

The Plant Press

THE ARIZONA NATIVE PLANT SOCIETY

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Preserving Tradition (and Plants) in the Tohono O'odham Nation

by Jefford Francisco

As a field representative for The Nature Conservancy, I work with tribal members at the district and community level to develop programs to protect the plants and wildlife that inhabit the Nation's land, and to learn the concerns of local people regarding this issue. Two major problems we have pinpointed are the loss of saguaro cactus that are sold off the Nation's land and the over-hunting of wildlife due to weak or lacking tribal laws.

The O'odham have for generations relied on native plants for sustaining life in the desert. Food comes from the pods of mesquite trees (*Prosopis velutina*), the fruit of saguaro cacti (*Carnegiea gigantea*), and young green herbs. Woody plants are used for shelter and tools. Beautiful and useful baskets are

woven from strips of bark, leaves and seed pods. Many plants have medicinal values to ease pains and promote healing. Other plants are used for spiritual purposes.

But when I visit schools to talk about plants and wildlife, I find that many of the students are not aware of what grows on the land and how these plants are important to their culture. The Baboquivari District has formed a committee to enlist the help of elders who still have traditional knowledge to help educate students about native plants, their uses and how to identify them.

Within the Tohono O'odham Nation there are six sensitive plant species. One of these is the endangered Nichol's Turk's
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A Message from Your Co-Presidents

How many of us have stepped back from a newly planted tree and imagined how it will look when it grows? Rather than see a small, spindly tree, we imagine a tall, strong one with spreading limbs. We envision how it will shade the house from the summer heat... how a hammock will fit among its branches... how birds will find refuge in its foliage.

Even though we may never see the tree grow large, we plant the tree with hope. Hope that we have made this small part of the world more beautiful. Hope that the tree will bring joy to someone some day. That its canopy will be a refuge for those seeking shelter and rest.

How we live in the future depends on our willingness to dream and to take action. Some dreams are within our easy reach-- we plant a tree and the world is a better place. Other dreams take longer and are harder to effect. But dreams both big and small have one thing in common: people who are willing to have their voice be counted. People who are willing to say,

"This is important to me." Dreamers who are willing to inspire other people about an imagined future

As your co-presidents, we hope that we speak for all members of the Arizona Native Plant Society when we stand up for the protection of native plants. Recently, we have endorsed a proposed ordinance that will help protect native plants in Tucson. A note to ANPS members in Pima County encouraged them to vote in the May bond election. ANPS money was spent to ask voters to support the bond issue that would result in the acquisition of significant natural and cultural resources. Happily, the native plant protection ordinance was passed by the City Council and an impressive majority of Pima County voters approved the bond issue.

We hope the dreamers never stop and we will always have the courage to stand up for the things that are important to us. We hope you support us in giving native plants the voice they deserve.

-- Mima Falk and Sue Rutman

A special issue of *Desert Plants*, "**Annotated Flora and Vegetation of the Tucson Mountains, Pima County, Arizona**" was published in December, 1996, and can be ordered through ANPS which sponsored its publication. It features over 100 color plates. To order, mail \$10 to:

Arizona Native Plant Society
Box 41206, Sun Station
Tucson, AZ 85717

To receive a listing or to order any back issues, write to: Desert Plants, 2120 E. Allen Rd., Tucson, AZ 85719. All back issues (except for Vol. 4, Nos. 1-4. "Biotic Communities") are \$5.

Browsing the ANPS Website

Thanks to Dave Sewell, the ANPS Website is up and running. Anyone who logs on can find information on membership in ANPS, how to order brochures, a calendar of events, information on many Arizona native plants and links to other native plant resources.

If you have any information that you would like added to the Web page, contact Sewell via anps@azstarnet.com.

In Brief...

Annual Meeting Preparation Underway

At the February Board meeting, the Board endorsed holding the **1997 Annual Meeting at Desert Botanical Garden in Tempe in October.** The theme of the meeting will be native plant landscaping. Those persons with ideas for speakers and field trips should contact Sue Rutman. Registration info will be mailed in August.

Artist and Species Chosen for Wildflower Poster

A Tucson-based group of ANPS volunteers has selected Margaret Pope to illustrate a desert wildflower poster. Margaret Pope specializes in botanical illustration. She joined ANPS in 1985 to further her interest in the study of native flora. She has produced artwork for ANPS, the Cactus and Succulent Society, the Arizona-Sonoran Desert Museum, and Plants for the Southwest Nursery. She will depict 31 to 35 species of Sonoran Desert flowers on the poster.

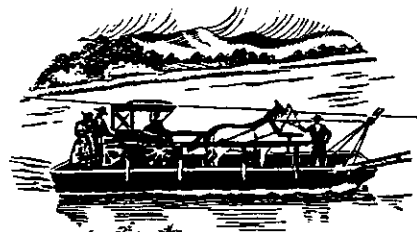
The ANPS Board has also agreed to work with the Arizona-Sonoran Desert Museum on a "Plants and Their Pollinators" poster. The poster group is a subcommittee of the Urban Landscape Committee, and includes Linda Brewer, Mima Faik, Antoniette Segade, Meg Quinn, Lynn Kaufman, Julia Fonseca, Nancy Zierenburg, Barbara Tellman, Jane Evans, Kristin Johnson and Sue Rutman.

May 20 Vote Protects Sonoran Desert

Over the last two years, a group of citizens has been encouraging the Pima County Bond Advisory Committee and the Pima County Board of Supervisors to put before the voters a Sonoran Desert acquisition program. On May 20,

citizens of Pima County voted to allow bonds to be issued for open space, trails and archaeological preservation.

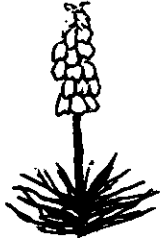
Some of the areas targeted for acquisition include much-loved land near Gates Pass, Sabino Canyon, Tanque Verde Creek, Tortolita Mountains, Honey Bee Canyon, Tumamoc Hill, Agua Caliente Canyon, and the Catalina Mountain slopes. These areas are enjoyed by many and harbor good examples of Sonoran Desert upland, desert grassland and riparian woodlands. Lesser known, ecologically significant parcels on the southern flanks of the Rincon Mountains and along the San Pedro River were also included in the bond package, along with trail development funds for Tucson and Tortolita Mountain Parks, and various historic and archaeological sites.



Arizona's Changing Rivers: How People Have Affected the Rivers

Barbara Tellman, Richard Yarde and
Mary G. Wallace

To order, contact:
Water Resources Research Center
College of Agriculture
The University of Arizona
350 N. Campbell Ave.
Tucson, AZ 85721
(520) 792-9591 FAX (520) 792-8518
(See review page 5)



gardening with natives

Four O'Clocks - *Mirabilis* spp.
by Bob Wilson

The selection of flowering perennials native to northern Arizona that have the potential to make excellent landscaping plants is quite large. It was a struggle to choose just one for this column since I would like to talk about so many. Not being able to decide completely, I managed to narrow the choices down to just two this time, both four o'clocks in the genus *Mirabilis*. What makes these plants so memorable to me is not just their natural beauty, but seeing how they endure adverse conditions. During last year's near-record drought, I kept a close eye on plants growing in the wild to see how they responded. Most plants limited their growth and bloom in response to this stress. The four o'clocks, however, brought forth more than their share, growing and blooming with abundance, doing even better than in years of average rainfall.

The two species I am referring to are the desert four o'clock, *Mirabilis multiflora*, and the wild four o'clock, *Mirabilis oxybaphoides*; both in the four o'clock family, Nyctaginaceae. A person encountering these for the first time and attempting to key them out might get frustrated, for with all the showiness of the flowers, technically they have no petals and the calyx provides the color.

The desert four o'clock is a large, spreading plant, capable of reaching 3-4' across and generally a little more than 1' tall. The large, glossy to glaucous leaves make it appear uncommonly lush in the dry habitats where it grows. One of the plant's nicest features are the blooms, which are bright magenta, 1" wide, funnel-shaped flowers. True to its name, flowers open in late afternoon and wither the next morning. These plants have an exceptionally long bloom period, usually starting in June around Flagstaff, and with successive flushes of flowers through the summer. In full bloom, this is a real eye-catcher.

The desert four o'clock occurs in Arizona between 2500' and 7000' elevation and is found from the Sonoran Desert up to the pinyon-juniper habitat. It

commonly grows in sandy, cindery or rocky soils which suggests it requires good drainage in cultivation. Its native range extends from northern Mexico to Utah and Colorado.

Unlike its robust relative, the wild four o'clock (*Mirabilis oxybaphoides*) is much more delicate. It produces slender upright or sprawling stems with sparse, dark green leaves. The flower is very similarly colored but smaller than the desert four o'clock, about 1/2"-3/4" wide. It also blooms in abundance, has a very long bloom season though it starts a little later in the season, and flowers that open around four o'clock.

Arizona Flora claims the wild four o'clock is rare in northern Arizona, a statement I would have agreed with prior to 1996. However, this is one plant that was much more successful during the drought. I found it blooming almost everywhere I went last summer. Its native range reaches from Utah and northern Arizona to Texas. In our area it occurs between 6000' and 8000', and is found in the ponderosa pine and pinyon-juniper habitat.

Both species can be cultivated similarly, will tolerate full sun to partial shade and need very little, if any, water. A well drained soil seems more important to the desert four o'clock. Both are hardy to USDA zone 4. Though I cannot speak for their heat tolerance, the wild four o'clock probably would need additional water if grown at lower elevations.

The plants are easily grown from seed since they are neither dormant nor have a hard seed coat. Seeds on the desert four o'clock are quite large (3/16") and grow quickly, making them a good candidate for a school project. The four o'clocks are some of the truly magnificent native perennials which can be enjoyed both in the wild and in the home landscape.

Bob Wilson is the owner of the Sinagua Nursery in Flagstaff and can be reached by e-mail at: botanybob@aol.com

ANPS 1997 Publication Grants Program:

Call for Grant Proposals

The Arizona Native Plant Society has available through its Publication Fund \$3,000 for assisting with the funding of publications or communications-related projects during the 1997 grant cycle. The grant program is open to individuals, groups or organizations. Individual membership in the Society is not required, nor does it preclude application. Proposals from ANPS chapters or committees are not eligible for this program and should be submitted to the Publications Committee for consideration separately.

The deadline for proposal submission is September 15, 1997. Awards will be made on a competitive basis by the Publications Committee of the ANPS and will be announced by November 15, 1997. The total funding available is \$3,000 and may be awarded as one or more grants.

Proposals should consist of a brief (one or two pages) summary outlining:

-the project's subject, audience and relevance to the Purpose of the ANPS: "To increase awareness and appreciation of Arizona's native plants, to work towards protection and restoration of native plants and their habitats and to promote the use of low water use landscaping, with emphasis on the use of native plants."

-the applicant's background and a statement of qualifications or resume.

Proposals should be submitted by September 15, 1997 to:

Arizona Native Plant Society
1997 Publication Grants Program
Box 41206 Sun Station
Tucson, Arizona 85717

Books, etc.

***Arizona's Changing Rivers:
How People Have Affected
the Rivers***

by Barbara Tellman, Richard Yarde, and Mary G. Wallace

By the time John Wesley Powell made his historic expedition down the Colorado River in 1869, the Cocopah, Quechan and the Maricopas had already inhabited its banks, deriving sustenance from its reddish, turbulent waters. "We are three quarters of a mile in the depths of the earth, and the great river shrinks into insignificance as it dashes its angry waves against the walls and cliffs that rise to the world above....," Powell would write while deep in the recesses of his epic journey. Within the next century, the Colorado's waters would be harnessed via massive projects that unequivocally stemmed its mighty currents. The story of the Colorado is telling in its magnitude--not only in the awesome geological history etched in its canyons, but also in the billions of cubic feet available for hydroelectric power, use by metropolitan areas, irrigation, and recreation, ultimately allowing the rapid development of urban areas in the Southwest. The tale would be oft-repeated on a smaller scale as smaller rivers--the Salt, Gila, Santa Cruz and others-- would also fall prey to the burgeoning thirst of new explorers and settlers.

The impact of people on Arizona's rivers is the topic of a new book called *Arizona's Changing Rivers: How People Have Affected the Rivers* by Barbara Tellman, Richard Yarde and Mary G. Wallace of the Water Resources Research Center at the University of Arizona's College of Agriculture. The book

(cont'd on page 6)

(Tohono O'odham, cont'd from page 1)

head cactus (*Echinocactus horizonthalonius* var. *nicholii*) which occurs within two of the Nation's districts. This year I will be working with Robert Schmalzel and a local community member to study the growth and distribution of this cactus. Funding for this study was made available through the Arizona Department of Agriculture.

The Baboquivari District has also created a Plant and Wildlife Committee. They are working with Partners in Wildlife to create interpretive panels for Baboquivari Canyon Park. These panels will describe the birds, plants and other wildlife in the area so that park visitors will have a better understanding of what they are likely to see as they wander through the area. Even children from the local district will be able to learn from the panels. We hope to complete the panels within a year.

This same committee has also written a proposal requesting funding for a survey of the Sonoran Desert tortoise. The tortoise can often be seen on the dirt roads and highways of the Nation's land. Unfortunately, many of them are run over by cars and trucks. The survey will collect data on the size, weight and sex of the tortoises. It will also attempt to locate the tortoise dens and identify the paths used by the tortoises to get to their summer feeding grounds. Many of these paths cross dangerous roads. The results of the survey can be used by the district for land use planning. Hopefully, other districts will conduct similar surveys as part of their land use planning.

The Tohono O'odham Nation has established a Soil and Water Conservation District Board to oversee natural resources. One of the long-range plans of the Board is to develop a plant ordinance to protect native plants. At this time there is no regulation for the sale of wood and saguaros on the Nation's land. Board members attend monthly meetings in each district to gather comments and concerns of that district.

I am also working with the newly-formed Natural Resource Department. The department is looking at ways to use both the Geographic Information System (GIS) and the Geographic Positioning System (GPS) to store information on the locations of sensitive plants. It is hoped that all the districts will use this information to promote plant protection.

It is hoped that by educating people about the

importance of native plants to their lives and culture and by identifying critical locations through the use of plant surveys and computer technology, that we can protect the natural wealth of the Tohono O'odham Nation for generations to come.

Jefford Francisco is a field representative with The Nature Conservancy.

(Books, cont'd from page 5)

begins with the early civilizations and proceeds to weave the history of the people who settled our state with the story of the rivers. The arrival of the Spanish followed by the Anglo-Americans-- farmers, miners, ranchers-- would forever alter the course of many of these rivers. With the population of the state growing, perennial or near-perennial rivers would be dammed or diverted; new plants such as the salt cedar would be introduced and crowd out native plant species. *Arizona's Changing Rivers* chronicles the profound changes humanity has exacted of the rivers.

The unique manner in which the book is organized warrants some explanation. Chapters on the history of our state alternate with chapters on the rivers themselves. Thus, historical information unfolds gradually throughout the book; yet, each river chapter is a microcosm of this history for each one was affected in much the same way. While this lends for some repetitive information, it highlights a recurrent, disquieting pattern of settlement and exploitation. The authors do not attempt to pass judgement on the fate of our rivers, but let history and the facts speak for themselves. The book is intended to be a useful resource and contains numerous maps and historical photos as well as a helpful bibliography on disk.

"Early explorers would recognize few sections of the Arizona portion of the Colorado River," the authors write. Indeed, Powell's 'great river' "has become a series of lakes rather than a free-flowing river." Its clear waters no longer carry the reddish sediment that gave the Colorado its name. Gone are thousands of acres of cottonwood-willow communities along its lower banks. Somewhere in Mexico, before it ever reaches the Gulf of California, the Colorado River trickles to a halt.

Conservation Update

Conservation Toolkit: Lobbying

by *Julia Fonseca*

This is the fourth in a series on plant conservation strategies. Previous articles described how land acquisition, revegetation projects, off-road vehicle control and higher water quality standards for perennial streams helped to conserve vegetation in settings as diverse as the Altar Valley, Tucson Mountains, Bill Williams River and Buehman Canyon. This article summarizes ANPS' political lobbying efforts since 1989.

One of ANPS' purposes is to protect native plants and their natural settings. In order to further our Society's goals, we sometimes work to oppose or support legislation. (We have not historically been involved with political candidates or parties, and in fact, the IRS prohibits non-profit organizations from doing so.) Briefly, lobbying includes communicating ANPS' position on specific legislation to lawmakers or the electorate.

It appears that 1989 was the Society's heyday in the legislative arena. ANPS fought that year to revise the Arizona Native Plant Law to improve salvage regulations, and to improve protection for certain rare plants. Andy Laurenzi, Barbara Tellman, Dan James, and Karen Reichhardt provided much leadership on this issue, as did other ANPS members. That same year, ANPS sent Karen Breunig to Washington, D.C. to lobby for wilderness protection. The ensuing legislation protected many of the areas "adopted" by ANPS members, with the unfortunate exception of Ragged Top, an area that John Wiens worked tirelessly to protect. ANPS members Gary Maskarinec, Dan James, and Rodney Engard also deserve recognition for their help in the wilderness campaign. ANPS undoubtedly contributed to the success of the wilderness bill, protecting areas such as Table Top Mountain, the Maricopa Mountains, and Cabeza Prieta National Wildlife Refuge, and forestalling the City of Parker's claims on the Cactus Plains area.

In 1990, ANPS supported the successful Heritage Fund Initiative through mailers, donations, and petitions. ANPS collected 5,000 signatures for the initiative, and continues to support the Heritage Fund Alliance. ANPS member Barbara Tellman provided assistance in drafting the City of Tucson's xeriscape ordinance, and subsequently helped improve municipal revegetation requirements.

In 1992, we renewed our commitment to protect the Endangered Species Act from damaging legislation, and supported amending the State Constitution to allow BLM/State land exchanges. We also alerted members to oppose the "takings bill." In 1994, ANPS again supported legislation to allow State land exchanges (unsuccessfully) and thwarted a "private property rights" bill. In 1995, ANPS encouraged members to voice support for the Endangered Species Act, which was threatened by weakening amendments.

Since 1995, ANPS has done relatively little lobbying. However, thanks to the interest and hard work of members like Marcia Tiede, David Sewell, Barbara Tellman, and co-president Sue Rutman, ANPS' voice was heard at last month's City Council meeting in Tucson on a new native plant ordinance. The ordinance increases protection and salvage opportunities for a number of native plants within city limits.

Obviously, there is much unfinished business in the political arena. The Heritage Fund and Endangered Species Act continue to draw fire; important state lands remain vulnerable to development. Enforcement and funding for the Native Plant Law remain problematic.

National Forest Proposes to Extend South Fork Trail in the Chiricahuas

The Coronado National Forest proposes to convert part of the South Fork Road to a trail and to construct a new trailhead parking lot near the entrance to the South Fork Zoological Botanical Area (ZBA). The ZBA is located in the Chiricahua Mountains. The purpose is to protect the natural resources from recreation impacts and improve visitor experiences in the ZBA.

The ZBA is 762 acres and includes two miles of road, a picnic area and two summer homes. These facilities will remain. However, the homes will be phased out in 2008 when the permits expire. The road will be used as a trail, much as occurred at Sabino Canyon near Tucson in the 1970's, if this proposal is adopted. The South Fork Trail was extensively damaged by erosion following the 1994 Rattlesnake Fire, requiring frequent reconstruction until the Cave Creek watershed stabilizes. For more information, contact Bryant Smith, U.S. Forest Service, RR #1, Box 228R, Douglas, AZ 85607. (520) 364-3468, FAX (520) 670-5074.

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