp. *pallidus* Le Conte, 1856 - Invalid?); Murcielago Palid (Hispanic)14; Murciélago-desértico Norteño (Spanish)42; Pale Bat (subsp. *pallidus* Le Conte, 1856 - Invalid?); Pallid Bat. HABITS: Feeds on flightless arthropods on the ground, insects, scorpions, lizards and nectar. Roosts under bridges, buildings, in caves, crevices in cliffs, rocky outcrops, under slabs of rocks, hollow trees and tunnels. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (050312 - subsp. *pallidus*), 42 (022714 - no subspecies listed), **55** (recorded as *Antrozous pallidus* (Le Conte). Pallid Bat. Locally common throughout the state.), 73, 92 (color photograph), 100 (color photograph), 106 (050312 - color presentation), 118 (recorded as *Antrozous pallidus* *pallidus* (Le Conte) - Distribution: Statewide. Figure 25, Page 60), 148 (color presentation)\*

***Antrozous pallidus* subsp. *pallidus* (LeConte, 1756) - Invalid?: Pallid Bat**

COMMON NAMES: Desert Palid Bat; LeConte’s Palid Bat; Murcielago Pallid (Hispanic)14; Pale Bat; Pallid Bat. HABITS: The species feeds on flightless arthropods on the ground, insects, lizards and nectar. Roosts under bridges, buildings, in caves, crevices in cliffs, rocky outcrops, under slabs of rocks, hollow trees and tunnels. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (050312 - subsp. *pallidus*), 42 (061712 - no subspecies listed), 55 (species, recorded as *Antrozous pallidus* (Le Conte). Pallid Bat. Locally common throughout the state.), 73 (species), 92 (species, color photograph of species), 100 (species, color photograph of species), 106 (050312 - species, color presentation of species), **118** (recorded as *Antrozous pallidus* *pallidus* (Le Conte) - Distribution: Statewide. Figure 25, Page 60), 148 (color presentation), **LCNCA**\*

*Corynorhinus townsendii* (see *Plecotus townsendii*)

*Corynorhinus townsendii* subsp. *pallescens* (see *Plecotus townsendii* subsp. *pallescens*)

***Eptesicus fuscus* (Beauvois, 1796): Big Brown Bat**

COMMON NAMES: Big Brown Bat; Grande Chauve-souris Brune (French)42; Murcielago Cafe’ Grande (Hispanic)14; Murciélago-moreno Norteamericano (Spanish)42; Pallid Brown Bat (subsp. *pallidus* (Young, 1908) - Invalid?). HABITS: Feeds on insects (beetles, moths, mosquitoes, wasps). Roosts under bridges, in buildings, caves, crevices in cliff faces, mines and holes in saguaros and trees. HABITAT: Within the range of this species it has been reported from tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050312 - subsp. *pallidus* (Young)), 42 (022714 - no subspecies listed), **55** (recorded as *Eptesicus fuscus* (Palisot de Beauvois). Big Brown Bat. Locally common throughout the state.), 73, 92 (color photograph), 100 (color photograph), 106 (050312 - includes a listing of subspecies, color presentation), 118 (recorded as *Eptesicus fuscus* *pallidus* (Young) - Distribution: Statewide. Figure 20, Page 52), 148 (color presentation)\*

***Eptesicus fuscus* subsp. *pallidus* (Young, 1908) - Invalid?: Pallid Brown Bat**

COMMON NAMES: Big Brown Bat; Murcielago Cafe’ Grande (Hispanic)14; Pallid Brown Bat. HABITS: The species feeds on insects (beetles, moths, mosquitoes, wasps). Roosts under bridges, in buildings, caves, crevices in cliff faces, mines and holes in saguaros and trees. HABITAT: Within the range of this species it has been reported from tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050312 - subsp. *pallidus* (Young)), 42 (061712 - no subspecies listed), 55 (species, recorded as *Eptesicus fuscus* (Palisot de Beauvois). Big Brown Bat. Locally common throughout the state.), 73 (species), 92 (species, color photograph of species), 100 (species, color photograph of species), 106 (050312 - species, includes a listing of subspecies, color presentation of species), **118** (recorded as *Eptesicus fuscus* *pallidus* (Young) - Distribution: Statewide. Figure 20, Page 52), 148 (color presentation), **LCNCA**\*

*Euderma maculata* (see footnotes 55, 73 and 118 *Euderma maculatum*)

***Euderma maculatum* (J.A. Allen, 1891): Spotted Bat**

COMMON NAMES: Death’s Head Bat; Jackass Bat; Murcielago Pinto (Hispanic)14; Murciélago Pinto (Spanish)42; Pinto Bat; Spotted Bat; Spotted Great-eared Bat. HABITS: Feeds on insects (mainly grasshoppers and moths). Roosts in cracks and crevices in caves, cliffs and ledges, and under loose rock in rocky situations, possibly in close proximity to water. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: This bat is rarely encountered. Riparian habitats seem to be important t o this species. \*8, 14 (050312 - color presentation), 42 (022714), 55 (recorded as *Euderma maculata* (J.A. Allen). Spotted Bat. Extremely rare; known from four specimens, Maricopa and Yuma counties.), 73 (recorded as *Euderma maculatum*), 92 (*Euderma maculatum* noted), 100 (recorded as *Euderma maculatum*, color photograph), 106 (050312 - recorded as *Euderma maculatum* Allen, 1891, color presentation), **118** (recorded as *Euderma maculata* (J.A. Allen) - Distribution: Can be expected almost anywhere in the state although recorded from only four localities. Figure 23, Page 57), 148 (color presentation)\*

***Lasionycteris noctivagans* (LeConte, 1831): Silver-haired Bat**

COMMON NAMES: Chauve-souris Argentée (French)42; Murcielago Plateado (Hispanic)14; Murciélago Pelo Plateado (Spanish)42; Night-wandering Bat; Silver-haired Bat; Silvery-haired Bat; Silverwings. HABITS: Feeds on caddis flies, flies, moths and other insects. Uncommon tree dwelling bat found under bark, in bird nests, dead trees, fissures in rock ledges, tree hollows, and woodpecker holes. HABITAT: Within the range of this species it has been reported from tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (050312), 42 (061712), **55** (recorded as *Lasionycteris noctivagans* (Le Conte). Silver-haired Bat. Uncommon solitary tree-dwelling bat found throughout the state at elevations above 5,000 feet), 73, 92 (color photograph), 100 (color photograph), 106 (050312 - color presentation), **118** (recorded as *Lasionycteris noctivagans* (Le Conte) - Distribution: Probably statewide, at least during certain seasons of the year. Figure 18, Page 48), 148 (color presentation)\*

***Lasiurus blossevillii* (Lesson and Garnot, 1826): Western Red Bat**

COMMON NAMES: California Red Bat (subsp. *teliotis* (H. Allen, 1891) - Invalid?); Desert Red Bat; Lesser Red Bat; Murcielago Rojo (Hispanic)14; Murciélago-cola Peluda de Blossevilli (Spanish)42; Red Bat; Western Red Bat (*L*.*b*. *teliotis* (H. Allen, 1891) - Invalid?). HABITS: Feeds on insects (ants, beetles, cicadas, crickets, flies, moths, true bugs). Roosts in the foliage of herbs, shrubs and trees, saguaro boots and sometimes under leaf litter on the ground. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grasslands, desertscrub and wetland ecological formations. NOTES: The Red Bat feeds on moths including many crop pests. In Arizona this bat is associated with riparian corridors and wooded areas. \*8, 14 (050312), 42 (022714 - no subspecies listed), **55** (recorded as *Lasiurus borealis* (Muller). Red Bat. Uncommon solitary tree bat throughout the state in the region of trees.), 73 (recorded as *Lasiurus borealis*), 92 (recorded as *Lasiurus borealis*, color photograph of *Lasiurus borealis*), 100 (recorded as *Lasiurus borealis*, color photograph of *Lasiurus borealis*), 106 (050312 - color presentation), 118 (recorded as *Lasiurus borealis teliotis* (H. Allen) - Distribution: Probably statewide in riparian communities of the Upper Sonoran and Transitional Life Zones. Figure 21, Page 54), 148 (color presentation), 149, **LCNCA**\*

***Lasiurus blossevillii* subsp. *teliotis* (H. Allen, 1891) - Invalid?: Western Red Bat**

SYNONYMY: *Lasiurus borealis teliotis* (H. Allen, 1891) - Invalid?. COMMON NAMES: Desert Red Bat; Red Bat; Western Red Bat. HABITS: The species feeds on insects (ants, beetles, cicadas, crickets, flies, moths, true bugs). Roosts in the foliage of herbs, shrubs and trees, saguaro boots and sometimes under leaf litter on the ground. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grasslands, desertscrub and wetland ecological formations. NOTES: The Red Bat feeds on moths including many crop pests. In Arizona this bat is associated with riparian corridors and wooded areas. \*8, 14 (050312), 42 (061712 - no subspecies listed), 55 (recorded as *Lasiurus borealis* (Muller). Red Bat. Uncommon solitary tree bat throughout the state in the region of trees.), 73 (recorded as *Lasiurus borealis*), 92 (recorded as *Lasiurus borealis*, color photograph of *Lasiurus borealis*), 100 (recorded as *Lasiurus borealis*, color photograph of *Lasiurus borealis*), 106 (050312 - species, color presentation of species), **118** (recorded as *Lasiurus borealis teliotis* (H. Allen) - Distribution: Probably statewide in riparian communities of the Upper Sonoran and Transitional Life Zones. Figure 21, Page 54), 148 (color presentation of species), 149\*

*Lasiurus borealis* (see footnotes 55, 73, 92 and 100 under *Lasiurus blossevillii*)

*Lasiurus borealis* subsp. *teliotis* (see footnote 118 under *Lasiurus blossevillii* subsp. *teliotis*)

***Lasiurus cinereus* (Beauvois, 1796): Hoary Bat**

COMMON NAMES: Chauve-souris Cendrée (French)42; Hawaiian Hoary Bat (subsp. *semotus* H. Allen, 1890); Hoary Bat; Murcielago (Hispanic); Murciélago-cola Peluda Canoso (Spanish)42. HABITS: Feeds primarily on moths. Roosts in buildings, caves, mines, in dense foliage in shrubs and trees and under leaves on the ground. HABITAT: Within the range of this species it has been reported from tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (050412 - subsp. *cinereus* (Palisot de Beauvois)), 42 (022714), **55** (recorded as *Lasiurus cinereus* (Palisot de Beauvois). Hoary Bat. Uncommon tree dwelling bat found throughout the state in the region of trees.), 73, 92 (color photograph), 100 (color photograph), 106 (050412 - color presentation), 118 (recorded as *Lasiurus cinereus* *cinereus* (Beauvois) - Distribution: Statewide. Figure 22, Page 55), 148 (color presentation), **LCNCA**\*

***Lasiurus cinereus* subsp. *cinereus* (Beauvois, 1796): Northern Hoary Bat**

COMMON NAMES: Chauve-souris Cendrée (French)42; Hoary Bat; Murcielago (Hispanic)14; Northern Hoary Bat; Murciélago-cola Peluda Canoso (Spanish)42. HABITS: The species feeds primarily on moths. Roosts in buildings; caves; mines; in dense foliage in shrubs and trees, and under leaves on the ground. HABITAT: Within the range of this species it has been reported from tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (050412 - subsp. *cinereus* (Palisot de Beauvois)), 42 (061712), 55 (species, recorded as *Lasiurus cinereus* (Palisot de Beauvois). Hoary Bat. Uncommon tree dwelling bat found throughout the state in the region of trees.), 73 (species), 92 (species, color photograph of species), 100 (species, color photograph of species), 106 (050412 - color presentation of species), **118** (recorded as *Lasiurus cinereus* *cinereus* (Beauvois) - Distribution: Statewide. Figure 22, Page 55), 148 (color presentation)\*

***Myotis auriculus* Baker and Stains, 1955: Southwestern Myotis Bat**

COMMON NAMES: Mexican Long-eared Myotis, Miotis Orejudo (Spanish)42; Murcielago Orejon Mexicano (Hispanic), Southwestern Myotis, Southwestern Myotis Bat. HABITS: Feeds on insects, and primarily on moths. Roosts in buildings; caves; cliffs; mines; rocky outcrops, and cavities in trees. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: *Myotis keenii* (Merriam) has been commonly but mistakenly applied to this species. *Myotis auriculus* is native to southwest-central and southern North America. \*8, 14 (080709 - *Myotis auriculus* Hoffmeister and Krutzsch subsp. *apache*), 42 (021614), 55 (recorded as *Myotis keenii* (Merriam) - mistakenly applied to this species. Keen’s Myotis. Uncommon at elevations above 5,000 feet in the southeastern part of the state.), 100, 106 (021614 - color presentation), 118 (recorded as *Myotis evotis apache* Hoffmeister and Krutzsch. Long-eared Myotis - Distribution: In Transitional Life Zone of southeastern Arizona. Figure 13, Page 40), 148 (021614 - color presentation), **LCNCA**\*

***Myotis auriculus* subsp. *apache* (Hoffmeister and Krutzsch, 1955) - Invalid?: Southwestern Myotis Bat**

COMMON NAMES: Mexican Long-eared Myotis, Miotis Orejudo (Spanish)42; Murcielago Orejon Mexicano (Hispanic), Southwestern Myotis, Southwestern Myotis Bat. HABITS: Feeds on insects, and primarily on moths. Roosts in buildings; caves; cliffs; mines; rocky outcrops, and cavities in trees. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: *Myotis keenii* (Merriam) has been commonly but mistakenly applied to this species. *Myotis auriculus* is native to southwest-central and southern North America. \*8, 14 (080709 - *Myotis auriculus* Hoffmeister and Krutzsch subsp. *apache*), 42 (021614 - no subspecies listed), 55 (species, recorded as *Myotis keenii* (Merriam) - mistakenly applied to this species. Keen’s Myotis. Uncommon at elevations above 5,000 feet in the southeastern part of the state.), 100, 106 (021614 - species, color presentation of species), **118** (recorded as *Myotis evotis apache* Hoffmeister and Krutzsch. Long-eared Myotis - Distribution: In Transitional Life Zone of southeastern Arizona. Figure 13, Page 40), 148 (021614 - color presentation of species)\*

***Myotis californicus* (Audubon and Bachman, 1842): California Myotis Bat**

COMMON NAMES: California Bat; California Myotis; California Myotis Bat; Little California Bat (subsp. *californicus* Audubon and Bachman, 1842 - Invalid?); Miotis Californiano (Spanish)42; Murcielago de California (Hispanic)14; Stephen’s Brown Bat (subsp. *stephensi* Dalquest, 1946 - Invalid?). HABITS: Feeds on arachnids and insects. Roosts in crevices and cracks in cliffs and canyon walls, caves, mine shafts and manmade shelters. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8 (*Myotis californicus* N. Miller), 14 (050412 - subsp. *californicus*; subsp. *stephensi* (Dalquest)), 42 (022814 - no subspecies listed), **55** (recorded as *Myotis californicus* Audubon & Bachman. California Myotis. Locally common throughout the state.), 73, 100 (color photograph), 106 (050412 - color presentation), 118 (recorded as *Myotis californicus* *californicus* (Audubon & Bachman) - Distribution: Eastern and southeastern Arizona, and *Myotis californicus* *stephensi* Dalquest - Distribution: Northern and western part of the state. Figure 16, Page 45), 148 (color presentation), 149\*

***Myotis californicus* subsp. *californicus* Audubon and Bachman, 1842 - Invalid?: California Myotis Bat**

COMMON NAMES: California Bat; California Myotis; California Myotis Bat; Little California Bat. HABITS: The species feeds on arachnids and insects. Roosts in crevices and cracks in cliffs and canyon walls, caves, mine shafts and manmade shelters. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8 (species: *Myotis californicus* N. Miller), 14 (051007 - subspp. *californicus* (Audubon & Bachman) and stephensi (Dalquest)), 42 (061712 - no subspecies listed), 55 (species, recorded as *Myotis californicus* Audubon & Bachman. California Myotis. Locally common throughout the state.), 73 (species), 100 (species, color photograph of species), 106 (050412 - species, color presentation of species), **118** (recorded as *Myotis californicus* *californicus* (Audubon & Bachman) - Distribution: Eastern and southeastern Arizona. Figure 16, Page 45), 148 (color presentation), 149, **LCNCA**\*

*Myotis ciliolabrum* (see *Myotis leibii*)

*Myotis ciliolabrum* subsp. *melanorhinus* (see footnote 14 under *Myotis leibii*)

*Myotis ciliolabrum* subsp. *subulatus* (see footnote 14 under *Myotis leibii*)

*Myotis evotis* subsp. *apache* (see footnote 118 under *Myotis auriculus* subsp. *apache*)

*Myotis keenii* (see footnote 55 under *Myotis auriculus*)

***Myotis leibii* (Audubon and Bachman, 1842): Western Small-footed Myotis**

SYNONYMY: *Myotis ciliolabrum* (Merriam, 1886). COMMON NAMES: Chauve-souris Pygmée (French)42; Eastern Small-footed Bat; Eastern Small-footed Myotis; La Grulla Brown Bat (subsp. *orinomus* Elliot, 1903 - Invalid?); Least Brown Bat (subsp. *winnemana* Nelson, 1913 - Invalid?); Miotis Cara Negra (Spanish: applied to *Myotis ciliolabrum*)42; Murcielago Patas Chicas (Hispanic: applied to *Myotis ciliolabrum*)14; Say Bat (subsp. *subulatus* Say, 1823 - Invalid?); Small-footed Bat; Small-footed Myotis; Small-winged Bat (subsp. *subulatus* Say, 1823 - Invalid?); Western Small-footed Bat (applied to *Myotis ciliolabrum*); Western Small-footed Myotis (applied to *Myotis ciliolabrum*); Western Small-footed Myotis. HABITS: Feeds on flying insects including bugs, flies and moths. Hibernates in caves and mines and roosts under bark, in buildings, rock bluffs, burrows, caves, cavities in cliffs, cracks; rock crevices, holes, mine shafts, hollow trees, and amongst and under rocks, and snags. Den sites may be buildings; caves; under rocks and trees. HABITAT: Within the range of this species it has been reported from tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: This bat may live to be from 5 to 12 years of age. Populations may be in decline. \*8, 14 (061712 - recorded as *Myotis ciliolabrum*: subspp. *melanorhinus* (Merriam) and subsp. *subulatus* (Say), color presentation), 42 (022814 - no subspecies listed), **55** (recorded as *Myotis subulatus* Say. Small-footed Myotis. Uncommon but distributed throughout the state.), 100, 106 (061712 - recorded as *Myotis leibii*, color presentation and *Myotis ciliolabrum*, color presentation), **118** (recorded as *Myotis subulatus melanorhinus* (Merriam) - Distribution: Probably at higher elevations throughout the state. Figure 17, Page 46), 148 (021614 - color presentation)\*

*Myotis subulatus* (see footnote 55 under *Myotis leibii*)

*Myotis subulatus* subsp. *melanorhinus* (seefootnote 118 under *Myotis leibii*)

***Myotis thysanodes* Miller, 1897: Fringed Myotis Bat**

COMMON NAMES: Black Hills Fringe-tailed Myotis (subsp. *pahasapensis* Jones and Genoways, 1967 - Invalid?; Fringed Bat (subsp. *thysanodes* G.S. Miller, 1897 - Invalid?); Fringed Myotis; Fringed Myotis Bat; Fringe-tailed Myotis; Miotis Bordado (Spanish)42; Murcielago Fleco (Hispanic)14; Pacific Fring-tailed Bat (subsp. *vespertinus* Manning and Jones, 1988 - Invalid?). HABITS: Feeds on daddy longlegs and insects; roosts in buildings, caves, mines and snags trees. HABITAT: Within the range of this species it has been reported from tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (021614 - subsp. *thysanodes* (Miller) is the subspecies identified as occurring in New Mexico), 42 (021614), **55** (recorded as *Myotis thysanodes* Miller. Fringe-tailed Myotis. Locally common in caves, mine tunnels and buildings at elevation above 5,000 feet throughout the state.), 73, 85 (053106), 100 (color photograph), 106 (053106 - genus), 118 (recorded as *Myotis thysanodes* *thysanodes* Miller - Distribution: Probably occurs at higher elevations throughout the state. Figure 14, Page 42), 148 (021614 - color presentation)\*

***Myotis thysanodes* subsp. *thysanodes* G.S. Miller, 1897 - Invalid?: Fringed Myotis Bat**

COMMON NAMES: Fringed Bat; Fringed Myotis; Fringed Myotis Bat; Fringe-tailed Myotis. HABITS: The species feeds on daddy longlegs and insects; roosts in buildings, caves, mines and snags trees. HABITAT: Within the range of this species it has been reported from tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14, 42 (021614 - no subspecies listed), 55 (species, recorded as *Myotis thysanodes* Miller. Fringe-tailed Myotis. Locally common in caves, mine tunnels and buildings at elevation above 5,000 feet throughout the state.), 73 (species), 85 (053106 - species), 100 (species, color photograph of species), 106 (053106 - genus), **118** (recorded as *Myotis thysanodes* *thysanodes* Miller - Distribution: Probably occurs at higher elevations throughout the state. Figure 14, Page 42), 148 (021614 - color presentation of species), **LCNCA**\*

***Myotis velifer* (J.A. Allen, 1890): Cave Myotis Bat**

COMMON NAMES: Cave Bat; Cave Myotis; Cave Myotis Bat; Mexican Brown Bat; Miotis Mexicano (Spanish)42; Murcielago de Cueva (Hispanic)14; Southwestern Cave Myotis (subsp. *brevis* Vaughan, 1954 - Invalid?). HABITS: Feeds on small moths and other small insects. Roosts in holes and pockets in caves, crevices, bridges, buildings, abandoned mine shafts, tunnels, and trees. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8 (recorded as *Myotis velifer velifer* (J.A. Allen)), 14 (050412 - subspp. *brevis* (Vaughan) and subsp. *incautus* (J.A. Allen)), 42 (022814 - no subspecies listed), **55** (recorded as *Myotis velifer* (J.A. Allen). Cave Myotis. Locally abundant in summer months at lower elevations (below 5,000 feet) throughout the southern and western parts of the state.), 73, 92, 100 (color photograph), 106 (050412 - color presentation), 118 (recorded as *Myotis velifer* *brevis* Vaughan - Distribution: Probably statewide. Figure 11, Page 37), 148 (color presentation)\*

***Myotis velifer* subsp. *brevis* (Vaughan, 1954) - Invalid?: Southwestern Cave Myotis (probably STATEWIDE)**

COMMON NAMES: Cave Bat; Cave Myotis; Cave Myotis Bat; Mexican Brown Bat; Murcielago de Cueva (Hispanic)14; Southwestern Cave Myotis. HABITS: The species feeds on small moths and other small insects. Roosts in holes and pockets in caves, crevices, bridges, buildings, abandoned mine shafts, tunnels, and trees. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050412 - subspp. *brevis* (Vaughan), *incautus* (J.A. Allen) and *grandis* (Hayward)), 42 (022814 - no subspecies listed), 55 (species, recorded as *Myotis velifer* (J.A. Allen). Cave Myotis. Locally abundant in summer months at lower elevations (below 5,000 feet) throughout the southern and western parts of the state.), 73 (species), 92 (species), 100 (species, color photograph of species), 106 (050412 - species, color presentation of species), **118** (recorded as *Myotis velifer* *brevis* Vaughan - Distribution: Probably statewide. Figure 11, Page 37), 148 (color presentation of species), **LCNCA**\*

***Pipistrellus hesperus* (H. Allen, 1864): Western Pipistrelle Bat (STATEWIDE)**

COMMON NAMES: Canyon Bat (subsp. *hesperus* H. Allen, 1864 - Invalid?); Flittermouse; Murcielago del Poniente (Hispanic)14; Pipistrelo del Oeste Americano (Spanish)42; Swift Bat (subsp. *apus* Elliot, 1904 - Invalid?); Western Bat (subsp. *hesperus* H. Allen, 1864 - Invalid?); Western Pipistrelle; Western Pipistrelle Bat. HABITS: Feeds on insects. Roosts in buildings, rock crevices in canyon walls, caves, cliffs, rocky outcrops, under rocks and in mine shafts. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*8, 14 (050412 - subspp. *hesperus* and *maximus* (Hatfield)), 42 (022814 - no subspecies listed), **55** (recorded as *Pipistrellus hesperus* (H. Allen). Western Pipistrelle. Common throughout the state.), 73, 100 (color photograph), 106 (050412 - color presentation), 118 (recorded as *Pipistrellus hesperus apus* Elliot - Distribution: Southeastern Arizona, and *Pipistrellus hesperus hesperus* (H. Allen) - Distribution: Northern and western Arizona. Figure 19, Page 49), 148 (color presentation), **LCNCA**\*

***Pipistrellus hesperus* subsp. *hesperus* H. Allen, 1864 - Invalid?: Western Pipistrelle Bat**

COMMON NAMES: Canyon Bat; Flittermouse; Murcielago del Poniente (Hispanic)14; Western Bat; Western Pipistrelle; Western Pipistrelle Bat. HABITS: The species feeds on insects. Roosts in buildings, rock crevices in canyon walls, caves, cliffs, rocky outcrops, under rocks and in mine shafts. HABITAT: Within the range of this species it has been reported from forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: This is the smallest of the western bats. \*8, 14 (050412 - subsp. *hesperus* and *maximus* (Hatfield)), 42 (022814 - no subspecies listed), 55 (species, recorded as *Pipistrellus hesperus* (H. Allen). Western Pipistrelle. Common throughout the state.), 73 (species), 100 (species, color photograph of species), 106 (050412 - species, color presentation of species), **118** (recorded as *Pipistrellus hesperus apus* Elliot - Distribution: Southeastern Arizona. Figure 19, Page 49; *Pipistrellus hesperus hesperus* (H. Allen) - Distribution: Northern and western Arizona. Figure 19, Page 49), 148 (color presentation of species)\*

***Plecotus townsendii* Cooper, 1837 (subsp. *pallescens* (Miller, 1897) is the subspecies reported as occurring in Arizona): Townsend’s Big-eared Bat**

SYNONYMY: *Corynorhinus townsendii* (Cooper, 1837). COMMON NAMES: Lump-nosed Bat; Mule-eared Bat; Murcielago de Townsend (Hispanic)14; Ozark Big-eared Bat (subsp. *ingens* (Handley, 1955)); Pale Lumped-nosed Bat (subsp. *pallescens* (Miller, 1897)); Pale Townsend’s Big-eared Bat (subsp. *pallescens* (Miller, 1897)); Pallid Western Big-eared Bat (subsp. *pallescens* (Miller, 1897)); Townsend’s Big-eared Bat (subsp. *townsendii* Cooper, 1837); Virginia Big-eared Bat (subsp. *virginianus* Handley, 1955); Western Big-eared Bat; Western Long-eared Bat; Western Lump-nosed Bat. HABITS: The species feeds on small moths and other small insects; roosts on open ceilings in caves and rock shelters, and under bridges and in water diversion tunnels, abandoned mines, mine tunnels and buildings. HABITAT: Within the range of this species it has been reported from tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: The Pale Townsend’s Big-eared Bat is a rather sedentary species that is extremely sensitive to human disturbance and the vandalism of roost caves. \*14 (061812 - recorded as *Corynorhinus townsendii* subsp. *pallescens* (Miller)), 42 (022814), **55** (recorded as *Plecotus townsendii* (Cooper). Lump-nosed Bat. Locally common throughout the state at elevations above 5,000 feet; rare at lower elevations.), 73, 92 (color photograph), 100 (color photograph), 106 (050512 - recorded as *Corynorhinus townsendii*, includes a listing of subspecies, color presentation), 118 (recorded as *Corynorhinus townsendii* *pallescens* Miller - Distribution: Probably more or less state wide but more abundant in the Upper Sonoran and Transitional Life Zones. Figure 24, Page 58), 148 (recorded as *Corynorhinus townsendii*, color presentation)\*

*Plecotus townsendii* subsp. *intermedius* (see *Plecotus townsendii* subsp. *pallescens*)

***Plecotus townsendii* subsp. *pallescens* (Miller, 1897): Pale Townsend’s Big-eared Bat**

SYNONYMY: *Corynorhinus townsendii* subsp. *pallescens* Miller, 1897; *Plecotus townsendii* subsp. *intermedius* (H.W. Grinnell, 1914). COMMON NAMES: Lump-nosed Bat; Mule-eared Bat; Murcielago de Townsend (Hispanic)14; Pale Lumped-nosed Bat; Pale Townsend’s Big-eared Bat; Pallid Western Big-eared Bat; Western Big-eared Bat; Western Long-eared Bat; Western Lump-nosed Bat. HABITS: The species feeds on small moths and other small insects; roosts on open ceilings in caves and rock shelters, and under bridges and in water diversion tunnels, abandoned mines, mine tunnels and buildings. HABITAT: Within the range of this species it has been reported from tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: The Pale Townsend’s Big-eared Bat is a rather sedentary species that is extremely sensitive to human disturbance and the vandalism of roost caves. \*14 (061812 - recorded as *Corynorhinus townsendii* subsp. *pallescens* (Miller)), 42 (022814), 55 (species, recorded as *Plecotus townsendii* (Cooper). Lump-nosed Bat. Locally common throughout the state at elevations above 5,000 feet; rare at lower elevations.), 73 (species), 92 (species, color photograph of species), 100 (species, color photograph of species), 106 (050512 - species, recorded as *Corynorhinus townsendii*, includes a listing of subspecies, color presentation of species), **118** (recorded as *Corynorhinus townsendii* *pallescens* Miller - Distribution: Probably more or less state wide but more abundant in the Upper Sonoran and Transitional Life Zones. Figure 24, Page 58), 148 (recorded as *Corynorhinus townsendii* subsp. *pallescens*, color presentation), **LCNCA**\*

CLASS OSTEICHTHYES: The BONY FISHES

This listing has been developed, in part, using the listing of Fish created for

the Empire-Cienega Planning Area which is located within portions of several townships.

Species listed as “**LCNCA**” were observed in the general area, but may or may

not have been observed within the boundaries of this township.

Centrarchidae: The Sunfish Family

***Lepomis cyanellus* Rafinesque, 1819: Green Sunfish**

COMMON NAMES: Green Sunfish; Pez Sol (Spanish)42. HABITS: Feeds on crayfish, small fish, frogs, fry, aquatic and terrestrial insects, plant material, snails and zooplankton (as juveniles); eggs are laid in flowing or standing water in nests made in scooped out depressions. HABITAT: The Green Sunfish lives in backwaters, lakes, ponds, pools, and rivers and streams with little flow. NOTES: Introduced EXOTIC, this species hybridizes with Bluegill (*Lepomis macrochirus*). \*14 (021614 - color presentation), 42 (021614), 55, 61, 67, 73, 106 (060106), **LCNCA**\*

***Lepomis macrochirus* Rafinesque, 1819: Bluegill**

COMMON NAMES: Bluegill; Crapet Arlequin (French)42; Mojarra Oreja Azul (Spanish)42. HABITS: Feeds on algae, cladocerans (as larvae and juveniles), copepods (as larvae and juveniles), crayfish, small fishes, insects, aquatic vegetation and zooplankton; eggs are laid in nests made in scooped out depressions in standing water. HABITAT: The Bluegill lives in vegetated bays, lakes, pools, ponds, and creeks, rivers and streams in quiet to moderately swift waters. NOTES: Introduced EXOTIC, this species hybridizes with Green Sunfish (*Lepomis cyanellus*). \*14 (021614 - color presentation), 42 (021614), 55, 61, 67, 73, 106 (060106), **LCNCA**\*

***Micropterus salmoides* (Lacepède, 1802): Largemouth Bass**

COMMON NAMES: Achigan à Grande Bouche (French)42; Largemouth Bass; Lobina Negra (Spanish)42; Oswego Bass. HABITS: Feeds on crayfish, fishes, frogs, macrobenthos (as juveniles), snails and zooplankton (as larvae); eggs are laid in nests made in scooped out depressions. HABITAT: The Largemouth Bass lives in quiet and warm backwaters, creeks, lakes, oxbows, ponds, rivers and swamps with low turbidity and beds of aquatic plants. NOTES: Introduced EXOTIC, this species poses a significant threat to native species. \*14 (021614 - subsp. *salmoides* Lacepede, color presentation), 42 (021614), 55, 61, 67, 73, 106 (060106), **LCNCA**\*

Cyprinidae: The Minnow Family

***Agosia chrysogaster* Girard, 1856: Longfin Dace**

COMMON NAMES: Longfin Dace; Pupo Panzaverde (Spanish)42. HABITS: Feeds on algae, crustaceans, detritus, filamentous algae, insects and zooplankton. Eggs are laid in nests made in shallow depressions on stream bottoms. HABITAT: The Longfin Dace lives in shallow and sandy rocky runs, clear and cool mountain brooks, flowing pools of creeks, gravelly and sandy streams and small to medium rivers. \*8, 14 (050512), 42 (072212), 55, 61, 67, 73, 106 (050512), **LCNCA**\*

***Carassius auratus* (Linnaeus, 1758): Goldfish**

COMMON NAMES: Carpa Dorada (Spanish)42; Carassin (French)42; Goldfish. HABITS: Feeds on aquatic vegetation and invertebrates; eggs are laid over submerged aquatic vegetation. HABITAT: The Goldfish lives in backwaters, lakes, ponds, pools, rivers, streams and warm shallow water with abundant aquatic vegetation. NOTES: Introduced EXOTIC, this species may hybridize with Carp (*Cyprinus carpio*). \*14 (021614), 42 (021614), 55, 61, 67, 73, 106 (060106), **LCNCA**\*

***Gila intermedia* (Girard, 1856): Gila Chub**

SYNONYMY: *Gila robusta* subsp. *intermedia* (Girard, 1856). COMMON NAMES: Carpa del Gila (Spanish)42; Gila Chub. HABITS: Feeds on algae, other small fish and insects. Eggs are laid over submerged aquatic vegetation. HABITAT: Lives in along banks (juveniles), deep pools of slow velocity water, small creeks, streams, riffles (juveniles), pools (juveniles), ciénegas, marshes, pool habitats of small streams and springs and artificial impoundments. \*8, 14 (050512), 42 (061812), 55, 61, 73, 106 (050512), **LCNCA**\*

*Gila robusta* subsp. *intermedia* (see *Gila intermedia*)

Cyprinodontidae: The Killfish Family

***Cyprinodon macularius* Baird and Girard, 1853: Desert Pupfish**

COMMON NAMES: Cachorrito del Desierto (Spanish)42; Desert Pupfish; Quitobaquito Desert Pupfish (*C*.*m*. *eremus* Miller & Fuiman, 1987 - Invalid? and *C*.*m*. *macularis* Baird and Girard, 1853 - Invalid?). HABITS: Feeds on algae, detritus, insects and aquatic plants. Eggs are laid randomly (within an area defended by the male). HABITAT: Lives in the seeps, shallow water of springs, slow moving parts of small streams and creeks, shallow pools, lakes, backwaters, cienegas, marshes, and. NOTES: Subspecies *macularis* is EXTIRPATED from most of its natural range. \*8, 14 (050512 - subsp. *eremus*; subsp. *macularis*), 35, 42 (072212 - no record of subspecies), 55, 61, 67, 73, 106 (050512 - color presentation), **WTK** (note that although the Desert Pupfish has not been reported from the Barrel Spring, Fig Tree Spring, Mulberry Spring, Ojo Blanco Spring, Questa Spring, Rosemont Spring and Scholefield Spring they have been reported from other springs in the area and could possibly occur or may have occured in these springs as well)\*

Ictaluridae: The Catfish Family

***Ameiurus natalis* (Lesueur, 1819): Yellow Bullhead**

SYNONYMY: *Ictalurus natalis* (Lesueur, 1819), *Pimelodus natalis* Lesueur, 1819. COMMON NAMES: Bagre Torito Amarillo (Spanish)42; Barbotte Jaune (French)42; Yellow Bullhead. HABITS: Feeds on algae, clams, crustaceans, insects, fishes, snails and decaying animal matter. Eggs are laid in natural cavities or saucer-shaped depressions near submerged cover. HABITAT: The Yellow Bullhead is a bottom dweller that lives in canals, clear lakes, pools, ponds, backwaters and medium-sized rivers and streams. NOTES: Introduced EXOTIC, this species is considered detrimental to native ecosystems. \*14 (021614 - color presentation), 42 (021614), 55, 61, 67, 73, 106 (021614 - color presentation), **LCNCA**\*

*Ictalurus natalis* (see *Ameiurus natalis*)

*Pimelodus natalis* (see *Ameiurus natalis*)

Poeciliidae: The Topminnow Family

***Gambusia affinis* (Baird and Girard, 1853) [subsp. *affinis* (Baird and Girard, 1853) - Invalid, is the subspecies reported as occurring in Arizona]: Western Mosquitofish**

COMMON NAMES: Gambusa; Guayacón Mosquito (Spanish)2; Mosquitofish; Western Mosquitofish. HABITS: Feeds on algae, crustaceans, diatoms, fish fry, insect larvae and zooplankton. Eggs are brooded by the female until hatching the young are then born live in warm, shallow standing or slow moving waters with some aquatic or submerged vegetation. HABITAT: Lives in brackish water and clear vegetated water, marshes, ponds, pools, springs, stream margins in backwater and side pool areas and stock tanks. NOTES: Introduced EXOTIC, poses a significant threat to native species. \*14 (050512), 42 (072212 - subspecies *affinis* (Baird and Girard, 1853) and *speciosa* Girard, 1859 are invalid), **55**, 61, 67, 73, 106 (050512), 106 (050512 - color presentation), 109, **LCNCA** (identified only as “Mosquitofish”)\*

***Poeciliopsis occidentalis* subsp. *occidentalis* (Baird and Girard, 1853) - Invalid?: Gila Topminnow**

COMMON NAMES: Gila Topminnow; Sonoran Topminnow. HABITS: The species feeds on algae, bottom debris, crustaceans, detritus, insects and plants. The eggs are fertilized in the female where the young develop and then born live. HABITAT: Lives in marshes; ponds; springs; vegetated backwaters; shallows of rivers and streams, and margins of larger bodies of water. \*8, 14 (050512 - subsp. *occidentalis* (Baird and Girard); subsp. *sonorensis* (Baird and Girard)), 35, 42 (061812 - no subspecies listed), 55 (species), 61, 67, 73 (species), 106 (050512 - species, color presentation of species), **LCNCA**\*

CLASS REPTILIA: The REPTILES

This listing has been developed, in part, using the listing of Reptiles created for

the Empire-Cienega Planning Area which is located within portions of several townships.

Species listed as “**LCNCA**” were observed in the general area, but may or may

not have been observed within the boundaries of this township.

Anguidae: The Alligator Lizard and Allies Family

***Elgaria kingii* Gray, 1838: Madrean Alligator Lizard**

SYNONYMY: *Gerrhonotus kingii* (Gray, 1838); *Elgaria kingii* subsp. *kingii* Gray, 1838; *Elgaria kingii* subsp. *nobilis* (Baird and Girard, 1852). COMMON NAMES: Arizona Alligator Lizard; Madrean Alligator Lizard. HABITS: Feeds on insects and scorpions, takes shelter in underground burrows leaf litter, under logs and in woodrat nests. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021614 - subsp. *nobilis* (Baird and Girard, 1852), color presentation), 37, 42 (021614), 55, 73, 87, 106 (021614 - genus including a listing of species), **LCNCA**\*

*Elgaria kingii* subsp. *kingii* (see *Elgaria kingii*)

*Elgaria kingii* subsp. *nobilis* (see *Elgaria kingii*)

*Gerrhonotus kingi* (see *Elgaria kingii*)

Colubridae: The Colubrid Family

*Coluber bilineatus* (see footnote 14 under *Masticophis bilineatus*)

*Coluber flagellum* (see *Masticophis flagellum*)

***Diadophis punctatus* (Linnaeus, 1776): Ringneck Snake**

COMMON NAMES: Coralbelly Ringneck (Ring-necked) Snake (subsp. *pulchellus* Baird and Girard, 1853); Couleuvre à Collier (French); Culebra de Collar (Spanish); Key Ringneck (Ring-necked) Snake (subsp. *acricus* Paulson, 1968); Mississippi Ringneck (Ring-necked) Snake (subsp. *stictogenys* Cope, 1860); Monterey Ringneck (Ring-necked) Snake (subsp. *vandenburgii* Blanchard, 1923); Northern Ring-necked Snake (subsp. *arnyi* Kennicott, 1859); Northern Ringneck Snake (subsp. *edwardsii* Merrem, 1820); Northwestern Ringneck (Ring-necked) Snake (subsp. *occidentalis* Blanchard, 1923); Pacific Ringneck (Ring-necked) Snake (subsp. *amabilis* Baird and Girard, 1853); Prairie Ringneck Snake (subsp. *arnyi* Kennicott, 1859); Regal Ringneck (Ring-necked) Snake (subsp. *regalis* Baird and Girard, 1853; Ringneck Snake; Ring-necked Snake; San Bernardino Ringneck (Ring-necked) Snake (subsp. *modestus* Bocourt, 1856); San Diego Ringneck (Ring-necked) Snake (subsp. *similis* Blanchard, 1923); Southern Ringneck (Ring-necked) Snake (subsp. *punctatus* Linnaeus, 1766); Todos Santos Island Ring-necked Snake subsp. - Invalid?). HABITS: Feeds on earthworms, frogs, insects and small lizards, salamanders, slugs, small snakes and toads. Takes shelter in underground burrows, crevices and under logs, rocks and surface litter. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: A mildly venomous snake, Arizona’s native rear-fanged species of Colubrid Snakes are not considered to be dangerous to man. \*14 (021714 - subspp. *arnyi* (Kennicott, 1859): Prairie Ringneck Snake and *regalis* (Baird and Girard, 1853): Regal Ringneck Snake are the subspecies found in New Mexico, color presentation), 37, 42 (021714), 54, 55, 73, 87, 106 (021714 - color presentation), **LCNCA**\*

*Elaphe triaspis* (see *Senticolis triaspis*)

*Elaphe triaspis* subsp. *intermedia* (see *Senticolis triaspis* subsp. *intermedia*)

*Ficimia cana* (see *Gyalopion canum*)

***Gyalopion canum* (Cope, 1860): Western Hook-nosed Snake**

SYNONYMY: *Ficimia cana* (Cope, 1860). COMMON NAMES: Chihuahuan Hook-nosed Snake; Culebra-nariz Ganchuda de Chihuahua (Spanish)42; Western Hook-nosed Snake; Western Hooknose Snake. HABITS: Feeds on centipedes, insects, scorpions, small snakes and spiders. Takes shelter in rodent burrows and under rocks. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland and desertscrub ecological formations. \***8**, 14 (021714 - color presentation), 42 (021714), 55 (recorded as *Ficimia cana* Cope: Western Hooked-nosed Snake), 73 (recorded as *Ficimia cana*), 87, 106 (021714 - family), **LCNCA** \*

***Hypsiglena torquata* (Günther, 1860): Nightsnake**

COMMON NAMES: Bauer’s Nightsnake (subsp. *baueri* Zweifel, 1958 - Invalid?); Boulenger’s Night Snake (subsp. *affinis* Boulenger, 1894 - Invalid?); California (Night Snake) Nightsnake (subsp. *nuchalata* Tanner, 1943); Cedros Island Night Snake (subsp. *baueri* Zweifel, 1958 - Invalid?); Central Baja Night Snake (subsp. *venusta* Mocquard, 1899 - Invalid?); Clarion Island Night Snake (subsp. *unaocularis* W.W. Tanner, 1944 - Invalid?); Collared Night Snake (subsp. *torquata* (Günther, 1860) - Invalid?); Culebra-nocturna Ojo de Gato (Spanish)2; Desert Night Snake (subsp. *deserticola* Tanner, 1946); Isla Partida Night Snake (subsp. *gularis* W.W. Tanner, 1954 - Invalid?); Isla Tortuga Night Snake (subsp. *tortugaensis* W.W. Tanner, 1944 - Invalid?); Mesa Verde Night Snake (subsp. *loreala* Tanner, 1946); Night Snake; Nightsnake; San Diego Night Snake (subsp. *klauberi* Tanner, 1946); San Martin Island Night Snake (subsp. *martinensis* W.W. Tanner and Banta, 1962 - Invalid?); Santa Catalina Night Snake (subsp. *catalinae* W.W. Tanner, 1966 - Invalid?); Sonoran Night Snake (subsp. *chlorophaea* (Cope, 1860) - Invalid?); Spotted Night Snake (subsp. *ochrorhyncha* Cope, 1860 - Invalid, subsp. *ochrorhynchus* Cope, 1860 - Valid); Texas Night Snake (subsp. *texana* Stejneger, 1893 - Invalid, subsp. *jani* Dugès, 1865 - Valid, *Hypsiglena torquata* (Günther, 1860) - Valid); Tiburón Island Night snake (subsp. *tiburonensis* W.W. Tanner, 1981 - Invalid?). HABITS: Feeds on bats, birds and bird eggs, insects, lizards and lizard eggs, small mammals, salamanders, small snakes, toads, tree frogs and worms; takes shelter in underground burrows, rock crevices, under rocks and under surface litter. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: A mildly venomous snake. Arizona’s native rear-fanged species of Colubrid Snakes are not considered to be dangerous to man. \*14 (021714 - no record of species, *Hypsiglena torquata jani* (Duges, 1865): Texas Night Snake is now considered to be *Hypsiglena jani* *texana* (Gunther, 1860) and *Hypsiglena torquata loreala* (Tanner, 1944): Mesa Verde Night Snake are the subspecies occurring in New Mexico), 42 (021714), 37, 54, 55, 73, 87, 106 (021714 - color presentation), **LCNCA**\*

***Lampropeltis getula* (Linnaeus, 1766): Common Kingsnake**

SYNONYMY: *Lampropeltis getulus* (Linnaeus). COMMON NAMES: Apalachicola Lowlands Kingsnake (subsp. *meansi* Krysko and Judd, 2006); Bastard Horn Snake; Black Desert Kingsnake (subsp. *nigrita* Zweifel and Norris, 1955); Black King Snake; Black Kingsnake (subsp. *nigra* (Yarrow, 1882)); Black Moccasin; California Kingsnake (subsp. *californiae* (Blainville, 1835)); Chain Kingsnake; Chain Snake; Common Chain Snake; Common King Snake (also applied to subsp. *californiae* (Blainville, 1835); subsp. *nigrita* Zweifel and Norris, 1955 and subsp. *splendida* (Baird and Girard, 1853)); Common Kingsnake; Cow Sucker; Culebra-real Común (Spanish)42; Desert Kingsnake (subsp. *splendida* (Baird and Girard, 1853)); Eastern King Snake; Eastern Kingsnake (subsp. *getula* (Linnaeus, 1766)); Florida Kingsnake (subsp. *floridana* Blanchard, 1919); Horse Racer; King Snake; Master Snake; North American King Snake; Oakleaf Rattler; Outer Banks Kingsnake (subsp. *sticticeps* Barbour and Engels, 1942); Pied Piper (North Carolina); Pied Snake; Racer; Rattlesnake Pilot; Speckled Kingsnake (subsp. *holbrooki* Stejneger, 1902); Thunder Sanke; Thunder-and-Lightning Snake; Thunderbolt; Wamper; Wampum Snake. HABITS: Feeds on birds and bird eggs, frogs, lizards, small mammals and snakes (including venomous snakes) and snake and turtle eggs; takes shelter in underground burrows and rocky crevices. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021714 - subspp. *californiae* (Blainville, 1835), color presentation; *nigrita* Zweifel and Norris, and *splendida* (Baird and Girard, 1853), color presentation, are the subspecies reported as occurring in New Mexico), 37, 42 (021714), 55, 73, 87, 106 (021714 - includes a listing of subspecies, color presentation), **LCNCA**\*

*Lampropeltis getulus* (see *Lampropeltis getula*)

***Masticophis bilineatus* Jan, 1963 (subsp. *lineolatus* is the subspecies recognized as occurring in Arizona): Ajo Mountain Whipsnake**

COMMON NAMES: Ajo Mountain Whipsnake (subsp. *lineolatus* Hensley, 1950); Culebra-chirriadora Sonorense (Spanish)42; Sonora Whipsnake; Sonoran Whipsnake (also applied to subsp. *bilineatus* Jan, 1863). HABITS: Feeds on birds and lizards. Takes shelter on the ground, in underground burrows and in shrubs and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021714 - recorded as *Coluber bilineatus* Jan, 1963, color presentation), 37, 42 (021714), 55, 73, 87, 106 (021714 - genus with a listing of species and subspecies), **LCNCA**\*

***Masticophis flagellum* (Shaw, 1802): Coachwhip**

SYNONYMY: *Coluber flagellum* Shaw, 1802. COMMON NAMES: Baja California Coachwhip (subsp. *fuliginosus* (Cope, 1895) - Invalid, *Masticophis fuliginosus* (Cope, 1895) - Valid); Black Racer; Coachwhip; Culebra-chirriadora Común (Spanish)42; Lined Coachwhip (subsp. *lineatulus* Smith, 1941); Red Coachwhip (subsp. *piceus* (Cope, 1892)); Red Racer (subsp. *piceus* (Cope, 1892)) ; San Joaquin Whipsnake (subsp. *ruddocki* Brattstrom and Warren, 1953); Sonora Coachwhip (subsp. *cingulum* Lowe and Woodin, 1954); Sonoran Coachwhip (subsp. *cingulum* Lowe and Woodin, 1954); Western Black Racer(subsp. *piceus* (Cope, 1892)); Western Coachwhip (subsp. *testaceus* (Say in James, 1823)); Whip Snake; Whipsnake (subsp. *lineatulus* Smith, 1941). HABITS: Feeds on birds and eggs, carrion, crickets, grasshoppers, lizards and lizard eggs, mice, young rabbits, rats, snakes and turtles. Takes shelter in rodent burrows, under rocks and in woodrat nests. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland and desertscrub ecological formations. \*14 (021714 - recorded as *Coluber flagellum* (Shaw, 1802), color presentation), 37 (subsp. *piceus*), 42 (021714), 55, 73, 87, 106 (021714 - includes a listing of subspecies, color presentation), **LCNCA**\*

***Pituophis catenifer* (Blainville, 1835): Gopher Snake**

COMMON NAMES: Baja Gopher Snake (*Pituophis catenifer vertebralis* - Invalid?, *Pituophis melanoleucus vertebralis* - Invalid?); Bull Snake; Bullsnake; Bullsnake (*Pituophis melanoleucus sayi* (Schlegel, 1837) - Invalid, *P*.*c*. *sayi* (Schlegel, 1837) - Valid); Cape Gopher Snake (*Pituophis catenifer vertebralis* - Invalid?, *Pituophis melanoleucus vertebralis* - Invalid?); Central Baja California Gopher Snake (*Pituophis catenifer bimaris* - Invalid?, *Pituophis melanoleucus bimaris* - Invalid?); Coast Gopher Snake; Gopher Snake; Great Basin Gopher Snake (*Pituophis melanoleucus deserticola* Stejneger, 1893 - Invalid, *P*.*c*. *deserticola* Stejneger, 1893 - Valid); Pacific Gopher Snake (*Pituophis melanoleucus catenifer* Blainville, 1835 - Invalid, *P*.*c*. *catenifer* Blainville, 1835 - Valid); Pine Snake (applied to *Pituophis melanoleucus*); San Diego Gopher Snake (*Pituophis melanoleucus annectens* Baird & Girard, 1853 - Invalid, *P*.*c*. *annectens* Baird & Girard, 1853 - Valid); Santa Cruz Gopher Snake (*Pituophis melanoleucus pumilis* Klauber, 1946 - Invalid, *P*.*c*. *pumilis* Klauber, 1946 - Valid); Sonoran Gopher Snake (*Pituophis melanoleucus affinis* Hallowell, 1852 - Invalid, *P*.*c*. *affinis* Hallowell, 1852 - Valid); Western Gopner Snake. HABITS: Feeds on small birds and bird eggs, lizards and small mammals. Takes shelter in underground burrows and under logs and rocks. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: In many texts the Gopher snake has been recorded as *Pituophis melanoleucus* (Daudin, 1803). \*14 (063013 - subspp. *P*.*c*. *affinis* (Hallowell, 1852): Sonoran Gopher Snake and *P*.*c*. *sayi* (Schlegel, 1837): Bullsnake, color presentation), 37 (recorded as *Pituophis melanoleucus*), 42 (063013), 55 (recorded as *Pituophis melanoleucus* (Daudin)), 73 (recorded as *Pituophis melanoleucus*), 87 (recorded as *Pituophis melanoleucus*), 106 (063013 - includes a listing of subspecies, color presentation), **LCNCA** (recorded as *Pituophis melanoleucus*)\*

*Pityophis intermedius* (see *Senticolis triaspis* subsp. *intermedia*)

*Pituophis melanoleucus* (see NOTES under *Pituophis cantenifer*)

***Salvadora deserticola* Schmidt, 1940: Big Bend Patchnose Snake**

SYNONYMY: *Salvadora hexalepis* subsp. *deserticola* (Schmidt, 1940) - Invalid?. COMMON NAMES: Big Bend Patch-nosed Snake; Big Bend Patchnose Snake; Culebra-parchada de Big Bend; (Spanish)42; Western Patch-nosed Snake (more appropriately applied to *Salvadora hexalepis*) HABITS: Feeds on small mammals, lizards, small snakes and reptile eggs; takes shelter in underground burrows and bushes and trees. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland and desertscrub ecological formations. \*14 (021714 - recorded as *Salvadora hexalepis* subsp. *deserticola* (Schmidt, 1940), color presentation), 37 (no record of species), 42 (021714), 55 (no record of species, includes a record of *Salvadora hexalepis* (Cope)), 73 (no record of species, includes a record of *Salvadora hexalepis*), 87 (recorded as *Salvadora hexalepis* subsp. *deserticola*), 106 (021714 - no record of species, includes a record on *Salvadora hexalepis*), **LCNCA** (recorded as *Salvadora hexalepis* *deserticola*)\*

*Salvadora hexalepis* subsp. *deserticola* (see *Salvadora deserticola*)

***Senticolis triaspis* (Cope, 1866): Green Rat Snake**

SYNONYMY: *Elaphe triaspis* (Cope, 1866). COMMON NAMES: Culebra oliva (Spanish)42; Green Rat Snake (a name also applied to subspecies *intermedia* and *triaspis*); Green Ratsnake; Northern Green Ratsnake (subsp. *intermedia* (Boettger, 1883)); Western Green Rat Snake (E.t. subsp. *intermedia* - Invalid?). HABITS: Feeds on birds and rodents. Takes shelter in shrubs, trees or underground. HABITAT: Within the range of this species it has been reported from the forest, woodland and wetland ecological formations. \*14 (021714 - subsp *intermedia* (Boettger, 1883) is the subspecies reported as occurring in New Mexico), 42 (021714), 55 (recorded as *Elaphe triaspis* Cope: Green Rat Snake), 73 (recorded as *Elaphe triaspis*), 87 (recorded as *Elaphe triaspis*), 106 (021714 - includes a listing of subspecies), **LCNCA**\*

***Senticolis triaspis* subsp. *intermedia* (Boettger, 1883): Western Green Rat Snake**

SYNONYMY: *Elaphe triaspis* subsp *intermedia* (Boettger, 1883) - Invalid?; *Pityophis intermedius* Boettger, 1883. COMMON NAMES: Green Rat Snake (a name also applied to the species); Northern Green Ratsnake; Western Green Rat Snake. HABITS: The species feeds on birds and rodents. Takes shelter in shrubs, trees or underground. HABITAT: Within the range of this species it has been reported from the forest, woodland and wetland ecological formations. \***8**, 14 (021714 - subsp *intermedia* (Boettger, 1883) is the subspecies reported as occurring in New Mexico), 42 (021914), 55 (species, recorded as *Elaphe triaspis* Cope: Green Rat Snake), 73 (species, recorded as *Elaphe triaspis*), 87 (recorded as *Elaphe triaspis* *intermedia*), 106 (021714 - noted as a subspecies)\*

***Tantilla hobartsmithi* Taylor, 1937: Southwestern Blackhead Snake**

COMMON NAMES: Culebra-encapuchada del Suroeste (Spanish)42; Smith’s Blackhead Snake; Southwestern Black-headed Snake; Southwestern Blackhead Snake; Western Black-headed Snake. HABITS: Feeds on caterpillars, soft-bodies insects, centipedes and millipedes. Takes shelter in underground burrows. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: A mildly venomous snake. Arizona’s native rear-fanged of species of Colubrid Snakes are not considered to be dangerous to man. \*14 (050512 - color presentation), 42 (072212), 54 (genus), 87, 106 (050512), **LCNCA**\*

***Thamnophis cyrtopsis* (Kennicott, 1860): Black-necked Garter Snake**

COMMON NAMES: Black-headed Garter Snake (subsp. *ocellatus* (Cope, 1880)); Black-necked Garter Snake; Black-necked Gartersnake; Culebra-listonada Cuello Negro (Spanish)42; Eastern Blackneck Garter Snake (subsp. *ocellatus* (Cope, 1880)); Western Black-headed Snake (subsp. *crytopsis* Kennicott, 1860); Western Blackneck Garter Snake (subsp. *crytopsis* Kennicott, 1860). HABITS: Feeds on amphibians, small fish, frogs, snakes, tadpoles, toads and invertebrates. Takes shelter in underground burrows and water. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021714 - subsp. *crytopsis* (Kennicott, 1860) is the subspecies reported as occurring in New Mexico, color presentation), 37, 42 (021714), 55, 87, 106 (021714 - color presentation), **LCNCA**\*

***Thamnophis eques* (Reuss, 1834): Mexican Garter Snake**

COMMON NAMES: Culebra-listonada del Sur-mexicano42; Laguna Totolcingo Garter Snake (*T*.*e*. *carmenensis* Conant, 2003 - Invalid?); Mexican Garter Snake (*T*.*e*. *eques* (Reuss, 1834) - Valid); Northern Mexican Garter Snake (*T*.*e*. *megalops* (Kennicott, 1860) - Valid); Northern Mexican Gartersnake (*T*.*e*. *megalops* (Kennicott, 1860) - Valid). HABITS: Feeds on native fishes, frogs, lizards, mice and tadpoles. Takes shelter in vegetation. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations where it is typically an aquatic species. \*14 (081912 - subsp. *megalops* (Kennicott, 1860) is the subspecies reported as occurring in New Mexico, color presentation), 37, 42 (081912), 55, 73, 87, 106 (081912 - no record of species; genus record with a listing of species, color presentation), **LCNCA**\*

***Thamnophis marcianus* (Baird and Girard, 1853): Checkered Garter Snake**

COMMON NAMES: Checkered Garter Snake (also applied to subsp. *marcianus* (Baird and Girard, 1853)); Checkered Gartersnake; Culebra-listonada Manchada (Spanish42; Marcy’s Checkered Garter Snake (subsp. *marcianus* (Baird and Girard, 1853)). HABITS: Feeds on earthworms, small fish, frogs, lizards, tadpoles and toads. Takes shelter in rodent burrows. HABITAT: Within the range of this species it has been reported from the grassland and wetland ecological formations. \*14 (021714 - subsp. *marcianus* (Baird and Girard, 1853) is the subspecies reported as occurring in New Mexico, color presentation), 37, 42 (021714), 55, 73, 87, 106 (021714 - includes a listing of subspecies, color presentation), **LCNCA**\*

***Trimorphodon biscutatus* (Duméril, Bibron and Duméril, 1854): Lyre Snake**

SYNONYMY: *Trimorphodon lyrophanes* (Cope, 1860) - Invalid?. COMMON NAMES: Baja California Lyre Snake (subsp. *lyrophanes* (Cope, 1860)); California Lyre Snake (subsp. *vandenburghi* Klauber, 1924), Culebra-lira cabeza negra (Spanish)42; Lyre Snake; Sonora Lyre Snake; Sonoran Lyre Snake (subsp. *lambda* Cope, 1886); Southwestern Lyre Snake; Texas Lyre Snake (subsp. *vilkinsonii* Cope, 1886); Western Lyre Snake (subsp. *biscutatus* (Duméril, Bibron and Duméril, 1854)); Western Lyresnake. HABITS: Feeds on bats, lizards and rodents. Takes shelter in underground burrows, rock crevices and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: A mildly venomous snake. Arizona’s native rear-fanged species of Colubrid Snakes are not considered to be dangerous to man. \*14 (021714), 37, 42 (021714 - subspp. *lambda* (Cope, 1886): Sonoran Lyre Snake and *vilkinsonii* (Cope, 1886): Texas Lyre Snake are the subspecies reported as occurring in New Mexico, color presentation), 54, 55, 73, 87, 106 (021714 - includes a listing of subspecies, color presentation), **LCNCA**\*

*Trimorphodon lyrophanes* (see *Trimorphodon biscutatus*)

Crotaphytidae: The Collard and Leopard Lizard Family

***Crotaphytus collaris* (Say in James, 1823): Collared Lizard**

SYNONYMY: *Crotaphytus collaris* subsp. *auriceps* Fitch and Tanner, 1951; *Crotaphytus collaris* subsp. *baileyi* Stejneger, 1890; *Crotaphytus collaris* subsp. *collaris* (Say in James, 1823); *Crotaphytus collaris* subsp. *fuscus* Ingram and Tanner, 1971. COMMON NAMES: Chihuahuan Collared Lizard (subsp. *fuscus* Ingram and Tanner, 1971 - Invalid); Collared Lizard; Common Collared Lizard; Eastern Collared Lizard (subsp. *collaris* (Say in James, 1823) - Invalid); Lagartija-de Collar Común (Spanish)42; Mountain Boomer (Oklahoma); Oklahoma Collared Lizard; Sonoran Collared Lizard (subsp. *nebrius* Axtell and Montanucci, 1977 - Invalid, *Crotaphytus nebrius* Axtell and Montanucci, 1977 - Valid); Western Collared Lizard (subsp. *baileyi* Stejneger, 1890 - Invalid); Yellow-headed Collared Lizard (subsp. *auriceps* Fitch and Tanner, 1951 - Invalid). HABITS: Feeds on arachnids, gastropods, insects, small mammals and small reptiles and small amounts of fruits and vegetables. Takes shelter under rocks. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021814 - subspp. *fuscus* (Ingram and Tanner, 1971): Chihuahuan Collared Lizard; *collaris* (Say, 1823): Eastern Collared Lizard; *auriceps*, and *baileyi* were the subspecies once recognized as occurring in New Mexico, color presentation), 37, 42 (021814), 55, 73, 87, 106 (021814 - color presentation), **LCNCA**\*

*Crotaphytus collaris* subsp. *auriceps* (see *Crotaphytus collaris*)

*Crotaphytus collaris* subsp. *baileyi* (see *Crotaphytus collaris*)

*Crotaphytus collaris* subsp. *collaris* (see *Crotaphytus collaris*)

*Crotaphytus collaris* subsp. *fuscus* (see *Crotaphytus collaris*)

Emydidae: The Fresh-water and Marsh Turtle Family

***Terrapene ornata* subsp. *luteola* Smith and Ramsay, 1952: Desert Box Turtle**

COMMON NAMES: Desert Box Turtle. HABITS: Feeds on beetles, berries, carrion, crayfish, crustaceans, gastropods, grasshoppers, insects, melons, millipedes, tender plant shoots and leaves and worms. Takes shelter in underground burrows. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021814 - - subspp. *luteola* (Smith and Ramsay) and *ornata* (Agassiz) are the subspecies reported as occurring in New Mexico; subsp. *luteola* (Smith and Ramsay) is the subspecies reported as occurring in Arizona, color presentation), 37 (species), 42 (021814), 55 (species), 73 (species), 87, 106 (021814 - color presentation), **LCNCA**\*

Helodermatidae: The Beaded Lizard Family

It has been suggested that, if bitten by a Gila Monster, you should remove the lizard as soon as

possible, irrigate the wound with plenty of water, immobilize the affected limb at heart level, call 911 or

1-800-222-1222 for additional information and/or consider transport to a medical facility, any teeth

left in the wound must be removed by a medical professional, ensure that tetanus immunization

is up to date, and watch patient for signs and symptoms of infection. \*97\*

<http://www.pharmacy.arizona.edu/outreach/poison>

If bitten contact the Arizona Poison and Drug Information Center: 1-800-222-1222.

***Heloderma suspectum* Cope, 1869: Gila Monster**

COMMON NAMES: Banded Gila Monster (subsp. *cinctum* Bogert and Martin del Campo, 1956); Gila Monster; Lagarto de Gila (Spanish)42; Reticulate Gila Monster (subsp. *suspectum* Cope, 1896). HABITS: Feeds on small birds (and bird eggs), carrion, frogs, insects, lizards, small mammals, snakes and reptile eggs. Reportedly they can climb trees and cacti in search of food. Takes shelter in burrows and crevices. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: A venomous lizard that poses little threat to humans unless provoked, if observed keep (hands and feet) a safe distance away. \*14 (021914 - separate records maintained for subspp. *cinctum* and *suspectum*; subsp. *suspectum* (Cope, 1869) is the subspecies reported as occurring in New Mexico, and subspp. *cinctum* Bogert and Martin del Campo and subsp. *suspectum* (Cope, 1869) are the subspecies reported as occurring in Arizona, color presentation of subsp. *suspectum*), 37, 42 (021914), 54, 55, 73, 87, 106 (021914 - includes a listing of subspecies, color presentation), **LCNCA**\*

***Heloderma suspectum* subsp. *suspectum* Cope, 1896: Reticulate Gila Monster**

COMMON NAMES: Gila Monster; Reticulate Gila Monster. HABITS: The species feeds on small birds (and bird eggs), carrion, frogs, insects, lizards, small mammals, snakes and reptile eggs. Reportedly they can climb trees and cacti in search of food. Takes shelter in burrows and crevices. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTE: A venomous lizard that poses little threat to humans unless disturbed or provoked, if observed keep (hands and feet) a safe distance away. \***8**, 14 (021914 - separate records maintained for subspp. *cinctum* and *suspectum*; subsp. *suspectum* (Cope, 1869) is the subspecies reported as occurring in New Mexico, and subspp. *cinctum* Bogert and Martin del Campo and subsp. *suspectum* (Cope, 1869) are the subspecies reported as occurring in Arizona, color presentation of subsp. *suspectum*), 37 (species), 42 (021914), 54, 55, 73 (species), 87, 106 (021914 - species, includes a listing of subspecies, color presentation of species)\*

Kinosternidae: The Musk and Mud Turtle Family

***Kinosternon sonoriense* Le Conte, 1854: Sonoran Mud Turtle**

COMMON NAMES: Sonora Mud Turtle (applied to subsp. *sonoriense* Le Conte, 1854); Sonoran Mud Turtle (also applied to subspp. *longifemorale* Iverson, 1881 and *sonoriense* Le Conte, 1854); Sonoyta Mud Turtle (subsp. *longifemorale* Iverson, 1881); Tortuga-pecho Quebrado Sonorense (Spanish)42. HABITS: Feeds on crustaceans, fish, frogs, insects, snails and some plant material. Takes shelter in underground burrows. HABITAT: Within the range of this species it has been reported from springs, arroyos, creeks, grassland flats, streams, rivers, ponds, and water holes in the woodland, grassland, desertscrub and wetland ecological formations. \*14 (021814 - subsp. *longifemorale* is the subspecies recognized as occurring in New Mexico; subspp. *longifemorale* and *sonoriense* are the subspecies recognized as occurring in Arizona, color presentation), 37, 42 (021814), 55, 73, 87, 106 (021814 - includes a listing of subspecies, color presentation), **LCNCA**\*

Phrynosomatidae: The Horned Lizard Family

***Cophosaurus texanus* Troschel, 1852: Greater Earless Lizard**

SYNONYMY: *Holbrookia texana* (F.H. Troschel). COMMON NAMES: Greater Earless Lizard; Lagartija-sorda Mayor (Spanish)42; Southwestern Earless Lizard (subsp. *scitutus* (Peters, 1951)); Texas Earless Lizard (subsp. *texanus* Troschel, 1852); Texas Greater Earless Lizard. HABITS: Feeds on insects. Takes shelter in underground burrows, rock crevices and under rocks. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021814), 37, 42 (021814 - subsp. *scitutus* (Peters, 1951): Southwestern Earless Lizard is the subspecies reported as occurring in New Mexico, color presentation), 55, 73, 87, 106 (021814 - includes a listing of subspecies, color presentation), **LCNCA**\*

*Holbrookia texana* (see *Cophosaurus texanus*)

***Holbrookia maculata* Girard, 1851: Lesser Earless Lizard**

COMMON NAMES: Bleached Earless Lizard (*H*.*m*. *ruthveni* Smith, 1943 - Valid); Bunker’s Earless Lizard (*H*.*m*. *bunkeri* Smith, 1935 - Invalid?); Common Earless Lizard; Common Lesser Earless Lizard; Eastern Earless Lizard (*H*.*m*. *perspicua* Axtell, 1956 - Valid); Great Plains Earless Lizard (*H*.*m*. *maculata* Girard, 1851 - Valid); Huachuca Earless Lizard (*H*.*m*. *pulchra* Schmidt, 1921 - Valid); Lagartija-sorda Menor (Spanish)42; Lesser Earless Lizard; Mexican Earless Lizard (*H*.*m*. *elegans* Bocourt, 1874 - Invalid?]; Northern Earless Lizard (*H*.*m*. *maculata* Girard, 1851 - Valid); Prairie Earless Lizard (*H*.*m*. *perspicua* Axtell, 1956 - Valid); Sonoran Earless Lizard (*H*.*m*. *thermophila* Barbour, 1921 - Invalid); Speckled Earless Lizard (*H*.*m*. *approximans* Baird, 1859 - Valid); Western Earless Lizard (*H*.*m*. *thermophila* Barbour, 1921 - Invalid). HABITS: Feeds on insects, small lizards and spiders. Takes shelter in underground burrows, under rocks or by burying themselves in loose gravel and sand. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021814 - subspp. *approximans* (Baird, 1858): Speckled Earless Lizard; subsp. *elegans*; *maculata* (Girard, 1851): Northern Earless Lizard; subsp. *ruthveni*, and Bunker’s Earless Lizard are the subspecies reported as occurring in New Mexico, color presentation), 37, 42 (072212), 55, 73, 87, 106 (050512 - includes listing of subspecies, color presentation), **LCNCA**\*

*Phrynosoma douglassii* subsp. *hernandesi* (see *Phrynosoma hernandesi*)

***Phrynosoma hernandesi* Girard, 1858: Mountain Short-horned Lizard**

SYNONYMY: *Phrynosoma douglassii* subsp. *hernandesi* Girard, 1858. COMMON NAMES: Eastern Short-horned Lizard; Greater Short-horned Lizard; Hernandez’s Short-horned Lizard (subsp. *hernandesi* Girard, 1858); “Horned Toad” or “Horny Toad”; Mountain Short-horned Lizard (a name also applied to subsp. *hernandesi* Girard, 1858); Short-horned Lizard. HABITS: Feeds on arachnids and insects (including ants, beetles and grasshoppers). Takes shelter by burrowing into loose soil. HABITAT: Within the range of this species it has been reported from the tundra, forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021814 - subsp. *hernandesi* (Girard, 1858): Mountain Short-horned Lizard is the subspecies reported as occurring in New Mexico, color presentation), 37 (possibly included under *Phrynosoma douglassi*), 42 (021814); 55 (possibly included under *Phrynosoma douglassi*Bell), 73 (possibly included under *Phrynosoma douglassi*), 87 (possibly included under *Phrynosoma douglassii*), 106 (021814 - color presentation), **LCNCA**\*

***Phrynosoma solare* Gray, 1845: Regal Horned Lizard**

COMMON NAMES: Lagartija-cornuda Real (Spanish)42; Regal Horned Lizard. HABITS: Feeds on beetles, harvester ants (mostly) and other insects. Takes shelter by burrowing themselves in loose soil. HABITAT: Within the range of this species it has been reported from the grassland, desertscrub and wetland ecological formations. \*14 (021814 - color presentation), 37, 42 (072212), 55, 73, 87, 106 (050512 - color presentation), **LCNCA**\*

***Sceloporus clarkii* Baird and Girard, 1852: Clark’s Spiny Lizard**

COMMON NAMES: Clark’s Spiny Lizard; Plateau Spiny Lizard (subsp. *vallaris* Shannon and Urbano, 1954); Sonora Spiny Lizard (subsp. *clarkii* Baird and Girard, 1852); Sonoran Spiny Lizard (subsp. *clarkii* Baird and Girard, 1852); Spiny Lizard. HABITS: Feeds on insects and plant material including buds, flowers and leaves. Takes shelter in underground burrows and on rocks and trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050512 - subsp. *clarkii* (Baird and Girard, 1852), color presentation), 37, 42 (021814), 55, 73, 87, 106 (050512 - genus, includes a listing of species, color presentation), **LCNCA**\*

***Urosaurus ornatus* (Baird and Girard, 1852): Northern Tree Lizard**

COMMON NAMES: Big Bend Tree Lizard (subsp. *schmidti* (Mittleman, 1940); Canyon Tree Lizard *levis* (subsp. (Stejneger, 1890)); Colorado River Tree Lizard (subsp. *symmetricus* (Baird, 1859)); Eastern Tree Lizard (subsp. *ornatus* (Baird and Girard, 1852)); Lagartija-arbolera Común; Lined Tree Lizard (subsp. *linearis* (Baird, 1859)); Northern Cliff Lizard (subsp. *wrighti* (Schmidt, 1921)); Northern Tree Lizard (subsp. *wrighti* (Schmidt, 1921)); Ornate Tree Lizard; Smooth Tree Lizard (subsp. *levis* (Stejneger, 1890)); Texas Tree Lizard (subsp. *ornatus* (Baird and Girard, 1852)); Tree Lizard. HABITS: Feeds on insects, insect larvae and spiders; takes shelter in rock crevices, under slabs of rock and in trees. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021814 - subspp. *levis* (Stejneger, 1890): Canyon Tree Lizard; *linearis*; *schmidti* (Mittleman, 1940): Big Bend Tree Lizard, and *wrighti* are the subspecies reported as occurring in New Mexico, color presentation), 37, 42 (021814), 55, 73, 87, 106 (050512 - includes a listing of subspecies, color presentation), **LCNCA**\*

Scincidae: The Skink Family

***Eumeces obsoletus* (Baird and Girard, 1852): Great Plains Skink**

SYNONYMY: *Plestiodon obsoletum* Baird and Girard, 1852. COMMON NAMES: Eslizón de la Gran Planicie (Spanish)42; Great Plains Skink. HABITS: Feeds on gastropods, insects, small lizards and spiders. Takes shelter in burrows, crevices and under bark, litter, logs and rocks. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021814 - recorded as *Plestiodon obsoletus* (Baird and Girard, 1852), color presentation), 42 (021814)55, 73, 87, 106 (021814 - recorded as *Plestiodon obsoletus* Baird and Girard, 1852, color presentation), **LCNCA**\*

*Plestiodon obsoletum* (see *Eumeces obsoletus*)

*Plestiodon obsoletus* (see footnotes 14 and 106 under *Eumeces obsoletus*)

Teiidae: The Whiptail and Allies Family

*Aspidoscelis burti* (see *Cnemidophorus* *burti*)

*Aspidoscelis burti* subsp. *stictogramma* (see *Cnemidophorus* *burti* subsp. *stictogrammis*)

*Aspidoscelis burti* subsp. *stictogrammus* (see *Cnemidophorus* *burti* subsp. *stictogrammis*)

*Aspidoscelis sonorae* (see *Cnemidophorus sonorae*)

*Aspidoscelis tigris* (see *Cnemidophorus tigris*)

*Aspidoscelis uniparens* (see *Cnemidophorus uniparens*)

***Cnemidophorus* *burti* Taylor, 1938: Giant Spotted Whiptail**

SYNONYMY: *Aspidoscelis burti* Taylor, 1938 - Invalid?. COMMON NAMES: Canyon Spotted Whiptail; Giant Spotted Whiptail (subsp. *stictogrammus* Burger, 1950); Huico de Cañón o Punteado de Cañón (Spanish)42; Red-backed Whiptail (*Aspidoscelis burti xanthonotus* Duellman and Lowe, 1953 - Invalid; *C*. *xanthonotus* Duellman and Lowe, 1953 - Valid); Redback Whiptail, Sonora Whiptail. HABITS: Feeds on insects, scorpions and spiders. Takes shelter in underground burrows, piles of debris and under rocks. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations. \*14 (050512 - recorded as *Aspidoscelis burti* (Burger, 1938) with subsp. *stictogrammus* being the subspecies reported as occurring in New Mexico; subspp. *stictogrammus* is and *xanthonotus* are the subspecies reported as occurring in Arizona, color presentation), 42 (061812), 55, 73, 87, 106 (021814 - no record of species; genus record which includes a listing of species, color presentation), **LCNCA**\*

***Cnemidophorus* *burti* subsp. *stictogrammus* Burger, 1950: Giant Spotted Whiptail**

SYNONYMY: *Aspidoscelis burti* subsp. *stictogramma* (Burger, 1950); *Aspidoscelis burti* subsp. *stictogrammus* (Burger, 1950). COMMON NAME: Giant Spotted Whiptail. HABITS: The species feeds on insects, scorpions and spiders. Takes shelter in underground burrows, piles of debris and under rocks. HABITAT: Within the range of this species it has been reported from the woodland, grassland, desertscrub and wetland ecological formations. \***8**, 14(050512 - recorded as *Aspidoscelis burti* (Burger, 1938): subsp. *stictogrammus*; subsp. *xanthonotus*, color presentation), 42 (050512 - recorded as *Aspidoscelis burti* (Burger, 1938) with subsp. *stictogrammus* being the subspecies reported as occurring in New Mexico; subspp. *stictogrammus* is and *xanthonotus* are the subspecies reported as occurring in Arizona, color presentation), 55 (species), 73 (species), 87, 106 (050512 - no record of subspecies or species; genus, includes a listing of species, color presentation)\*

***Cnemidophorus sonorae* Lowe and Wright, 1964: Sonoran Spotted Whiptail**

SYNONYMY: *Aspidoscelis sonorae* Lowe and Wright, 1964 - Invalid?. COMMON NAMES: Huico de Sonora (Spanish)42; Sonoran Spotted Whiptail. HABITS: Feeds on centipedes, insects, other lizards, scorpions, spiders and termites. Takes shelter in underground burrows. HABITAT: Within the range of this species it has been reported from the forest, woodland, desertscrub and wetland ecological formations. \*14 (021814 - recorded as *Aspidoscelis sonorae* (Lowe and Wright, 1964), color presentation), 42 (021814), 87, 106 (021814 - no record of species; genus record which includes a listing of species, color presentation), **LCNCA**\*

***Cnemidophorus tigris* Baird and Girard, 1852: Western Whiptail**

SYNONYMY: *Aspidoscelis tigris* Baird and Girard, 1852 - Invalid?. COMMON NAMES: Arizona Desert Whiptail; California Whiptail (subsp. *mundus* Camp, 1916); Coastal Whiptail (subsp. *multiscutatus* Cope, 1892); Eastern Marbled Whiptail; Great Basin Whiptail (subsp. *tigris* Baird and Girard, 1852); Huico Occidental (Spanish)42; Marbled Whiptail (*C*.*t*. *marmoratus* Baird and Girard, 1852 - Invalid, *Cnemidophorus marmoratus* Baird and Girard, 1852 - Valid); Northern Whiptail (subsp. *septentrionalis* Burger, 1950); Southern Whiptail (subsp. *gracilis* Baird and Girard, 1852); Western Marbled Whiptail; Western Whiptail. HABITS: Feeds on insects, lizards, scorpions and spiders; takes shelter in bushes and underground burrows. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (050612 - subspp. *gracilis* (Baird and Girard, 1852); *marmoratus*; *punctilinealis*; *reticuloriens*, and *septentrionalis* (Burger, 1950)), 42 (021814), 37, 55, 73, 87, 106 (021814 - recorded as *Aspidoscelis tigris* Baird and Girard, 1852 / *Aspidoscelis tigris* Reed et al., 2002, color presentation of subsp. *multiscutatus*), **LCNCA**\*

***Cnemidophorus uniparens* Wright & Lowe, 1965: Desert Grassland Whiptail**

SYNONYMY: *Aspidoscelis uniparens* Wright and Lowe, 1965 - Invalid?. COMMON NAMES: Desert Grassland Whiptail; Desert Grassland Whiptail Lizard; Huico de Pastizal-desértico (Spanish)42. HABITS: Whiptails, in general, feed on arachnids and insects. Takes shelter in underground burrows. HABITAT: Within the range of this species it has been reported from the woodland, scrub, grassland, desertscrub and wetland ecological formations. \*14 (021814 - recorded as *Aspidoscelis uniparens* Wright and Lowe, 1965,), 42 (021814), 73, 87, 106 (021814 - recorded as *Aspidoscelis uniparens* Wright and Lowe, 1965, color presentation), **LCNCA**\*

Viperidae: The Pit Viper Family

It has been suggested that if bitten by a rattlesnake you should call 911. Remain calm, remove all jewelry

(including watches), immobilize extremity, keep at level below the heart, decrease total body activity, and transport

to a medical facility. Do not apply ice to the bitten area, do not use an incision of any kind, do not use a tourniquet, do not administer drugs or alcohol, and do not use electric shock treatment (Tucson Herpetological Society. 1995.

Living with Rattlesnakes. Tucson, Arizona, 8751-1531. BISON-M).

<http://www.pharmacy.arizona.edu/outreach/poison>

If bitten contact the Arizona Poison and Drug Information Center: 1-800-222-1222.

***Crotalus atrox* Baird and Girard, 1853: Western Diamondback Rattlesnake**

COMMON NAME: Adobe Snake; Arizona Diamond Rattlesnake; Buzzworm; Coon Tail; Desert Diamond Rattlesnake; Desert Diamond-back; Fierce Rattlesnake; Spitting Rattlesnake; Texan Rattlesnake; Texas Diamond-back; Víbora-cascabel de Diamantes (Spanish)42; Western Diamond-backed Rattlesnake; Western Diamondback Rattlesnake. HABITS: Feeds on birds, bird’s eggs and young birds, frogs, gophers, lizards, mice, prairie dogs, rabbits, rats, squirrels and toads. Takes shelter in underground burrows, crevices in arroyo walls, rocky outcrops, thickets and woodrat nests. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: A venomous and dangerous snake. \*14 (063013 - color presentation) 37, 42 (063013), 54, 55, 73, 87, 106 (063013 - color presentation), ADS (1 bite already reported; here are tips for safety, Tuesday, March 9, 2010, Section A, Pages 1&4), **LCNCA**\*

***Crotalus lepidus* (Kennicott, 1861): Rock Rattlesnake**

COMMON NAMES: Banded Rock Rattlesnake (subsp. *klauberi* Gloyd, 1936); Blue Rattlesnake; Durango Rock Rattlesnake (subsp. *maculosus* Tanner, Dixon and Harris, 1972); Eastern Rock Rattlesnake; Green Rattlesnake; Little Green Rattlesnake; Mottled Rock Rattlesnake (subsp. *lepidus* (Kennicott, 1861)); Pink Rattlesnake; Rock Rattlesnake; Tamaulipan Rock Rattlesnakes (subsp. *morulus*, Klauber, 1952); Texas Rock Rattlesnake; Víbora-cascabel Variable (Spanish)42; White Rattlesnake. HABITS: Feeds on amphibians, bird eggs, lizards, small mammals and small snakes. Takes shelter in underground burrows. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland and wetland ecological formations. NOTES: A venomous snake, generally non-aggressive. \*8, 14 (021914 - separate records for subspp. *klauberi*: Banded Rock Rattlesnake and *lepidus*: Mottled Rock Rattlesnake are the subspecies reported as occurring in New Mexico, color presentations), 42 (021914), 54, 55, 73, 87, 106 (021914 - includes a listing of subspecies, color presentation), **LCNCA**\*

***Crotalus molossus* Baird and Girard, 1853: Blacktail Rattlesnake**

COMMON NAMES: Blacktail Rattlesnake; Black-tailed Rattlesnake (a name also applied to subsp. *molossus* Baird and Girard, 1853); Green Rattler; Mexican Black-tailed Rattlesnake (subsp. *nigrescens* Gloyd, 1936); Northern Black-tailed Rattlesnake; Oaxacan Black-tailed Rattlesnake (subsp. *oaxacus* Gloyd, 1948); San Esteban Island Black-tailed Rattlesnake (subsp. *estebanensis* Klauber, 1949); Víbora-cascabel Cola Negra (Spanish)42. HABITS: Feeds on amphibians, birds and bird eggs, small mammals and reptiles. Takes shelter in underground burrows. HABITAT: Within the range of this species it has been reported from the forest, woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: A venomous snake. \*14 (021914 - subsp. *molossus* (Baird and Girard, 1853) is the subspecies reported as occurring in New Mexico, color presentation), 37, 42 (021914), 54, 55, 73, 87, 106 (021914 - includes a listing of subspecies, color presentation), **LCNCA**\*

***Crotalus scutulatus* (Kennicott, 1861): Mojave Rattlesnake**

COMMON NAMES: Huamantlan Rattlesnake (subsp. *salvini* Günther, 1895); Mohave Rattlesnake; “Mojave Green”; Mojave Rattlesnake (a name also applied to subsp. *scutulatus* (Kennicott, 1861)); Northern Mojave Rattlesnake (subsp. *scutulatus* (Kennicott, 1861)); Víbora-cascabel del Altiplano (Spanish)42. HABITS: Feeds on reptiles, kangaroo rats and other rodents. Takes shelter in underground burrows, litter, and rat nests. HABITAT: Within the range of this species it has been reported from the forest woodland, scrub, grassland, desertscrub and wetland ecological formations. NOTES: A venomous and extremely dangerous snake, reactions to a bite may be delayed, never underestimate the severity, seek immediate treatment. The Mohave Rattlesnake produces very toxic venom. \*14 (021914 - subsp. *scutulatus* (Kennicott, 1861) is the subspecies reported as occurring New Mexico, color presentation), 37, 42 (021914), 54, 55, 73, 87, 106 (021914 - includes a listing of subspecies, color presentation), **LCNCA**\*

ACKNOWLEDGEMENTS

I would like to thank Matthew B. Johnson for his review of several of the listings, his input into the layout, his numerous trips into the field to assist in the identification of species and above all for his continued support for this project. I would also like to thank Philip D. Jenkins, Assistant Curator, and the Botanists of the University of Arizona Herbarium for years of assistance with plant identifications. I would also like to thank Neva Connolly and Bill Singleton with the Pima County Department of Transportation and Flood Control District for being willing and able to present the listings on the Sonoran Desert Conservation Plan website. Extensive revisions made to the individual species records were made possible by the Southwest Environmental Information Network (SEINet) and the National Plants Database: USDA, NRCS.

ERRORS

In the early Species Distribution Listings posted to the Sonoran Desert Conservation Plan website there were a number of errors, primarily in the authority associated with the naming the species, hopefully the current listing updates correct this problem.

FOOTNOTES and REFERENCES

(for the Species Distribution Listings compiled for Arizona)

(1) General Mapping:

Arizona Atlas & Gazetteer. 2002. DeLorme.

[www.delorme.com](http://www.delorme.com)

National Geographic Arizona Seamless USGS Topographic Maps. Maps created with TOPO! RC 2002 National Geographic.

Empire Mountains, Arizona - 15 Minute Topographic Series 1958

Sahuarita, Arizona - 15 Minute Topographic Series 1958

Tucson Metropolitan Street Atlas 2005 Edition. Wide World of Maps, Inc., Phoenix, Arizona.

[www.maps4u.com](http://www.maps4u.com)

(2) Physiographic Province Mapping:

Walker, Henry P. and Don Bufkin. 1979. Historical Atlas of Arizona, University of OklahomaPress, Norman, Page 4A and Map.

(3) Soils Mapping:

Arizona General Soil Map, July 1975, United States Department of Agriculture, Soil Conservation Service and the University of Arizona Agricultural Experiment Station, compiled by J.E. Jay, Y.H. Havens, D.M. Hendricks, D.F. Post and C.W. Guernsey.

Richardson, M.L. and M.L. Miller. March 1974. United States Department of Agriculture - Soil Conservation Service in cooperation with the Pima County Natural Resource Conservation District, Report and Interpretations for the General Soil Map of Pima County, Arizona and General Soil Map Pima County Arizona. Arizona General Soil Map, July 1975, United States Department of Agriculture - Soil Conservation Service and the University of Arizona Agricultural Experiment Station, compiled by J.E. Jay, Y.H. Havens, D.M. Hendricks, D.F. Post and C.W. Guernsey.

(4) Biotic Communities Mapping and Definitions

Ecological formations used in the listings follow those presented in the mapping for the Biotic Communities of the Southwest.

Brown, David E. 1982. Biotic Communities of the American Southwest – United States and Mexico, Desert Plants, Volume 4, Numbers 1-4, Published by the University of Arizona for the Boyce Thompson Southwestern Arboretum, Tucson, Arizona.

Brown, David E. and Charles H. Lowe. Revised June 1983. Biotic Communities of the Southwest, August 1980, General Technical Report RM-78, United Stated Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station.

Brown, David E., Charles H. Lowe and Charles P. Pase. June 1980. A Digitized Systematic Classification for Ecosystems with an Illustrated Summary of the Natural Vegetation of North America, United States Department of Agriculture, Forest Service, General Technical Report RM-73

(5) Nomenclature:

for Plants:

Generally follows that presented by The Biota of North America Program of the North Carolina Botanical Garden (BONAP) with A Synonymized Checklist of the Vascular Flora of the United States, Puerto Rico and the Virgin Islands, Full Index 1998.

<http://www.bonap.org/>

<http://www.csdl.tamu.edu/FLORA/b98/check98.htm>

The International Plant Names Index (2004, 2005)

Published on the Internet:

<http://www.ipni.org> [accessed 2004, 2005, 2006]

[(http://plants.usda.gov)](http://plants.usda.gov/). National Plant Data Center, Baton Rouge, LA 70874-4490 USA

for Vertebrate Animals:

Section on Arizona Habitats, The University of Arizona Press, Tucson, Arizona and E. Lendell Cockrum. 1960. The Recent Mammals of Arizona: Their Taxonomy and Distribution, The University of Arizona Press, Tucson, Arizona.

Biota Information System of New Mexico (BISON-M), New Mexico Game and Fish, New Mexico Natural Heritage Program

<http://nmnhp.unm.edu/bisonm/bisonquery.php>

for Invertebrate Animals:

Arizona Game and Fish Department. Unpublished Abstracts Compiled and Edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ.

<http://www.gf.state.az.us/w_c/edits/species_concern.shtml>

Biota Information System of New Mexico (BISON-M), New Mexico Game and Fish, New Mexico Natural Heritage Program

<http://nmnhp.unm.edu/bisonm/bisonquery.php>

(6) Growth Habits of Plants:

Generally coincides with that presented by the National Plants Database. USDA, NRCS. 2004. The PLANTS Database, Version 3.5 [(http://plants.usda.gov)](http://plants.usda.gov/). National Plant Data Center, Baton Rouge, LA 70874-4490 USA. Common names identified in the USDA NRCS database have been printed in bold lettering. A few of the plants were not provided with a common name in the USDA NRCS database.

The following sources were used to help identify common names of plants:

Arizona Game and Fish Department. Unpublished Abstracts Compiled and Edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. \*8\*

Baboquivari Mountain Plants: Identification, Ecology and Ethnobotany by Daniel F. Austin with linguistic consultant David L. Shaul. 2010. The University of Arizona Press, Tucson, Arizona. \*140\*

Common (Vernacular) Names Applied to California Vascular Plants” compiled by Elizabeth Painter, link located in \*44\*

Historical Common Names of Great Plains Plants \*124\*

Sonoran Desert Plants An Ecological Atlas, Raymond M. Turner, Janice E. Bowers and Tony L. Burgess. 1995. The University of Arizona. \*91 \*

Sunset Western Garden Book Kathleen N. Brenzel, 2001, Sunset Publishing Corporation, Menlo Park, California. \*18\*

Vascular Plants of Ragged Top, compiled by John F. Wiens from 1987 - 2000, The Arizona Native Plant Society, The Plant Press, Volume 25 Number 1, Spring 2001. \*102\*

(7) Arid Zone Trees, A Resource for Landscape Professionals, dedicated to providing quality trees to the Landscape Industries that are appropriate to the Desert Southwest

<http://www.aridzonetrees.com/index.htm>

(8) Arizona Game and Fish Department. Unpublished abstracts compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ.

<http://www.gf.state.az.us/w_c/edits/species_concern.shtml>

Amphibians: 2002. *Bufo microscaphus*, Arizona Toad; 2005. *Bufo retiformis*, Sonoran Green Toad; 2001. *Eleutherodactylus augusti* subsp. *cactorum*, Western Barking Frog; 2003. *Gastrophryne olivacea*, Great Plains Narrow-mouthed Toad; 2002. *Hyla arenicolor*, Canyon Treefrog; 2003. *Pternohyla fodiens*, Lowland Burrowing Treefrog; 2001. *Rana chiricahuensis*, Chiricahua Leopard Frog, and 2001. *Rana yavapaiensis*, Lowland Leopard Frog.

Arachnids: 2004. *Albiorix anophthalmus*, a cave obligate Pseudoscorpion.

Birds: 2003. *Accipiter gentilis*, American Goshawk; 2003. *Aimophila quinquestriata*, Five-striped Sparrow; 2002. *Aimophila ruficeps* subsp. *rupicola*: Yuma Rufous-crowned Sparrow; 2001. *Ammodramus bairdii*, Baird’s Sparrow; 2001. *Ammodramus savannarum* subsp. *ammolequs*, Arizona Grasshopper Sparrow; 2001. *Anthus spragueii*, Sprgaue’s Pipit; 2002. *Aquila chrysaetos*, Golden Eagle; 2000. *Asturina nitida*, Northern Grey Hawk; 2001. *Athene cunicularia* subsp. *hypugaea*, Western Burrowing Owl; 2001. *Buteo regalis*, Ferruginous Hawk; 2001. *Buteo swainsoni*, Swainson’s Hawk; 2005. *Buteogallus anthracinus*, Common Black-hawk; 2003. *Caracara cheriway*, Crested Caracara; 2002. *Ceryle alcyon*, Belted Kingfisher; 2001. *Chloroceryle americana*, Green Kingfisher; 2002. *Coccyzus americanus* subsp. *occidentalis*, Western Yellow-billed Cuckoo; 2001-08-27. *Colinus virginianus* subsp. *ridgwayi*, Masked Bobwhite; 2002. *Dendrocygna autumnalis*, Black-bellied Whistling-duck; 2001. *Dendrocygna bicolor*, Fulvous Whistling-duck; 2002. *Dolichonyx oryzivorus*, Bobolink; 2002. *Egretta thula*, Snowy Egret; 2002. *Elanus leucurus*, White-tailed Kite; 2003 *Empidonax fulvifrons* subsp. *pygmaeus*, Northern Buff-breasted Flycatcher; 2003. *Empidonax hammondii*, Hammond’s Flycatcher; 2002. *Empidonax traillii* subsp. *extimus*, Southwestern Willow Flycatcher; 1998. *Falco peregrinus* subsp. *anatum*, American Peregrine Falcon; 2001. *Glaucidium brasilianum* subsp. *cactorum*, Cactus Ferruginous Pigmy-owl; 2002. *Haliaeetus leucocephalus*, Bald Eagle; 2004. *Lanius ludovicianus*, Loggerhead Shrike; 2005. *Otus flammeolus*, Flammulated Owl; 2002. *Pandion haliaetus*, Osprey; 2002. *Plegadis chihi*, White-faced Ibis; 2002. *Polioptila nigriceps*, Black-capped Gnatcatcher; 2001. *Rallus longirostris* P. Boddaert subsp. *yumanensis*, Yuma Clapper Rail; 2002. *Setophaga ruticilla*, American Redstart; 2005. *Strix occidentalis* subsp. *lucida*, Mexican Spotted Owl; 2001. *Trogon elegans*, Elegant Trogon; 2003. *Tyrannus melancholicus*, Tropical Kingbird, and 2002. *Vireo bellii* subsp. *arizonae*, Arizona Bell’s Vireo.

Dicots: 2000. *Abutilon parishii*, Pima Indian Mallow; 2004. *Ammoselinum giganteum*, Sand Parsley; 2003. *Amoreuxia gonzalezii*, Saiya; 2003. *Amsonia kearneyana*, Kearney’s Blue Star; 2004. *Arenaria* aberrans, Mt. Dellenbaugh Sandwort; 1995. *Aster potosinus*, Lemmon’s Aster; 2004. *Berberis harrisoniana*, Kofa Barberry; 2000. *Boerhavia* megaptera, Tucson Mountain Spiderling; 2004. *Bursera fagaroides*, Torch Wood Copal; 2003. *Capsicum annuum* var. *glabriusculum*, Chiltepin; 2004. *Cardiospermum corindum* L. Faux Persil; 2005. *Castela emoryi*, Crucifixion Thorn; 2004. *Cirsium mohavense*, Mohave Thistle; 2001. *Cleome multicaulis*, Playa Spider Plant; 2001. *Colubrina californica*, California Snakewood; 2001. *Coryphantha scheeri* var. *robustispina*, Pima Pineapple Cactus; 2005. *Coryphantha scheeri* var. *valida*, Slender Needle Corycactus; 2004. *Croton wigginsii*, Dune Croton; 2005. *Cryptantha ganderi*, Gander’s Cryptantha; 2001. *Dalea tentaculoides*, Gentry Indigo Bush; 2005. *Desmanthus covillei*, Coville Bundleflower; 2004. *Echinocactus horizonthalonius* var. *nicholii*, Nichol Turk’s Head Cactus; 2005. *Echinocactus polycephalus*, Cotton-top Cactus; 2005. *Echinocereus fasciculatus*, Magenta-flower Hedgehog Cactus; 2003. *Echinocereus triglochidiatus* var. *arizonicus*, Arizona Hedgehog Cactus; 2004. *Echinomastus erectocentrus* var. *acunensis*, Acuna Cactus; 2003. *Echinomastus erectocentrus* var. *erectocentrus*, Needle-spined Pineapple Cactus; 2001. *Erigeron arisolius*,Arid Throne Fleabane; 2003. *Eriogonum capillare,* San Carlos Wild-buckwheat; 2005. *Eriogonum ericifolium* var. *ericifolium*, Heathleaf Wild-buckwheat; 2004. *Euphorbia gracillima*, Mexican Broomspurge; 2005. *Euphorbia platysperma*, Dune Spurge; 2005. *Ferocactus cylindraceus* var. *cylindraceus*. California Barrel Cactus; 2001. *Graptopetalum bartramii*, Bartram Stonecrop; 2000. *Hackelia ursina*, Chihuahuan Stickseed; 2000. *Hedeoma dentata*, Mock-pennyroyal; 2000. *Hermannia* pauciflora, Sparseleaf Hermannia; 2001. *Heterotheca rutteri*, Huachuca Golden Aster; 2005. *Ibervillea tenuisecta*, Texas Globe Berry; 2000. *Ipomoea tenuiloba*, Trumpet Morning-glory; 2003. *Lilaeopsis schaffneriana* var. *recurva*, Huachuca Water Umbel; 2000. *Lupinus huachucanus*, Huachuca Mountain Lupine; 2004. *Mammillaria mainiae*, Counter Clockwise Fishhook Cactus; 2004. *Matelea cordifolia*, Sonoran Milkweed Vine; 2006. *Passiflora arizonica*, Arizona Passionflower; 2003. *Pectis imberbis*, Beardless Chinch Weed; 2005. *Peniocereus striatus*, Dahlia Rooted Cereus; 2004. *Penstemon superbus*, Superb Beardtongue; 2005. *Perityle ajoensis*, Ajo Rock Daisy; 2005. *Petalonyx linearis*, Longleaf Sandpaper-plant; 2004. *Pholisma sonorae*, Sand Food; 2004. *Plagiobothrys pringlei*, Pringle Popcorn-flower; 2005. *Rhus kearneyi*, Kearney Sumac; 2005. *Stenocereus thurberi*, Organ Pipe Cactus; 2005. *Stephanomeria schottii*, Schott Wire Lettuce; 2004. *Stevia lemmonii*, Lemmon’s Stevia; 2004. *Tragia laciniata*, Sonoran Noseburn; 2004. *Tumamoca macdougalii*, Tumamoc Globeberry; 2005. *Vauquelinia californica* subsp. *sonorensis*, Sonoran Mountain Rosewood, and 2004. *Viola umbraticola*, Shade Violet.

Ferns: 1997. *Cheilanthes pringlei*, Pringle Lip Fern and 2003. *Notholaena lemmonii*, Lemmon Cloak Fern.

Fishes: 2002. *Agosia chrysogaster*, Longfin Dace; 2002. *Catostomus clarki*, Desert Sucker; 2002. *Catostomus insignis,* Sonora Sucker; 2001. *Cyprinodon eremus*, Quitobaquito Pupfish; 2001. *Cyprinodon macularius*, Desert Pupfish; 2002. *Gila intermedia*, Gila Chub; 2002. *Gila robusta*, Roundtail Chub; 2001. *Poeciliopsis occidentalis* subsp. *occidentalis*, Gila Topminnow, and 2001. *Poeciliopsis occidentalis* subsp. *sonorensis*, Yaqui Topminnow.

Gastropods: 2003. *Tryonia quitobaquitae*, Quitobaquito Tryonia.

Insects: 2001. *Agathymus aryxna*, Arizona Giant Skipper; 2001. *Agathymus polingi*, Poling’s Giant Skipper; 2004. *Anthocharis cethura*, Desert Orangetip; 2001. *Calephelis rawsoni* subsp. *arizonensis*, Arizona Metalmark; 2002. *Heterelmis stephani*, Stephan’s Heterelmis Riffle Beetle; 2001. *Limenitis archippus* subsp. *obsoleta*, Obsolete Viceroy Butterfly, and 2001. and *Neophasia terlootii*, Chiricahua Pine White.

Mammals: 2002. *Antrozous pallidus*, Pallid Bat; 2002. *Antilocapra americana* subsp. *mexicana*, Chihuahuan Pronghorn Antelope; 2002. *Antilocapra americana* subsp. *sonoriensis*, Sonoran Pronghorn Antelope; 2004. *Bassariscus astutus*, Ringtail; 2001. *Canis lupus baileyi*, Mexican Gray Wolf; 2003. *Choeronycteris mexicana*, Mexican Long-tongued Bat; 2004. *Eptesicus fuscus*, Big Brown Bat; 2003. *Euderma maculatum*, Spotted Bat; 2002. *Eumops perotis* subsp. *californicus*, Greater Western Bonneted Bat; 2003. *Eumops underwoodi*, Underwood’s Mastiff Bat; 2004. *Herpailurus yaguarondi*, Jaguarundi; 2004. *Lasionycteris noctivagans*, Silver-haired Bat; 2003. *Lasiurus blossevillii*, Western Red Bat; 2004. *Lasiurus cinereus*, Hoary Bat; 2004. *Leopardus pardalis* subsp *sonoriensis*, Ocelot; 2003. *Leptonycteris curasoae* subsp. *yerbabuenae*, Lesser Long-nosed Bat; 2002. *Lontra canadensis* subsp. *sonora*, Southwestern River Otter; 2001. *Macrotus californicus*, California Leaf-nosed Bat; 2003. *Myotis auriculus*, Southwestern Myotis; 2004. *Myotis californicus*, California Myotis; 2003. *Myotis ciliolabrum****,*** Western Small-footed Myotis; 2003. *Myotis occultus*, Fringed Myotis; 2003. *Myotis yumanensis*, Yuma Myotis; 2003. *Nyctinomops femorosacca*, Pocketed Free-tailed Bat; 2003. *Nyctinomops macrotis*, Big Free-tailed Bat; 2003. *Myotis thysanodes*, Fringed Myotis; 2002. *Myotis velifer*, Cave Myotis; 2004. *Panthera onca*, Jaguar; 2004. *Pipistrellus hesperus*, Western Pipistrelle; 2007. *Puma concolor*, Mountain Lion; 2005. *Sciurus arizonensis*, Arizona Gray Squirrel; 2003. *Sigmodon ochrognathus*, Yellow-nosed Cotton Rat, and 2004. *Tadarida brasiliensis*, Brazilian Free-tailed Bat.

Monocots: 2005. *Agave* x *ajoensis*, Ajo Agave; 2003. *Agave murpheyi*, Hohokam Agave; 1994. *Agave parviflora* subsp. *parviflora*, Santa Cruz Striped Agave; 2005. *Agave schottii* var. *treleasei*, Trelease Agave; 2005. *Agave utahensis* var. *kaibabensis,* Kaibab Agave; 2005. *Allium bigelovii*, Bigelow Onion; 1999. *Allium gooddingii*, Goodding Onion; 2005. *Allium parishii*, Parish Onion; 2004. *Carex chihuahuensis*, Chihuahuan Sedge; 2000. *Carex ultra*, Arizona Giant Sedge; 2004. *Cathestecum erectum*, False Grama; 2004. *Hexalectris revoluta*, Chisos Coral-root; 2005. *Hexalectris spicata*, Crested Coral Root; 2001. *Lilium parryi*, Lemon Lily; 2005. *Listera convallarioides*, Broadleaf Twayblade; 2000. *Muhlenbergia xerophila*, Weeping Muhly, and 2005. *Schiedeella arizonica*, Fallen Ladies’-tresses.

Reptiles: 2001. *Aspidoscelis burti* subsp. *stictogrammus*, Giant Spotted Whiptail; 2003. *Aspidoscelis burti* subsp. *xanthonotus*, Redback Whiptail; 2002. *Chionactis occipitalis* subsp. *klauberi*, Tucson Shovel-nosed Snake; 2003. *Chionactis palarostris* subsp. *organica*, Organ Pipe Shovel-nosed Snake; 2001. *Crotalus lepidus* subsp. *klauberi*, Banded Rock Rattlesnake; 2001. *Gopherus agassizi*, Desert Tortoise; 2002. *Heloderma suspectum* subsp. *cinctum*, Banded Gila Monster; 2002. *Heterodon nasicus* subsp. *kennerlyi*, Mexican Hog-nosed Snake; 2005. *Kinosternon sonoriense*, subsp. *longifemorale*, Sonoyta Mud Turtle; 2003. *Lichanura trivirgata* subsp. *gracia*, Desert Rosy Boa; 2003. *Phrynosoma mcallii*, Flat-tailed Horned Lizard; 2005. *Sauromalus ater*, Common Chuckwalla; 2001. *Thamnophis eques* subsp. *megalops*, Mexican Garter Snake; 2003. *Uma rufopunctata*, Yuma Desert Fringe-toed Lizard, and 2003. *Xantusia* *arizonae*, Arizona Night Lizard.

(9) Arizona Rare Plant Committee. Arizona Rare Plant Field Guide, A Collaboration of Agencies and Organizations.

(10) Arizona Sonora Desert Museum, Migratory Pollinators Program, Spring 2003 Update, Table 3. Plants Visited by Hummingbirds in Sonora

<http://desertmuseum.org/pollination/table_3.html>

(11) Barnes, Will C. 1988. Arizona Place Names, The University of Arizona Press, Tucson, Arizona.

(12) Benson, Lyman. 1981. The Cacti of Arizona, The University of Arizona Press, Tucson, Arizona.

(13) Benson, Lyman and Robert A. Darrow. 1981. Trees and Shrubs of the Southwestern Deserts, The University of Arizona Press, Tucson, Arizona.

(14) Biota Information System of New Mexico (BISON-M), New Mexico Game and Fish, New Mexico Natural Heritage Program

<http://nmnhp.unm.edu/bisonm/bisonquery.php>

(15) Bowers, Janice E. and Steven P. McLaughlin. 1987. Flora and Vegetation of the Rincon Mountains, Pima County, Arizona. Desert Plants, Vol. 8, No. 2, pp. 50-95, 1987.

(16) Bowers, J.E., and R.M. Turner. 1985. A Revised Vascular Flora of Tumamoc Hill, Tucson, Arizona. Madrono, Vol.32, No.4, pp. 225-252, 20 December 1985.

(17) Breitung, August J., The Agaves, The Cactus and Succulent Journal 1968 Yearbook, Abbey Garden Press, Reseda, California.

(18) Brenzel, Kathleen N. 2001. Sunset Western Garden Book, Sunset Publishing Corporation, Menlo Park, California.

(19) Brown, David E. 1982. Biotic Communities of the American Southwest – United States and Mexico, Desert Plants, Volume 4, Numbers 1-4, Published by the University of Arizona for the Boyce Thompson Southwestern Arboretum, and associated map: Brown, David E. and Lowe, Charles H., Biotic Communities of the Southwest, August 1980, General Technical Report RM-78, United Stated Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station Revised June 1983.

(20) Bull, John and John Farrand, Jr. 1977. The Audubon Society Field Guide to North American Birds: Eastern Region, Alfred A. Knopf, Inc., New York, New York.

(21) Catalogue of New World Grasses

<http://mobot.mobot.org/W3T/Search/index/nwgctA.html>

(22) Chambers, Nina – Sonoran Institute & Hawkins, Trica Oshant - Environmental Education Exchange. Invasive Plants of the Sonoran Desert, A Field Guide.

(23) Checklist of North American Butterflies Occurring North of Mexico

<http://www.naba.org/pubs/enames2.html>

(24) Checklist of Plants, Organ Pipe Cactus National Monument, August 2005.

(25) Dollar, Derrick; Scott Richardson and Erin Deely. 2000. Mammal Survey for the Mason Audubon Center, Tucson, Arizona USA.

(26) Duffield, Mary Rose and Warren D. Jones. 1981. Plants for Dry Climates, HP Books, Los Angeles, California.

(27) Earle, W. Hubert. 1963. Cacti of the Southwest, Rancho Arroyo book distributors, Tempe, Arizona.

(28) Epple, Anne Orth. 1995. A Field Guide to the Plants of Arizona, Falcon Press Publishing Co., Inc., Helena, Montana.

(29) Erickson, Jim. 1998. 2 Areas Near Santa Ritas Sought for Conservation, Park, the Arizona Daily Star, Tuesday, 17 November 1998.

(30) Especies con Usos No Maderables en Bosques de Encino, Pino y Pino-Encino en los Estados de Chihuahua, Durango, Jalisco, Michoacan, Guerrero y Oaxaca.

<http://www.semarnat.gob.mx/pfnm/indices.htm>

(31) Felger, Richard S. 1997. Checklist of the Vascular Plants of Cabeza Prieta National Wildlife Refuge, Arizona, Drylands Institute, Tucson, Arizona.

(32) Florida Nature

<http://www.floridanature.org/>

<http://www.floridanature.org/copyright.asp>

(33) Gould, Frank W. 1951. Grasses of Southwestern United States, University of Arizona Press, Tucson, Arizona.

(34) Hawksworth, Frank G. and Delbert Wiens. March 1996. United States Department of Agriculture, Forest Service. Agricultural Handbook 709 - Dwarf Mistletoes: Biology, Pathology, and Systematics.

<http://www.rmrs.nau.edu/publications/ah_709/index.html>

(35) Haynes, Lisa and Susan Schuetze. 1997. Pamphlet: A Sampler of Arizona’s Threatened and Endangered Wildlife, Arizona Game and Fish Department and Arizona Department of Agriculture.

(36) The Hermannia Pages: American Species

<http://www.meden.demon.co.uk/Malvaceae/Hermannia/American.html>

(37) Heymann, M.M. 1975. Reptiles and Amphibians of the American Southwest, Doubleshoe Publishers, Scottsdale, Arizona.

(38) Hodge, Carle. 1991. All About Saguaros, Arizona Highways Magazine, Arizona Department of Transportation, Phoenix, Arizona.

(39) Hoffmeister. 1980. *Ursus arctos*, Specimens in Collections

(40) Housholder, Bob. 1966. The Grizzly Bear in Arizona

(41) Howery, Larry D. and Gina Ramos. Arizona’s Invasive Weeds, The University of Arizona, Cooperative Extension Service and United States Department of the Interior, Bureau of Land Management.

(42) Retrieved (month, day, year), from the Integrated Taxonomic Information System (ITIS) on-line database:

<http://www.itis.usda.gov>.

(43) The International Plant Names Index (2004), accessed 2005 and 2005, published on the Internet:

<http://www.ipni.org>

(44) Jepson Flora Project

Includes a link to “Common (Vernacular) Names Applied to California Vascular Plants” compiled by Elizabeth Painter

<http://ucjeps.berkeley.edu/>

<http://ucjeps.berkeley.edu/copyright.html>

(45) Johnson, Matthew Brian. 2004. Cacti, other Succulents, and Unusual Xerophytes of Southern Arizona, Boyce Thompson Southwestern Arboretum / Arizona Lithographers, Tucson, Arizona.

(46) Kearney, Thomas K., Robert H. Peebles and collaborators. 1960. Arizona Flora. Second Edition with Supplement by John Thomas Howell and Elizabeth McClintock and collaborators, 4th printing 1973, University of California Press, Berkeley, Los Angeles, California.

(47) Krausman, Paul R. and Michael L. Morrison. 2003. Wildlife Ecology and Management, Santa Rita Experimental Range (1903 to 2002), USDA Forest Service Proceedings RMRS-P-30.2003 Pages 59 thru 67.

(48) Landscaping with Native Arizona Plants. 1973. Natural Vegetation Committee, Arizona Chapter, Soil Conservation Society of America, The University of Arizona Press, Tucson, Arizona.

(49) Las Cienegas National Conservation Area - Records and Reports.

(50) Laymon, Stephen A. Paper: Yellow-billed Cuckoo.

(51) Lellinger, David B. 1985. A Field Manual of the Ferns and Fern-Allies of the United States and Canada, Smithsonian Institution Press, Washington, D.C.

(52) Little, Elbert L. 1980. The Audubon Society Field Guide to North American Trees – Western Region, Alfred A. Knopf, New York, New York.

(53) Little, Elbert L., Jr. December 1950. Southwestern Trees - A Guide to the Native Species of New Mexico and Arizona, Agriculture Handbook No. 9, United State Department of Agriculture, Forest Service, U.S. Government Printing Office, Washington 25 D.C.

(54) Lowe, Charles H., Cecil R. Schwalbe and Terry B. Johnson. 1986. The Venomous Reptiles of Arizona, Arizona Game and Fish Department, Phoenix, Arizona.

(55) Lowe, Charles H. 1964. The Vertebrates of Arizona with Major Section on Arizona Habitats, The University of Arizona Press, Tucson, Arizona.

(56) Maus, Kathryn. October 12, 2001. Plants of the West Branch of the Santa Cruz River, The West Branch Flora, Arid Lands Resource Sciences, University of Arizona, Tucson, Arizona.

<http://www.co.pima.az.us/cmo/sdcp/sdcp2/reports/WB/pflora.htm>

(57) Maus, Kathryn. September 9, 2002. “Checklist for the Plants of the West Branch of the Santa Cruz, Tucson, Arizona..

<http://eebweb.arizona.edu/HERB/WESTBRANCH/westbranch.html>

(58) McLaughlin, Steven P. July 18, 1990. Flora of Buenos Aires National Wildlife Refuge (including Arivaca Cienega), Office of Arid Land Studies, University of Arizona.

(59) Medina, Alvin L. 2003. Historical and Recent Flora of the Santa Rita Experimental Range, USDA Forest Service Proceedings RMRS-P-30.2003 Pages 141 thru 148.

(60) Milne, Lorus and Margery. 1980. The Audubon Society Field Guide to North American Insects and Spiders, Alfred A. Knopf, New York, New York.

(61) Minckly, W.L. 1973. Fishes of Arizona, Sims Printing Company, Inc., Phoenix, Arizona.

(62) Missouriplants.com

<http://www.missouriplants.com/index.html>

(63) National Plants Database: USDA, NRCS. 2004. The PLANTS Database, Version 3.5, National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

[http://plants.usda.gov](http://plants.usda.gov))

with links to the following sites:

Burke Museum of Natural History and Culture

<http://www.washington.edu/burkemuseum/>

The Center for Plant Conservation

Flora of North America

[www.efloras.org](http://www.efloras.org)

Grass Manual on the Web

Kemper Center for Home Gardening

<http://www.mobot.org/gardeninghelp/plantinfo.shtml>

Native American Ethnobotany, University of Michigan. A database of plants used as drugs, foods, dyes, fibers and more, by native peoples of North America.

<http://herb.umd.umich.edu/>

United State Department of Agriculture Forest Service, Fire Effects Information System

<http://www.fs.fed.us/database/feis/index.html>

USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. URL:

<http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?447394> (29 November 2008)

<http://www.ars-grin.gov/npgs/aboutgrin.html>

(64) Native Grasses from South Texas, Texas A&M University System, Agricultural Program.

<http://uvalde.tamu.edu/herbarium/grasses.htm>

<http://www.soilcropandmore.info/crops/Weeds/UvaldeWeedSite/grasses.htm>

(65) Olin, George. 1975. Mammals of the Southwest Deserts, Popular Series No. 8, Southwest Parks and Monuments Association.

(66) Owensby, Clenton. 2002. Line Drawings of Kansas Grasses

<http://spuds.agron.ksu.edu/ksgrasskey/linedraw.htm>

(67) Page, Lawrence M. and Brooks M. Burr. 1991. A Field Guide to Freshwater Fishes – North America North of Mexico, Peterson Field Guides, Houghton Mifflin Company, Boston, Massachusetts.

(68) Parker, Kittie F. 1982. An Illustrated Guide to Arizona Weeds, University of Arizona Press, Tucson, Arizona.

(69) Peterson, Roger Tory. 1961. A Field Guide to Western Birds, Houghton Mifflin Company, Boston, Massachusetts.

(70) Pima Community College – Desert Ecology of Tucson, Arizona

<http://wc.pima.edu/Bfiero/tucsonecology/plants/wflow_heri.htm>

(71) Pima County Parks and Recreation Department, Cienega Creek Natural Preserve Bird Checklist, Tucson, Arizona.

(72) Pima County Sonoran Desert Conservation Plan Threatened and Endangered Species

<http://www.pima.gov/cmo/sdcp/sdcp2/fsheets/facts.html>

(73) Ransom, Jay Ellis. 1981. Harper and Row’s Complete Field Guide to North American Wildlife, Western Edition, Harper and Row, New York, New York.

(74) Raven, Peter H., Ray F. Evert and Helena Curtis. 1976 Biology of Plants, Second Edition, Worth Publishers, Inc.

(75) Richardson, M.L. and M.L. Miller. March 1974. United States Department of Agriculture, Soil Conservation Service in cooperation with The Pima County Natural Resource Conservation District, Reports and Interpretations for the General Soil Map of Pima County, Arizona and General Soil Map Pima County Arizona.

(76) Richmond, D.L. and M.L. Richardson. January 1974. United States Department of Agriculture, Soil Conservation Service in cooperation with the Natural Resource Conservation Districts in Mohave County, General Soil and Interpretations, Mohave County, Arizona and General Soil Map Mohave County, Arizona.

(77) Rondeau, Renee, Thomas R. Van Devender, C. David Bertelson, Philip Jenkins, Rebecca K. Wilson, Mark A. Dimmitt. December, 1996. Annotated Flora of the Tucson Mountains, Pima County, Arizona, Desert Plants, Volume 12, Number 2.

<http://eebweb.arizona.edu/herb/TUCSONS/tucsonsA-C.html>

(78) Rosen, Philip C. 15 October 2001. Biological Values of the West Branch of the Santa Cruz River, With an Outline for a Potential River Park or Reserve, Including a Preliminary Flora by Kathryn Maus (Plants of the West Branch of the Santa Cruz , The West Branch Flora has been recorded separately as Footnote 56), School of Renewable Natural Resources, University of Arizona, Tucson, Arizona.

<http://www.co.pima.az.us/cmo/sdcp/sdcp2/reports/WB/WestB.htm>

(79) Rosenberg, Gary H. and Russel, Ruth. 1999. Checklist of North American Birds United States and Canada Including Hawaii 2000, Tucson Audubon Society.

(80) Schmutz, Ervin M., Barry N. Freeman, Raymond E. Reed. 1968. Livestock- Poisoning Plants of Arizona, The University of Arizona Press, Tucson, Arizona.

(81) School of Botanical Medicine - Checklist of the Vascular Plants of Arizona (excluding grasses and their allies)

<http://www.ibiblio.org/london/alternative-healthcare/Southwest-School-of-Botanical-Medicine/HOMEPAGE/Floras/AZchklst.txt>

(82) Southeast Arizona Butterfly Association (SEABA), Plant List - SEABA’s Butterfly Garden at the Tucson Audubon Society’s Mason Center

<http://www.naba.org/chapters/nabasa/home.html>

(83) Southwest Parks and Monument Association. 1991. A Checklist of Mammals, Amphibians and Reptiles of Organ Pipe Cactus National Monument, Tucson, Arizona.

(84) Southwest Parks and Monument Association. 1999. A Checklist of the Birds of Organ Pipe Cactus National Monument, Tucson, Arizona.

(85) Southwest Environmental Information Network (SEINet)

<http://seinet.asu.edu/collections/selection.jsp?cat=plantae>

(86) Spellenberg, Richard. 1979. The Audubon Society Field Guide to North American Wildflowers - Western Region, Alfred A. Knopf, New York, New York.

(87) Stebbins, Robert C. 1985. A Field Guide to Western Reptiles and Amphibians, Peterson Field Guides, Houghton Mifflin Company, Boston, Massachusetts.

(88) Texas Native Shrubs

<http://aggie-horticulture.tamu.edu/ornamentals/nativeshrubs/indexscientific.htm>

(89) Thornber, J.J. Vegetation Groups in the Desert Laboratory Domain *in* Spalding. 1909. The Distribution and Movements of Desert Plants, Carnegie Institution of Washington, Publication No. 113: 103 - 112.

(90) Tohono Chul Park, Field Checklist of Birds, Tucson, Arizona.

(91) Turner, Raymond M., Janice E. Bowers and Tony L. Burgess. 1995. Sonoran Desert Plants An Ecological Atlas, The University of Arizona.

(92) Tuttle, Merlin D. 1988. America’s Neighborhood Bats, University of Texas Press, Austin, Texas.

(93) Udvardy, Miklos D.F. 1977. The Audubon Society Field Guide to North American Birds: Western Region, Alfred A. Knopf, Inc., New York, New York.

(94) United States Fish and Wildlife Service, Cabeza Prieta National Wildlife Refuge: Listing of Amphibians (April 15, 2002 Update), Listing of Birds (March 2004), Listing of Mammals (April 15, 2002 Update), Listing of Plants (April 15, 2002 Update) and Listing of Reptiles (April 15, 2002 Update).

<http://www.fws.gov/southwest/refuges/arizona/cabeza.html>

(94 ES 1998) United States Department of the Interior, Endangered Species on Cabeza Prieta National Wildlife Refuge (October 1998).

(94 ETCS 1994) United States Department of the Interior, Endangered, Threatened and Candidate Species Cabeza Prieta National Wildlife Refuge (June 1994).

(95) University of Arizona

Herbarium, P.O. Box 210036 Herring Hall, 1130 East South Campus Drive, Tucson, Arizona 85721; 520-621-7243; FAX: 520-621-7186

<http://ag.arizona.edu/herbarium/>

Department of Entomology, Forbes 410, PO Box 2100: (36), Tucson, Arizona 85721-0036; 520-621-1151; FAX: 520- 621-1150

<http://ag.arizona.edu/ento/insectid.htm>

(96) University of Michigan, Animal Diversity Web

<http://animaldiversity.ummz.umich.edu/>

(97) Venomous Creatures of the Southwest, Arizona-Sonora Desert Museum and the Arizona Poison Control System. University of Arizona, Poison and Drug Information Center, College of Pharmacy, Tucson 1-800-222-1222, and the Samaritan Regional Poison Center, Good Samaritan Medical Center - Phoenix and the Arizona Department of Health Services - Emergency Medical Services Division.

<http://www.pharmacy.arizona.edu/outreach/poison/>

<http://www.pharmacy.arizona.edu/outreach/poison/venom.php>

<http://www.pharmacy.arizona.edu/outreach/poison/plants.php>

(98) Walker, Henry P. and Don Bufkin. 1979. Historical Atlas of Arizona, University of Oklahoma Press, Norman, Page 4A and Map.

(99) Walters, James W. R3 78-9, A Guide to Forest Diseases of Southwestern Conifers, Forest Insect and Disease Management, State and Private Forestry, Southwestern Region, Forest Service, United States Department of Agriculture, Albuquerque, New Mexico.

(100) Whitaker, John O., Jr. 1996. National Audubon Society Field Guide to North American Mammals, Alfred A. Knopf, New York, New York.

(101) Whitson, Tom D., Larry C. Burrill, Steven A. Dewey, David W. Cudney, B.E. Nelson, Richard D. Lee, Robert Parker. 1996. Weeds of the West, Pioneer of Jackson Hole, Jackson, Wyoming.

(102) Wiens, John F. Vascular Plants of Ragged Top, compiled by John F. Wiens from 1987 - 2000, The Arizona Native Plant Society, The Plant Press, Volume 25 Number 1, Spring 2001.

(103) Wildflowers and Other Plants of Southern California, with Photographs by Michael L. Charters

<http://www.calflora.net/bloomingplants/index.html>

(104) Lehr, J. Harry. 1978. A Catalogue of the Flora of Arizona, Desert Botanical Garden, Phoenix, Arizona. Northland Press, Flagstaff, Arizona.

(105) Humphrey, Robert H., Albert L. Brown and A.C. Everson. April 1956. Bulletin 243, Common Arizona Range Grasses, Agricultural Experiment Station, University of Arizona, Tucson, Arizona.

(106) Wikipedia, The Free Encyclopedia

<http://en.wikipedia.org/wiki/Main_Page>

(107) McGinnies, William G. 1981. Discovering the Desert, Legacy of the Carnegie Desert Botanical Laboratory, The University of Arizona Press, Tucson, Arizona.

(108) Dodge, Natt N. 1964. Organ Pipe Cactus National Monument / Arizona, Natural History Handbook Series, No. 6, Washington, D.C.

(109) Grow Native! Don’t Plant a Pest, A Guide to Invasive Landscape Plants and Their Native Alternatives - Southeastern Arizona. Arizona Native Plant Society.

[www.aznps.org](http://www.aznps.org)

(110) United States Fish and Wildlife Service, Ecological Services Field Office, Endangered and Threatened Species of Arizona - Summer 1991.

(111) California Register of Big Trees

<http://www.ufei.org/BigTrees/index.html>

(112) Kitt Peak Handouts: Common Trees and Shrubs on Kitt Peak; Common Birds of Kitt Peak; Common Mammals of Kitt Peak, and Common Reptiles and Amphibians of Kitt Peak.

(113) Halbedel, E. June 2005. The Birds of Kitt Peak, Revised 3rd Edition.

(114) Nearctica.com, Inc. 1999, The Natural World of North America.

<http://www.nearctica.com/>

<http://www.nearctica.com/nomina/nomina.htm>

(115) The Firefly Forest

<http://www.fireflyforest.com/flowers/>

<http://www.fireflyforest.com/flowers/wildflower-and-plant-sites/>

(116) Krausman, Paul R. and Michael L. Morrison, Wildlife Ecology and Management, Santa Rita Experimental Range (1903 to 2002), USDA Forest Service Proceedings RMRS-P-30.2003: 59 - 67.

(117) Medina, Alvin L., Historical and Recent Flora of the Santa Rita Experimental Rage, USDA Forest Service Proceedings RMRS-P-30.2003: 141 - 148.

(118) Cockrum, E. Lendell. 1960. The Recent Mammals of Arizona: Their Taxonomy and Distribution, The University of Arizona Press, Tucson, Arizona.

(119) Stockwell, William Palmer and Lucretia Breazaele. April 1, 1933. Arizona Cacti, University of Arizona Bulletin, Vol. 4, No. 3, Biological Science Bulletin No. 1, University of Arizona, Tucson, Arizona.

(120) Duncan, Russell B. Two Rare Plants and the Warm Season Flora of a Unique Habitat in Pima County, Arizona: The Pantano Formation, Claystone Member Deposits, The Arizona Native Plant Society, The Plant Press, Autumn 2003: 7-14.

(121) Reichhardt, Karen. *Triteliopsis palmeri* - Blue Sand Lily, an Elusive Plant of the Sand Dunes, The Arizona Native Plant Society, The Plant Press, Volume 30 Number 2, October 2006: 10-11.

(122) Kaiser, Jack. Common Ferns of Southern Arizona, The Arizona Native Plant Society, The Plant Press, Volume 18 Number 2, Spring 1994: 5-12.

(123) McDonald, Christopher. Pima Pineapple Cactus, The Arizona Native Plant Society, The Plant Press, Volume 31 Number 1, April 2007: 1-4.

(124) Historical Common Names of Great Plains Plants (site removed by December 14, 2012, no longer an active website)

<http://www.unl.edu/agnicpls/gpcn/index.html>

(125) Munson, T.V. Foundations of American Grape Culture, T.V. Munson & Son, Denison, Texas, 1909.

(126) Adams, Robert P. *Juniperus* of Canada and the United States: Taxonomy, Key and Distribution, Biology Department, Baylor University, Box 727, Gruver, TX 79040 USA, December 2008.

[Robert\_Adams@baylor.edu](mailto:Robert_Adams@baylor.edu)

<http://www.juniperus.org/AdamsPapersPDFFiles/218-Phyto90(3)255-314AdamsKeytoJuniperusCanadaandUS.pdf>

(127) Native American Ethnobotany, University of Michigan. A database of plants used as drugs, foods, dyes, fibers and more, by native peoples of North America.

<http://herb.umd.umich.edu/>

(128) Desert-Tropicals.com, Philippe Faucon

<http://www.desert-tropicals.com/index.html>

(129) Plants of the Southwest, Santa Fe, New Mexico 87501 U.S.A.

<http://www.plantsofthesouthwest.com/>

(130) Little, V.A. 1963. General and Applied Entomology, Harpers and Row, Publishers, Inc. New York, N.Y.

(131) The University of Arizona, Cooperative Extension, Pima county Home Horticulture.

<http://ag.arizona.edu/pima/gardening/gardening.html>

(132) The Gymnosperm Database

<http://www.conifers.org/index.html>

(132) PIER, Pacific Island Ecosystems at Risk, Plant threats to Pacific ecosystems

<http://www.hear.org/pier/index.html>

(133) USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland.URL:

<http://www.ars-grin.gov/cgi-bin/npgs/html/taxgenform.pl?language>=

(134) Austin, Daniel F. Baboquivari Mountain Plants, The Plant Press, The Arizona Native Plant Society, Volume 33, Number 2, Fall 2009: 1-4.

(135) Encyclopedia of Life. Available from

<http://www.eol.org>.

(136) Flora of North America

[www.efloras.org](http://www.efloras.org)

(137) Kleinman, Dr. Russ, Associate Botanist, Dale A. Zimmerman Herbarium. Vascular Plants of the Gila Wilderness

<http://www.wnmu.edu/academic/nspages2/gilaflora/index.html>

(138) Van Devender, T.R. and R.K., Phelps, V., Thayer, D. and ASDM Docents, Paper - 15 April, 2 Oct., 23 Dec. 1986; 11 April 1987; Waterman Mountains: limestone ridges and lower slopes; 2400-2700 ft. elev.; T12S, R8E Sec. 32+33; 32D20’30-35”N; 111D 26-27’ W.

(139) Householder, Bob. Arizona’s Mr. Big - Johnny Nutt, Arizona Wildlife Sportsman, August 1960: 18-20.

(140) Austin, Daniel F. 2010. Baboquivari Mountain Plants: Identification, Ecology and Ethnobotany, The University of Arizona Press, Tucson, Arizona: 281 - 307.

<http://aznps.com/documents/BaboquivariMountainPlants.Austin.pdf>

Austin, Daniel F.; with linguistic consultant David L. Shaul. 2010. Baboquivari Mountain Plants: Identification, Ecology and Ethnobotany, The University of Arizona Press, Tucson, Arizona.

(141) Xeriscape Landscaping Plants for the Arizona Desert Environment Pictures, Photos and Information, George and Audrey Delange

<http://www.delange.org/Xeriscape/Xeriscape.htm>

(142) Introducing the Phenology Database, presented in the Arizona-Sonora Desert Museum, A Newsletter for Members of the Arizona-Sonora Desert Museum, Volume 12, Issue 1, January-February-March 2011.

[www.desertmuseumdigitallibrary.org/public/phenology](http://www.desertmuseumdigitallibrary.org/public/phenology)

also noted The National Phenology Network at [www.usanpn.org](http://www.usanpn.org)

(143) Saguaro: Historic Resource Study

<http://www.nps.gov/history/history/online_books/sagu/hrs/hrst.htm>

(144) Tucson Bird Count

<http://www.tucsonbirds.org/index.html>

(145) Hoffmeister, Donald F. 1986. Mammals of Arizona, The University of Arizona Press, Tucson, Arizona.

(146) Roy P. Drachman, Agua Caliente Park, Bird List, Pima County Natural Resources, Parks and Recreation

[www.pima.gov/nrpr](http://www.pima.gov/nrpr)

(147) The Internet Bird Collection (IBC)

<http://ibc.lynxeds.com/content/about-us>

(148) Mammals Planet

<http://www.planet-mammiferes.org/drupal/en/node/20>

(149) Don E. Wilson & DeeAnn M. Reeder (editors). 2005. Mammal Species of the World. A Taxonomic and Geographic Reference (3rd ed), Johns Hopkins University Press, 2,142 pp. (Available from Johns Hopkins University Press, 1-800-537-5487 or (410) 516-6900, or at [http://www.press.jhu.edu](http://www.press.jhu.edu/books/title_pages/8864.html)).

<http://www.bucknell.edu/msw3/>

(150) Blossom, Philip M. 1933. Description of a New Rock Pocket-mouse and a new Desert-mouse from Southern Arizona, Occasional Papers of the Museum of Zoology, University of Michigan, Number 265, June 21, 1933, The University of Michigan Press, Ann Arbor, Michigan.

(151) ASDM (Arizona-Sonora Desert Museum) Digital Library

<http://www.desertmuseumdigitallibrary.org/public/index.php>

(152) Avibase - The World Bird Database

<http://avibase.bsc-eoc.org/avibase.jsp?lang=EN&pg=home>

(153) Longfellow, Henry Wadsworth. 1893 and 1901. The Poems of Henry Wadsworth Longfellow with Biographical Sketch by Nathan Haskell Dole, Thomas Y. Crowell Company, New York.

(154) Rose, Frank S. 2012. Mountain Trees of Southern Arizona: A Field Guide. Arizona-Sonora Desert Museum Press, Tucson, Arizona.

(155) The Grass Manual on the Web

<http://herbarium.usu.edu/webmanual/>

(156) Flora of North America

[www.efloras.org](http://www.efloras.org)

(157) The Reptiles and Amphibians of Arizona

<http://www.reptilesofaz.org/>

(158) Empire-Cienega Bird Checklist

<http://www.blm.gov/pgdata/etc/medialib/blm/az/pdfs.Par.31925.File.dat/ec-brdlst.pdf>

(HR) Historical Record (possibly without author and/or observation date)

(TC) Tucson Citizen (Month Day, Year Section and Page Number)

(ADS) Arizona Daily Star (Month Day, Year Section and Page Number)

(AHS) Arizona Historical Society

(ANN) Anonymous

(JFW) John F. Wiens

(MBJ) Matthew B. Johnson, Program Manager and Curator of the Desert Legume Program - Boyce Thompson Southwestern Arboretum

(PCM) Personal Communication (Date)

(PDJ) Philip D. Jenkins, Assistant Curator of the University of Arizona Herbarium

(RGM) G. Meades

(TBL) Township Bird Listing

(WTK) William T. Kendall

(ANPS) Arizona Native Plant Society

(KGUN) Channel 9 (ABC - Month Day, Year & Program)

(KOLD) Channel 13 (CBS - Month Day, Year & Program)

(KVOA) Channel 4 (NBC - Month Day, Year & Program)

(94.9 MIX FM) (94.9 MIX FM: Month Day, Year & Program)