

Checklist And Descriptions Of Trees And Shrubs In Chiricahua National Monument

PINE FAMILY (Pinaceae)

MEXICAN PINYON (4800'-8000')
(*Pinus cembroides*) Now *Pinus discolor*

Trees, averaging 25 feet in height, at higher elevations within the Monument on gravelly mountain slopes and ridges. Needles mostly in bundles of 3, 1-2 inches long.

SOUTHWESTERN WHITE PINE (6500'-10,000')
(*Pinus flexilis* var. *reflexa*)

Trees, averaging 60 feet in height. Bark dark gray or dull reddish brown, deeply furrowed and narrowly ridged. Needles in bundles of 5, about 4 inches long.

CHIHUAHUA PINE (5000'-8200')
(*Pinus leiophylla* var. *chihuahuana*)

Trees, relatively small with a maximum height of 60 feet, widespreading limbs, dark brown and deeply furrowed older bark. Needles in bundles of 3, 2-4 inches long.

APACHE PINE (5000'-8200')
(*Pinus engelmannii*)

Trees, up to 75 feet in height. Needles in bundles of 3, 8-15 inches long, mostly 10 inches long on the average.

ARIZONA PINE (6000'-9000')
(*Pinus ponderosa* var. *arizonica*)

Trees, relatively tall, averaging 75 feet in height. Commonly associated with Chihuahua and Apache pine and scrub oaks. Needles mostly in bundles of 5, 5-7 inches long.

DOUGLAS-FIR (4000'-11,000')
(*Pseudotsuga menziesii*)

Trees, at higher elevations within the Monument and along canyon bottoms. Needles single, flattened, flexible, about 1 inch long. Cones with conspicuous 3-lobed bracts exerted from cone scales.

CYPRESS FAMILY (Cupressaceae)

ARIZONA CYPRESS 3500'-8000')
(*Cupressus arizonica*)

Trees, up to 90 feet in height, with a sharply conical crown. Bark thin and dark brownish gray. Leaves scalelike and similar to those of juniper. Cones round, 3/4-1 inch in diameter, each cone scale with a prominent knob.

ALLIGATOR JUNIPER (4500'-8000')
(*Juniperus deppeana*)

Trees, commonly 25-30 feet in height, in association with Mexican pinyon and species of oak. Leaves small, scalelike. Fruit berrylike, dark reddish brown. Bark very characteristically deeply furrowed with flat ridges

cut into nearly square plates, 1-2 inches across.

ONE-SEED JUNIPER (3500'-8000')
(*Juniperus monosperma*)

Trees, not common or abundant in Monument, similar to alligator juniper, but without the plated bark pattern.

LILY FAMILY (Liliaceae)

SCHOTTS OR "MOUNTAIN" YUCCA
(*Yucca schottii*)

Plants, becoming tall and arborescent. The most common yucca seen here.

SOAPTREE YUCCA
(*Yucca elata*)

Plants, with flowering stalk surpassing the leaves in height.

DATIL OR "BANANA" YUCCA
(*Yucca baccata*)

Plants, with flowering stalk not or little surpassing the leaves in height.

WHEELER SOTOL
(*Dasyliirion wheeleri*)

Plants, yucca-like in appearance but differing from them by having minute teeth along the margins of the leaves; having relatively flexible leaves; and having leaf ends which shred apart instead of forming spines.

AMARYLLIS FAMILY (Amaryllidaceae)

PALMER AGAVE, or "CENTURY PLANT"
(*Agave palmeri*)

Plants, with tall flowering stalks averaging 15 feet in height. Flowers greenish or yellowish and tinged with purple, not in congested clusters. Leaves in a basal rosette with teeth along the margins. Largest agave native to Southwestern United States.

PARRY AGAVE
(*Agave parryi*)

Flowers yellow, when in bud strongly tinged with red, quite congested in clusters. A much thicker leaved agave, with shorter leaves than the Palmer, and extending to higher elevations in the mountains.

WILLOW FAMILY (Salicaceae)

FREMONT COTTONWOOD
(*Populus fremontii*)

Trees, along stream courses in canyon bottoms. Leaves simple, roughly triangular in shape, averaging 2 inches across, tapering at the tip.

YEWLEAF WILLOW
(*Salix taxifolia*)

Trees or shrubs, relatively small, along stream courses. Leaves small, not more than 1 1/4 inches long.

GOODDING WILLOW
(*Salix gooddingii*)

Trees, with yellowish branchlets. Leaves green on both surfaces, with minutely-toothed margins, up to 3 inches long.

BLUESTEM WILLOW
(*Salix irrorata*)

Shrubs, usually with dark-purple branchlets. Leaves whitened on the underside, up to 3 inches long.

WALNUT FAMILY (Juglandaceae)

ARIZONA WALNUT
(*Juglans major*)

Trees, up to 35 feet in height locally, along canyon bottoms. Leaves pinnately compound; leaflets commonly 9-13, lanceolate in outline with serrate margins.

BEECH FAMILY (Fagaceae)

NETLEAF OAK
(*Quercus reticulata*)

Trees, up to 40 feet in height. Leaves broadly obovate in outline, 1-5 inches long, 3/4-4 inches wide, obtuse and rounded at apex, rarely acute, margins entire at basal end becoming spinose-dentate near apex; thick and firm, dark blue-green above, paler and pubescent below. Veins conspicuously netted and prominent on underside.

PALMER OAK
(*Quercus chrysolepis* var. *palmeri*)

Trees or small shrubs, often in dense thickets. Leaves oblong-ovate to elliptic in outline, 1-4 inches long, 1/2-2 inches wide, acute and tipped with a sharp point at apex. The leaves occur in two forms, mostly entire on old trees and dentate on young trees or both kinds on the same tree. Leaves bright yellow-green and glabrous above, slightly tomentose becoming glabrous and blue-green below.

ARIZONA WHITE OAK
(*Quercus arizonica*)

Trees, rarely up to 40 feet in height, more commonly a shrub with a round-topped crown and nearly horizontal branches. Leaves oblong to obovate in outline, 1-4 inches long, 1/2-2 inches wide, apex rounded or sometimes acute, margins entire to dentate; dull, dark, blue-green and glabrous above, paler and pubescent below. Veins coarse and netted.

EMORY OAK
(*Quercus emoryi*)

Trees, small, rarely to 40 feet in height. Leaves oblong-lanceolate, 1-2 1/2 inches long, margins entire to serrate, thick, leathery, dark green above, paler below, with tufts of white hairs at base of midrib.

SILVERLEAF OAK
(*Quercus hypoleucoides*)

Trees, 20-30 feet in height. Leaves mostly lanceolate in outline, 2-4 inches long, margins entire and slightly rolled toward the lower side, dark yellow-green above, white and tomentose below.

GAMBEL OAK
(*Quercus gambelii*)

Trees, not abundant nor common in Monument, up to 20 feet in height. Easily distinguished from other oaks of the area by the deeply parted, lobed leaves. They have the habit of growing in clusters, all with part of the same common rootstock.

TOUMEY OAK
(*Quercus toumeyi*)

Trees, 15-30 feet in height, more often a large shrub forming dense thickets. Leaves small, 1/2-3/4 or up to 1 inch long, ovate in outline, minutely pubescent on underside.

ELM FAMILY (Ulmaceae)

NETLEAF HACKBERRY
(*Celtis reticulata*)

Trees, 15-30 feet in height with a short trunk. Leaves ovate-lanceolate, asymmetrical at base, 1-2 inches long, 1/2-1 inch wide.

BARBERRY FAMILY (Berberidaceae)

CREEPING MAHONIA or "OREGON GRAPE"
(*Berberis repens*)

A low, creeping shrub. Leaves pinnately compound. Leaflets with 10 or more small slender teeth.

SAXIFRAGE FAMILY (Saxifragaceae)

FENDLERELLA
(*Fendlerella utahensis* var. *cymosa*)

Shrubs, small and much branched, to 40 inches in height. Leaves small, up to 1/2 inch in length and 1/16-1/8 inch wide, narrowly lanceolate. Flowers inconspicuous and in clusters.

LITTLELEAF MOCK-ORANGE
(*Philadelphus microphyllus*)

Shrubs, with branching stems and bark separating in flakes or plates. Leaves thickish, opposite, 1/2-3/4 or up to 1 inch long, 1/8-1/2 inch wide, ovate in outline, covered with appressed, straight, silky-white hairs on the underside. Flowers solitary or very few to a cluster. Subspecies *occidentalis* may also be present, characterized by leaves less than 1/2 inch long.

PLANETREE FAMILY (Platanaceae)

ARIZONA SYCAMORE
(*Platanus wrightii*)

Trees, 40-80 feet in height, with the outer bark flaking off and exposing the smooth, whitish inner bark. Leaves large, palmately 5-lobed. Fruit appearing in the fall, persistent over the winter, consisting of numerous

achenes forming a globose head about 3/4 inch in diameter.

ROSE FAMILY (Rosaceae)

SOUTHWESTERN BLACK CHERRY

(*Prunus serotina* var. *rufula*)

Trees, 20-30 feet in height, usually with a reclining trunk. Leaves nearly oval in outline with serrate margins, 1-3 inches long, 1/2-1 1/2 inches wide. Hand-some in flower April to May.

APACHEPLUME

(*Fallugia paradoxa*)

Shrubs, somewhat straggling, 3-5 feet in height. Leaves small, deeply pinnately cleft or divided, fascicled, each no longer than 1/2 inch. Flowers solitary, cream to white in color, about 1 inch in diameter. Seeds with long feathery plumes.

HAIRY CERCOCARPUS or "MOUNTAIN-MAHOGANY"

(*Cercocarpus breviflorus*)

Shrubs, sometimes treelike, to 10 feet in height. Leaves oblanceolate in outline, toothed near the apex, entire below, fascicled, 1/2-1 inch long. Flowers inconspicuous, with small, yellowish sepals, no petals. *Cercocarpus betuloides* may occur within the Monument, as this species closely intergrades with *Cercocarpus breviflorus*.

BUSH ROCKSPIRAEA

(*Holodiscus dumosus*)

Shrubs, up to 10 feet in height, with aromatic foliage. Leaves generally ovate in outline, 3/4-1 1/2 inches long, coarsely crenate, cuneate at base, light green above, white-villous below. Flowers small in feathery, showy panicles.

FENDLER ROSE

(*Rosa fendleri*)

Shrubs, with prickly stems. Leaves pinnately compound with conspicuous stipules adnate to the petioles. Flowers large and showy.

NEW MEXICAN RASPBERRY

(*Rubus neomexicanus*)

Shrubs, not prickly. Leaves 1-3 inches wide, simple, 3-lobed, the lobes acute or obtuse, margins doubly serrate.

PEA FAMILY (Leguminosae)

NEW-MEXICAN LOCUST

(*Robinia neo-mexicana*)

Trees, small, up to 25 feet in height, thorny. Leaves odd-pinnately compound, leaflets numerous. Flowers purplish pink in large showy clusters, blooming May to June, rarely into August. Fruit in beanlike pod.

PRAIRIE ACACIA

(*Acacia angustissima*)

Trees or small shrubs to 5 feet in height. Feathery foliage, leaves minutely compound, the stems unarmed. Cream-colored flowers in round heads.

VELVETPOD MIMOSA

(*Mimosa dysocarpa*)

Shrubs, armed with a catlike claw. Leaves minutely compound. Flowers purplish pink.

CATCLAW MIMOSA

(*Mimosa biuncifera*)

Similar to *Mimosa dysocarpa* but with pale pink to whitish flowers.

JAMES BUNDLEFLOWER

(*Desmanthus cooleyi*)

Shrubs, small, unarmed. Leaves minutely compound. Flowers whitish.

VELVET MESQUITE

(*Prosopis juliflora* var. *velutina*)

Shrubs to small trees at lower elevations within the Monument. Plants are armed with straight spines. Flowers in cylindric spikes, greenish yellow.

SONORA INDIGO

(*Indigofera Sphaerocarpa*)

Shrubs, low. Leaves pinnately compound, leaflets at apex rounded and with a hair at very tip.

INDIGOBUSH AMORPHA

(*Amorpha fruticosa* var. *occidentalis*)

Shrubs. Leaves odd-pinnately compound; leaflets 1/2-1 1/2 inches long, oblong to ovate in outline, rounded at apex with midrib protruding slightly as a single hairlike projection. Herbage easily confused with that of the New-Mexican locust. Flowers small, in dense, terminal, spikelike racemes.

RUE FAMILY (Rutaceae)

NARROWLEAF HOPTREE

(*Ptelea angustifolia*)

Shrubs or small trees. Leaves trifoliolate. Fruit nearly round, winged, and flat.

SPRUGE FAMILY (Euphorbiaceae)

LINDHEIMER COPPERLEAF or "ACALYPHA"

(*Acalypha lindheimeri*)

Plants, herbaceous but becoming shrubby. Flowers crimson in terminal spikes. *Acalypha neomexicana* also found in the Monument, is an annual.

CASHEW FAMILY (Anacardiaceae)

POISON-IVY or "POISON-OAK"

(*Rhus radicans*)

Shrubs, low, often climbing, along canyon bottoms in relatively shaded locations. Leaves pinnately 3-foliate, the terminal leaflet measuring 1 1/2-2 1/2 inches long and 1-1-3/4 inches wide.

SKUNKBUSH SUMAC or "SQUAWBUSH"

(*Rhus trilobata*)

Shrubs, with aromatic foliage, yellow flowers, and bright-red fruits. Leaves palmately compound, leaflets 3, the terminal leaflet not over 1 inch long, margins

lobed. Var. *pilosissima* is also present, characterized by dense pubescence on the stems and leaves, at least on the underside.

LITTLELEAF SUMAC
(*Rhus microphylla*)

Shrubs, much branched, to 6 feet in height. Leaves small, compound, the rachis slightly winged; leaflets 5-9, sessile, pilose, less than 3/4 of an inch long. Flowers appearing before the leaves. Leaves deciduous.

MEARNS or "GREEN" SUMAC
(*Rhus choriophylla*)

Shrubs, up to 7 feet in height. Often in association with Arizona cypress, in canyon bottoms. Leaves evergreen, compound; leaflets 3-5, leathery, somewhat shiny, not sessile, 3/4-2 1/2 inches long. Flowers appearing after the leaves.

SMOOTH SUMAC
(*Rhus glabra*)

Shrubs, large often forming thickets, along stream courses in rich soil. Leaves large, compound, deciduous, with seldom less than 11 leaflets. Leaflets whitish beneath, margins serrate. In the fall the leaves turn bright red.

BITTERSWEET FAMILY (Celastraceae)

MYRTLE PACHISTIMA or "MOUNTAIN LOVER"
(*Pachistima myrsinites*)

Undershrubs, with creeping stems. Leaves opposite, thickish, evergreen, somewhat shiny above. Inconspicuous ground cover in well-shaded forests.

SOAPBERRY FAMILY (Sapindaceae)

SOAPBERRY

(*Sapindus saponaria* var. *drummondii*)

Trees, up to 20 feet in height. Leaves pinnate with numerous narrow, lanceolate leaflets. Flowers small, whitish, in broad and many-flowered panicles.

BUCKHORN FAMILY (Rhamnaceae)

BIRCHLEAF BUCKTHORN
(*Rhamnus betulaeifolia*)

Shrubs, 3-8 feet in height, quite common in Monument along canyon bottoms. Leaves large, oval to oblong in outline with finely serrate margins, averaging 2 1/2 inches long and 1 1/2-1-3/4 inches wide, thin. Fruit a 3-seeded drupe.

CALIFORNIA BUCKTHORN
(*Rhamnus californica* subsp. *ursina*)

Shrubs, often larger than *Rhamnus betulaeifolia*. Leaves somewhat tomentose beneath. Fruits usually 2-seeded. Otherwise similar to *Rhamnus betulaeifolia*.

BUCKBRUSH

(*Ceanothus fendleri*)

Shrubs, much branched, spiny, often forming low thickets, seldom more than 3 feet in height. Leaves alternate, palmately 3-veined, elliptic in outline, dark olive-green above, paler below.

DESERT CEANOTHUS or DEERBRUSH
(*Ceanothus greggii*)

Shrubs, up to 5 feet in height. Leaves opposite, narrow-

ly oblanceolate in outline, light green, pilose at least below.

DOGWOOD FAMILY (Cornaceae)

SILK-TASSEL
(*Garrya wrightii*)

Shrubs, to 6 feet in height, evergreen, the branchlets quadrangular. Leaves short-petioled, thick, dull green, elliptic in outline, margins entire.

HEATH FAMILY (Ericaceae)

ARIZONA MADRONE
(*Arbutus arizonica*)

Trees, to 50 feet in height, with smooth, thin, exfoliating bark. Leaves alternate, thick evergreen, elliptic to lanceolate in outline. Young branches reddish.

PRINGLE MANZANITA
(*Arctostaphylos pringlei*)

Shrubs, to 6 feet in height. Easily distinguished by smooth, mahogany-red bark. Leaves commonly rounded at base.

POINTLEAF MANZANITA
(*Arctostaphylos pungens*)

A smaller shrub with a definite tendency to form dense thickets and is the most common member of the genus within the Monument. Leaves are more wedge-shaped at the base.

OCTILLO FAMILY (Fouquieriaceae)

OCOTILLO
(*Fouquieria splendens*)

Shrubs, large, thorny, with numerous long whiplike unbranched stems. Flowers showy, bright red, in dense terminal panicles, April to May.

OLIVE FAMILY (Oleaceae)

VELVET or "MOUNTAIN" ASH
(*Fraxinus velutina*)

Trees, 15-30 feet in height, in canyon bottoms. Leaves pinnately compound with usually 5 leaflets. Fruit dry with a large, flat terminal wing.

BIGNONIA FAMILY (Bignoniaceae)

DESERT WILLOW
(*Chilopsis linearis*)

Trees to large shrubs, up to 30 feet in height, along washes at lower elevations. Leaves willow-like, flowers catalpa-like, white to lavender, blooming May to August.

HONEYSUCKLE FAMILY (Caprifoliaceae)

MOUNTAIN SNOWBERRY
(*Symphoricarpos oreophilus*)

Shrubs, with older bark exfoliating, leaves simple, opposite, usually entirely glabrous. Flowers regular or nearly so. Fruit a white berry.

HONEYSUCKLE
(*Lonicera albiflora* var. *dumosa*)

Plants shrubby. Leaves pubescent, at least beneath. Flowers more or less irregular. Fruit berry-like, not white.

ATTACHMENT D-2

ABRIDGED CHECKLIST OF COMMON HERBACEOUS PLANTS IN THE CHIRCAHUA MOUNTAINS

(At Elevations of about 4500'-8500')

This list of common herbaceous plants in the medium elevation range in the Chiricahua Mountains is meant to be used in conjunction with Attachment D-1, which lists and describes the trees and shrubs likely to be encountered in the same locale.

For a list of plants above 8500', see Attachment D-3

MONOCOTS

Commelinaceae

Commelina dianthifolia

Day flower

Liliaceae

Anthericum torreyi

Crag lily

Allium cernuum

Nodding onion

Milla biflora

Mexican star

Veratrum californicum

Corn lily

Orchidaceae

Habenaria limosa

Bog orchid

DICOTS

AMARANTHACEAE

Amaranthus palmeri

Pigweed

Brayulinea densa (Guillenmea)

Small matweed

Froelichia arizonica

Snake cotton

Gomphrena nitida

Globe amaranth

Tidestromia lanuginosa

Wooly Tidestromia

ANACARDIACEAE

Rhus trilobata

Squaw bush; skunk bush

Toxicodendron rydbergii

Poison ivy

ARALIACEAE

Aralia humulis

American spikenard

ASCLEPIADACEAE

Asclepias spp.

Milkweeds

BORAGINACEAE

Lithospermum cobrense

Fuccoon

Macromeria viridiflora

Macromeria

CARYOPHYLLACEAE

Silene laciniata

CHENOPODIACEAE

Ceratoides lanata

COMPOSITAE

Bahia dissecta
Berlandiera lyrata
Brickellia spp.
Cacalia decomposita
Conyza coulteri
Cosmos parviflorus
Dyssodia pentachaeta
Erigeron divergens
Erigeron neomexicanus
Caillardia pinnatifida
Gnaphalium wrightii
Gutierrezia microcephala
Gutierrezia sarothrae
Gymnosperma glutinosum (Selloa)
Happlopappus spinulosus
Helianthus annuus
Heterosperma pinnatum
Melampodium leucanthum
Parthenium incanum
Pectis cylindrica/linifolia
Pericome caudata
Ratibida columnaris
Sanvitalia abertii
Senecio douglasi
Thelesperma megapotamicum
Verbesina encelioides
Viguiera dentata
Zinnia acerosa/grandiflora

Yellow ragweed
Lyreleaf
Bricklebush
Indian plantain

Cosmos
Dogweed
Spreading fleabane
New Mexican fleabane
Blanket flower
Cudweed
Small headed snakeweed
Snakeweed

Spiny Goldenweed
Sunflower

Cluster daisy; blackfoot
Mariola

Taperleaf
Mexican Hat

Threadleaf groundsel
Greenthread
Crown beard
Golden eye
Zinnia

CONVOLVULACEAE

Ipomoea coccinea
Ipomoea costellata

Scarlet morning glory
Wild morning glory

CRUCIFERAE

Erysimum capitatum
Thelypodopsis linearifolia

Wall flower

CUCURBITACEAE

Cucurbita digitata
Cucurbita foetidissima

Finger-leaved gourd
Buffalo gourd

GENTIANACEAE

Centaurium calycosum
Halenium recurva

Centaury
Spur gentian

GERANIACEAE

Geranium richardsonii
Geranium wislizeni

White geranium
Wild geranium

LABIATAE

Agastache breviflora
Monarda austromontana
Monarda menthaefolia
Salvia reflexa
Salvia lemmoni
Stachys coccinea

Giant hyssop
Bee balm
Horse mint
Rocky Mt. sage
Lemmon sage
Texas betony

LEGUMINOSAE

Amorpha fruticosa
Cassia leptocarpa/leptodenia
Crotalaria pumila
Dalea albiflora
Desmodium spp.
Phaseolus acutifolius
Phaseolus heterophyllus
Oxytropis lambertii
Robinia neomexicana
Vicia spp.

Bastard Indigo
Senna
Rattle box
White flowered Indigo Bush
Tick clover
Tepary bean
Wild bean
Lambert's loco
New Mexican Locust
Vetch

LOASACEAE

Mentzelia pumila

Blazing star

MALVACEAE

Anoda cristata
Sphaeralcea spp.

Spurred Anoda
Globe mallow

NYCTAGINACEAE

Allionia incarnata
Boerhaavia coccinea
Mirabilis longiflora
Mirabilis spp.

Trailing 4 o'clock
Red spiderling
4 o'clock

OLEACEAE

Menodora scabra

ONAGRACEAE

Gaura coccinea
Gaura parviflora
Zauschneria californica

Scarlet Gaura
Lizard tail
Hummingbird trumpet

POLEMONIACEAE

Ipomopsis longiflora
Ipomopsis macombii
Ipomopsis thurberi

POLYGONACEAE

Eriogonum abertianum
Eriogonum wrightii

Wild buckwheat
" "

RANUNCULACEAE

Aquilegia chrysantha
Aquilegia triternata
Clematis ligusticifolia
Delphinium andesicola
Thalictrum fendleri

Yellow columbine
Red columbine
Virgin's Bower
Larkspur
Meadow rue

RHAMNACEAE

Rhamnus betulaefolia

Birchleaf buckthorn

ROSACEAE

Fallugia paradoxa
Holodiscus dumosa
Potentilla thurberi
Rosa arizonica

Apache plume
Shrubby creambush
Thurber's cinquefoil
Arizona wild rose

RUBIACEAE

Bouvardia glaberrima
Diodia teres
Galium spp.

Buttonweed; Poor Joe
Bedstraw

SAXIFRAGACEAE

Heuchera versicolor

Alum root

SCROPHULARIACEAE

Castilleja spp.
Brachystigma wrightii
Penstemon spp.
Verbascum thapsus

Indian paintbrush
Beardtongue
Flannel leaf mullein

VERBENACEAE

Verbena carolina

Vervain

UMBELLIFERAE

Eryngium heterophyllum/lemmoni

Mexican thistle

ZYGOPHYLLACEAE

Kallstroemia grandiflora

Orange caltrop

FLY PEAK AREA
CHIRICAHUA MOUNTAINS, COCHISE COUNTY, ARIZONA
(At Elevations of from 8500'-9700')

The plant lists shown below are derived from : M.D. Robinson (1968) Summer aspects of a high coniferous forest in the Chiricahua Mountains, Cochise County, Arizona, M.S. Thesis, University of Arizona (unpublished) The locale is the Fly Peak area.

Section A tabulates species found on the mesic north facing slopes, while Section B lists species found on the more xeric south facing slopes. For Riparian plants-see Section C

SECTION A- Mesic North Facing Slopes

Trees in decreasing order of density:

Picea engelmannii- Engelmann Spruce
Populus tremuloides- Aspen
Pinus flexilis, var. reflexa- Southwestern White Pine
Pseudotsuga menziesii- Douglas Fir
Pinus ponderosa, var. arizonica- Arizona or Ponderosa Pine
Abies concolor- White Fir.
Acer glabrum- Rocky Mountain Maple
Salix scouleriana- Scouler Willow
Sorbus dumosa- Mountain Ash

Common components of the understory:

Achillea lanulosa- Western Yarrow
Bromus ssp.- Brome Grasses
Corallorhiza striata- Coral Root Orchid
Halenia recurva- Spurred Gentian
Iris missouriensis- Rocky Mountain Iris
Monotropa latisquama- Pinesap
Muhlenbergia ssp. - Muhly grass species
Oxalis sp. - Oxalis
Pedicularis greyi- Lousewort, Wood Betony
Pseudocymopterus montanus- Mountain Parsley
Pteridium aquilinum- Bracken Fern
Senecio ssp.- Senecio
Smilacina stellata- Starflower
Stelleria longipes- Starwort
Viola ssp.- Violets

SECTION B- More Xeric South Facing Slopes

Trees in decreasing order of density:

Pseudotsuga menziesii- Douglas Fir
Pinus flexilis, var. reflexa- Southwestern White Pine
Pinus ponderosa, var. arizonica- Arizona or Ponderosa Pine
Populus tremuloides- Aspen

Common components of the understory:

Allium cernuum- Wild Onion
Bromus ssp. Brome grasses
Carex ssp.- Sedges
Galium ssp. Bedstraw

lobed. Var. *pilosissima* is also present, characterized by dense pubescence on the stems and leaves, at least on the underside.

LITTLELEAF SUMAC
(*Rhus microphylla*)

Shrubs, much branched, to 6 feet in height. Leaves small, compound, the rachis slightly winged; leaflets 5-9, sessile, pilose, less than 3/4 of an inch long. Flowers appearing before the leaves. Leaves deciduous.

MEARNS or "GREEN" SUMAC
(*Rhus choriophylla*)

Shrubs, up to 7 feet in height. Often in association with Arizona cypress, in canyon bottoms. Leaves evergreen, compound; leaflets 3-5, leathery, somewhat shiny, not sessile, 3/4-2 1/2 inches long. Flowers appearing after the leaves.

SMOOTH SUMAC
(*Rhus glabra*)

Shrubs, large often forming thickets, along stream courses in rich soil. Leaves large, compound, deciduous, with seldom less than 11 leaflets. Leaflets whitish beneath, margins serrate. In the fall the leaves turn bright red.

BITTERSWEET FAMILY (Celastraceae)

MYRTLE PACHISTIMA or "MOUNTAIN LOVER"
(*Pachistima myrsinites*)

Undershrubs, with creeping stems. Leaves opposite, thickish, evergreen, somewhat shiny above. Inconspicuous ground cover in well-shaded forests.

SOAPBERRY FAMILY (Sapindaceae)

SOAPBERRY

(*Sapindus saponaria* var. *drummondii*)

Trees, up to 20 feet in height. Leaves pinnate with numerous narrow, lanceolate leaflets. Flowers small, whitish, in broad and many-flowered panicles.

BUCKHORN FAMILY (Rhamnaceae)

BIRCHLEAF BUCKTHORN
(*Rhamnus betulaeifolia*)

Shrubs, 3-8 feet in height, quite common in Monument along canyon bottoms. Leaves large, oval to oblong in outline with finely serrate margins, averaging 2 1/2 inches long and 1 1/2-1-3/4 inches wide, thin. Fruit a 3-seeded drupe.

CALIFORNIA BUCKTHORN
(*Rhamnus californica* subsp. *ursina*)

Shrubs, often larger than *Rhamnus betulaeifolia*. Leaves somewhat tomentose beneath. Fruits usually 2-seeded. Otherwise similar to *Rhamnus betulaeifolia*.

BUCKBRUSH

(*Ceanothus fendleri*)

Shrubs, much branched, spiny, often forming low thickets, seldom more than 3 feet in height. Leaves alternate, palmately 3-veined, elliptic in outline, dark olive-green above, paler below.

DESERT CEANOTHUS or DEERBRUSH
(*Ceanothus greggii*)

Shrubs, up to 5 feet in height. Leaves opposite, narrow-

ly oblanceolate in outline, light green, pilose at least below.

DOGWOOD FAMILY (Cornaceae)

SILK-TASSEL
(*Garrya wrightii*)

Shrubs, to 6 feet in height, evergreen, the branchlets quadrangular. Leaves short-petioled, thick, dull green, elliptic in outline, margins entire.

HEATH FAMILY (Ericaceae)

ARIZONA MADRONE
(*Arbutus arizonica*)

Trees, to 50 feet in height, with smooth, thin, exfoliating bark. Leaves alternate, thick evergreen, elliptic to lanceolate in outline. Young branches reddish.

PRINGLE MANZANITA
(*Arctostaphylos pringlei*)

Shrubs, to 6 feet in height. Easily distinguished by smooth, mahogany-red bark. Leaves commonly rounded at base.

POINTLEAF MANZANITA
(*Arctostaphylos pungens*)

A smaller shrub with a definite tendency to form dense thickets and is the most common member of the genus within the Monument. Leaves are more wedge-shaped at the base.

OCTILLO FAMILY (Fouquieriaceae)

OCOTILLO
(*Fouquieria splendens*)

Shrubs, large, thorny, with numerous long whiplike unbranched stems. Flowers showy, bright red, in dense terminal panicles, April to May.

OLIVE FAMILY (Oleaceae)

VELVET or "MOUNTAIN" ASH
(*Fraxinus velutina*)

Trees, 15-30 feet in height, in canyon bottoms. Leaves pinnately compound with usually 5 leaflets. Fruit dry with a large, flat terminal wing.

BIGNONIA FAMILY (Bignoniaceae)

DESERT WILLOW
(*Chilopsis linearis*)

Trees to large shrubs, up to 30 feet in height, along washes at lower elevations. Leaves willow-like, flowers catalpa-like, white to lavender, blooming May to August.

HONEYSUCKLE FAMILY (Caprifoliaceae)

MOUNTAIN SNOWBERRY
(*Symphoricarpos oreophilus*)

Shrubs, with older bark exfoliating, leaves simple, opposite, usually entirely glabrous. Flowers regular or nearly so. Fruit a white berry.

HONEYSUCKLE
(*Lonicera albiflora* var. *dumosa*)

Plants shrubby. Leaves pubescent, at least beneath. Flowers more or less irregular. Fruit berry-like, not white.