NATIVE PLANT SOCIETY OF NEW MEXICO

NEWSLETTER

March/April, 1988 Vol. XII No. 2

BLM WILDERNESS UPDATE

It's rare when we have the opportunity to preserve our native flora in its habitat. Now we have that chance with two very important projects in NM .

The BLM has released its Final Environmental Impact Statement for the NM Statewide Wilderness Study. Its purpose is to determine the suitability or nonsuitability "according to their standards" for recommended inclusion in the National Wilderness Preservation System. The Purposed Action recommends only 27 of the 47 areas as suitable for wilderness. Unfortunately the BLM left out some very important areas for inclusion. Among these are the Brokeoff Mtns.. in Southeast NM and the Alamo Hueco Mtns. in Southwest NM for instance. This is in spite of the BLM's own words, "the 12,391 acre Oak Juniper Woodland Scrub Ecosystem in the Mexican Highlands Shrub Steppe Province would not be added the NWPS. This ecosystem is within the Alamo Hueco Mtns WSA and is unique in that it is not nationally represented in any other area currently designated as wilderness or under wilderness review by BLM or any other agency". Unfortunately political and not ecological factors are excluding many wilderness study areas from being chosen. Since Congress is reproachable for designating wilderness areas, please write or phone the NM Congressional delegation and urge them to designate all of the wilderness study areas as wilderness. This may be our last chance to save some of our rare and endangered flora.

Another conservation item very much in the news is the Gray Ranch which is up for sale. This ranch includes a large area of Southwestern NM including much of the Animas Mtns. There are many unique animals here, some of which are more commonly found in Mexico and Central America. The US Fish and Wildlife Service has identified the Gray Ranch as one of its top 10 acquisition priorities. If they purchase the ranch it will become known as the Animas National Wildlife Refuge. On the ranch are several Meso-American ruins of the Casas Grandes Culture. These would be protected as a National Monument run by the Park Service. Once again please write or phone your representatives and in this case also the Fish and Wildlife Service in Albuquerque urging them to support this important purchase. If you would like further information please write Ted Hodoba, Conservation Chairman, 217 Arno SE, Albuquerque, 87102.

Ted Hodoba

EUSTOMA PROPAGATION

from Pacific Horticulture, January 1988

Eustoma grandiflora, a native of the Southwest sometimes called lisianthus, has recently been hybridized to increase its color range and flower size. It is now in demand for garden beddings and as a potted plant, but is slow to grow from seed and plants from cuttings often do no do well. In Colorado new plants have been produced using the anthers or ovaries from eustoma. Small pieces, seven to ten millimeters in length, are grown in a special culture medium containing kinetin, one of the plant hormones. Plant propagation and breeding programs will profit from this advance.

New Mexico Museum Of Natural History Tours

The New Mexico Museum of Natural History, with exhibits and field programs that feature a trip through time in New Mexico, also offers adventures outside the state.

March 18-20 Dr. Richard Smartt, curator of Zoology at the Museum and Thomas Marr of the Los Alamos National Laboratory will lead a tour to the Blackjack Peninsula in Texas, the marshy home of cranes, wild turkey, alligators and deer.

June 10-12 will be an excursion to Dinosaur National Monument in Utah led by Dr. David Gillette, the Museum's Curator of Paleontology.

July 20-28 Dr Smartt and Dr Jeffry Gottfried, Chief of Education will float down the Colorado River from Lee's Ferry through the Grand Canyon.

August 20-28 a nine-day excursion to Glacier Bay, Alaska will be led by Jonathan F. Callender and Curator of Mammalogy Robert Sullivan.

November will see a 12-day raft trip in Costa Rica. Renowned for its national parks, Costa Rica is rich in tropical flora, active volcanos, birds, mammals and insects.

For more information on any of these trips, contact Melinda Dawe at the Museum, P.O. Box 7010, Albuquerque, N.M. 7194, telephone (505) 841-8837.

LANDSCAPE WORKSHOP REVIEW

The Landscaping with Wildflowers and Native Plants Conference sponsored by the Denver Botanic Gardens and the National Wildflower Research Center held in Denver February 5 and 6 was attended by at least six New Mexicans and approximately other people. We were treated to wonderful slides and excellent speakers on many topics related to the increasing use of native plants. It is somewhat discouraging sometimes that as many still say "no" to native plants but several speakers provided information on new research and development with native plants that will make them more acceptable. Highway Department officials in several states talked about their efforts and results and people from Phoenix Desert Botanical Garden and Denver Botanical Garden spoke about their educational efforts and how they are using native plants.

We were taken at noontime Saturday via double decker bus to the Denver Botanic Gardens for a tour of the grounds, the conservatory and behind the scenes to the propagating facilities. There is much to be enjoyed on the grounds even in winter as you see the form and winter color so clearly. They have devoted large new areas to native plants and we saw species of Cerocarpus, Purshia, Cowania, Amorpha, Celtis, lovely wild grasses, cacti, yucca and many, many more.

The conference was also an opportunity to meet and question native plant enthusiasts from many different areas and hear about their experiences.

Ellen Wilde

SANTA FE BOTANICAL GARDEN

The Santa Fe Botanical Garden wishes to extend an invitation to all Native Plant Society members to attend a "Native New Mexico Flora" exhibit in the Governor's Gallery on the fourth floor of the State Capitol Building in Santa Fe. The exhibit will feature works of botanical artists, illustrators, sculptors and photographers from throughout the state of New Mexico and will be on display for the month of May. The Governor and First Lady will host the reception, with the reception date to be announced in March.

The Santa Fe Botanical Garden was incorporated in the state of New Mexico in April, 1987. Kathleen Dittmer, former director of Sunrise Springs Botanical Garden, realized the need for a major public garden while establishing the gardens at Sunrise Springs. An interim board of directors was appointed in July, 1987. The Albuquerque Journal featured a story on the Group's efforts in June, 1987. Ms. Dittmer met with the First lady, Katherine Carruthers, Mayor Sam Pick, the Santa Fe City Planning Dept., museum officials and private individuals to promote the Santa Fe Botanical Garden.

In December, the City of Santa Fe applied to acquire a 3,000 acre tract of land from the Bureau of Land Management for outdoor recreation purposes. Part of the plan submitted to the BLM included 280 acres to be used by SFBG. If approved, the City of Santa Fe would lease the land from BLM for a number of years before purchase. The SFBG would in turn, lease the land from the city. The location is very scenic, with magnificent views of the Jemez, Sangre de Cristos, Ortiz and Sandias. Architect Michael Freemen and landscape designer Gail Haggard will soon commence work on site plans for the gardens.

The purpose of the garden will be as stated in our bylaws: "To collect and display a wide variety of plant specimens; to preserve rare and endangered plants; to carry out plant-related research and to educate the public through displays, classes and sale of seeds, books, plants and other horticultural materials." Specifically, the SFBG will feature native New Mexican plants. Ethnobotany, conservation of rate and endangered species and native plant landscaping for the home gardener will play a key role. Trails will identify various plants and trees as they grow naturally and will allow visitors to stretch their legs.

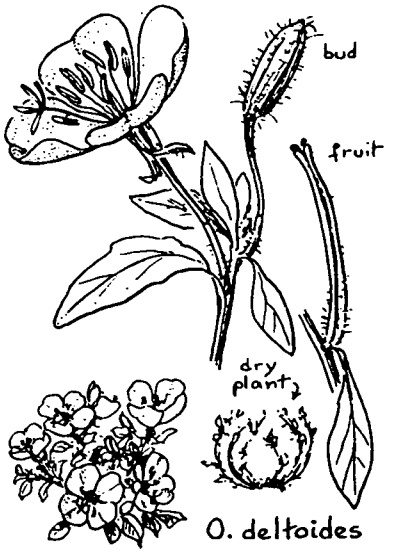
An herbarium and library will provide material for research. An auditorium will house guest speakers and public classes. Meeting rooms will be available for horticultural societies and garden clubs. A botanical gallery and gift shop will make a variety of plant-related materials available to the public. A staffed information center will answer questions southwestern gardeners often face.

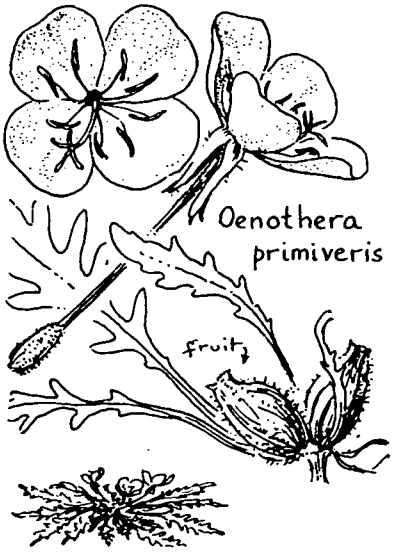
Funding is essential at this crucial stage in order for site plans to be undertaken and for continuing development of the many aspects of the SFBG. For further information on how you can be of help in establishing this garden please contact Kathleen Dittmer, President, Santa Fe Botanical Garden, PO Box 2774, Santa Fe, NM 87504 or call (505) 266-8900. We welcome your support.

Books

The Tumbleweed Gourmet by Carolyn Niethammer. 1987. The University of Arizona Press, Tucson. 229p. ($20.00 + $1.00 for shipping, clothbound. University of Arizona Press, 1230 N. Park #102, Tucson, AS 85719). For those who like to graze as well as gaze upon native plants, this delightful book features over 150 recipes. While you may already be using some of the nuts, squash and cactus recipes in you kitchen, how about halophytes and tumbleweed? Bon Appetite!

Photographing Wildflowers-Advanced Techniques Retail $9.95, NPS-NM member price $7.95. Complete list of books available to NPS-NM members from NPS-NM Books, P<O< Box 1206, Portales, NM 88130.





Among the commonest but most beautiful and delicate of the flowering plants of the desert are the Evening primroses. Flowers are usually large, with the four petals either white or yellow, turning to red or pink with age. Many species are low growing herbs with large, delicate petals; while others may be shrub-like, sometimes attaining a height of 5 feet. As the name implies, the flowers open in the evening and wilt soon after sunrise.

from Flowers of the Southwest Deserts. Natt N. Dodge and Geanne R. Janish, 1954.

CACTI

Cacti originated in the Americas and now ranges from British Columbia to the tip of South America. Because few cacti ever inhabited sites where fossil formation could occur, our knowledge of their history is incomplete. Only two fossil cacti have ever been found. One was found in Utah which lived about 50 million years ago in the Middle Eocene. It was a flat-jointed plant much like a prickly pear (Opuntia species) but with more primitive fruits, confirming that some cacti were specialized for life in an arid environment long ago. The other fossil was found in Arizona and was an Opuntia which lived less than 2 million years ago in the Pleistocene.

The ancestors of the highly specialized modern cacti may have been small leafy trees with a woody trunk similar to the present day Pereskia species which occur in South America. These are mostly drought avoiding plants. They shed their leaves and go dormant during the dry season. Other Pereskia species have slightly thickened leaves that store small reserves of water.

Cacti belong to the family Cactaceae which comes from the Greek work "kaktos", meaning thistle. A single plant is called a cactus and more than one plant is called cacti. They are not too closely related to any other family and are placed in a separate order, Cactales. According to Martin and Hutchins' A Flora of New Mexico, 12 genera and 93 species occur in New Mexico.

As the American deserts came into being, cacti confronted an environment of intense sunlight, low humidity, hot dry winds, low rainfall and extreme temperature fluctuations. survival under these conditions meant resolving the two problems of how to cope with excessive heat and dryness. A basic way in which cacti have adapted is by modifying their forms so as to reduce the amount of external surface in relation to their total volume. This reduces external surface in relation to their total volume. This reduces evaporation of water and helps the cacti maintain a lower internal temperature. Green leaves were abandoned and photosynthesis was transferred to the stem.

Prickly pears often position their joints with the flat sides facing east-west; thus the intense midday sunlight only strikes the thin upper edge of the pads. Some have developed pigments that reflect part of the red or blue light (making the plant appear reddish or bluish) and others have tiny surface hairs that scatter some coming radiation.

Cactus spines are actually highly modified leaves. Besides giving physical protection, they absorb and reflect much light, keeping the underlying stem as much as 20 degrees cooler. The spines, bristles and hairs also trap a thin layer of air next to the stem, which acts as insulation and slows heat transfer.

Cacti also have mechanisms for collecting and conserving water. The spreading roots, mostly in the upper soil, make full use of light rains. Many young cacti have down-pointing spines that act as drip-tips which collect fog, dew or light rain and channel it to the roots. Most cacti have an abundance of water-storage tissue in their stems or roots, with reinforced walls to prevent its collapse when water reserves are low.

The stomates, or pores through which cacti exchange gasses with the air, are sunken in pits below the stem surface, reducing water vapor loss from 30 to 70 percent. The stomates of cacti, unlike most other plants, close during the heat of the day when transpiration water loss would be high. In addition, the cell sap is mucilaginous, and as water reserves are used the protoplasm becomes thick and viscous, binding the dwindling water more tightly.

all these adaptations for survival resulted in a slowing of the growth rate of cacti. In turn, slow growth restricts the ability to compete among faster growing leafy plants in a more moist environment. Some cacti have become so highly adapted to a specific habitat that if even a slight change were to occur in the environment, they would probably face extinction.

Most of this discussion is from Cacti, A Golden Guide Frank D. Venning, 1974, Western Publishing Co., Inc., 160 pp.

Melanie Florence

CHIHUAHUAN DESERT RESEARCH INSTITUTE

In the spring of 1978, the Chihuahuan Desert Research Institute (CDRI) was able to make the downpayment on 240 acres of oak/juniper grassland which was destined to become the site of its proposed living museum. Through public donations, the institute soon paid for this magnificent parcel of land and obtained an adjoining 300 acre tract. Located 3 miles south of Ft. Davis in the foothills of the Davis Mountains, the project is now well underway.

Officially named the Chihuahuan Desert Visitor Center in the spring of 1986, the project has been open to the public throughout summer months for the past five years. Visitation has grown from approximately 2000 in 1983 to over 10,000 in 1987. The purpose of the Center is to focus attention on the natural phenomena occurring within the boundaries of the Chihuahuan Desert Region-a geographic feature shared by the United States and Mexico. There is no admission charge.

The initial thrust of the project has centered on the development of the Chihuahuan Desert Arboretum, a living collection of plants native to the region. The arboretum area was designed by a team of distinguished botanists who have incorporated the existing natural landscape to demonstrate relationships between the 57 major plant families displayed.

To date, the arboretum is home to over 400 species of Chihuahuan plants. Most have been propagated from seed with specimens of the original collection deposited at the Sul Ross State University Herbarium in Alpine. Plants are cataloged on a computer data base at the CDRI headquarters in Alpine as they are planted. This data base is upgraded annually to reflect growth rates as well as damage from insects, weather, and herbivores. The catalog currently contains information on over 1,000 specimens.

A major boots to the arboretum was the addition of a 1,440 square foot cactus and succulent greenhouse in 1986. The cactus and succulent collection now contains specimens of 85% of the cactus flora of the Chihuahuan Desert. Again, virtually all specimens are seed-grown. The CDRI staff is now in the process of propagating these specimens with the goal of making them available to the public in the near future. The Cactus and succulent Greenhouse is supported through an annual donation from the Houston Cactus and Succulent Society.

The Institute has recently enlisted the services of an architectural firm which is in the process of designing a reception building for the Visitor Center. This facility will house a gift shop, informations desk, and static exhibits pertaining to the natural history of the region. A walk-through aviary and small animal exhibit will immediately follow the successful completion of the reception building project. Other attractions at the Visitor Center now include a wildlife rehabilitation facility and Modesta Canyon Trail System. The Chihuahuan Desert Visitor Center will open for the 1988 season on Saturday, April 30. Opening day activities will include the CDRI's annual Native Plant Sale which features over 50 species of Chihuahuan plants selected for the desirability for home landscaping. Over 300 participants traveled from throughout the Southwest to take advantage of the sale in 1987. The Center will remain open through September 1 on weekday afternoons from 1-5, and on weekends from 9-6. Native plants, CDRI products, and memberships are available for purchase at the Center throughout the summer. For more information write: CDRI, P.O. Box 1334, Alpine, Texas 79831 (915-837-8370).

SCURLOCK'S FIELD TRIPS

Dan Scurlock, Naturalist and Cultural Historian, will lead a series of Spring field trips which will include wildflowers and bird identification, ecology, and history. Scheduled trips and their dates are: Guadalupe Mountains (Sitting Bull Falls, Dog Canyon, Living Desert State Park, etc.), April 1-3; Rio Abajo (Ladrone Mountains, Riley Ghost Town, a local winery, Sevilleta Refuge), April 9; Cabezon Country (Cabezon Ghost Town, Mesa Chivato, Guadalupe Ruins), April 23; Trigo Canyon (geology, botany), May 14; and Las Huertas Canyon (Spanish village reins, Sandia Cav and 19th century Cooper-Ellis Ranch), May 28. For more information, write Dan at 1212 Saiz Rd. NW, Albuquerque, NM 87104 or phone 242-1635.

Penstemon Enthusiasts Take Note

The Southwestern Regional Group of the American Penstemon Society will be meeting in Arizona April 8, 9, 10. The program will begin Friday, April 8 at 9:00 a.m. with a guided tour of the Desert Botanical Garden in Phoenix. Following will be a drive via the Apache Trail (most photographed area of Arizona following the Grand Canyon) to the Boyce Thompson Southwestern Arboretum. Friday night there will a lecture on the Penstemon of Arizona by Dr. Crosswhite of the Arboretum and meeting afterward. Saturday we will tour the Arboretum and then drive via the Pinal Pioneer Parkway and Catalina State Park to Tucson. Sunday we will have a guided tour of the Tucson Botanical Garden, a hike and possibly visit the Arizona Sonora Desert Museum late Sunday afternoon or Monday morning.

Anyone who is a penstemon fancier is welcome to attend. Contact Ellen Wilde 982-1406 or send a SASE for final details and information about motels, camping facilities, etc.

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MEMBERSHIP APPLICATION

Name _____
Address _____
_____
Phone No. _____

Other interested family members:
_____
_____
_____

Please enclose your check payable to:

Native Plant Society of New Mexico
P.O. Box 5917
Santa Fe, NM 87502

Annual Dues:
___Individual & Family $8.00
___Friend of the Society $25.00

Please send a gift membership and card to:
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To better serve our membership, please check areas of particular interest.

Conservation:
___Endangered species, Habitats
___Restoring abused areas
___Water conservation
___Propagation ___Seed Collection

Landscaping: ___Residential
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___Ethnobotany ___Paleobotany
___Growing for resale
___Informal classes
___Newsletter ___Youth projects
___Organize new chapter
___Membership drive
___Other (please specify)

How would you describe your level of expertise? What areas would you be willing to help with?

Are you a member of an organization with related purposes (Garden Club, NM Wildflower Association, etc.)?

FRIENDS OF THE RGBG AND PANAYOTI

April 6th at 6:45 p.m. Panayoti Kelaidis, curator of Denver Botanic Gardens Rock Alpine Garden will speak at the Downtown Library Auditorium. Mr. Kelaidis' talk will be on starting a botanic garden, it's function and purpose. He has been a strong purponent of a botanic garden in this area as he well understands the diversity of our botanical heritage.

The Albuquerque chapter will meet at the Library in place of the regular meeting at The Albuquerque Museum. No admission charge.

Y'all Come

NPS members are especiall invited to attend the gathering and cooking of mescal by the Mescaleros at the Living Desert Museum near Carlsbad may 19, 20, 21 and 22. Two nights the Mountain God Dance will be performed by one of the Mescalero dancing groups.

The Albuquerque chapter's annual plant sale in conjunction with the Spring Fair of the Council of Albuquerque Garden Clubs will be held April 23 from 9 a.m. until 3 p.m. at the Albuquerque Garden Club Center, 10120 Lomas NE, Los Altos Park. Members and friends are encouraged to participate in the program by either helping at the sale or by stopping by and purchasing native plants, books, t-shirts, etc.

For more information, contact Ted Hodoba, 242-3053.

CALENDAR

Las Cruces	March 5, Fieldtrip, 8:00 am, Soledad Rocks
	March 9, Meeting, 7:30 pm Rm 190, NMSU Ag. Bldg., "Household Herbs" by Helen Polley & Helen Richmond
	April 9, Fieldtrip, 8:00 am, Tom Mays State Park
	April 13, Meeting, 7:30 pm, "Blooming Cactus of Las Cruces" by Tom Wootten
	May 8, Fieldtrip, 7:00 am, Carizozo Lava Flow
	May 11, Meeting, 7:30 pm "Medicinal Plants" by Pat Penfield
Otero	March 26, Fieldtrip, Hueco Tanks, 8:00 am (only 28 miles, not the 281 miles reported earlier), carpool from Fairgrounds in Alamogordo
	April 16, Fieldtrip, White Sands Missile Range, MUST HAVE RESERVATIONS, no photography!
Albuquerque	April 6, No meeting, instead meet at Downtown Library, 6:45 pm for meeting with Panoyti Kelaidis of the Dever Botanic Gardens.
Others	April 30, CDRI Native Plant Sale,Alpine, TX 9:30-5

NPS-NM Editor
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