Native Plant Society of New Mexico

NEWSLETTER

JANUARY / FEBRUARY 1990 VOLUME XV NUMBER 1

CALENDAR

Happy New Year!

ALBUQUERQUE

January 3 at the Albuquerque Museum CELESTE BROZEK on Wildflowers of Poland.
February program to be announced.

OTERO

February 24 Cornudas - if you live in the mountains, call Joy Carter. Everyone else meet at the south end of the Holiday Inn parking lot to leave at 8:00 AM. We will meet the El Paso members and their Society at the intersection of Highways 54 and 506 a few miles north of the Border Patrol Station. Bring a lunch. No camping. Bobby Jones will lead the tour on his father's ranch and tell about the history of the area. Rock formations similar to Hueco Tanks. If the weather is very wet, we will have to reschedule.

SANTA FE

January 17, 7:30 PM St. John's College Lab Bldg. Rm.122. SAM HITT, Forest Ecologist and activist, will speak on "Environmental Activism for the Lover of Native Plants".

February 21, same time and location. Program on the Gray Ranch by The Nature Conservancy.

GILA

Saturday, January 20th. Field trip to the Gray Ranch and the Peloncillo Mountains of extreme southwestern New Mexico. We'll see as much as possible of the Gray Ranch from the county road that briefly traverses it before heading up Clanton Draw and into the Pelloncillos. For more information call 538-3498.

January 25th at 6:30 PM at the Public Library. BOB O'KEEFE will give a program about Antarctica. He spent a summer working at the South Pole. This won't be a program about the flora and fauna, but rather an overview of the continent itself. Note time change!

EVERYONE

Remember to mark the dates of the state meeting in the Otero area on your new calendar! September 14, 15 and 16, 1990

New Officers recently elected by the Gila Chapter are:
Chairman Bob O'Keefe
Vice Chairman Jay Hamil
Secretary and
Bulletin Editor Ron Flemke
Treasurer Janet Hamil
Publicity Becky Smith

Congratulations to all of you! You have a great chapter there and we are so pleased that you decided to join us last year.

The idea of a guide to your favorite field trip destinations is one that I hope all the chapters will work on.

CHAPTER CONTACTS

Albuquerque
Ted Hodoba 864-0614
Jean Heflin 291-0489

Las Cruces
Tom Wootten 522-8068
Bob Reeves 523-1806

Otero
Jean Dodd 434- 3041
Margaret Bradberry 682- 2429

Santa Fe
Mimi Hubby 983- 1658
Ellen Wilde 982-1406

Gila
Becky Smith 538-5850
Ron Flemke 538-3498

SUGGESTIONS FOR THOSE WITH AN ITCH TO TRAVEL AND LEARN

The Crow Canyon Archeology Center in Cortez, Colorado is offering a program on the Anasazi's relationship to the native plants of the Four Corners Region and takes a look at the cultural significance of plants to Native American cultures today. This program runs from Feb. 4 - 10 and costs $995. Call 1-800-422-8975 for additional information.

The Desert Botanical Garden in Phoenix will have many things in bloom, active birds and other creatures, daily trail attractions, special events, workshops and short and long courses. Call (602) 941-1225 for additional information about what is blooming and what is going on.

The Society for Ecological Restoration will hold its second annual conference in Chicago April 29 - May3 at the Sheraton International Hotel at O'Hare. In addition to discussion panels and papers, there will be field trips to the famous prairie restoration project at Fermi National Laboratory, the Des Plaines River and Wetland Restoration Project, Indiana Dunes National Lakeshore Projects, Chicago's Urban Prairies and the University of Wisconsin's Arboretum.

For more information, contact William R. Jordan III at the University of Wisconsin Arboretum, 1207 Seminole Highway, Madison, Wis. 53711. Phone (608) 263-7889.

ARIZONA SYCAMORE

Although restricted to Southwestern New Mexico and a small area east of the Black Range in our state, mature specimens of Platanus wrightii represent the largest deciduous trees found here. Despite its multi-trunked base and the magnificent breadth of crown, many observers of our native flora are still surprised that this native Sycamore exceeds in size the many huge Fremont Cottonwoods in the Gila and San Francisco River Valleys.

Sycamores are hard to semi-hardwoods that tend to withstand wind better than their cottonwood neighbors. Interestingly, when branches do break, sycamores develop cavities ideal for nesting Elf owls, Brown crested flycatchers and Gila woodpeckers, among a large array of birds that depend on nest holes. Indeed, tree for tree, the Sycamore receives more nesting attention than any other tree in the state.

Although sycamore seed germination usually takes place on cobbly riparian seedbeds set up after winter floods and spring run-off, the syncarpal seeds are nearly a year old prior to getting their first opportunity to sprout. While thousands of these seeds may burst open in the wet and well drained tresses of river rock, all but a few are washed away by the same conditions that created the ideal seed beds. The rare, fortunate survivors have their best chances in beds left high and separate from the water's edge.

The long term reproduction of sycamores and cottonwoods is intertwined with free-flowing streams and their dynamic channel shifts. Unlike cottonwoods, which prefer sandy loams, sycamores lock into cobble and conglomerate substrates that support their massive trunks during high flows. A toppled Arizona sycamore may be covered with debris and held in place by a single strong root; its once-small limbs now stretch for the sky, growing into long, leggy trunks holding the potential to be nesting sites for Zone-tailed hawks. Trees that have better weathered the flood may still have been severely bashed about the lower trunk area and simultaneously partly covered with rock and soil. Suckering will then occur, leading to the formation of many trunks so characteristic of this southwestern giant.

Some suggested places to view sycamores: The Nature Conservancy's Gila Riparian Preserve, the Glenwood Catwalk, the Mogollon Creek lands and with landowner permission, the Animas Creek drainage west of Truth or Consequences.

John Egbert

PLANT DIVERSITY AND
THE NATIONAL FORESTS

(The following was sent in by Melanie Florence from the newsletter of the Society for Range Management.)

National forests shelter a vast array of plants and animals and organisms that are neither: fungi, protozoa and bacteria. By any measure, these lands far surpass national parks and other public lands in biological importance. Indeed, national forests are our most significant repositories of biological diversity -- the greatest resource within their boundaries.

Within the domain of a forest's ecology, each organism is linked to all others. Throughout every zone of arboreal life are found continual change, diversification, specialization and delicate interdependency. In the top ten centimeters of a square meter of forest soil, there are found more than 100,000 invertebrate animals representing hundreds of species.

The resiliency of forests and their ability to sustain a healthy ecosystem depend on diversity. In addition, diversity is also esthetically pleasing and, most emphatically, economic. The various ecosystems protect water sources, furnish many kinds of recreational experiences, build soil, mitigate the effects of drought and flooding, break down air and water pollutants and provide food, medicines and fiber.

A majority of species in the United States occur somewhere within the 191,000,000 acre National Forest System. National Forest are the primary -- sometimes the only--- havens for increasingly rare species that once spread freely across the land. They boast most of the 261 major terrestrial ecosystem types found in the nation. They protect 150 species designated by the Federal government as threatened or endangered and up to 1300 candidate species of states, Puerto Rico and the Virgin Islands.

Public forestlands are the principal resource that can protect biological diversity. Yet, within national forests, living resources face unprecedented peril on several fronts: excessive logging and road construction fragment and isolate forest stands; reforestation on cut-over areas introduces non-native species or substitutes one or two fast growing species for a wide variety of naturally occurring tree species; and a number of threats, such as encroaching urban sprawl and air pollution, arise outside national forest boundaries.

Sustaining the forest requires biological diversity and in turn, the forest is the greatest source of biological diversity. Congress directed the Forest Service to "protect the diversity of plant and animal communities" in the 1976 National Forest Management Act. Encourage your members of the Legislature to see that this mandate is fulfilled!

CONSERVATION COMMITTEE REPORT

At our meeting in September at Bosque del Apache, the Conservation Committee discusses the Gray Ranch, an ethics code for the Society, plant rescue operations and the new Arizona native plant laws. With so much going on, it looks like we have our work cut out for us.

I am going to ask you to help on a couple of matters. Please, write your Congressional delegation regarding the purchase of the Gray Ranch, even if you have written in the past. The Senate had passed an appropriation to begin the purchase, only to have the same appropriation defeated in the house. A few statistics to mention: although it is only four tenths of the state's area, it contains more species of mammals than any national park or wildlife refuge within the contiguous states, it has six different habitats containing 20% of the plant species of New Mexico. The coniferous forest is Sierra Madrean and distinctly different from more northerly forests and is a very rare habitat. Four federally listed endangered species occur on the ranch. Write now, before this national treasure is lost forever!

In other areas of the state, there are smaller, but very valuable species of plants and habitats that need protection also. The Nature Conservancy has been buying land to do just that for many years. The Albuquerque Chapter has contributed $100 each year for the past five, and been among the group known as Conservators, but because of the poor returns from our plant sale due to the drought we are unable to do so this year. Please send a check made out to The Nature Conservancy to Ted Hodoba P. O. Box 600 Veguita N. M. 87062 by January 15 so we can continue our commitment. A few dollars from many people can perform a very positive action toward conserving New Mexico's rare plants.

The Committee has also been working on a request from the Smithsonian Institute regarding a list of endemic plants of the Chihuahuan Desert, with particular attention to those from New Mexico, of course. There are a lot of unusual plants in southern New Mexico's desert which we are suggesting they should list. When it is published, we will let you know.

Ted Hodoba

VIEWS FROM THE SOUTH

In the last session of our state legislature, a bill was introduced calling for a game ranching operation. Public opposition defeated it, but a memorial was passed calling for more study and undoubtedly its proponents will push it again and again. All of us should oppose these attempts. The plan would call for "improving" rangeland to benefit a few species of game animals without regard for the effect on the overall biotic community. One of the really scary offshoots of this plan is the increased difficulty of enforcing current wildlife laws as far as the black market in animal parts is concerned. For more discussion on this topic send for a copy of the series of articles in The Albuquerque Tribune entitled "A Price on their Heads". Send $.50 to Wildlife Series, Albuquerque Tribune, P. O. Drawer T Alb. NM87103.

While not opposed to hunting, I really do look forward to a day when our state's wildlife is valued for other than its consumptive use.

Tom Wootten

CHAPTER REPORTS

Albuquerque

"Wreathes are not just for Christmas anymore!" we were told by Marie Torren, wreathmaker of renown and guest speaker at our November meeting. Still, it was an appropriate time to have her share her expertise with us. She gave us hints like: pick your plants at their peak of perfection, hang them upside down to dry. Many plants will absorb a solution of glycerine into their vascular system and this will keep them pliant. We were treated to a show of some of Marie's exquisite creations and then it was hands on time To the accompaniment of softly rustling leaves and faint popping of glue-guns, we were soon working away. If we didn't produce any award-winning stuff, we still had an excellent time.

December 6 we had our traditional Christmas party, and under Frances Szeman's watchful and experienced eye, it was once again a smashing success. First we set up the buffet line till it was groaning under the load of covered dishes, and before long we were groaning after being unable to resist sampling each of the abundance of goodies. Afterward we exchanged small gifts and then were treated to a presentation by Ted Hodoba on the Agaves of New Mexico. Thanks to his great slides and the wealth of information and lively anecdotes, no one dozed off, inspite of the heavy feast!

Walter Graf

Gila

Saturday, October 14th, our group made a field trip through the Mimbres Valley and into the Black Range of the Gila National Forest. We took McKnight Road up out of the river valley where it traverses a mesa for a few miles. At the end of the mesa is a short spur of a road that winds into the East Canyon. Here Quaking Aspen Creek flows through a beautiful meadow, making an ideal setting for us to enjoy our lunches. Afterward we strolled downstream and up, taking in the fall colors. Getting back out Mcknight Road, we continued on up the winding, often times rocky road to the summit of the Black Range at 9000 feet. There wre many aspen here with a few still holding colorful leaves. One grove was particularly striking with their brilliant orange, even red, tints.

Our November field trip to the Pelloncillo Mountains of Coronado National Forest was very enjoyable. We entered the forest at the Geronimo surrender site and hiked about three miles up Skeleton Canyon. Once again the fall colors were very beautiful. Among the most prominent were Sycamores, Velvet Ash, Fraxinus velutina and Soapberry, Sapindus drummondii. The green of the Arizona White Oak and some extremely lush Manzanita helped set off the colors even more. The trail stays in the bottom of the canyon and crosses the dry, rocky streambed numerous times. A few of the species seen were: Schott's Yucca, Littleleaf Mulberry, Sumac, Rhus choriophylla, Coral Bean, Erythrina flabelliformis in fruit, Palmer's Agave and Mockorange, Philadelphus microphyllus. About three miles in, we took a side trail up Pine Canyon. There we saw Chihuahuan Pine, Pinus leiophylla var. chihuahuana, Carpochaete bigelovii, in bloom and Shrub Live Oak, Quercus turbinella. Also of interest were the many Desert Broom, Baccharis sergiloides along the road with their showy white seed heads.

At our November monthly meeting, local member, Terri Gunnelson treated us to a bonsai show and demonstration. She brought in many fine specimens from her own collection and displayed them on reed mats. Complementing the display were many photographs of others and brochures and publications. After a talk explaining their care, Terri proceeded to create a bonsai from a two-year old pyracantha cutting. Thanks Terri, it was great!

Ron Flemke

Santa Fe

Dr. John Hubbard, NPS member and head of the endangered species section of the New Mexico Department of Game and Fish, introduced members of the Santa Fe Chapter to one of the lesser known (to us) parts of the state -- the Lower Frisco Box. Extending from a hot spring just below Pleasanton and Glenwood to the Martinez Ranch in eastern Arizona, it is a relatively untouched stretch of canyon bottomland between rhyolite cliffs filled with a variety of large native trees and home to many species of birds. Among the trees and shrubs found in the area are: Arizona Sycamore with its deeply indented leaves, several fruits to a stem and distinctive white trunks, Fremont Cottonwoods, Arizona Walnut, Honey Mesquite, Western Soapberry, Velvet Ash, Netleaf Hackberry, One-seed, Utah and Alligator Junipers, Gray and Emory Oaks, Wait-a-bit Mimosa, Mimosa biuncifera var. biuncifera, Gooding's Willow, Arizona Grape and Baccharis glutinosa. Notable by its absence is Salt Cedar!

Excellent slides taken recently and ten years ago showed the beauty of the area and the great changes caused by the action of a free-flowing stream subject to natural movement by periodic flooding. Dr. Hubbard reported that the area has recently been closed to vehicular traffic which was just beginning to impact the area. It remains a lovely wilderness, far from sound and sight of civilization.

Velvet ash - Fraxinus velutina

The following is a listing of articles of continuing interest from Newsletters of the last ten years. If you would like to have reprints of any of them, send one dollar for any four to Ellen Wilde 110 Calle Pinonero, Santa Fe, NM 87505. We also have field trip plant lists for many areas of the state, although we do not print them in the Newsletter. If you are visiting an area and would like to know if there is a plant list for it, please call 982-1406. Also, continue to send in plant lists for the file.

NEW MEXICO PLANTS

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Corn Smut RP J/F 88
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Alpine Areas of NM	RP	M/J 85
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PERMACULTURE

Recently I attended a conference on a new theory of landscape design called permaculture. It was developed in Australia, in an area with a climate similar to ours in many respects by Bill Mollison. He coined the term from "permanent agriculture", and defines it as the conscious design and maintenance of agriculturally productive ecosystems which have the diversity, stability and resilience of natural ecosystems. He contends that in only 20 years, modern agricultural practices have taken the world from 26% desert to 46%, depleted streams and groundwater and greatly increased soil erosion. His book, Permaculture, A Designer's Manual, has many useful ideas for harvesting natural rainfall, growing edible natives, ranching turkeys on native vegetation and harmonious living within a natural ecosystem.

For more information on permaculture workshops and conferences, write the Southwest Regional Permaculture Institute, P. O. Box1812, Santa Fe, N. M. 87504 or phone 982-2063.

Ted Hodoba

Lepidospartum Burgessi or Gypsum Scalebroom is a shrub in the Aster family with silvery leaves and yellow blooms in the late summer. The plant somewhat resembles the very common rabbitbrush, and this, or the remoteness of the only known populations kept the plant from being botannically described until 1977. Little is known of this plant at this time other than that it is found only on Gypsum Salt Flats and observation indicates that it is not reproducing. A recent viability test of seed indicated the seed was not viable. The known population of this species is approximately 5000 with 5/6 of this population found in one spot in New Mexico near Del City, Texas on the Caballo Resource area of the Bureau of Land Management. The remaining population is immediately across the border in Texas. Current grazing in the area does not seem to adversely affect the population, although this is not a certainty as the population is not expanding. Cattle range accross the area feeding on grass generally found in the lower areas while the Scalebroom is found on hummocks and slightly higher ground. Cattle water at two sites, one on each side of the population, and therefore, they move through the area. Putting water sources in the middle of the population as has been proposed previously, would cause congregation of livestock in the sensitive area.

The rare Gramma grass cactus Pediocactus (Toumeya) papyracanthus is found in the same area.

The Nature Conservancy is most anxious that this area be designated an Area of Critical Environmental Concern for the protection of these plants.

Please write to Mr. H. James Fox, District Manager, BLM 1800 Marquess St. Las Cruces NM 88005

BOOKS

Wildflowers of the Texas Hill Country by Marshall Enquist. 1987. 275 pp.

A photographic field guide that covers the beautiful hill country of central Texas, including the Edwards plateau, Llano Uplift and Lampasas Cut Plain. This book includes species not found in other Texas wildflower guides. Both flowers and leaves are beautifully photographed, facilitating identification. Order from Lone Star Botanical, PO Box 162906, Austin, TX 78716.

Endangered and Threatened Species of Arizona and New Mexico. 1987. U.S. Fish and Wildlife Service.

This book produced by Region 2 (Ariz. Tex. NM, and Okla.) of the U.S. Fish and Wildlife Service includes species status, description, habitat, and reason for decline as well as notes and references for plants, mammals, birds, reptiles, fish and invertebrates. maps indicate historic and present distribution of plants and each species is illustrated. A similar booklet for Texas and Oklahoma is also available.

Annotated Checklist of Vascular Plants of Grand Canyon National Park by Barbara G. Phillips, Arthur M. Phillips, III, and Marilyn Ann Schmidt Bernzott. Monograph No. 7, Grand Canyon Natural History Association. 80pp.

This publication includes an overview of vegetation and climate, annotated listings of 1400 taxa occurring in the park, an index, and a map. It is available free by request on professional letterhead to the Grand Canyon natural History Association, PO box 399, Grand Canyon, AZ 86023.

Grow More by Paying Attention to Microclimates

By Joel Glanzberg

Microclimates are small niches of climate significantly different from the larger surrounding macro-climate. Microclimates are useful for extending the plant diversity and growing season of an area, as they allow us to grow plants that will not grow or fruit in the macroclimate.

Microclimates are created by landscape features such as hills, canyons, cliff faces, and by human-made structures like buildings and walls. For example, a south-facing wall or cliff not only reflects heat to plants in front of it, but acts as a thermal mass, storing heat during the day and radiating it at night. It also acts as a windbreak and protection from cold air drainage. Wildflowers can always be found blooming against south facing cliffs long before and long after specimens in the open. In the intense sunlight of arid regions, all these effects are pronounced, resulting in an incredible diversity of life.

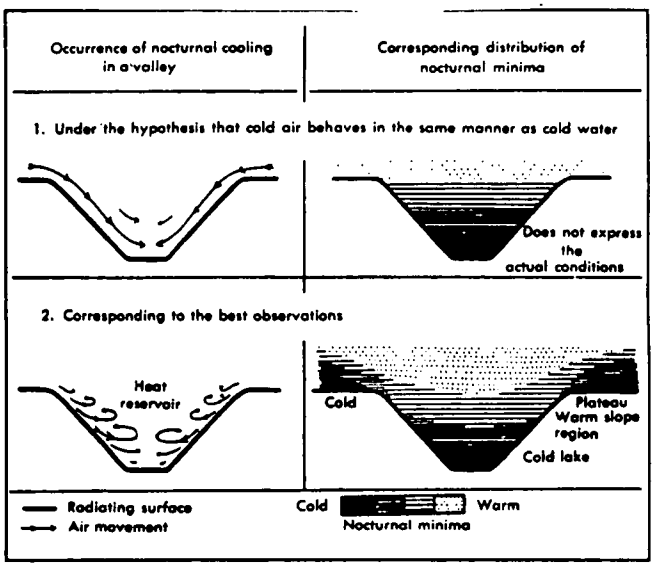
Night sky radiation is also an important factor in microclimates. It is at night that the frosts occur, that limit plant growth and species selection. On clear nights the earth radiates the heat gained during the day out to the night sky. If the sky is cloudy the cooling is much less. Tree cover or the building overhang can have the same effect as a cloudy sky. If a plant is against the south wall of a building and under an overhang, the growing season can be extended even longer.

Heat is not only radiated directly overhead. The entire visible night sky is radiated to. For example, in a large forest clearing, there will be more frost and lower night temperatures than in a smaller clearing because more heat is lost by radiation.

Another microclimate condition arises due to cold air drainage. Because hot air rises and cold air falls, the lowest points of the landscape will have colder night temperatures. Cold air drainage is unlike water in that the isothermal bars conform more to the contour of the land rather than simply the elevation. Because cold air drains below, a warm thermal belt occurs about 2/3 to 3/4 of the way up a hillside. In low desert areas these hillsides can be frostfree, so frost-intolerant plants can be grown in macroclimates that experience frosts.

This thermal belt is generally where gardens and orchards should be planted, unless a cold microclimate is needed, such as for apples or cherries in the low desert. In the high desert, peaches, apricots, almonds and other frost sensitive plants should be planted in the thermal belt where there is good frost drainage.

Cold air drainage, like water drainage, can be stopped by barriers. A wall, thick band of trees, or a railroad embankment running across a slope, will stop cold air, which will build up - causing a warmer air pocket immediately below. This makes it is possible to create cold microclimates higher up a slope and warm ones lower down. If the barrier is angled down the slope, the colder air will continue to drain but won't affect the area below the barrier.



In the high desert, warm microclimates are important for extending the growing season. But throughout arid regions, cool, moist microclimates are important. They are the niches of favorable climate for establishing plants. Wherever the climate is cooler and more moist there will be more water available for plants. This is why little canyons and cracks in rocks are places where plants flourish in desert regions.

We can create these microclimates as well. By surrounding gardens with windbreaks, and planting trees and climbing vines throughout, we can keep our gardens cool and moist. The trees and trellised vines also minimize night sky radiation and frost, as do the windbreaks. The windbreaks can also serve as cold air drainage barriers, if that would be called for.

Microclimates occur naturally but are easy to create and utilize. Unfortunately we tend to create unwanted and unused microclimates such as baking parking lots and city street wind tunnels. It's time to create more life-enhancing niches so we can sit in the shade and listen to the dull thud of ripe fruit falling.

Joel Glanzberg is the founder of Flowering Tree Permaculture Project, a high-desert research and educational institution in northern New Mexico.

From the Fall 1989 Issue of "Sustainable Living in Drylands", the Journal of Arid Lands Perma-Culture.

Subscriptions are $10.00 /year
Mail to P.O. Box 27371, Tucson, Az. 85726- 7371

Please assist your editor by taking time to contribute articles for your Newsletter. We like articles about Plants, Botanists, Landscape design, growing and propagating, lesser known areas of the state where flowers are abundant; anything that interests you and you think might be of interest to our membership. Deadline for material for the next Newsletter is February 12, but I will be very happy to have anything sooner.

The computer at the Los Lunas Plant Materials Center went on the Blink just before we were due for the set of labels for last issue. Lisa worked manfully to repair the damage and get me a set so that it could still go out on time. It was quite a job when she was also preparing for the Xeriscape Conference, which I understand was a great success. We hope all the addresses are correct again and that we will hear of any problems. Please let Jean Heflin, Membership Secretary at the address below know if any errors are detected.

Ellen Reid

Join the Native Plant Society of New Mexico if you are not already a member! Send dues of $8.00 for an individual or couple or $25.00 for a sustaining membership to NPS-NM, PO Box 5917, Santa Fe, NM 87502. Welcome!

Lisa Johnston, Pres.

NPS-NM
P. O. Box 5917
Santa Fe, N.M. 87502

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Address Correction Requested
Membership Secretary
443 Live Oak Loop NE
Albuquerque, N.M. 87122