Native Plant Society of New Mexico

NATIVE PLANT SOCIETY OF NEW MEXICO NEWSLETTER

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FLORA NEOMEXICANA

A Fertile Field for Discovery

by Robert Sivinski, New Mexico Forestry Division

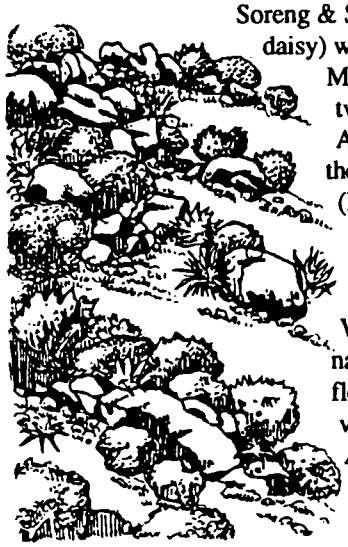
New Mexico is a fertile field for botanical discovery. The great variety of geology, climate and elevation creates a wealth of unique habitats for floristic diversity. Our large state has many out-of-the-way places and relatively few botanists. There are still areas of New Mexico that have not received adequate floristic scrutiny by professional or amateur botanists in the field. Therefore, it is not uncommon for several new state records to be added to our flora each year. What is surprising, however, are the numerous newly described plants that have been recently discovered in our state. The possibility that there may yet be undescribed species out there is demonstrated by the discovery or publication of more than twenty new species and varieties since the Flora of New Mexico (Martin & Hutchins, 1980) was published. The following is a brief summary of these exciting new finds.

The genus *Astragalus* (milkvetch) in the Pea Family (Fabaceae) is well represented in our state by more than seventy species. Three new New Mexican species have been recently added to this genus. *Astragalus knightii* Barneby (Knight's milkvetch) was discovered on sandstone outcrops within the Rio Puerco drainage of Sandoval County. It is named for Paul Knight, the New Mexican botanist who found this plant. *Astragalus kerrii* Knight et. Cully (Kerr's milkvetch) was found in the foothills of the Capitan Mountains. The name honors Representative Kerr who carried the New Mexico Endangered Plant Species Act through the state legislature in 1984.

Inside...

Astragalus chuskanus Barneby & Spellenberg (Chuska milkvetch) is a new species endemic to the Chuska Mountains on the New Mexico/Arizona border.

The Aster Family (Asteraceae) is the largest plant family in New Mexico and most of our new species belong here. *Senecio spellenbergii* T.M. Barkley (Spellenberg's groundsel) was named for its collector, Dr. Richard Spellenberg of NMSU. This little yellow-headed plant occurs on calcareous balds in the shortgrass prairies of Harding and Union Counties. *Chaetopappa elegans* Soreng & Spellenberg (Sierra Blanca cliff daisy) was discovered in the Sacramento Mountains and is known only from two small localities on Sierra Blanca. Also from our southern mountains, the new variety *Perityle staurophylla* (Barneby) Shinners var. *homoflora* Todsen (San Andres rock daisy) was located in several San Andres Mountain canyons and cliffs on White Sands Missile Range. The name indicates the absence of ray flowers that do occur in the typical variety. Another new variety is *Aster laevis L.* var. *guadalupensis* A.G. Jones (Guadalupe Mountain aster). This is a riparian plant in a few Guadalupe Mountain canyons on the New Mexico/Texas border.



The large Aster Family genus *Erigeron* (fleabane) also has several new species from New Mexico. *Erigeron scopulinus* Nesom and Roth (rock fleabane) was located on cliffs and rhyolitic outcrops in several localities in the Gila National Forest of New Mexico and in adjacent Arizona. *Erigeron rybius* Nesom (Sacramento Mountain fleabane) grows in the open woodlands and meadows of the Sacramento Mountains and was only recently recognized as something quite different from its nearest relative, *E. rusbyi* of the Mogollon Mountains. Further north, the new *Erigeron acomanus* Spellenberg & Knight (Acoma fleabane) was discovered on sandstone outcrops near the Acoma Pueblo Reservation. Finally, an obvious personal favorite of mine is *Erigeron sivinskii* Nesom

(Sivinski's fleabane), which grows on shale outcrops in the Zuni Mountains near Fort Wingate.

In the Milkwort Family (Polygalaceae) the new variety *Polygala rimulicola* Steyer. var. *mescalerorum* Went & Todsen (Mescalero milkwort) was located on limestone in the San Andres Mountains. It is named for the Mescalero Apaches, who previously inhabited this area. A new mustard (Brassicaceae), also on southern New Mexico limestones, is *Sibara grisea* Roll. (gray sibara). In the Dogbane Family (Apocynaceae), the new *Amsonia fugatei* McLaughlin (Fugate's amsonia) was discovered growing on conglomerate outcrops in Socorro County. The name honors Paul Braxton Fugate, former botany student and Chief Naturalist at Chiricahua National Monument in Arizona, who disappeared from the Monument in 1980 and is presumed dead. In our northern mountains, *Ipomopsis sancti-spiritus* Wilken & Fletcher (Holy Ghost ipomopsis) was discovered in a single canyon in the Sangre de Cristo Mountains. This rare member of the Phlox Family (Polemoniaceae) has recently been proposed to be listed as endangered by the U.S. Fish and Wildlife Service. *Stellaria porsildii* C.C. Chinappa (Porsild's starwort) in the Pink Family (Caryophyllaceae) was recently found in the Pinos Altos Mountains of southwestern New Mexico and the Chiricahua Mountains in adjacent Arizona.

There are several New Mexican plants that have recently been discovered, but are still in the process of being named and published. These include two species of Cirsium (thistles), two *Mentzelia* (blazing stars) and a *Phacelia*. Dr. Tim Lowrey and Paul Knight are very close to publishing *Townsendia gypsophila* (gypsum Townsend's aster) which is known only from the White Mesa outcrop of Todilto Gypsum near San Ysidro. The habitat of this unique little aster is being actively mined to supply gypsum for the large sheet rock factory in Bernalillo. Most of these newly discovered species are very rare and some may be threatened by human activities. Let's try our best not to lose these, and any other new species waiting to be found, before we get the chance to name and know them.

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 a wide selection of books available at discount.

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

We maintain a register of business and professional people who are members and can supply information and services related to native plants. To be added to this roster or to request information, contact the Membership Secretary.

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, 443 Live Oak Loop NE, Albuquerque, NM 87122

Newsletter Contributions

Please direct all contributions for the newsletter to Tim McKimmie, editor.

Deadline for the next newsletter is April 1

Gardening for Wildlife

by T. McKimmie

Getting your yards and gardens in shape to attract wildlife is partly a matter of trying to think like wild creatures think. Try to imagine what they seek in terms of food and shelter as they roam through your neighborhood. Look around. Do certain of your neighbors yards seem to attract more wildlife than others? This article will help you to think in terms of just what it is that attracts wildlife. It will not be a plant list for there are far too many plants to list and besides, others have already done that. I will concentrate on birds and butterflies but many of the ideas here will be applicable to other animals as well.

Actually, urban gardens often have a greater density and diversity of wildlife than nearby natural areas. Urban areas can provide a variety of habitats such as lawn, garden, flower beds, low shrubs, tall shrubs, and trees. Since many of our wildlife visitors will be seasonal we will need "seasonal" plants. We can have different plants flowering and/or bearing fruit throughout the year. In winter, we will need evergreens for cover as well as a food source. Robins will also be attracted to Juniper berries, for example. Birds will be attracted to other plants which hold fruit into the winter such as pyracantha, nandina, privet, some sumacs, and hackberry. Especially watch the late spring and fall habits of birds going to wild plants. These are the times of greatest fruit and seed availability. Visit the desert and other areas often for ideas.

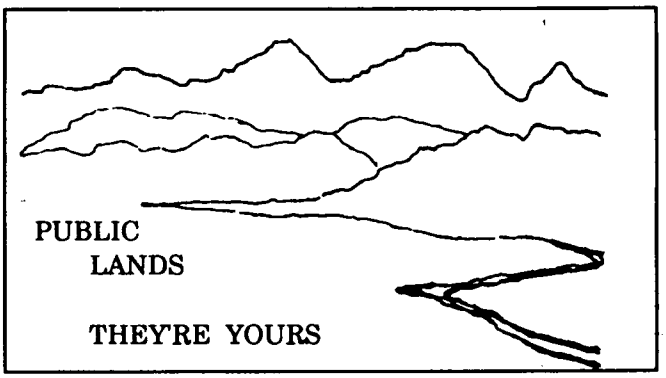
Not only do urban areas harbor many species of birds but some species will be more desirable than others. There are some ways that we can attract the more desirable ones. One way is by providing specialized or preferred nesting habitat. Besides providing bird boxes and bird houses we can provide nesting areas. Ground nesters need good dense ground cover. Large deciduous trees will provide good nesting habitat for many species of birds. Some will appreciate the cavities in dead or dying parts of trees. Ledges around the house and other buildings may also be used.

The best themes to key in to for landscaping are "edge" and "diversity". Areas of openness should be bordered by sheltered areas. Develop boundaries between different habitats, such as grass/garden, desert/garden, tree/shrub/herb, riparian/dry, and other combinations. Edges may be created by differences in plant densities, heights, and habits. For example, the placement of a birdbath may result in risk to bathing birds, but if dense shrubs are available nearby for cover, birds may feel safer and use the bath more often. Edges will provide shelter, sun/shade, and different types of food. Strive for diversity in size, form, flower, and fruit. And choose natives (and those native to your habitat) to insure successful propagation/cultivation.

For attracting butterflies, the composite family is perhaps the best. Be sure to use variety in plant heights and flower size. Use species with different flower colors, and different blooming seasons. Don't forget to use natives and "weeds". Perhaps you can let a small part of the yard simply go wild. Look around at vacant lots and nearby natural areas for ideas on what is blooming when, and what is attractive to butterflies. You may also want to collect some of this seed for planting in your own yard. Butterflies like lots of sun so be sure to provide open areas. They also need shelter and shade so the ideal goal could be the "sunny meadow at the edge of the woods". On windy days they will be grateful for a windbreak of shrubs or trees. Don't forget that larvae require food. Some of your plants will inevitably provide this source so don't be too quick to run for the insecticide. Mud is also a butterfly attractant. Just provide a small muddy area and watch them come in late summer.

Hummingbirds are attracted to tubular flowers like penstemon and salvia but will visit many others. I have even seen them feeding on creosote flowers during the spring. Don't be too quick to destroy wasps. They can be one of the most effective controllers of unwanted insect pests. Many birds feed on insects almost exclusively. The insects, in turn, are attracted to your plants. This interweaving of organisms is part of the ecology of your landscape. Fruit trees will be attractive to birds, as will seed-producing plants of many kinds. Many composites provide a good source of seed. Don't be too hasty to remove that brush pile. It may provide shelter for birds as well as lizards.

Whatever you do, don't forget water. I have already mentioned mud. Birds need to bathe frequently as well as drink. Water should be available at all times and cover should be close by. In winter, water can be difficult to obtain and birds can be especially vulnerable then. And don't forget to use native plants. A study in Tucson showed that use of native plants increases the diversity of birds in urban habitats.



CALENDAR

OTERO

20 March. Field Trip. Desert Foothills Park, Alamogordo. East end of First St. Meet at 9 a.m. with lunch and water.

16 April. Robert DeWitt Ivey. "Gray Ranch". 7 p.m. Tularosa Elementary School.

17 April. Robert DeWitt Ivey will join us for a field trip. 9 a.m. at La Luz school.

SANTA FE

17 March. "Native Hardy Cacti and Succulents of the Southwest". by David Salmon. 7:30 p.m. Evens Science Building, Room 122, St. Johns College.

21 April. "New Mexico Wildflowers" by Sean Houtman. 7:30 p.m. Evens Science Bldg. Room 122.

ALBUQUERQUE

4 March. "Wildflowers of the Texas Gulf Coast" by Doyle and Diane Wise.. Albuquerque Garden Center, 7:30 p.m.

24 April. Plant Sale Albuquerque Garden Center. 9a.m. to 4p.m.

LAS CRUCES

10 March. "State Programs for Protection of Endangered Species" by Bob Sivinski. 7:30 NMSU Ag. Bldg. Room 200.

14 March. Field trip to Mt. Riley area. Lewave Pan Am Center parking lot at 8 a.m.

17 March. (Wednesday). The "Sky Island Alliance", a remarkable new plan to preserve habitat and biodiversity in the southwest. This is an Audubon meeting and the Native Plant Society is invited. 7:30 NMSU Foster Hall Rm 201.

9 April. "Plants of Gray Ranch" by Robert DeWitt Ivey. 7:30 NMSU Ag. Bldg. Rm 200 (this is a friday meeting).

10 April. Field trip to the Organ Mountains with Mr. Ivey. Leave Pan Am lot at 8 a.m.

18 April. Field trip to the Placitas. Leave Pan Am Lot at 8 a.m.

GILA

25 March. Bob O'Keefe. "Appropriate Landscaping". 7 p.m. Herbarium, Harlan Hall, WNMU

CHAPTER REPORTS

Albuquerque - Jean Heflin

Albuquerque chapter members who wish to receive notification by mail of our 1993 chapter activities, should send $2 dues to: Steve Katona, 2540 Zearing NW, Albuquerque, 87104. One dollar of the dues helps rent the Garden Center.

Santa Fe - Nancy Daniel

On Jan. 20, 1993, Dr. Chick Keller presented a program "Senecio's of Colorado and northern New Mexico". Dr. Keller is an astrophysicist and director of the Institute of Geophysics and Planetary Physics at Los Alamos Labs. This genus proved to be complicated. Incorrect identification is not uncommon and recent name changes haven't helped. Dr. Keller's enthusiasm and knowledge helped us better understand this species.

Views From the South

(One member's opinion)

The Flying W Ranch: One Allotment, Three Problems

The Cedar Mountains, southwest of Deming, New Mexico, are attractive both from the standpoint of recreational opportunities and nature oriented observation activities. The designated "Wilderness Study Area", as well as the entire mountain range offer the solitude so needed in today's busy world. The area is interesting from a botanical standpoint, containing at least three plant species listed as endangered in New Mexico, and some species that seem to be reaching the eastern most limit of their range in the United States. Of particular interest has been the rodent population, most evident by the large numbers of pack rats. A corresponding large number of raptors also occurs. The numerous *Agave palmeri* in the area bode well for visiting hummingbirds which act as pollenators. I've spent many hours in this area over the past 5 years both hiking for pleasure and as a BLM volunteer.

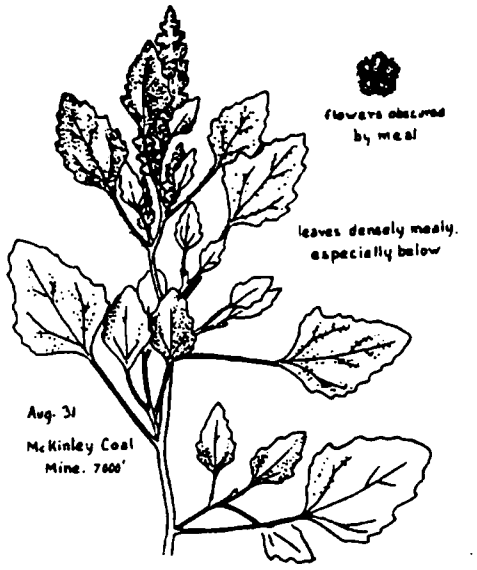
Background: The Flying "W" Ranch located in the Cedar Mountains is approximately 25,400 acres in size, composed of around 20,800 acres of public land, 3,500 acres New Mexico Trust Lands and 1,120 private land. About 3,000 acres are in the Cedar Mountain Wilderness Study Area. The Bureau of Land Management normally does not allow sub-leasing of grazing permits, but in this case the entire ranch, excluding the home, was leased for five years for an annual rental of $21,000 with an option to renew for another five years. The base property owner agreed to pay the rental fee on the NM Trust land and for improvements. The livestock operator was to pay the public lands grazing fee. The grazing permit is for 350 cows year long. After five years the livestock operator exercised his option and extended the lease for another five years. The lease expired in January, 1993 and was not renewed.

Problem 1. The area has been and continues to be severely overgrazed. Even with relatively favorable moisture conditions the last five or more years, the amount of ground cover has declined. The area around Rock Hole Canyon historically supported an interesting semi-riparian community of western soapberry, little leaf mulberry, and desert willow trees. Most are now dying with no regeneration. One expert described the area as "near feedlot conditions". BLM has collected forage utilzation data for five years now. Analysis of BLM's data shows an increasing utilization rate on key grasses, especially black grama. Very heavy livestock use of a number of the areas has been indicated for a number of years. 1991 figures indicate a carrying capacity of something under 300 head is appropriate, but no reduction in numbers has occurred, and there is no allotment management plan.

Problem 2. Inadequate grazing fees. It is significant to note that paying $21,000 per year to run 350 head of cattle works out to a rate of $5.00 per AUM ($21,000 /12 months/350 head). Add $1.92 per AUM being paid to BLM and it appears this allottee is paying $6.92 per AUM, yet we are told that raising the fee above $1.92 will drive the livestock industry out of business. This allottment is composed principally of a durable grass from the standpoint of grazing tolerance. Nevertheless, this certainly is not a prime grazing area. For 1993 the federal grazing fees have been lowered to $1.86 per AUM.

Problem 3. Public participation in allotment planning was initially denied; only legal pressure restored my ability to participate. On August 21, 1992 I expressed my concern to the BLM Resource Area Manager, asked to be involved in future planning in this area, and formally requested designation as an "affected interest". Two months later, on October 26, I received a letter which stated that my request was rejected. The reasons stated for rejection were: "In order for the Bureau to maintain a manageable process, Affected Interest status is limited to those on the "designated list". You would not be adversely affected by our actions; therefore you do not qualify as an Affected Interest." Coincidentally, the rejection letter was dated the day I delivered a protest of a decision proposing developments in another BLM managed area designated both as a Wilderness Study Area and a Research Natural Area. In a follow-up telephone conversation, Bob Crockett, Mimbres Resource Area Range Staff Chief, told me that the "designated list" consisted only of: New Mexico Department of Agriculture, The Range Improvement Taskforce, the permittee, and any owner of land contained within the allotment. Federal regulations seem to contradict this and because of the extensiveness of my involvement in this specific area, on November 3, I requested reconsideration of the denial. Seven weeks later, again my request was denied. On January 5, 1993, a formal protest was lodged on my behalf by the New Mexico Environmental Law Center. Almost five months after my first request my attorney informed me that BLM was changing their position and I would be allowed to participate in future planning for this area.

My frustrations rise from knowlege that an area with so much natural potential is being degraded and that the agency charged with managing this land has not positively addressed this abuse. My intent is to pursue the activities in this allotment, looking for and insisting on corrective measures. My hope is that by publishing this information, others will be challenged to seek out the facts when they perceive abusive practices and insist upon positive solutions. Affected Interest status may be appropriate for other recreational users who want to have a voice in management of our public lands. Tom Wootten



Lamb's quarters - Chenopodium album

"TENT ROCKS" PROVIDES AN EARLY FLOWER DISPLAY

by Ellen Wilde

If you live above Albuquerque and it seems to you like the spring flowers take forever to start their show, a visit to the Tent Rocks area by Cochiti Pueblo in mid to late April can do much to lift your spirits. Last Spring *Sunset Magazine* and the Cheap Thrills column in the *Albuquerque Journal* wrote about the area and I was concerned that it would be mobbed and spoiled, but it seems to have survived the publicity in good shape. BLM, thankfully has posted some signs and closed off some of the places where people used to drive off-road into the area.

It is not hard to find. Turn off I-25 at the signs for Cochiti Dam and follow the road until you come to a T intersection. Turn right and continue until you cross the outlet for the Rio Grande from the Dam. Turn left where a large sign welcomes you to Cochiti Pueblo and gives Pueblo rules. You will see a sign for Tent Rocks on a dirt Forest Service Road to your right near the large water tank painted like a drum. Just follow the road very slowly, for you will see many flowers along its sides if you look carefully. Two varieties of purple to magenta Astragalus will probably first catch your eye. There is always a lot of white Spectacle Pod in bloom early. Bright yellow Gromwell or Lithospermum incisum, Hiddenflower, Cryptantha flava, Perky Sue, Hymenoxys argentea, and Western Wallflower, Erysimum capitatum are easy to spot; so is scarlet Paintbrush, Castilleja integra.

A verbena that is different, more pink in color and more upright in habit than is commonly seen around Santa Fe blooms down there. Penstemon Secundiflorus. Sidebells Penstemon, usually a beautiful orchid color, can be found with a little looking. Manzanita, with its twisted red stems and evergreen leaves, produces its flowers often in late March and in April you may see flowers and berries. It grows on the southern side of the slopes of the Tent Rocks. Other treasures found in the area might be Fleabane Daisies, Chocolate flower, Golden Banner, Sand Verbena, Easter Daisy, Dock, and Baby White Aster. I never go without finding something I have never seen before.

Tent Rocks is a good area to explore from early in the season until late, late fall because the white and pink volcanic rock holds heat and supports an extraordinary variety of plant life that is not found in other places of the area. It does become uncomfortably hot in mid day in the summer months, but is still worth rising early to get there shortly after dawn at that time of year. Fall is perhaps the most colorful time to visit when masses of Spharalcea, Cleome and golden composites come into bloom.

Make your first trip when the weather is comfortable and you have plenty of time . There are many interesting formations and trails to explore and about a half-mile walk following the wash that is just south of the tent rocks back to its source will bring you to a delightful canyon that has towering walls and at times narrows to little more than a foot in width. The whole area is any photographer's heaven as well as a wildflower enthusiast's trasurehouse.

Tom Todsens' Pennyroyal

reprinted from NPSNM Newsletter January 1981

Hedeoma todsenii Irving, to be protected as an endangered species, is one of several plants honoring Native Plant Society member Thomas K. Todsen of Las Cruces. A former official of White Sands Missile Range, he still tromps the Range, especially its San Andres Mountains, exploring for plants, snails, fossils, and whatever other excitement that formidable landscape offers.

Dr. Todsen began his career as an organic chemist with sidelines in microbiology and math. But his botanical interests germinated early, especially orchids—regarding which he is New Mexico's expert, and has described a new variety and reported several species new to the state. Recently he finished a plant survey for the State Heritage Program in the Peloncillo Mountains' new Research Natural Area near Rodeo.

He found his pennyroyal in Rhodes Canyon on the Missile Range (Sierra County) in 1978, all 750 or so plants of it. While most pennyroyals have small purple to pink flowers, this one is a showy orange with corolla to 35 mm. The lower lip is streaked with red, and the anthers exserted.

The new species was described by Robert Irving, who states that this is the fifth in a group of closely related endemics on limestone or gypsum in New Mexico, Texas, and Nuevo Leon. Hedeoma apiculatum is the second New Mexican species, known in a few canyons of the Guadalupe Mountains in Eddy County and adjacent Texas; its corollas are lavender, to 20 mm long. It too is "proposed endangered" with only about 950 plants known, mostly near Park hiking trails.

Notes from the editor

I'm trying to be sure we have copies of all past newsletters. If you have a copy of newsletters from 1979 (October or December), 1977 (March or April), or 1976 (Jan-April; June-August; Nov.-Dec) please send me a copy. This will complete our collection.

The Share With Wildlife program is in dire need of help with funding. This is a state of NM program dedicated to preserving species and habitat. You can help by donating from your tax form, or purchasing a wildlife conservation sticker from any NM Game and Fish Office. Most of the money currently comes from purchasers of hunting and fishing licenses. Other recreational users are being encouraged to participate. info. call 827-7911 in Santa Fe.

The new *Higher Plants of California*, ten years in the making, will appear this month. Meanwhile, revision of *Flora of Arizona* continues and *New Mexico Flora* remains out of print.

TM

FIELD GUIDES TO NEW MEXICO PLANTS

by Roger Peterson

Field guides provide a quick but unreliable and often frustrating means to identify our more conspicuous flowering plants. Many attractive plants and most of the inconspicuous species will not be found in any popular guide; for them, technical manuals (not reviewed here) or an expert are necessary.

Three fine southwestern guides—one of them a three-volume work—cover New Mexico. They are available from the Native Plant Society of New Mexico (see pages 8-9).

Of the three, Theodore Niehaus' *A Field Guide to Southwestern and Texas Wildflowers* (Peterson Field Guide Series) is easiest to use and covers by far the most New Mexico species. It has color tabs and key-feature subheads for which no botanical knowledge is needed, with fair watercolors or drawings, notes on outstanding characteristics, and an easy-to-use family key, but no habit sketches.

The old standby is the "Janish Series" (published by the Southwest Parks and Monuments Association), variously authored but all illustrated with the fine line drawings (including habit sketches and outstanding-character sketches) of Jeanne Janish. The species are arranged by color, with no keys or key-feature headings. The three thin volumes are *Flowers of the Southwest Deserts, Flowers of the Southwest Mesas,* and *Flowers of the Southwest Mountains.* You generally need carry only one on a hike.

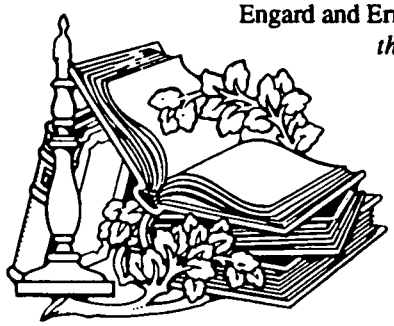
Ivey's *Flowering Plants of New Mexico* (Second Edition) has excellent line drawings of 460 species, with habit sketches and notes on outstanding characters. Species are arranged by plant family, and you have to know the families to use the book easily. These drawings are well worth the price.

I've picked five New Mexico genera at random to compare species coverage by these guides:

Genus	known	Niehaus	Janish	Ivey
Echinocereus	12	9	4	2
Gaura	6	4	0	2
Penstemon	34	21	11	10
Clematis	9	4	3	2
Thelesperma	6	4	0	3

My own preference for state-wide popular guides—especially if I didn't know the plant families—would be to use Niehaus as a first resort, with Ivey's drawings as backup.

There are several less-than-statewide guides. Foxx and Hoard's *Flowers of the Southwestern Forests and Woodlands* presents line drawings of some 450 species of northern New Mexico, including grasses and other non-colorfuls; the key is well done. Bernard's *Wildflowers Along Forest and Mesa Trails* has line drawings of 80 species of northcentral New Mexico. Tierney and Hughes' *Roadside Plants of Northern New Mexico* has fine drawings and 28 color photos of about 140 flowering plants and some conifers. Fox and Sublette's *Roadside Wildflowers of New Mexico,* with photos of 106 species and an easy-to-use family key, is good in eastern New Mexico. Still useful in the northern mountains is the Craigheads' *Field Guide to Rocky Mountain Wildflowers,* but it is not New Mexico oriented. The Dannens' little *Rocky Mountain Wildflowers* with photos of about 100 Colorado species might be the best mountain supplement to Niehaus; it is published by Tundra Publications, Moraine Route, Estes Park CO 80517. For eastern and southern New Mexico a wonderful guide is the Loughmillers' *Texas Wildflowers: A Field Guide* with superb color photos; also Warnock's *Wildflowers of the Guadalupe Mountains* and Rose's *Wildflowers of the Llano Estacado.* For western New Mexico Engard and Erni's *Arizona Wildflowers and the Southwest* (in *Books in Print* at $6.95) is a possibility, but I've not seen it. Probably there are other Arizona guidebooks useful in western New Mexico—can anyone help with these?



Several field guides cover the whole West or its desert areas (including California). Of these, *The Audubon Field Guide to North American Wildflowers—Western Region* by Richard Spellenberg of NMSU is probably the most useful in New Mexico. It has 725 color photographs and good plant descriptions.

Martin and Hutchins' set of three, *Spring ..., Summer...,* and *Fall Wildflowers of New Mexico* is bulky, is not easy to use unless you know the plant families, and the drawings are nothing special, but has excellent color photos of quite a few species. Now out of print, many copies remain in stock. For example, several copies of *Spring* are at the Palace Avenue Bookstore in Santa Fe at $6.95.

Besides general guides to flowering herbs there are many popular guides to ecological groups (alpines, aquatics, range plants, poisonous plants, edible plants, weeds) and to structural or taxonomic groups (trees and shrubs, cacti, grasses, penstemons). Some of these, as well as most of the general guides, are for sale by the Native Plant Society and are listed in this issue.

An important popular work—not a field guide—on southwestern plants is H. W. Rickett's *Wildflowers of the United States: The Southwestern States,* in three hardbound, 10 x 13-inch volumes totaling 801 pages. It is available from the New York Botanical Garden (Bronx, NY, 10458-5126) for $105.96 including postage. I recommend this work for its color photos and its good notes on distinctive characters of many species. It covers only herbs with conspicuous flowers—but more of these than any field guide.

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

Books for sale by NPSNM (LISTING OF February 1, 1993)

	Retail	NPS-NM Discount Price
Agaves of Continental North America (Gentry)	60.00	48.00
Alpine Wildflowers of the Rocky Nountains (Duft & Mosely)	9.95	8.00
Amateur Botany in New Nexico (Schoenwetter)	.75*	.75*
Audubon Guide to Wildflowers, Western (Spellenberg)	17.95	14.40
The Beautiful Beardtongues of New Mexico (Heflin & Pilz)	5.00	4.00
Botanical Latin (Stearns)	45.00	36.00
@Cacti of the Southwest (Earle)	13.50	10.80
Cacti of Texas and Neighboring States (Weniger)	22.95	18.40
Colorado Flora: Eastern Slope (Weber) HB	32.50	26.00
Colorado Flora: Western Slope (Weber) HB	32.50	26.00
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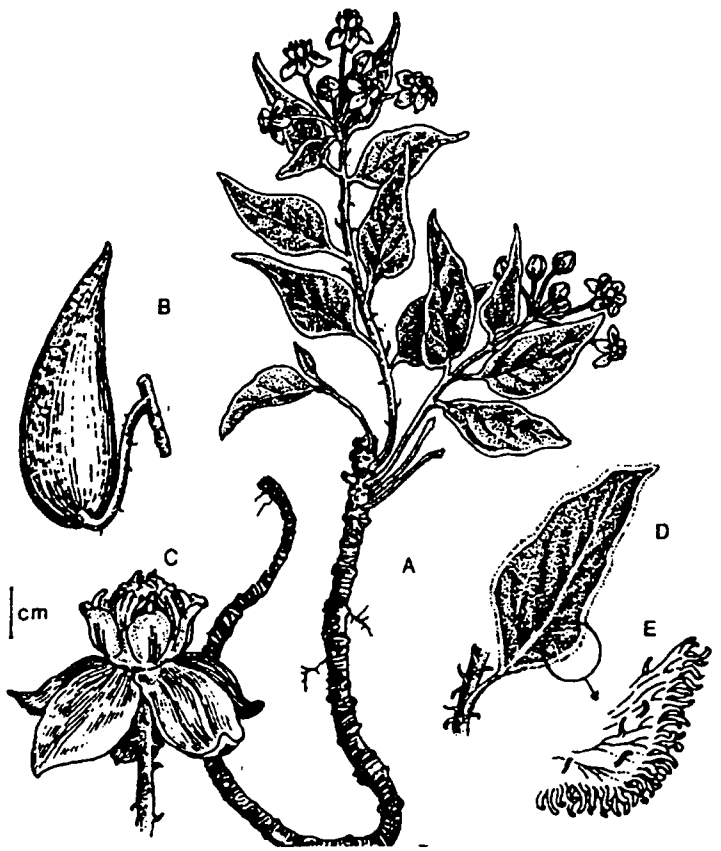
Wanted — Milkweed Sleuthes

For the past several years I have been trying to gain a more complete understanding of what appears to be one of the rarest milkweeds in North America. The dwarf milkweed, Asclepias uncialis, is known from only about 25 scattered localities, most of them from the plains of eastern Colorado. Several collections of this species have been made in New Mexico, however, and I would like to enlist the aid of New Mexico botanists in relocating one of them.

My work with A. uncialis has involved an extensive survey of herbarium collections (47 herbaria) for locality information plus field work in eastern Colorado and northeastern New Mexico for the Nature Conservancy (1990) and the Colorado Native Plant Society (1992). This field work has included relocation of historical collection localities, search for new populations, observation of habitat and ecology, and assessment of conservation needs.

Well over half of the known occurrences of the dwarf milkweed are from eastern Colorado, where it has been collected at widely scattered localities from near the Wyoming line south to the New Mexico border. It is also known from four collections in New Mexico. In 1990, I located two small populations in the northeast corner of Union County not far from the Colorado state line. Reggie Fletcher of the U.S. Forest Service collected A. uncialis in San Miguel County in 1983. A collection of this species by Alexander Gordon in 1848 may have come from near Raton in Colfax County. While most of the known occurrences of A. uncialis are in the Great Plains, the original collection of this plant actually came from southwestern New Mexico. Asclepias uncialis was first described in 1880 by Edward L. Greene from collections made by him in the same year near Silver City. Alice Eastwood also collected this plant in the vicinity of Silver City in 1919.

To my knowledge, no collections of A. uncialis have been made in the Silver City area, or anywhere else in southwestern New Mexico, since Eastwood's in 1919. Relocating the original collection locality and observing the ecology and status of this plant in southwestern New Mexico would be of considerable help in gaining a more complete understanding of A. uncialis.



Asclepias uncialis is an herbaceous perennial with several to many spreading or erect stems. It is probably the most diminutive member of the genus Asclepias in North America, with stems only 1 to 2.5 inches tall. Its small size makes it a challenge to find in the field.

The leaves are opposite and of two types. The lower leaves are oval to lance-shaped and 1/2 to 3/4 inches in length. The upper leaves are linear-lanceolate and much narrower, generally 3/4 to 1.5 inches long and often only 1/8 inch in width. The flowers are grouped in clusters of 7 to 12 (sometimes as many as 18) at the tips of the stems. Clusters occasionally occur below the stem tip. The flowers are about 1/4 inch wide and rose-purple in color.

Asclepias uncialis is a distinctive species and is not easily confused with other milkweeds. Asclepias pumila is similar in that it is a small plant, but it has white flowers, blooms much later (July-September), and has uniformly filiform leaves. Asclepias involucrata is another small species, but it is generally two to three times taller than A. uncialis and differs in its pinkish-green flower color and in aspects of its flower structure.

I have never been to Silver City, but I would offer the following information to anyone who would attempt to relocate A. uncialis in the area. Greene's desciption of the type locality, published in 1880 (Botanical Gazette 5:64,65), states, "Open hill-tops in south-western New Mexico, about Silver City, flowering in April." Information on his specimen labels simply states, "Silver City," or, "Collected near Silver City." Likewise, Eastwood's labels only state, "Silver City, New Mexico."

Where I have seen this plant in the field it occurs on gently sloping ground below rimrock, such as at the base of a mesa or escarpment. It does not seem to be restricted to any special geological situation or soil type; I have seen it growing in soil derived from sandstone, limestone, and shale, although in most places in the Great Plains it is associated with sandstone and sandy loam soils. In eastern Colorado and northeastern New Mexico the plants usually occur in areas of bare soil between patches of blue grama (Bouteloua gracilis) in what is generally shortgrass prairie. Search for A. uncialis in the Silver City area should probably be carried out between mid April and early May. Greene's collections at Silver City, all from 1880, are dated 20 April, 25 April, 27 April, 1 May, and 10 May and are all in flower. Eastwood's Silver City specimens are all dated 18 April 1919. On the plains of eastern Colorado, A. uncialis is in bloom by late April or early May. Plants I located in Kit Carson County, Colorado in 1992 were in fruit on May 14.

I would be very interested in the results of efforts to relocate A. uncialis in the vicinity of Silver City. Populations of this plant typically consist of very few individuals, so herbarium voucher specimens should be collected sparingly, if at all. Please deposit any collected material in an appropriate herbarium in New Mexico and I will contact the curator about borrowing the specimens. Thanks for your help!

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*Drawing of *Asclepias uncialis* reprinted with permission from "Great Basin Naturalist" 49(1):101, 1990.

Book Reviews

Requiem for a Lawnmower: and Other Essays on Easy Gardening with Native Plants
Sally Wasowski, Taylor Publishing, Dallas; 1992

The author of *Native Texas Plants: Landscaping Region by Region* (1988), presents an easy to read book enhanced by numerous full page watercolors. This work will especially appeal to the novice wanting to get started on landscaping using native plants. While some other authors have overemphasized the toil involved in gardening with natives, Ms. Wasowski emphasizes the joy and sensibility of gardening with natives. The topics covered are so varied that expert gardeners will also enjoy this work.

The author expertly focuses on the ecological adaptations both between and with species. This makes native plant selection both methodical and logical. Only by choosing plants whose parent stock came from your locale, she says, can you be assured of success. For example, the same species may occur in the upper midwest and Texas, but individuals from the midwest probably would not thrive and may not even survive in Texas. The premise that natural landscapes must include naturally occurring natives will certainly appeal to purists. She also stresses the idea of getting the right plant in the right place, "in the way that Mother Nature arranges them". This sounds simplistic but experienced readers will recall follies resulting from misplaced plants.

Besides plant selection, other topics include native herbs, attracting birds, integrated pest management, and organic gardening. New Mexico Native Plant Society members will appreciate the chapter on Mexican Hat, the society "mascot". The author is keenly enthusiastic about trees and obviously knowledgeable about them as well. Caution, you will probably run out at first chance to buy a new tree. If there is a weakness in the book it is the attempt to focus on too large a territory, namely the southwest including the wetter parts of Texas. Nevertheless, the book's principles are valid anywhere and there is enough arid land material to make this a valuable addition to the desert dwellers bookshelf.

T. McKimmie

Roadside Wildflowers of the Southern Great Plains
by Craig C. Freeman and Eileen K. Schofield U.of Kansas Press1991.

This book covers northeast New Mexico, Kansas, eastern Colorado, the Texas panhandle, northwestern Oklahoma, and parts of Missouri and Nebraska. It contains beautiful photographs, and line drawings to illustrate details of the flowers. Plants are grouped by color and it contains an excellent simplified key to help in identification in the field as well as an index by common and botanical names.

Wildflowers of the Western Plains
by Zoe Merriman Kirkpatrick 1992 ,University of Texas Press.

This book covers the Plains; the Rolling, Southern High, and Panhandle High Plains of Texas, the panhandle and western portions of Oklahoma, western Kansas, southeastern Colorado and the plains of eastern New Mexico. It has beautiful area photographs in addition to individual plant pictures. Arranged alphabetically by plant family, it may be difficult for beginners as a field guide, but has much useful and interesting information such as a guide to plant names and plant families.

Ellen Wilde

Earth in the Balance
Al Gore, Houghton Mifflin, Boston, 1992

While Vice-President Gore essentially presents us with a do-or-die situation, he does so without preaching or castigating. I took an informal poll of 52 adults and found that only two had read the book as of Feb. 1993 though it has been available for over a year. It obviously had no impact on the recent election.

Let there be no doubt as to the intelligence of the new vice-president. He is a deep thinker and displays a capacity for amassing tremendous amounts of information, incorporating it into a comprehensive, understandable whole. He is capable of dissecting scientific issues and presenting them in a fashion that the average citizen can understand. Mr. Gore shows a solid grasp of the complex ecological connections in the web of life on our planet. Throughout he maintains an overall focus on global interconnections, both ecological and political.

In Part I he covers specifics such as overpopulation, deforestation, desertification, wetlands destruction, biodiversity, pollution, and waste management. In part II he covers many of the political realities which make it difficult to address environmental problems. His delineation of some of the actions which should be taken will permit a measurement of his success as vice-president. He presents a philosophical transformation by questioning whether "all resources belong totally to the present generation" (p. 191) and quoting Herman Daly, "There is something fundamentally wrong in treating the earth as if it were a business in liquidation." Philosophical/religious issues intertwine in the answers he provides. His "environmentalism of the spirit" may be what seems to anger some critics but it works. "We must make the rescue of the environment the central organizing principle for civilization." he says.

Part III of the work presents a "new common purpose" and plan for action. The stage to which we must evolve in order to restore balance to the earth, says Gore, will involve a massive change in global consciousness. While this may be difficult for the reader to grasp, Gore sticks to his message and winds up with a sound plea and argument. Only widespread global consensus will be enough to develop an earth-centric (my words) view. Already, he says, "people of all nations have begun to feel that they are part of a truly global civilization..." but "we have tilted so far toward individual rights", Gore says, "... that it is now difficult to muster an adequate defense of any rights vested in the community at large or in the nation - much less rights properly vested in all humankind or in posterity. (p. 278)". He predicts that such consensus would occur rather suddenly and therefore that mechanisms to take advantage of the popular-will must be put in place now so that they can be implemented rapidly. So, while it may be tempting for us to wait for consensus before taking action, Gore urges us to begin planning now for permanent strategies to save our planet (p. 305).

Finally, he outlines necessary changes such as stabilization of world population, use of environmentally apppropriate technology, and sustainability. Some of the specifics suggested are 1. an environmental trust account funded by users of fossil fuels. 2. a "virgin" materials fee. and 3. accounting which heeds the total environmental costs of economic decisions. Present accounting practices , for example, meant an environmental disaster such as the Exxon Valdez oil spill actually increased our GNP because of the costs involved.

While Gore sometimes seems a slave to the use of metaphor the book is presented in the same fashion as Gore speaks, leaving no doubt that he is the writer. It is encouraging to have such a thinker as our Vice-President of the United States.

T. McKimmie

Big Trees of New Mexico

Every two years, the American Forestry Association in it's journal *American Forests*, publishes a special supplement called the National Register of Big Trees. The latest supplement was published in February of 1992. It contains a list of the largest tree of each species known in the United States, the general location, the size of the tree, and the name of the person(s) who "nominated" the tree. The list is rather slow to change but the largest tree may topple or lose part of it's whole in a storm. Sometimes a new tree is discovered which is larger, or another tree may simply outgrow the existing giant. The following is a list of the New Mexico species which are considered to be the largest specimens in the United States.

Acacia greggii (Catclaw)	Red Rock
Alnus oblongifolia (Arizona Alder)	Cibola NF
Prunus serotina var. rufola (SW Black Cherry)	Rio Rancho
Populus fremontii var. fremontii (Cottonwood)	Old Fate/ McCauley Ranch
Sambucus mexicana (Mexican Elder)	Grant County
Abies lasiocarpa var. arizonica (Corkbark Fir)	Lincoln NF
Celtis reticulata (Netleaf Hackberry)	Catron Co.
Juniperus monosperma (Oneseed Juniper)	Jicarilla Mtns.
Quercus gambelii (Gambel Oak)	Gila NF
Pinus aristata var. aristata (Bristlecone Pine)	Carson NF
Pinus edulis (Pinyon Pine)	Cuba
Pinus strobiformis (SW White Pine)	Lincoln NF
Platanus wrightii (Arizona Sycamore)	Sierra County
Tamarix chinensis (Salt Cedar)	Columbus
Juglans major (Arizona Walnut)	Mimbres Val.
Juglans microcarpa (Little Walnut)	Lincoln Co.
Yucca elata (Soaptree Yucca)	Lordsburg
Yucca torreyi (Torrey Yucca)	Lincoln NF

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