Native Plant Society of New Mexico
February - March Newsletter 1978

David Deardorff
editor 988-1520

Missy Deardorff
membership 988-1520

Changes in your Native Plant Society

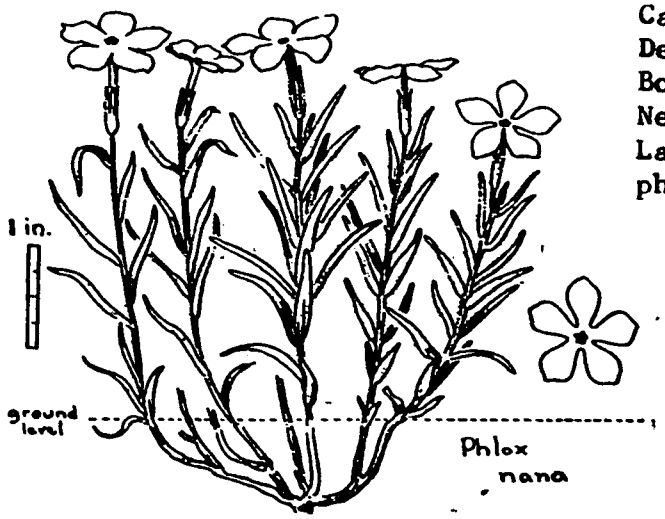
The Native Plant Society has decided to adopt a chapter system and three chapters - Santa Fe, Las Cruces, and Albuquerque - are currently being developed. Each chapter is to be as active as possible, having its own organization of officers, regular meetings, speakers, workshops, field trips, parties, etc. Dues will remain the same, $6.00 per year for individuals, $8.00 for families. A portion of the annual dues will be sent to the state organization to cover postage and printing for the newsletter which each member receives. The remainder of the annual dues will be retained by the local chapter to help fund local activities (such as covering an out-of-town speaker's traveling expenses, or purchasing plant materials and advertising for plant sales). Each chapter should also designate a reporter to submit local news and notes to the editor for inclusion in the newsletter. Such local news and notes could include: 1) what species are in bloom in your area and where can they be seen, 2) what species are successfully cultivated in your climate zone, and 3) what are the important environmental issues in your area. News and notes should also include what you did at your last meeting and what you are doing at the next meeting.

News and Notes

Las Cruces: The Las Cruces chapter has just been galvanized into action by Carol Dimeff. They are planning a "Grand Opening" Saturday and Sunday, April 15 and 16, with a native plant sale on both days. Saturday evening will be a potluck dinner featuring speaker Dr. Richard Spellenberg of NMSU. He will show slides of rare and endangered species of New Mexico and will discuss how a species is determined to be endan-

gered or threatened. The plant sale will be held at the Farmers Market in the Downtown Mall in Salvador Perez Park. Plants featured at the sale will include soaptree yucca (Yucca elata), blue palo verde (Cercidium floridum), red bird-of-paradise (Caesalpinia pulcherrima), yellow trumpet bush (Stenolobium stans), sweet acacia (Acacia farnesiana), and many other native and exotic trees and shrubs which are too tender for northern New Mexican gardens. Also included in the sale will be native wildflowers such as Penstemon pseudospectabilis and P. barbatus (including seedlings of the rare yellow-flowered form), Delphinium tenuisectum; Zinnia grandiflora, Phlox nana, and many others.

These events will also be the regular monthly meetings of the Santa Fe and Albuquerque chapters and we hope to have as many NPS members as possible converge on Las Cruces for their kick-off. The person organizing the sale is:



Carol S. Dimeff
Dept. of Horticulture
Box 3530
New Mexico State University
Las Cruces, New Mexico 88003
phone (505) 523-1906

Albuquerque: In a sense, the Albuquerque chapter was conceived when the NPS joined the New Mexico Wildflower Association for their January meeting in Albuquerque. At that meeting, a possible merger of our two groups was discussed. Whether or not a merger does take place, there will be an Albuquerque chapter of the NPS. It is being organized by: James V. Lewis
722 14th Street NW
Albuquerque, New Mexico 87104
phone (505) 881-0243

Santa Fe: The Santa Fe chapter invites everyone to come to our March meeting and learn to identify native conifers. Rather than having a speaker we are having a conifer identification workshop on Wednesday, March 22, at 7:30 pm in lab 118, laboratory building, St. John's College, Santa Fe. We will have a set of fresh twigs of as many native species as we can find for each person to work with and to keep.

Breck Introduces NPS to Cacti

Steven Breck of Mesa Gardens cactus and succulent nursery presented an introduction to the classification of the cacti to a joint meeting of the Native Plant Society and the New Mexico Wildflower Association on January 13 in Albuquerque. Breck, a one-time physicist, handed out a simple key to the cactus tribes and subtribes and had living examples of each tribe on display.

Key to the tribes

1. Leaves (when present) broad, flat; glochids* none. tribe Pereskieae (none native to New Mexico)
   Leaves (when present) cylindric, usually small, on most plants not present. 2
2. Areoles* with glochids, leaves when present small. tribe Opuntieae (the large genus Opuntia in New Mexico)
   Areoles without glochids, true leaves absent. tribe Cereeae.

Key to the subtribes of the Cereeae

1. Flowers and spines borne at the same areole. 2
   Flowers and spines borne at different areoles. subtribe Coryphanthanae (many genera in New Mexico)
2. Plants with long thin stems. subtribe Cereanae (one genus in New Mexico - Peniocereus)
   Plants one or few jointed; joints* usually short, often clustered or ribbed. 3 (barrel types)
3. Flowers on side of the plant, ovary and fruit with spines. subtribe Echinocereanae (genus Echinocereus in New Mexico)
   Flowers on top of plant, ovary and fruit without spines. subtribe Echinocactanae (many genera in New Mexico)

*glochids - small barbed spines
areole - base of the spine cluster
joints - sections of the stem

Viewing slides of New Mexican cacti was the major event of the meeting. Cacti occupy as diverse habitats as the lower Sonoran life zone of southern New Mexico and the 10,000 feet elevation Arctic-alpine life zone in central New Mexico. Breck favors cactus hunting on limestone soils in the lower Sonoran life zone because there you find the greatest diversity of species at any site. Such cactus species as Escobaria duncani (rare), Mammillaria lasiacantha (rare) and Echinocereus straminius may be found only on limestone soils. Plant species of many families follow this same pattern of edaphic (soil type) specialization.

In his explorations around the state, Breck has found populations of hybrid origin, although he prefers to grow the natural species of cactus rather than hybrid forms. The distribution of several species of cactus begins or ends at the Rio Grande. The Rio Grande acts as a natural barrier for cactus species' distribution.

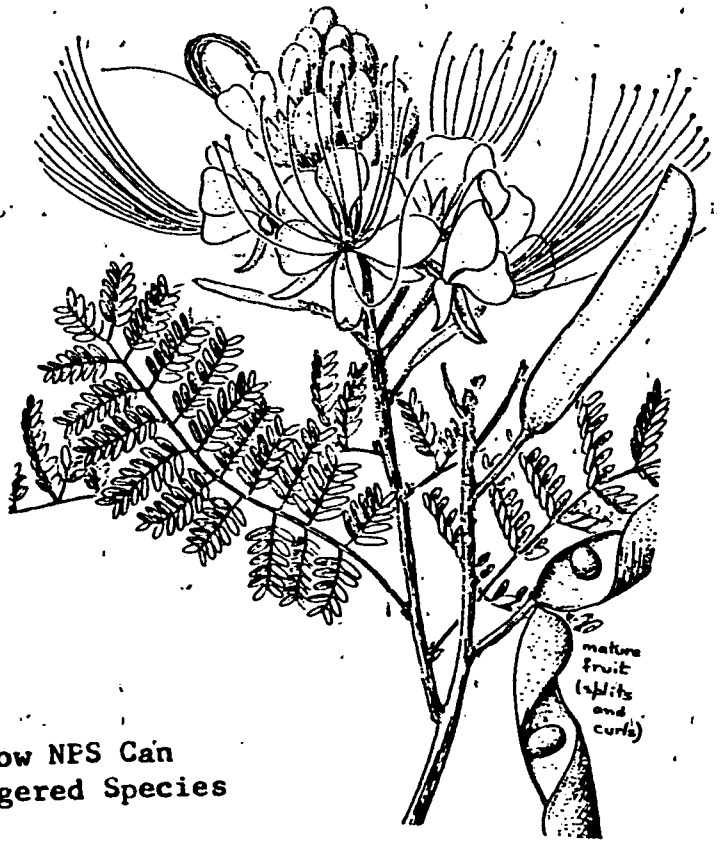
The heel of extreme southwest New Mexico is a unique habitat botanically. Such cacti as Chorizanthe vivipara, Opuntia santa rita, and Echinocereus choranthus occur there along with the succulent Agave schottii. Guadalupe Canyon in the heel is a Heritage Program natural area (see January newsletter).

As has been discussed in previous newsletters and at numerous NPS meetings, many cacti are in danger of being collected out of existence or are just naturally rare. Breck told of an instance in which a very rare cactus eventually turned out to be locally quite common. The cactus Toumeya papyricantha was found in 1907, and the single specimen was sent to Washington D.C. It was not found again for some time. One man dedicated his life to finding more Toumeya plants. After years of searching he finally did find them, and he sent telegrams to botanists around the country. Since that time Toumeya has been found regularly in Santa Fe vacant lots on undisturbed soil. The species is nevertheless on the Federal Endangered Species list. The cactus is less than one inch in diameter and bears white flowers in May, June, or July.

The American Penstemon Society would like to invite interested NMNPS members to join the Penstemon Society. Penstemons are widely distributed in New Mexico and are some of our most interesting and showy native plants. Penstemon Society members are eligible to receive yearly bulletins, join in Round Robins for information exchange among individual members throughout the country, and purchase seeds of penstemons of all kinds via the society's extensive seed list. Membership information can be obtained from: Howard A. McCready, 1547 Monroe Street, Red Bluff, California 96080. (Several NMNPS members are already members of the Penstemon Society).

Penstemon barbatus

March may be a good time to take that weekend wildflower safari you've been promising yourself all winter. Myra McCormick reported in February that Carpochaete bigelovii was already in bloom in the Cooks' Peak area. It is a shrub in the daisy family, Asteraceae (Compositae). Myra also says the spring wildflower season looks like its coming on early and fast in southwestern New Mexico.



Caesalpinia gillesii
(Poinciana gillesii)
Yellow Bird-of-paradise

This species will also be available at the Las Cruces plant sale.

Spellenberg Tells How NPS Can Gather Data On Endangered Species

At our February meeting, Dr. Richard Spellenberg of NMSU explained how the Native Plant Society can help in determining the status of threatened and endangered species in New Mexico. Spellenberg explained that the New Mexico Native Plant Advisory Board, of which he is a member, has provided criteria for determining the degree of endangerment of a species via a simple questionnaire. The Advisory Board advises the Department of Game and Fish, and the Department of Natural Resources as to which species need protection where. The questionnaire examines the different components of endangerment, such as: total extent of the habitat for the species in question, number of individuals, reproductive rates, tolerance of disturbance, human impact, and whether habitat reduction is in progress. Each component factor is assigned points and the total points is a relative measure of the degree of endangerment. For example, Pediocactus knowltonii and Silene plankii are both proposed as endangered species on the federal list. Using

the above criteria the Pediocactus has a total of 160 points while the Silene only has 65 points. Obviously Pediocactus knowltonii is far more endangered than the Silene. The system is thus an effective means of ordering priorities -- of determining which species are in greatest danger. It is also a means by which anyone can provide good data on the status of an endangered species.

The information derived from this data allows the federal list of threatened and endangered species to be revised and refined since, at the time the list was prepared, very little was known about some of the species included. Through ignorance, species which are now known to be common were thought to be rare and some species which are quite rare were not included. Some of the threatened or truly endangered species of New Mexico include Eriogonum gypsophilum, Sclerocactus mesa-verdae, Cleome multicaulis, Helianthus paradoxus (extinct in NM? last seen at Fort Stockton, Texas, in 1951), and Helianthus praetermissus (known only from one NM collection in the 1850s). Spellenberg feels that the two Helianthus species may prove to be one and the same. He also stated that the cacti as a group are in the most serious danger due to overcollecting by unscrupulous or ignorant hobbyists and commercial firms.

Dr. Spellenberg also explained that the Endangered Species Act of 1973 forced us to pay more attention to species whose existence on earth was threatened by mans' activities because it meant every government project needed an environmental clearance. This is expensive, but Spellenberg feels the expense is justified for several reasons. There is an esthetic argument for maintaining a diversity of species and there is a moral argument for the preservation of our flora for posterity. But an economic argument of more immediate value is that wild relatives of important domesticated plants (such as wheat) often contain genes for disease resistance, or other desirable characteristics, which are of great value in crop improvement breeding programs. Should these wild species become extinct, their valuable genes would be forever lost to us. Furthermore, we have barely begun to study the medicinal properties of our native species. Hopefully some potentially valuable new medicine won't be lost just because some little weed went extinct. Another kind of argument is that all life forms participate in an an intricate web of energy exchange, and we do not yet understand how the components of the system interact. It is folly to destroy that which we do not understand.

NEWS BREAK

Charles Osgood: Newsbreak. Charles Osgood reporting on the CBS Radio Network, Saturday, November 12, 1977, 8:30 A.M. EST.

The Furbish [?] lousewort is a plant,
About as modest as an ant.
You'd hardly know that it was there;
It almost isn't, it's so rare.
In fact, the world is so bereft,
We thought there weren't any left.
Until last year way up in Maine,
They found some louseworts still remain.
Two hundred fifty plants or so
Along the St. John River grow.
Kate Furbish was a woman who a century ago,
Discovered something growing, and she classified it so
That botanists thereafter, in their reference volumes state,
That the plant's a Furbish lousewort. See, they named it after Kate.
There were other kinds of louseworts, but the Furbish one was rare.
It was very near extinction, when they found out it was there.
And as the years went by, it seemed with ravages of weather,
The poor old Furbish louseworts simply vanished altogether.
But then in 1976, our bicentennial year,
Furbish lousewort fanciers had some good news they could cheer.
For along the St. John River, guess what somebody found?
Two hundred fifty Furbish louseworts growing in the ground.
Now, the place where they were growing, by the St. John River banks,
Is not a place where you or I would want to live, no thanks.
For in that very area, there was a mighty plan,
An engineering project for the benefit of man.
The Dickey Lincoln [?] Dam it's called, hydroelectric power.
Energy, in other words, the issue of the hour.
Make way, make way for progress now, man's ever constant urge.
And where those Furbish louseworts were, the dam would just submerge.
The plants can't be transplanted; they simply wouldn't grow.
Conditions for the Furbish louseworts have to be just so.
And for reasons far too deep for me to know or to explain,
The only place they can survive, is in that part of Maine.
So, obviously it was clear, that something had to give,
And giant dams do not make way so that a plant can live.
But hold the phone, for yes they do. Indeed they must, in fact.
There is a law, the Federal Endangered Species Act,
And any project such as this, though mighty and exalted,
If it wipes out threatened animals or plants, it must be halted.
And since the Furbish lousewort is endangered as can be,
They had to call the dam off; couldn't build it, don't you see.
For to flood that lousewort haven, where the Furbishes were at,
Would be to take away their only extant habitat.
And the only way to save the day, to end this awful stall,
Would be to find some other louseworts, anywhere at all.
And sure enough, as luck would have it, strange though it may seem,
They found some other Furbish louseworts growing just down stream.
Four tiny little colonies, one with just a single plant.
So now they'll flood that major zone, no one can say they can't.
And construction is proceeding, and the dynamite goes bam.
And most folks just don't seem to give a Dickey Lincoln Dam.
The new-found stands of Furbish louseworts aren't much, but then
They were thought to be extinct before, and well may be again.
Because the Furbish lousewort has a funny sounding name,
It was ripe for making ridicule, and that's a sort of shame.
For there is a disappearing world, and man has played his role
In taking little parts away from what was once the whole.
We can get along without them; we may not feel their lack.
But extinction means that something's gone, and never coming back.
So, here's to thee little lousewort, and here's to your rebirth.
And may you somehow multiply, refurbishing the earth.

The above poem was obtained from Bioscience Vol. 28 #2, Feb. 1978.

Mr. Randolph Jenks has purchased Centerfire Bog near Luna, New Mexico, in order to preserve and protect it. He needs a dedicated couple to live there year round (free rent but no salary) and protect the bog and its' wildlife. There is a house on the property. If interested write: Randolph Jenks, 2146 East 4th Street, Tucson, Arizona 85719, (602) 623-5305

Santa Fe Canyon Flood Control Program Needs Study

The watershed of the Santa Fe River is a pristine area of primitive wilderness. Botanically the area is important because it is the only known locality for a rare wild raspberry, Rubus aliceae L.H. Bailey, which has been proposed for threatened status on the federal list. The area is also the type locality of several species which were discovered there by Fendler is 1847. In addition, the area provides fine opportunities for research, and Dr. James Gosz (U.N.M. Biology Dept.) has carried out studies here for the last seven years that provide baseline data for the entire southern Sangre de Cristo watershed region.

Five months ago the State Heritage Program contacted the district ranger of the National Forest in an attempt to initiate a review of how this area could best be protected. However, only a portion of the upper Santa Fe watershed is within the national forest. The remainder is under the jurisdiction of the Public Service Company which has a franchise with the City of Santa Fe to supply our water. The city's reservoirs are fed by this watershed and it is vital that the watershed be protected and efficiently managed. However, a comprehensive management program should also protect the rare species present and maintain the pristine character of the area.

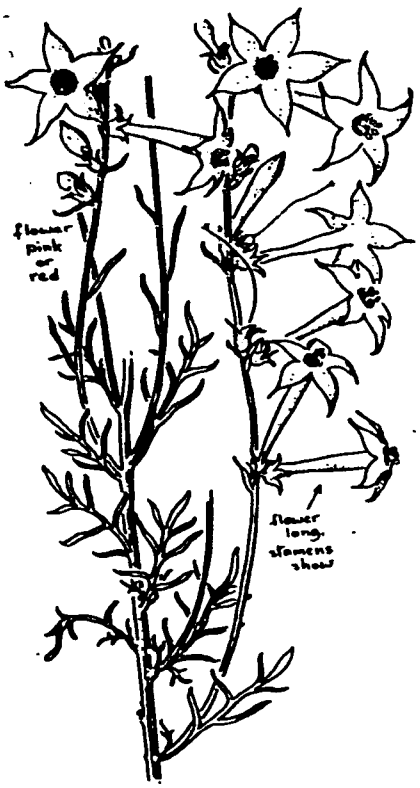
The Public Service Company of New Mexico (PNM) co-ordinates its watershed management program with the State Engineer's Office. They have been carrying out a controversial flood control program of removing the vegetation (willows and cottonwoods) from stream bottoms and dams. There are two major reasons for removal of vegetation: 1) the physical presence of trees and shrubs impedes the flow of water, and 2) larger trees lose water to the atmosphere through evapotranspiration. A twenty foot cottonwood loses about 120 gallons of water a day - almost as much water as the average household uses per day. Although the program sounds reasonable, there are equally valid reasons for leaving the vegetation alone, thus the controversial nature of such a program. Removing vegetation or anything else which impedes water flow obviously does allow the water to flow faster. However, the faster it flows the more energy it gains and its ability to carry silt, sand, and gravel downstream increases. Thus as the velocity of water increases the quality of water decreases. As the land erodes away, the reservoirs become silted up and have to be dredged which is an expensive process. A large volume of fast moving water has a great deal of destructive energy. Think of the damage wrought each year by flash floods in foothill areas denuded of vegetation by fire in Southern California. In Bandelier National Monument, Frijoles Canyon rarely flooded until the huge fire last spring denuded the area. This year, floods in Frijoles Canyon have been frequent and severe. Therefore, the fact that trees and shrubs impede the flow of water is a positive factor in flood control, and the more the vegetation is removed the more erosion and flooding

become serious problems.

Undeniably it is true that plants lose water through evapotranspiration, but plants also shade the earth and help keep it cool. Unshaded, bare earth loses water through evaporation, so how much are we really gaining by cutting down trees?

The controversy surrounding the vegetation removal program is further complicated by the presence of a species such as Rubus aliceae which has been proposed for protection under the Endangered Species Act as a threatened species. In all probability, no study had been done to determine the impact of brush removal on this particular shrub because the PNM did not even know until recently that Rubus aliceae occurs in the canyon. Workmen clearing brush cannot recognize and conserve this species if their supervisors don't tell them it is there.

Whether or not the PNM obtains its highly controversial 25 year franchise they will probably be providing the city of Santa Fe with its water. Hopefully they will choose to do it with due and proper respect for rare species and the preservation of a pristine natural area. Hopefully the PNM will also try to make more use of members of the community they serve who have some ecological training and are willing to apply it to the study of Santa Fe Canyon.



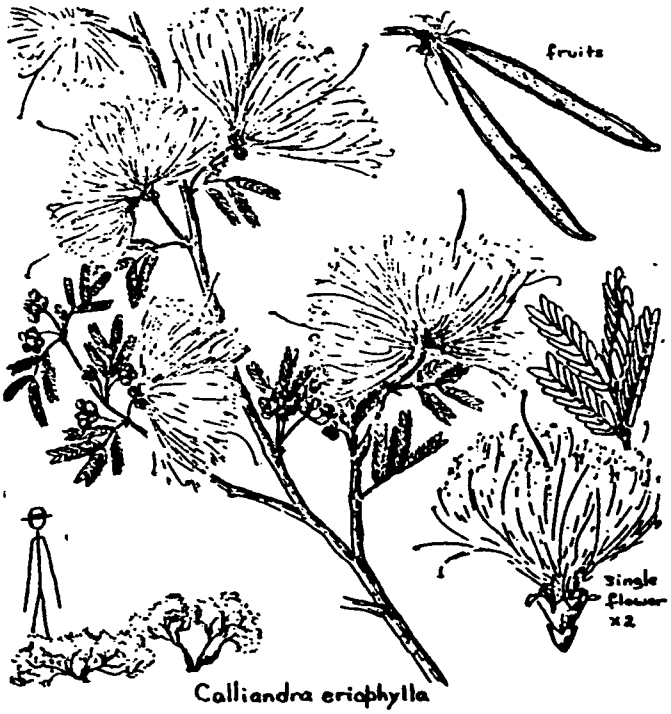
Ipomopsis aggregata (Gilia aggregata)
Skyrocket gilia

This species will also be available at the Las Cruces plant sale.

Corrections for January newsletter: Please note the correct phone number for Bear Mountain Guest Ranch is 538-2538. The correct phone number for Bill Isaacs and the Heritage Program is 827-2694.

Calliandra eriophylla
Pink fairyduster

This species will be available at the Las Cruces plant sale.



CLASSIFIED ADS	
BEAR MOUNTAIN GUEST RANCH Guided wildflower tours. Fred and Myra McCormick Silver City, N.M. 88061 phone: (505) 538-2538	AGUA FRIA NURSERY Specializing in perennials and native plants. Philip and Bob Pennington 1409 Agua Fria Santa Fe, New Mexico 87501 phone: (505) 983-4831
J N Blue corn for sale Guaranteed free of pesticides field grade - 75¢/lb. seed corn - 50¢/oz. Add 50¢/lb. for postage Jack Nachamkin 336 Potrillo Drive Los Alamos, New Mexico 87544 phone: (505) 672-9781	PLANTS OF THE SOUTHWEST Specialists in native trees, shrubs, and wildflowers. Gail Haggard and David Deardorff phone: (505) 988-1520 Curl-leaf mountain mahogany, fernbush, apache plume, several *Penstemon* species now available