NATIVE PLANT SOCIETY OF NEW MEXICO
NEWSLETTER

May/June 1995 Volume XX Number 3

WOLFBERRY

(Lycium pallidum)

A spiny, scraggly branched shrub, wolfberry is rarely more than three feet tall in our area. The older branches are a dark reddish brown, the newer wood a glistening pale yellow. Mature leaves are leathery, pallid green, and appear in small clusters along the branches; the plant is deciduous in winter and during drought. The flowers, which blossom from May to June, are about an inch long, creamy-green and funnel shaped. Orange-red berries, about a half inch in diameter, very much resemble miniature tomatoes. Ripening in July, the berries don't remain for long on the plant, as they are relished by birds and other wildlife.

In the province of the Puebloans, the preferred name for this plant is wild tomatillo, although that name may also be applied to a close relative of wolfberry, the groundcherry (Physalis spp.). Wolfberry is often associated with prehistoric ruins and can be seen on talus slopes below cliff dwellings at Bandelier National Monument and alongside the pueblo ruins at Jemez State Monument. When you visit Petroglyph National Monument, look for it along the Cliff Base Trail.

It has been speculated that wolfberry is a camp follower, finding the disturbed soil of prehistoric ruins suitable for its growth. Wolfberry seeds are a "normal" component of plant remains found in archeological excavations at prehistoric sites. Indeed, wolfberry is considered to be one of the most reliable "indicator" species for buried sites that have been revegetated.

In our study we found that nearly all contemporary Puebloans have at one time collected and used parts of this plant in various ways. From Matilda Coxe Stevenson's 1912 handwritten notes on the ethnobotany of San Ildefonso and Santa Clara, we learn that the fresh or dried and reconstituted leaves of Lycium were applied to cuts and regarded as an excellent medicine. Of wolfberry's culinary use at Zuni Stevenson reported: "the berries are boiled, and, if not entirely ripe, they are sometimes sweetened ... The berries are also eaten raw when perfectly ripe." Early ethnobotanical studies of Isleta Pueblo by Volney Jones noted that fresh berries of this plant were regularly being collected for food in the 1920s. In 1978 a young doctor studying at Zuni Pueblo reported: "The root is soaked in water overnight. Bits of the root are then planted with corn to keep worms from eating the seeds and to make the corn plant grow fast."

At modern Acoma, Laguna, Isleta, San Juan and Sandia Pueblos the tomatillo berries may still be eaten fresh if ripe, or sweetened and cooked if not quite ripe. But this shrub appears to be declining along the Rio Grande, and some Puebloans have told us that they no longer bother to collect tomatillos for the table.

(The above article, slightly modified, is excerpted from Wild Plants of the Pueblo Province: Exploring Ancient and Enduring Uses, by NPSNM members Bill Dunmire and Gail Tierney. This hot-off-the-press 292-page book, published by the Museum of New Mexico Press, is filled with color photos, maps and line drawings; one each for all 60+ species covered. It is now available at local bookstores for $19.95 paperback, $29.95 clothbound or through NPSNM Book Sales at members' discount price of $16.00 for the softcover.)

Inside...

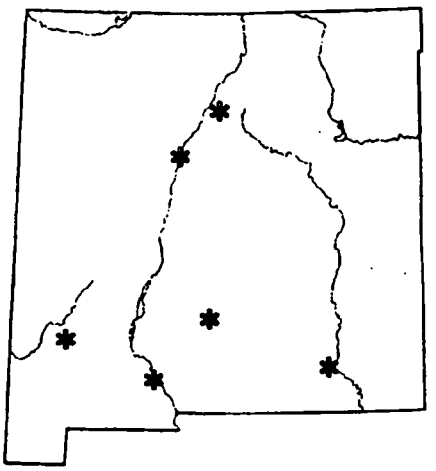
BITS and PIECES

A bibliography entitled "Xeriscape: Water-Conserving Gardens", compiled by Carol Kopolow of the National Agricultural Library, lists dozens of books, articles, videotapes, organizations, and display gardens related to Xeriscape. For a free copy of this 23-page booklet, send a return address label with your request for "AT 94-01 " to USDA/NAL/Reference Section, Room 100, 10401 Baltimore Blvd., Beltsville, MD 20705-2351.

The 40th anniversary edition of the Sunset Western Garden Book is now available. This edition includes more information on plants and more color photographs. A special rate of $19.95 plus shipping is available from Sunset Books (1-800-829-0113). This company also sends out notices 2-3 times per year on other new garden books, so members may want to inquire about this (or request not to be put on the mailing list!).

For all computer-philes, the Sunset Western Garden CD-ROM will be coming out in April ! ! All the good stuff from the new Western Garden Book plus more! It will be available in both Windows and Macintosh formats. Cost will be $49.95. Look for it in bookstores or garden centers.

Xeric Plants for New Mexico, a colorful poster of 20 beautiful water conserving plants is available for $7.50 per poster. To place an order, call Curtis Smith, Bernalillo County Extention Officer (243-1387) or Dale Sokkary, Rio Grande Botanic Garden (764-6283).



The **Newsletter** is published six times per year by the Native Plant Society of New Mexico. The Society is composed of professional and amateur botanists and others with an interest in the flora of New Mexico.

Articles from the Newsletter may be reprinted if fully cited to author and attributed to the Newsletter.

Membership in the Native Plant Society of New Mexico is open to anyone supporting our goals. We are dedicated to promoting a greater appreciation of native plants and their environment, and to the preservation of endangered species. Members benefit from chapter meetings, field trips, publications, plant and seed exchanges, and educational forums. A wide selection of books is available at discount. The society has also produced two New Mexico wildflower posters by artist Niki Threlkeld. Contact our Poster Chair or Book Sales representative for more information. Call chapter contacts for further info.

We encourage the use of suitable native plants in landscaping to preserve the state's unique character and as a water conservation measure.

Advertising Schedule
Approved advertisements will cost $40 per year.

Schedule of Membership Fees
Dues are $10.00 annually for individuals or families. "Friends of the Society" include organizations, businesses, and individuals, whose dues of $25.00 or more provide support for long range goals. To join us, send your dues to Membership Secretary, 10800 Griffith Park Drive, Albuquerque, NM 87122

Newsletter Contributions
Please direct all contributions for the newsletter to Tim McKimmie, editor. See address below or email to tmckimmi@lib.nmsu.edu
Deadline for the next newsletter is June 1.

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Wildflower Pillage Along Arizona's Highways and Byways

reprinted from the Plant Press 15(1):3, Spring, 1991
by William R. Feldman, Ph.D.

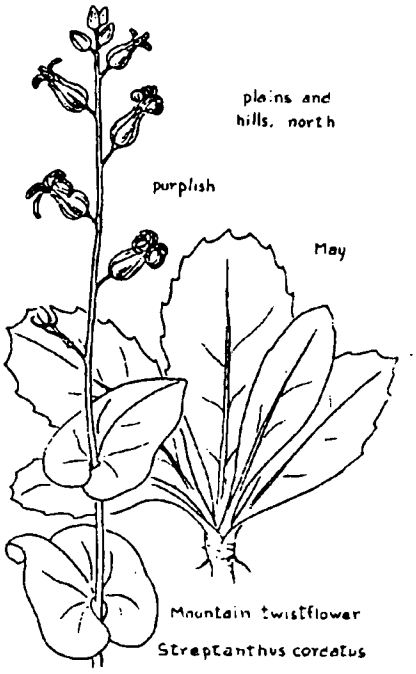
This past April, during our Arid Land Plant Show at the Boyce Thompson Southwest Arboretum, my enjoyment of this wonderful event was shattered by news received from a group of our loyal Tucson friends and volunteers. These stalwarts reported seeing crews of young men with large sacks uprooting whole lupine plants along great stretches of US 89, the Pinal- Pioneer Parkway. As I am sure you will recall, the spring of 1990 produced one of the most profuse and lovely roadside blooms in a number of years along the highways of Pinal and other Arizona counties. The plants being taken were still in full bloom, with very little mature seed on them. Little or no seed would be laid down from the year's prolific bloom to ensure similar displays of natural beauty in coming years.

Thinking that this activity was undoubtedly illegal, we called the Pinal County Sheriff's Dept. and were told that a deputy would return the call. When the deputy did call back, we learned that "picking flowers along the road" was not illegal. At this point we decided to go to the site of the pillage in person. Along with me went Mr. Matt Johnson of DELEP (Desert Legume Project), who had witnessed the depredations earlier in the morning. It was now about 11:00 a.m., and we encountered a group of about seven young men resting under an Ironwood tree along the Parkway and awaiting pickup by their crew chief. The men seemed to be an untrained labor crew that was being paid by weight for the vegetation taken. We did not identify ourselves as state employees and said that we were in the market to purchase seed. The men did not speak English, and none were very forthcoming about for whom they were obtaining the seed. Finally, the crew chief arrived in his pickup truck to carry off the workers and their "harvest." Just before getting into the truck one of the men took a stick and scratched five letters in the soil. Those letters spelled the name of the largest commercial seed dealer in the Phoenix metro area and probably in the state of Arizona.

Later the same day we began checking into the legal status of such wholesale seed pillage along our highways. We spoke to Arizona Department of Transportation personnel who assured us that the activity that we witnessed was indeed illegal under the Arizona Transportation Code sections 28-1870-A.7 and 28-1871. In particular, section 28-1870-A.7 defines misuse of a public highway in the following terms: "A. A person who commits or causes to be committed any of the following acts is guilty of a petty offense: 7. Knowingly removes, damages or destroys any tree or shrub standing on a highway right of-way." In a call to Mr. Frank Reyes, Pinal Co Sheriff, communicated to all Pinal Co. field deputies. This is where all of us come in. If at any time during the year, but particularly during the peak wildflower months of February through May [or May through October in Northern Arizona], you should witness wholesale, systematic wildflower "harvest" in the right-of-way along our state's highways, please act. Note the milepost and any geographic landmarks and report the activity to either the local sheriff's department or the DPS (1-800525-5555) as soon as possible. Be prepared to cite section 28-1870-A.7 of the Arizona Transportation Code.

Our roadside wildflowers are a source of great color and beauty which many travel into our rural counties expressly to see and enjoy. The growing movement to use wildflowers in regionalist landscaping designs is a good one, but let's not suffer the wholesale pillage of our superb natural stands of roadside wildflowers in order to supply seed for the creation of these designs. Instead, as with native woody plants, let's encourage the field production of these wildflower species as some seed dealers are currently doing. Finally, when purchasing this type of seed, please make sure to enquire as to how it was produced or obtained.

Bill Feldman is the newly elected President ANPS and the Director of the Boyce Thompson Southwest Arboretum. This article is reprinted from FOTA Notes, *the newsletter of the Friends of the Arboretum.*



CALENDAR

OTERO

May 6 Plant Sale, Garden Center, 10th and Oregon, Alamogordo. 9 am to 1 pm

May 13 Field trip to White Sands NM. 9 am

June 16-18 Camping at Heron Lake, nw of Santa Fe.

ALBUQUERQUE

May 4 "Progress a the Rio Grande Botanical Garden" by Dale Sokkary. 7:30 pm, Albuquerque Garden Center, 10120 Lomas Blvd.

June 1 "East Mountain Wildflowers" by Judy Dain. 7:30 pm Albuq. Garden Center.

June 3 Potluck and hikes at the Dain Ranch. Noon.

GILA

May 21 Field trip to the Florida Mountains

June 18 Field trip to McNight Canyon, Black Range

LAS CRUCES

May 10 "Plant Families" by various members. 7:30 pm. Southwest Environmental Center, 1494 S. Solano

May 14 Fieldtrip to Picacho Peak. 8 am. Pan Am Center Lot.

June 3 Las Cruces Garden Tour and Potluck

June 14 "Plants of the Organ Mountains" by Dick Worthington. 7:30 pm, SW Environmental Center.

June 18 Fieltrip to the Rim Trail, LNF. 7 am Pan Am Lot

SANTA FE

May 20 Field trip to Ball Ranch. 9 am, west lot PERA building, across from Capitol Building.

June 3 Dain Ranch hikes and potluck. 9 am, PERA lot.

June 11 Los Alamos Butterfly count. 8 am PERA lot or 9 am Sunrise Park.

June 16-18 Heron Lake with Otero Chapter. 988-9141.

June 24 Walk ranch along Pecos R. 9 am, PERA lot

1995 NPSNM ANNUAL MEETING

MARK YOUR CALENDAR !

August 18-20, 1995
Silver City, NM

The Gila National Forest: A National Treasure

From some distance it appears the United States Forest Service exists in a national tornado. Caught up in the swirling, political winds of the times, the organization is being called upon to make difficult decisions concerning the biologic future of some of the nation's most precious possessions, our national forests. Politicians, ranchers, mining and timber interests, hunting and recreational enthusiasts, and environmental groups all maintain the high velocity of these winds, providing only limited helpful and scientific information. The threatening low at the center of this tornado, the Gila National Forest, will be the site of the 1995 NPSNM annual meeting.

The Gila Native Plant Society invites the membership of The Native Plant Society of New Mexico and the New Mexico regional chapters, and our friends from the El Paso, TX chapter of The Native Plant Society of Texas to join us in taking a trip through the Gila National Forest to see first hand the beauty of the area and the nature of the problems. This meeting will provide an opportunity to visit with regional foresters, hear the problems of ranchers, listen again to the thoughts and wisdom of Aldo Leopold, and examine the very fuzzy terms we use in describing the place and function of our wilderness areas in maintaining biodiversity. These complicated and interrelated problems deserve the attention of all who cherish the native flora and fauna of New Mexico and the western United States .

Information describing the full schedule of events for this meeting will be included in the forthcoming registration materials and the next issue of the NPSNM *Newsletter.* If you have questions please contact Jack Carter, P. O. Box 1244, Silver City, NM 88062 or call 505-388-9221.

CHAPTER REPORTS

Las Cruces-Paul & Betty Shelford

Our March 8th meeting was an introduction to notable botanists by four chapter members. Leilani Horton spoke on Constantine Samuel Rafinesque who named some 6,000 plants in the early 19th century. Alice Anderson spoke about Henry Ernest Muhlenberg (1753-1815) who listed over 3,000 plant species, including the "Muhley" grasses so common to our region. Jennifer Atchley told of Augustus Fendler as a 19th century collector of plants, many of which bear his name in the Southwest. Christine Ruetzel wrote a paper, which was read at the meeting, on Carolus Linnaeus (1707-1778) who established the Latin nomenclature method of classifying plants.
Our chapter president, Lisa Mandelkern, reported that on March 12th five hardy members braved the blustery cold on a field trip to Aden Crater. Dave Thornburg set up this trip, but he moved to Las Vegas, NM before he could lead it. Thanks to his explicit written directions, the group was able to find this obscure geological formation and were rewarded by finding 14 native plants either budding or in bloom. Flowering plants included desert rhubarb, evening primrose, spectacle pod mustard, New Mexico plumeseed, starpoint, thyme leaf spurge, popcorn flower, stickleaf, clammyweed, and pink verbena. They also saw scorpion weed, buckwheat, globe mallow, twist flower and groundsel, along with numerous buds on hedgehog cacti.

Otero-Jean Dodd

Greg Magee of Naturescapes in Las Cruces spoke 3-18-95 in Alamogordo on low maintenance and water conservation in landscaping. The Otero Chapter often goes to look at plants where they grow to learn about them, companion plants, and their habitats. Along that line Greg said that Nature is the best designer. Look for forms in nature such as the curves of rivers and arroyos, what wildflowers and grasses go together so that when you consider your design it will have unity and a harmony between the different elements. He said to look at the different components of your landscape starting with the hard surfaces such as walls, driveway,sidewalks or paths. Be sure that water drains away from the house and if water collects in spots after a rain you can use plants that enjoy more water in these places. A drip system can save water. Use a low trajectory sprinkler to cut down on water waste. It might be practical to split up your water system according to water needs in zones

Some of Greg's favorite landscaping plants are Rosewood, Dalea formosa, Red Barberry, Desert Willow, red yucca, Texas rainbow cactus, Mealy cup sage, asterss, Indian Paintbrush from seed, verbena tenuisecta, blackfoot daisy, Mexican poppy, red mint, Mexican Hat, gaillardia, chocolate flower, Leucophylums-Texas Sage and other varieties, Turpentine bush, Texas Mtn. Laurel, Tecoma stans-yellow bells, Evergreen Sumac ,Baccharis centennial After the program Greg was invited to speak at White Sands Monument, date not yet set. So if you had to miss the program on the 18th, watch the paper for the date at the Monument.

Gila-Martha Carter

The March 17 program meeting, "Identifying Pines, Junipers and their Allies", was followed by a trip into the field on Sunday, March 19 to continue the study of the characteristics of gymnosperms. Twenty-five members and guests traveled up Hwy 15 toward Lake Roberts stopping frequently to examine the conifers of the different life zones making use of the field guide, Gymnosperms published by Jack Carter. Field trip leaders were Deb & Jim Swetnam and Jack Carter.

The GNPS publication, *Native Plants for Lawns and Gardens of Southwestern New Mexico*, has been reprinted with improvements in illustrations and better quality of paper and printing. Proceeds from the sale of this booklet go to the GNPS Endowment Fund. The booklet is available from Martha Carter, (505) 388-9221 for the original price of $6.00 to members.

Albuquerque - Lu Bennett

In February, Ted Hodoba, owner of Desert Moon Nursery in Veguita, presented a slide show of cactus and succulents in New Mexico. His collection includes slides of sand Pricklypear which is common on Albuquerqueís West Mesa but threatened by development, cattle and overcollection. Also included were Barrel cactus, Claretcup, New Mexico Rainbow, Strawberry Hedgehog, Haystack and Pincusion cactus. He discussed propagation and culture of cactus and recommends the book, Cacti of Texas and Neighboring States, by W. E. Weniger for additional information. Ted would like to see more cactus and succulents incorporated into perennial gardens rather than being separated into special garden areas.

In March, Esteban Muldavin and Paula Durkin of the New Mexico Natural Heritage Program gave a talk with slides on "Riparian Ecology and Plants." This Program is affiliated with the Nature Conservancy and the UNM Biology Department. They gather, rank, and monitor data from NM as part of several conservation data centers in the Western Hemisphere. Research includes the effects of fire on vegetation in the Organ Mountains, a study of vegetation on Rowe Mesa and satellite imagery of Sevilleta and Fort Bliss. Slides of various riparian areas in New Mexico were shown including Pecos River rushes, grasses, and Coyote Willow, Rio Grande Gorge Coyote Willow, grasses at the Gallinas River, grasses and Blue Stem Willow at Rio Brazos, and cattails at Rio San Jose.

Many thanks to Robert Dewitt Ivey for permission to use his wonderful drawings from *Flowering Plants of New Mexico*, second edition, in our *Newsletter*.

Keys to the Kingdom:

Botany from a Layperson's Point of View

by Delena Tull

reprinted from *Native Plant Society of Texas News* November/ December 1988

I applaud the botanist who writes keys and field guides with the non-botanist in mind. It is a rare scientist who is able to translate the world of science for the layperson.

In leading botany field trips over the years, I have noticed a number of areas of plant identification which cause great difficulty for the non-botanist. Take, for example, the concepts of opposite and alternate, and compound and simple leaves. Alternate leaves sometimes appear paired on new growth or may form bundles (fascicles). Many people overlook compound leaves until someone teaches them to look for a bud at the leaf base.

For the botanist, such discrimination becomes a sort of Gestalt experience—you recognize a compound leaf without thinking about it. But the inexperienced field guide user may throw up hands and field guide in desperation when confronted with these basic but often confusing characteristics.

In conducting my dissertation research on the botanical knowledge of sixth grade students, I was delighted to find that some children readily describe some leaves such as clover as compound even though they have never been formally introduced to the idea of a compound leaf. On the other hand. when asked to show me a whole leaf, the same children would usually pick out a single leaflet. For these children, the natural Gestalt recognition of compoundness is at odds with what they have been taught about leaves by adults—that a leaf is a single unit.

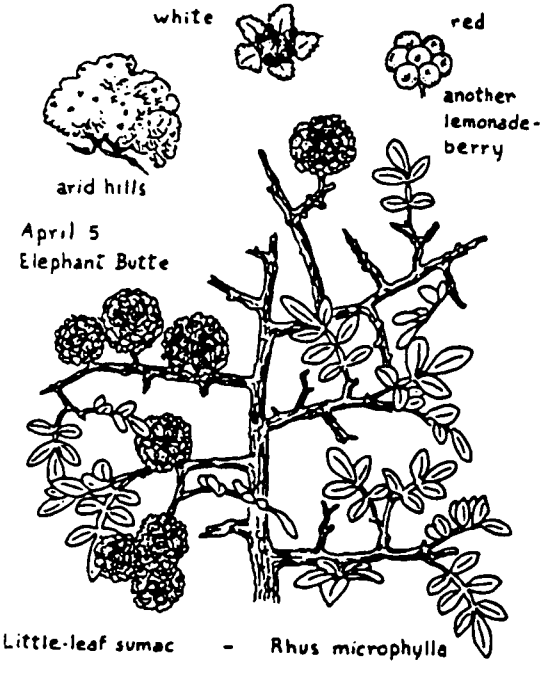
With a bit of training in the field, however, young children, usually so much more observant than most adults, could quickly learn to distinguish compound leaves, opposite leaves, inflorescence types and numerous other taxonomically important details. Unfortunately, plant identification skills, skills which children can learn readily, are seldom taught in elementary or secondary schools. Many botany books and field guides are designed for use by people who are already familiar with a lot of botanical terminology. As a result, school teachers, unable to understand the terminology, may feel incompetent to teach plant identification to their students.

Fortunately for teachers and other individuals who are interested in learning how to identify native Texas plants, there has been a revolution in Texas field guides. It's a delight to see so many new field guides appearing on the Texas market these days— I rejoice at each new acquisition. More and more, field guide authors are acknowledging the need for producing something that the layperson can use.

Geyata Aiilvsgi, in Wildflowers of Texas, had to choose between grouping her flowers to please the botanist or to please the general public (which public, by the way, includes many native plant society members). By grouping the flowers by color, she turned the book into the simplest of keys. And she defied convention by placing the families in alphabetical order. Though many botanical floras and herbaria still use the Engler and Prantl system established in 1909, the system is out-dated. As taxonomists are constantly modifying classification systems, it makes little sense to try to impose an old system on a layperson who does not know why it is used. I certainly don't remember whether Malvaceae comes before or after Cactaceae in the Engler and Prantl system. Placing the families in alphabetical order makes the field guide easier to use for the layperson and also for the botanist.

Judy Walther's Identification of Woody Plants for the Wild Basin Preserve, and Paul Cox and Patty Leslie's brand new Texas Trees—A Friendly Guide both use illustrated keys to guide the reader. I have found that Walther's key is so well-designed that, with a little guidance, children can use it. A great deal of satisfaction comes from being able to key out a plant on one's own. The use of illustrated keys and color coding bring the world of the botanist closer to that of the many thousands of Texans who would just like to know ~What is that plant, anyway?" Once given a name, a plant has a place in our lives that it didn't have before.

People have a much greater interest in protecting from extermination those objects which have meaning in their lives. By opening up the world of botany to the layperson. we allow him or her to join us in helping preserve our native vegetation.



FLORA NEOMEXICANA:
Cirsiums and Ciénegas

by Robert Sivinski

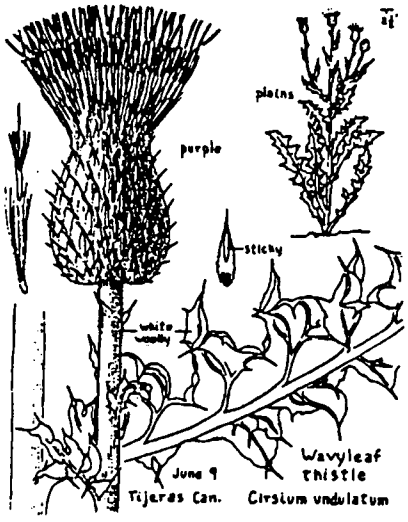
I recently heard the mother of a Sacramento Mountain logging family testify before the New Mexico Senate that she felt great animosity towards endangered species. She was, of course, referring to the Mexican spotted owl, but then went on to denigrate the Sacramento Mountain thistle (*Cirsium vinaceum*) as a useless, spiny weed that any normal person would eradicate if found growing on their private property. I must not be a "normal person" because I find this plant very interesting and want it to survive. Its tall purple stems and nodding, pink-purple flower heads make it one of the most beautiful *Cirsiums*. It is also the best nectar source on the mountain. Bees, beetles, butterflies, and hummingbirds come flocking to it by the thousands. Unlike most New Mexican *Cirsiums*, the Sacramento Mountain thistle is a wetland plant. And that is why it is a threatened species. It is confined to the wet travertine (calcium carbonate precipitate) deposits at mountain springs near Cloudcroft. This plant has withstood more than a century of grazing and logging practices (sometimes abusive) in the Sacramento Mountains. With continued management by the U.S. Forest Service, I believe the thistle and the New Mexicans who profit from our public land resources can coexist for several more centuries. The real threat to *Cirsium vinaceum* is its reliance on wetland habitats in an arid region. Alamogordo is a rapidly growing, desert city that is looking for more water in the Sacramento Mountains. Will there be enough water for this beautiful thistle and an expanding economy and population?

The Sacramento Mountains have another wetland *Cirsium*, which has not received any attention, but may also be in danger of disappearing. Wright's marsh thistle (*Cirsium wrightii*) is a more widespread species occurring in spring-seeps from West Texas to Arizona. However, it is infrequently collected and appears to be very rare. This thistle is presently known from only three places in New Mexico: near Roswell (not seen since 1900), Santa Rosa (Blue Hole Spring Ciénega) and the Sacramento Mountains. E.O. Wooton collected this plant in the Sacramento Range (White Mountains) in 1897, and along Tularosa Creek in 1899. It has not been collected again at these locations during this century. Wright's marsh thistle was finally rediscovered in the Sacramento Mountains in 1981 at a spring-seep in Karr Canyon south of High Rolls.

Cirsium wrightii is a strikingly beautiful plant. Its tall (4-8 ft.) stem is densely covered with decurrent, dark green leaves. The numerous panicle branches are slender, broadly spreading, and terminated by small flower heads in late summer. The plants at Karr Canyon have white flowers, but the thistles at Santa Rosa are pink. Wright's marsh thistle was initially discovered by Charles Wright during the 1851 Mexican boundary survey at San Bernardino Ciénega in southeastern Arizona. It has not been relocated there since the original 1851 collection. One could reasonably expect to find Wright's marsh thistle at similar ciénega habitats in southwestern New Mexico. But it may be already too late, as I will explain later. First a brief description of ciénegas.

The word "ciénega" (also spelled cienaga) is probably derived from the spanish "cién aguas" meaning a "hundred waters". This refers to springs where the ground water slowly seeps to the surface in many places creating a large area of wet, boggy meadow. This term is usually reserved for spring-seep meadows below forested elevations (<7,500 ft.). These wetlands are often very alkaline (with white alkali crust) because of the higher rate of evaporation at lower elevations. The most water saturated soils support dense stands of Mexican rush (*Juncus balticus* var. *mexicanus*), spikerush (*Eleocharis parishii* and *E. macrostachya*), and sometimes cattail (*Typha latifolia*) or bullrush (*Scirpus acutus*). Towards the drier edges, saltgrass (*Distichlis spicata*) and alkali sacaton (*Sporobolus airoides*) are dominant, and riparian trees such as Fremont cottonwood (*Populus fremontii*) and black willow (*Salix goodingii*) often ring the ciénega margins. These alkaline, wet meadows are also home for many less common species including the endangered Parish's alkali grass (*Puccinellia parishii*) and the puzzle sunflower (*Helianthus paradoxus*). Ciénegas are rare wetlands in an arid landscape and the most endangered plant communities in New Mexico.

I recently joined several botanists on visits to twelve ciénegas in Doña Ana, Grant, Hidalgo and Sierra Counties. Our findings were rather dismal. Four ciénegas were completely dry and dead because the ground water was captured for copper smelting or cotton farming. Five others were severely grazed by livestock and choked with alien salt cedar (*Tamarix ramosissima*), and only three were in reasonably good condition. It is heart-breaking to hike out to an historical oasis in the desert, to find only the dry, organic dust of a dead ciénega surrounded by the prostrate, sun-bleached trunks of huge, dead cottonwoods. Our sins are the worst at San Simon Ciénega on the NM/AZ border. San Simon was our largest ciénega and truly a jewel in the desert - a lush wetland for several miles down a wide basin. Adjacent cotton farms quickly drew-down the fossil water of this basin, and San Simon Creek stopped flowing in 1952. The ciénega was almost dry by 1967. The U.S. Fish and Wildlife Service and Bureau of Land Management spent a lot of time and money pumping their own well water into small excavations in an attempt to preserve a fraction of this critical Mexican duck habitat. When the Mexican duck was determined to be an invalid species, they discontinued the artificial resuscitation of San Simon Ciénega. On my visit in 1993, the ciénega was completely dry. While sitting in the shade of an old, doomed cottonwood, I was reminded of a verse from Robert Frost's Hyla Brook.



"Its bed is left a faded paper sheet
Of dead leaves stuck together by the heat-
A brook to none but who remember long."

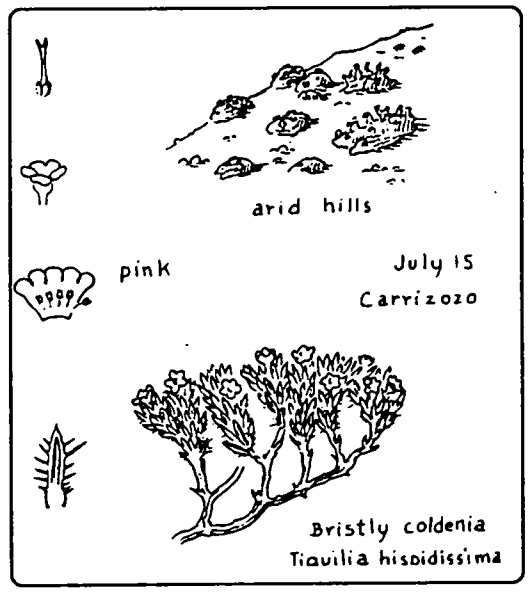
Please respect the many native plants and animals that live in New Mexico wetlands. Conserve water and let the springs flow.

Flora of North America: North of Mexico

Volumes 1 and 2
FNA Editorial Committee
NY, Oxford University Press, 1993

Book Review by T. McKimmie

The first two volumes of the projected 14 volume *Flora of North* America: have been completed. This flora will describe all plants currently known from the United States, Canada, and Greenland. Volume I consists of 15 essays describing the physical setting, soils, climate, history of botanical exploration, ethnobotany, phytogeography, and plant classification. Appendices include synonomy for plant families and a concordance of family names. There are numerous maps, drawings, diagrams, and photos. Richard Spellenberg of NMSU has contributed to the sections on the history of the FNA project and plant conservation. This volume could be read in its entirety and even used as a "coffee table" book. For that matter, the volumes are affordable ($75 each for V. 1 and 2) and many amateur botanists will want to own part or all of the set.



Volume 2 covers the pteridophytes and gymnosperms. A key separates families and each is then described. Within each family a key then separates genus' and each genus is described. Finally, there are keys to species and species descriptions including distribution maps and citations to the original species descriptions. Under species descriptions the major features of the plants are indicated in bold face, eg., leaves, venation, gemmae, etc. This aids the reader in quickly finding pertinent features. Many plants or plant parts are illustrated with excellent line drawings, photographs, and micrographs. Needless to say, this flora will be the most comprehensive of its kind. The set is due to be completed by about 2005.

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