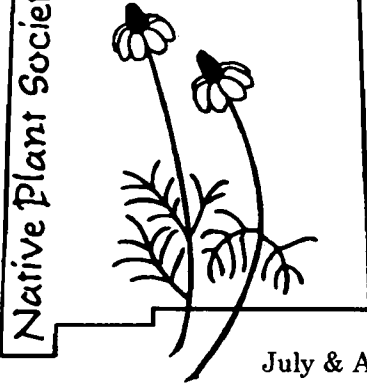


Native Plant Society of New Mexico



NATIVE PLANT SOCIETY OF NEW MEXICO NEWSLETTER

July & August 1991

Volume XVI Number 4

INDIANS AND PLANTS

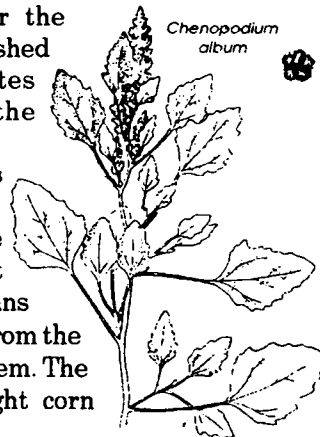
by Charlotte Erichsen-Brown (Excerpted from *Wildflower Magazine*, Summer 1990 6(3))

The men, women, and children who wandered across Beringia onto the North American continent had lived by gathering the fruit, seeds, roots and bark of the plants of Asia. While hunting game for food and clothing they had to learn which plants were safe to eat, what part to use to heal the wounded hunter, help the birth of a child or to prevent its arrival. Too many mouths to feed meant starvation for all. The women probably carried with them the seeds of their most valuable plants.

These first peoples spread out so that eventually they inhabited America from its southern tip to the arctic. Everywhere they lived they had to learn again, by trial and error (which often meant death), which plants they could eat and which were powerful medicine. The Olmec, Mayan, Inca and Aztec civilizations rose and fell. The medicinal plant gardens of the Aztec amazed the Spaniards when they first saw them. These gardens had been established in 1467 by Motecuzoma and were maintained primarily to provide the Aztec medical profession with raw material for medical formulas and experimentation. The Emperor's envoys had orders to seek out additional species wherever they went.

The Indian's knowledge of plant breeding, his patience and perseverance enabled him to develop good edible corn from wild grasses. He accomplished this by saving the kernels of his best cobs each year for planting next season. He did this over thousands of years. Today the Hopi have an ear of blue corn grown by saving only the blue kernels of their mixed color cobs. The Peruvian Indians developed their wild cotton plants. Eventually they had a plant whose cotton they spun and wove into textiles. These are in museums all over the world.

In Arizona the Hohokam from about 300 B.C. until about 1400 A.D. grew corn, many kinds of beans, squash, melons and cotton in their fields. These were irrigated by canals dug with wood and stone tools from the Salt and Verde rivers. They traded their cotton and the textiles they wove from it over the well established trade routes across the continent. The tribes who moved to the northeast took corn, beans and squash from the south with them. The Huron brought corn



lamb's quarters

to its northern limit of development by carrying with them the most frost resistant plants. They did this also for the pecan nut tree whose nuts they ate and used for oil as well as for the mayapple *Podophyllum peltatum* whose yellow fruit they relished and whose poisonous root they used for suicide or medicine. They semicultivated the mayapple, raspberries, two kinds of strawberries, grapes, juneberries (*Amelanchier* species), and the milkweed, *Asclepias syriaca* among other plants. They traded their surplus food for furs with the Algonquin who lived to the north by hunting and gathering wild foods.

The agricultural tribes gathered wild seeds as well. This was essential in order to have a large enough store of food in case their fields were burnt by wild or enemy fire or drought. Lamb's quarters, *Chenopodium album* seeds are found in archaeological sites all over America. A.D. Yarnell reports of the Juntunen site in Michigan in a strata dated about 1320 A.D. "Perhaps the most interesting plant remains found, at least from a strictly botanical point of view, were the *Chenopodium* seeds. These are referable to two species *C. album* and *C. hybridum* L. var. *gigantospermum* according to my identifications. The most significant aspect of the occurrence of the seeds of *C. album* is that this species was thought to be naturalized from Europe...cache of four quarts of seeds recovered from a late archaeological site (in Alberta)." In 1870 Dodge of the USDA wrote that "young and tender plants of lamb's quarters are collected by the Navahos, the Pueblo Indians of New Mexico, all the tribes of Arizona, the Diggers of California and

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		LOTS OF NEWS!	

PRESIDENT'S MESSAGE

Summer does seem to be here. Although some areas have had some rain, it will still be a while before we get our "regular" rains. Think of the time and water that those of you who have gardens of established native plants are saving. You do not have to be out every day dragging a hose around. If you have just recently begun a garden of natives, you too will soon be saving time and water.

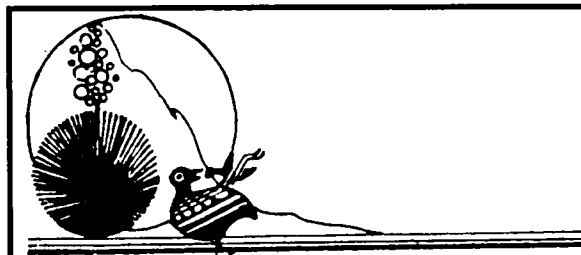
The Otero chapter recently had a ceremony honoring some of their members with State Certificates of Appreciation for their contributions to the Native Plant Society. John Morton's job as treasurer has expanded along with the growth of the chapter and its activities. Members from around the state have visited his outstanding yard and many have come away with generous gifts of native plants. Charley Pase has led trips around San Ysidro, the Chiricahuas, helped down in the Peloncillos, and many more nearby areas. He points out interesting features of the plants they see and compares them with similar plants they have seen in other places. His patience with a group of enthusiastic amateurs is one of the qualities that makes him an indispensable part of their group.

Jean Dodd has served as president of the Otero chapter for many years,

almost since it started, and also as treasurer of the NPS-NM for several years. Other members of the Otero Chapter holding certificates are Lucille Wilson, Nancy Hutto, and Paul Gordon.

The time for the state Meeting will soon be here. Do plan to attend.

Bob Reeves



BEAR MOUNTAIN GUEST RANCH

P. O. Box 1163
Silver City, NM 88062

The **Newsletter** is published six times per year by the New Mexico Native Plant Society. 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 also 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.

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

Advertising Schedule

Approved advertisements will cost \$40 per year.

Newsletter Contributions

Please direct all contributions for the newsletter to the editors. Deadlines for the next two newsletters are August 5 and October 10.

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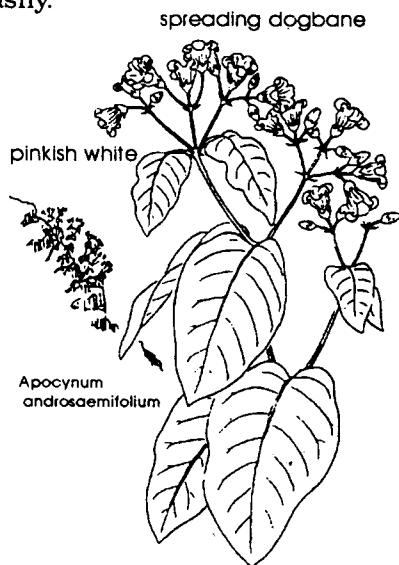
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the Utahs and boiled as herbs alone or with other food. Large quantities are also eaten raw. The seeds of this plant are gathered by many tribes, ground into flour after drying, and made into bread mush. They are very small, of a grey color, and not unpleasant when eaten raw... (the mush or bread) resembles buckwheat in color and taste and regarded as equally nutritious."

A plant used for fibre where it was abundant was the dogbane *Apocynum androsaemifolium* (tech. editor's note: *A. cannabinum* was also frequently used). It is cut before the fruit has ripened. By twisting the stalk in opposite directions and pulling upon it the Potawatomi can determine just when the best fibre has matured to suit their purposes. The stalk is cut down and soaked in hot water so that it separates easily.



Alexander Mackenzie writes of the Dogrib tribe in the west: "The vessels in which they cook their victuals, narrow at the top and wide at the bottom, and of watape (this is the name given to the divided roots of the spruce, which the natives weave into a degree of compactness that renders it capable of containing a fluid) which is made to boil by putting a succession of red hot stones into it." The Hurons did the same with the stew in their pots made of birch bark. To hold their beans, cornmeal, meats, fish, soup or stew, the women made bowls of various sizes of birchbark. They lived near where the paper birch grew. Here they also made large chests to store the dried corn and fish. Indians who did not have access to birchbark used elm or other woods, cedar on the

west coast. Baskets of many kinds were made of rushes tightly woven with thread.

Much of the Indian treatment of child-birth was better than that practiced in Europe where it was not unusual for both mother and child to die from infection due to unsanitary conditions. Our early cemeteries tell the same story. The Indian mother was kept on a special regime for weeks before delivery. She was given a tea made from the root of the blue cohosh *Caulophyllum thalictroides* and her delivery was usually easy and swift. The root possesses caulosaponine which provokes strong uterine contractions, intermittent and more successful, it is claimed, than those provoked by ergot, the plant fungus used by white physicians at that time.

Milkweed was used to prevent conception, a very important decision that Indian women had to make for the good of the tribe with the help of their mothers. A people wholly dependant on their land for survival could never allow too many children to be born. Rousseau reports from Quebec in 1845 that the Mohawk take a fistful of milkweed and three rhizomes of Jack-in-the-pulpit *Arisaema atrorubens*, dried and pulverized and soaked in a pint of water for 20 minutes. The woman drinks a cup once every hour. The sterility is, however, temporary.

The Dene used *Cicuta* to relieve pain. For rheumatism or the pain of the instep after too strenuous snowshoeing they scratched the sore skin many times and made a liberal application of bruised *Cicuta* roots to it. White physicians in the 1850's recommended one grain of *Cicuta* extract three times a day to relieve neuralgia.

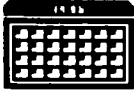
The Indians smoked many plants, including the seeds of *Cicuta*, before they smoked tobacco. Tobacco they smoked primarily to please the spirits upon whose goodwill they depended. Their pipes were hollow stone tubes and, later on, tiny pipe bowls. They drew the smoke slowly through their mouths and swallowing it exhaled it through their nostrils. Several plants produced a narcotic effect when smoked in this manner, e.g. *Lobelia inflata*, called Indian tobacco, and *Cicuta* seeds.



The pipe and its stem were sacred to the tribe and each tribe had its own ceremonial set. This was carried by its ambassadors and used as a safe conduct between tribes. Little of importance was agreed upon unless the pipe had been smoked in silence by all the parties to the business. When Champlain visited the tribes living on the north shore of Lake Ontario they were growing the mild *Nicotiana rustica* and trading it widely. After the Iroquois drove them from their fields and into exile the strong Brazilian tobacco *N. tabacum* was traded by the Europeans to their great advantage. Because of its strength and cost the Indians, who now could not do without it, mixed it with the plants they had smoked for so long. The main ones were the dried and powdered bark of the red willow *Cornus stolonifera*, the leaves, dried and broken up, of the Labrador tea, *Ledum groenlandicum*, those of the bearberry *Arctostaphylos uva-ursi*, and those of the cranberry *Vaccinium oxycoccus*.

Before contact with Europeans the peoples of North America depended upon its flora and fauna and their land. I have mentioned here a very few of the ways they used these resources. I hope that this has whet your appetite to know more about this fascinating subject.

Charlotte Erichsen-Brown is the author of "Medicinal and Other Uses of North American Plants: A Historical Survey With Special Reference to the Eastern Indian Tribes."



CALENDAR

OTERO

27 July-Jack Peak-We will go through the Jicarillas and return through Ancho. Meet at 9:00 a.m. at Carrizozo on the N.E. corner of the intersection at the parking lot of the little store. Paul Gordon and Charley Pase. Bring A lunch.

15,16,17 August-Otero County Fair- **EVERYONE HELP.** Which day and time can you work at the Fair? Call Lucille Wilson and let her know.

24 August-Permission has been denied for the Mescalero field trip. Paul Gordon will lead a trip through Carr Gap to 16 Springs. Meet at the paved area of interstate 82 and 244 with a lunch.

GILA

25 July, 7 p.m.- Monthly meeting at the Carter house. The U.S Forest Service will talk to us about rare and endangered plants.

4 August, 8 a.m. - Field trip to the Winston-Chloride area. This will be a long trip. We travel to Truth Or Consequences, then north to state road 52 which goes west through Cuchillo. Then we go northwest to Winston and turn south and then west, approximately three miles to Chloride which abuts the eastern border of the Gila National Forest. The above mentioned towns are listed in most ghost town books, but people do live in

these areas. They were settled because of mining in the vicinity. The leader will be Jay Hammel. (530-2059)

29 August, 7 p.m. - Monthly meeting at the Carter House. member, Deb Swetnam, will talk about plant families.

LAS CRUCES

10 July — PROGRAM: "Show and Tell" with native plants at 7:30 pm in Room 190, NMSU Ag Building.

14 July — Field trip to Emory Pass in the Gila Mountains with an optional camping trip to start the day before.

14 August — PROGRAM: Jony Cockman will talk on "Flora of the Los Medanos" at 7:30 pm in Room 190, NMSU Ag Building.

SANTA FE

The Santa Fe Chapter has no meetings dur-

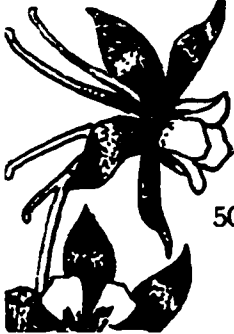
ing the summer. The next meeting will be in September. The following trips to see wildflowers are scheduled for the summer.

6 July, 9:00 a.m. - Meet at PERA lot next to Old Santa Fe Trail with lunch and water. Car trip to Galisteo Dam. Phyllis Hughes in charge. 983-4875

20 July, 9:00 a.m.- Meet at Pecos Ranger Station in Pecos with lunch and water. Carol Torrez of the Forest Service will lead an easy walking trip in Tijeras Canyon in the Pecos.

4 August, 8:00 a.m.- Phyllis Hughes will lead a car trip to the Jemez to see the *Calochortus gunnisonii* and other wildflowers in bloom. Bring lunch and water.

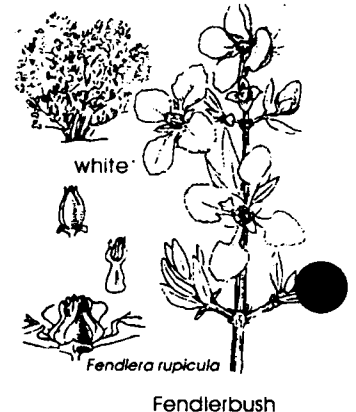
18 August, 9:00 a.m.- Meet at PERA lot next to Old Santa Fe Trail with lunch and water. Destination to be decided later. Call Arnold Keskulla 982-9570 for information on this or other hikes.



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VIEWS FROM THE SOUTH

A number of issues are weighing heavily on us, here in New Mexico. Please contact your chapter conservation representative on those issues in which you have an interest. Some major issues that I think need your support are:

1872 Mining Act- Senator Dale Bumpers has again introduced a bill that would make hardrock mining on Public Lands subject to a permitting and review process based on Federal agencies' land use plans, and give the agency the discretion to disapprove mining in unsuitable areas even if not so defined in the current land use plan. Payment of royalties would be required, as would reclamation of a mined area and patenting of claims would be prohibited. Your chapter conservation representative has a very informative flyer put out by the Mineral Policy Center with more details on this bill and a similar, though weaker bill intro-

duced in the House. I hope this bill will pass this year.

Mexican wolf reintroduction study- The US Fish and Wildlife Service has requested \$450,000 in funds for further study of potential release sites and to fund the needed breeding program to increase the number of wolves to 70 to 100. The latter is needed in order to have a sufficiently large and diverse population to allow release into the wild. We should support this proposal.

Thanks go to those members of the conservation community currently serving on the Congressional Task Force, which seeks to find short and long term solutions for the timber industry in New Mexico. I do not ordinarily like this type of dealing, but certainly prefer this to a political mandate which might ignore the biological reality that we have been harvesting in many areas at a rate that will destroy

our forest ecosystems. It really is time for economic alternatives to be developed for some of our rural communities because to continue at the current rate provides only a short term answer at best.

Finally, the issue I find most critical in New Mexico is that we need a very strong wilderness bill so that certain land managed by the Bureau of Land Management can receive the protection that this designation provides. The New Mexico BLM Wilderness Coalition has come up with an excellent plan as initially proposed in its publication entitled "Wildlands". Additional work has been done by the coalition subsequent to publication of this book and is continuing. Additional areas are being identified which should be protected. We just have to keep pushing on this issue.

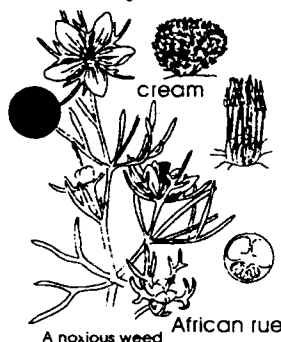
Tom Wooten

CHAPTER REPORTS

Otero - Jean Dodd

In May 25th John Connor of the Forest Service took the Otero NPS members into areas of the forest and along roadsides to see endangered, threatened, or sensitive plants (mostly thistles). The trip was a mini course in how these categories are determined at the state and federal levels, and what is being done to save these populations. We also explored the depressing subject of noxious plants. Three of our members, Charley Pase, Paul Gordon, and John Stockert, did a noxious plant survey for the Forest Service last summer. They were amazed how much some populations of these plants had expanded in less than a year. What to do about these plants to keep them within bounds or eliminate them is still a puzzle because they have no natural enemies here. On future trips members should learn to recognize some of them such as teasel (Ivey p. 159), Russian knapweed (Ivey p. 95), and African rue, *Peganum harmala*, (Ivey p. 295). Then they can be on the lookout for these plants in their neighborhoods.

Peganum harmala



John said that seeds of noxious plants are carried on tires or in the wheel wells of vehicles. Some of the plants have mechanisms that shoot the seeds as far as 30 feet. Even wilderness areas are not safe from these plants. It can take as little as one

plant to start the takeover of an area. "Weeds of the West", put out by the NMSU Extension Service, identifies 300 troublesome or poisonous weeds. If you are interested in getting the book contact Lisa Johnston.

In spite of the drought we saw gooseberry bushes, red columbines, wild iris, pink phlox, *Calylophus* (evening primrose), and apache plume blooming. Fendlerbush, *Fendlera rupicola*, (Ivey p. 266) was blooming profusely along the road to Cloudcroft.

Las Cruces - Paul & Betty Shelford

At our April meeting Alice Anderson talked on the subject of "Leaves." Prior to the meeting she had collected samples of many different types of leaves from around the NMSU campus. She passed them around during the discussion for hands-on examination to illustrate the points of distinction between types of leaves, such as pinnate,

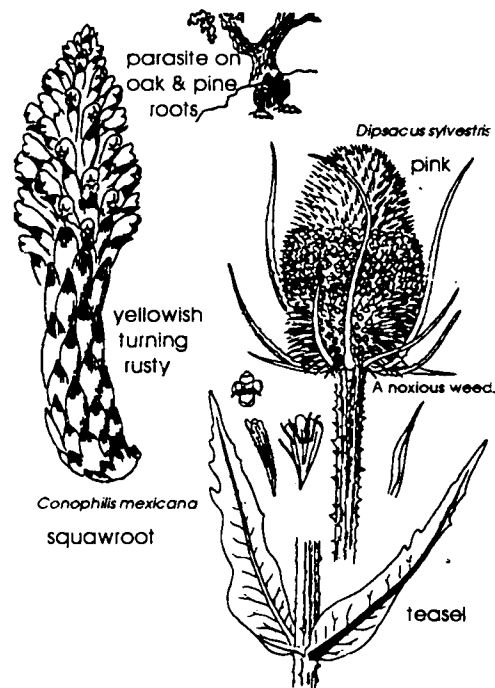
bipinnate, palmate and compound. This was a very informative talk, and we learned that there is far more than the basic shape of a leaf to be considered.

We took a field trip to the Luna and the Springtime Campgrounds in the San Mateo Mountains of Socorro County. After a long drive on narrow, dirt roads winding up into the mountains northwest of Truth or Consequences, we were rewarded with close examination of many native plants, shrubs and trees. Growing from the base of an Arizona White Oak was a fine example of the parasite Squawroot. We also saw Gray Oak and Gambel Oak trees. Among the unusual plants found were *Fendlera rupicola* and the Spotted Monkeyflower, *Mimulus guttatus*.

Our June Meeting was highlighted with a talk by Dr. John Connors, plant and range ecologist with the U. S. Forest Service at the Lincoln National Forest. "This forest is unique, an island above the desert." Thirteen of the plants listed on the federal endangered list are in New Mexico; seven of these are found in the Lincoln National Forest. He pointed out that any new project required a survey of every square foot of affected land for endangered plants as part of the Forest Service's vegetative management program. We then saw slides of these seven plants: Sacramento Mountain Prickly Poppy, Mescalero Thistle, Todson's Pennyroyal, Sneed's Pincushion Cactus, Kunslac Hedgehog Cactus, Alamosa Penstemon and a variety of yellow columbine. Dr. Connors then went on to talk and show slides of noxious weeds, those foreign immigrant weeds which have no natural enemies. They are threatening our native plants as well as range lands. The primary noxious weeds are Musk Thistle, Canada Thistle, Leafy Spurge and Spotted Knapweed. They have already spread beyond control in Montana; one of the primary tasks of the Forest Service is to keep them under control in New Mexico.

Santa Fe - Jean Heflin

The Santa Fe Chapter had a very successful plant sale at Sambusco Market on Sunday May 5, thanks to many individuals and several local nurseries who donated plants. Almost \$1000 was realized and everyone had a good time. Several field trips are on the schedule for the summer and we look forward to seeing native plants in bloom and learning about their natural habitats. Anyone in the area, even temporarily, is invited to join us.



NEW GARDENING MAGAZINE FOR THE SOUTHWEST

Rocky Mountain Gardener, a new magazine aimed at the problems we face as gardeners in this difficult environment, is in its third issue now and grows better with each edition. It is a slim magazine, without much advertising as yet, but with such useful information as: ways to garden that will help the environment, hints for cold, dry climate composting, and the best techniques for lawn watering and maintenance in the summer. Notices of special events of interest to gardeners and wildflower lovers, farmers' markets and a seed exchange are included.

Illustrations are photographs and drawings in black and white, except for the cover. A subscription for four issues is only \$10 and should be sent to Rocky Mountain Gardener, 403 N. Pine, Gunnison Co. 81230.

If you want to see it and can't find it at your local newsstand or nursery, suggest that they carry it. The publisher is very interested in finding new distributors. They can write to the same address as above. Also, writers and illustrators are needed. Help to make this a valuable resource for all Rocky Mountain gardeners by sharing your expertise, and get paid for it!

MARK YOUR CALENDARS: ANNUAL MEETING

The 1991 annual state meeting of the Native Plant Society of New Mexico will be held October 25-27 in Carlsbad, New Mexico. Your hosts, the Carlsbad Madrone Chapter, have planned an itinerary you will not want to miss!

Activities for this year's meeting will begin the evening of Friday, October 25th from 6-9 pm with an opportunity to meet and mix with your fellow native plant enthusiasts at Living Desert State Park. Lisa Johnston is planning to display all your favorite books and posters, so come prepared to buy that one special landscaping or wildflower book you've always wanted, but somehow never managed to order.

Saturday morning we will be conducted on a special guided tour of the Waste Isolation Pilot Plant and Los Medanos Natural Area, southeast of Carlsbad. This is an all above ground tour of the facility with emphasis on the WIPP Environmental Monitoring Program. Society members will have an opportunity to view herbarium collections and learn

about this region's native plant communities prior to touring portions of the site itself. Learn first-hand just how this fascinating area of sand dune and grassland communities is being preserved, monitored, and reclaimed. Lunch will be provided on-site.

Upon our return to Carlsbad, your Saturday afternoon will be your own, with free time to fully enjoy a tour through Living Desert State Park, Sitting Bull Falls, or any one of our other area attractions. A Board meeting will be scheduled late in the afternoon.

Saturday evening's Annual Banquet will begin at 7 pm with an address by the Infamous Mystery Botanist. Though you may not know him/her, this person has spent many years plumbing the depths and probing the secrets of our Desert Southwest. More details will follow in your September/October Newsletter.

Sunday morning, the 27th, we are planning another special tour. This 'early bird' field trip will leave Carlsbad at


7am and travel south for 50 miles for a look at the famous fall colors in McKittrick Canyon, Guadalupe Mountains National Park, Texas. The wondrous mix of living plant and animal life in this canyon will amaze you, and I promise the Big Tooth Maples will leave you speechless. Return to Carlsbad by 2pm for an early afternoon start toward home.

We truly want you to visit us here in Carlsbad this fall, and have the opportunity to make this one of the best State Meetings ever! For your convenience and safety, we are planning for group transportation to and from each field activity.

Block out a space on your calendar now, for the weekend of October 25-27, 1991. Watch for a complete itinerary in your next Newsletter, and plan on seeing a part of New Mexico you hadn't expected.

EDGE OF THE ROCKIES '91

NATIVE PLANTS AND SEEDS



FROM
THE SOUTHERN
ROCKY MOUNTAINS
TO
THE DESERT OF THE
COLORADO PLATEAU

133 HUNNA RD. BAYFIELD, CO 81122-9758

SPECIAL ISSUE: LANDSCAPING WITH NATIVE PLANTS


In the near future, we will dedicate an entire issue of the Newsletter to landscaping with native plants. We discussed this at the last board meeting and everyone was excited about this. We plan to make it a stand alone issue so that it can be reprinted and remain timely, so dated material will accompany this issue separately. We urge all of you to send us articles written about any aspect of native landscaping. If we receive enough material we could have this issue ready in time for the next Newsletter.

Tim McKimmie

Rick Castetter

THE BIOTA OF NORTH AMERICA PROGRAM


Recently we wrote about a project called the Flora of North America, which will describe all the native and naturalized plants of the United States and Canada. Now it appears that there is a similar ("competing") project, called the Biota of North America Program. This ambitious program will consist of a computerized database including the following examples of data fields for each plant; toxicity; chromosomal data; horticultural importance; range value; rarity; habitat; soil data; and more. For information contact Dr. John T. Kartesz, North Carolina Botanical Garden, Department of Biology, CB # 3280, Coker Hall, The University of North Carolina, Chapel Hill, North Carolina 27599-3280.



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WEEDS ARE A GROWING THREAT TO THE ECOLOGY OF AMERICA'S RANGELANDS

Reprinted from News USA

When we think of weeds, we usually think of dandelions in the lawn or thistles along roadways. We know that weeds are undesirable and hard to control and that they spread rapidly, especially in newly disturbed areas. And weeds often get in the way of other plants including tree seedlings.

What is less well known is that weeds can be a health hazard. They are carriers of insects and disease; some are poisonous; and they can kill grazing animals. Weeds thrive on both private and public land; and they are spreading at an alarming rate on America's rangelands.

In the words of Brian Sindelar, range science professor at Montana State University: "Weeds have a life of their own. They cross boundaries ... develop resistance ... cost us money. And one person's weed may benefit his neighbor." There is often disagreement among specialists over what constitutes a harmful, or "noxious" weed. On rangelands, noxious weeds are generally those that are harmful to livestock and wildlife.

How Big Is The Problem?

Some say that noxious weeds are one of the worst threats the West has ever faced. State taxpayers pay \$5 million a year to kill weeds in Montana, where the spotted knapweed infests 4.5 million acres, increasing at a rate of 10 percent a year.

Leafy spurge has already infested one million acres of North Dakota, expanding at 25 percent a year. According to the U.S. Forest Service, noxious weeds infest 4.9 million acres on National Forests and Grasslands, affecting wildlife habitat, scenic values, reforestation, and recreational opportunities, as well as forage production.

Forage losses result from plant competition and lack of soil moisture needed by more desirable plants. For ranchers, weeds cause income loss from livestock birth defects, decreased performance, weight losses, and deaths; along with higher management costs.

What Can Be Done?

The most common way to control weeds is to use chemicals; but growing public concern about the environment makes other means more desirable. In a more unique approach, goats are sometimes used to control leafy spurge, a weed they find to their own particular liking.

Biological control, like the use of ladybugs in the garden or insects to control thistle, offers many possibilities. But biological control takes time; and research often depends on public funds.

The approach used on public rangelands is to integrate a variety of methods—pesticides, biological control, regulation of seed production and transportation,

controlled grazing, and livestock inspections—along with more cooperation, cost-sharing, and better public involvement.

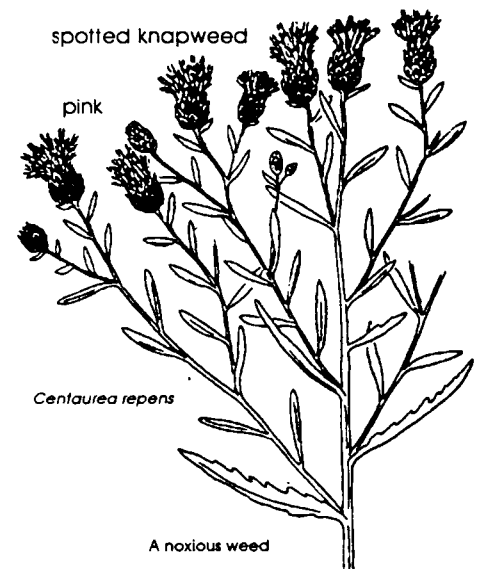
As individuals, we can each help control weeds in two simple ways —by learning what plants in our own area are harmful and doing our part to keep them from spreading.

According to Sen. Kent Conrad (D-N.D.), "Recognition of the problem and creation of a will to do something ... are key. It's going to take everything in our arsenal, especially public consensus."

Conrad is one sponsor of a bill now being considered in Congress to cope with the growing concern about weeds and the fear of wholesale losses of rangelands, crops, wildlife habitat, and soil stability.

RADIO PROGRAM FOR NORTHERN NEW MEXICO GARDENERS

Bob Pennington of Agua Fria Nursery in Santa Fe has a very enjoyable and informative program on Wednesday mornings at 8:45 on station KTRC, 1400 on the AM Dial. It is a question and answer format and you are invited to call in with questions. He is full of good information on many topics and throws in all sorts of tidbits that make gardening such a joy.



HAPPY COINCIDENCES

On the last two Otero trips in the hills and canyons near Alamogordo we saw many of the same plants that we saw on various other trips in our area and further afield in Texas and in the southern mountains of New Mexico and Arizona. Lisa Johnston was there with a book of 350 plant species including 240 full color photographs. We are ordering a large supply of the book from Lisa. We highly recommend "Landscaping with Native Plants of Texas and the Southwest" by George Miller, Voyageur Press for all you native plant enthusiasts in the southern part of the state. You can get it for your chapter from Lisa Johnston at 1802 West Grand, Artesia, New Mexico, 88210.

The El Paso Native Plant Society sent us a plant list that included these same plants! You can get these plants from Pearson's Tree Place in Canutillo, Texas. Any interested members can get this list from us. Pearson's Tree Place has a rapidly diminishing supply of native trees and shrubs. Encourage them to continue! Take I-10 to the Trans-Mountain-Canutillo exit. Go to Doniphan, and turn right. Pearson's is on the next corner. Enjoy.

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

Jean Dodd

AN IN-STATE MINI-VACATION

Looking for a change of scene and lots of flowers? I whole-heartedly recommend a trip to Silver City and environs in late August or early September.

Last year over Labor Day weekend I found gold in them-thar hills - gold of *Bahia*, *Verbesina*, *Viguiera*, *Helianthus*, *Chamisa*, *Grindelia*, *Psilostrophe*, *Heterotheca* and other composites, as well as pink, scarlet, lavender, orange, yellow, blue, maroon, purple magenta and almost every other color you care to name! Mountain Mahogany seed tails shimmered in the late afternoon light as we drove up. Around the Santa Rita mine, *Verbena wrightii* carpeted the ground. We happened to stay at the new Bed and Breakfast Inn, the Carter House, which was most pleasant. It happened to be the site of a Gila NPS chapter meeting the night we arrived and I enjoyed it very much. Another good place to stay is the Bear Mountain Guest Ranch. The knowledgeable Myra McCormick is there to help you plan your expeditions. There are many other motels and camping facilities.

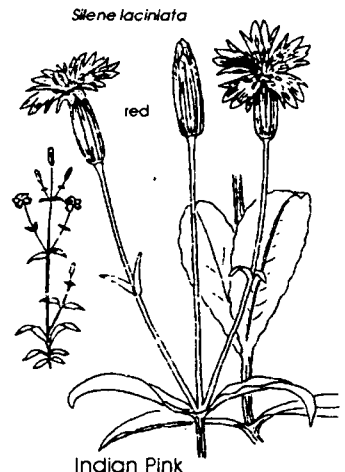
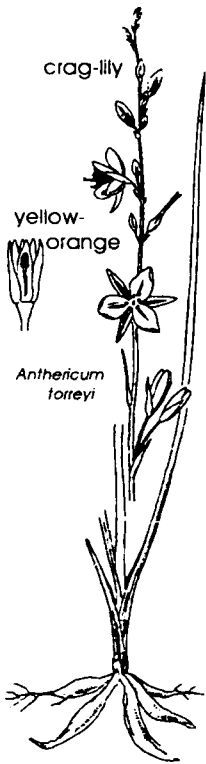
The next morning we took the winding, twisting road that goes north from Silver

City to the Gila Cliff Dwellings. It is about 45 miles, but allow three hours for all those turns and frequent stops to look at the flowers and distant vistas. I found many flowers I had never seen in native habitats. Some I had never seen at all. Sky-blue *Commelina dianthifolia*, crimson *Potentilla thurberi*, and Crag Lily, *Anthericum torreyi*, to name a few. In the National Monument, the uncommon white form of *Geranium caespitosum*, *Maurandya anitrrhiniflora*, and a species of *Boerhavia* with the tiniest velvety, red-violet flowers imaginable. Big mounds of *Mirabilis multiflora* and *Silene laciniata* were among my finds. There is a pleasant picnic area under huge old oaks in the monument and there were camping areas on the way in.

The return trip by way of Roberts Lake and the Mimbres Valley took us through masses of pink and orchid *Cosmos parviflorus*, dotted here and there with royal blue *Delphinium* and large white *Argemone*. *Sphaeralcea* with its beautiful coral-orange blooms was prominent everywhere, as well as *Polansia*, *Cleome*, scarlet and lavender *Ipomopsis* and many other more common flowers.

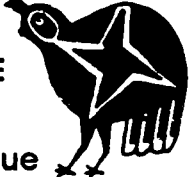
There are many ghost towns and other things of interest to explore in the area as well the wildflowers. Why not make your reservations now and see what flowers you can add to my lists, as well as have yourself a great trip?

Ellen Wilde



Indian Pink

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BOSQUE FALL FESTIVAL

Plan to join us at the Bosque del Apache Fall Festival near Socorro, the weekend of November 23. This will be a good opportunity to look at a great diversity of wintering birds. The Native Plant Society as well as many other organizations will have information booths at the park headquarters.

The Native Plant Society of New Mexico
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 Santa Fe, New Mexico 87502

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