NATIVE PLANT SOCIETY OF NEW MEXICO

NEWSLETTER

November/December 1986 Volume XI No. 6

CALENDAR

Nov. 5	Albuquerque Dr. Wm C. Martin will speak on poisonous plants of New Mexico. Albuquerque Museum. 7:30 pm
Nov. 12	Las Cruces Pot Luck Dinner--Contact Tom at 522-8068
Dec. 3	Albuquerque Pot Luck Dinner Albuquerque Museum 6:30 pm

PRESIDENT'S MESSAGE

Hopefully, everyone is now fully recovered from the Annual meeting at Grants. We had a good turnout from members all over the state. Sue Wachter & I provided the Friday nite entertainment with talks on landscaping with natives. Saturday, we went to El Malpais for a guided tour under Les Booth of the BLM. Those of us with nimble (and not so nimble) feet trekked over the lava to a little known spot of lava tubes. Hardy souls followed Les down into one tube and out the other side. All in all, the 10th Anniversary "Death March" went well. After lunch, we traveled to the other side of the malpais to La Ventana and many gorgeous wildflowers. Saturday nite we saw "Spiral Dance" a video on the Big Bend area in Texas, and we played "Name That Plant" from slides provided by the Otero Chapter. Now we know why botanists either lump or split!!. The Silent Auction was a huge success with a wide assortment of goodies (from apples to pressed flower notecards and unusual plants). Thank you to all the donors and the buyers. Sunday we strolled up Mt. Taylor and found a different assortment of plants and occasionally animals. (I know the elk I saw was huge.) Thanks go to Ted Hodoba for making all the arrangements! If you missed it - there's always another year.

Take note of the two meetings next summer. Anyone who is willing to assist, please contact Ellen Wilde or myself. There are 1001 details to handle and very few of them require any expertise with plants.

Finally, don't forget NPS when you give this holiday season. We have books, shirts and gift memberships available. Or, if you're feeling rich, share the wealth with NPS (it's tax-deductible!!).

HAPPY HOLIDAYS TO EVERYONE.

CHAPTER REPORTS

Otero Chapter

On August 18 the Otero members visited the Scaramentos on the road to Timberon near the waterfall. Driving in the mountains we alternated between admiring the beautiful vistas and some of the many flowers in bloom near the road. The 4 o'clocks splashed the area with bright pruple-pink color. Each of their flowers is small, but a group of the upright, slender plants whose forking branches are tipped with flower clusters produce a real show.(possibly Mirabilis nyctaginea). A broad color range was seen; the blues of the blue-eyed grass and Bluebells, the various yellows in the composites, the reds in the Indian Paintbrush and skyrocket or scarlet gilia, and the assortment of aster colors. Shrubs also provided color, the white tasselflowers of Brickellia grandiflora and the fragrant white blossoms of the Mockorange.

NOTE: IF ANYONE IS DOING A COMPUTER PROGRAM ON WHAT BLOOMS WHERE, WHEN AND THE RAINFALL FOR THAT SEASON, WE KEEP LISTS OF PLANTS WE SEE AND WHERE THEY ARE.

Las Cruces Chapter

We are indebted to Pat Cole for her presentation on the wild roses of the West in August and to Cheryl Garing for her presentation in September on landscaping with native plants. Most all of us were surprised to learn of the wide variations in the genus Rosa and in species stellata especially. Cheryl did not limit her talk to natives alone but gave us all some good practical suggestions on many of our landscape problems. Thank you to both.

The field trip to Radium Springs was made in August but your reporter only has sketchy details of observations. The trip to Pancho Villa State Park in September was attended by about 12 members. The cacti bloom earlier in the year must have been spectacular judging from the fruit set. Each of us probably had our own special sightings but of particular interest seemed to be the three gourd species all growing together (Cucurbita foetadissima, C. digitata and Apodanthera undulata), the thornless "White thorn" (Acacia constricta subsp. paucispina) and at the end the large colony of "Night blooming cereus".

Our year winds up with anticipation of Jan Meissner's program on flowers used in fragrances on October 8, our final field trip to Box Canyon October 5 and the potluck supper November 12. Tentative plans are that the supper will again be held at St. James Episcopal Church parish hall at 6:30 pm. For last minute details please call Tom at 522-4434.

We close with a special thanks to those who made the arrangements for the delightful NPS State meeting in Grants. We understand Ted Hodoba particularly made most of the contacts. Thanks Ted. Hope all went down to the scenic overlook. The flowers there were sure worth the trip not to mention the lovely view over the lava flows.

Albuquerque Chapter

The Albuquerque group visited Barbara Sandoval's garden in Tijeras. The garden incorporates wildflowers and cultivated flowers together.

The October meeting was a slide presentation on rare and endangered plant species in the state. The number of cactus being lost is disheartening.

The upcoming November meeting will be a presentation by Dr. Wm C. Martin on poisonous plants in New Mexico. The December meeting will be our usual pot luck dinner at 6:30 pm at the Albuquerque Museum. Remember to bring a gift for the exchange.

*****A note to all chapter members, meeting reminder cards are sent only to those people who have attended a meeting within the last four months and signed the register.

Chavez County

The Southeast chapter of NPS-NM met at the office of Dr. J.Z. Ainsworth at 207 N. Union to discuss upcoming events. The group then further honed their skill at plant identification and use of a plant key by examining and discussing various plant parts.

Santa Fe Chapter

Our June field trip was quite different as we toured the grounds of the International Folk Art Museum and three Santa Fe residences, most all of which had been landscaped with native plants. Ellen Wilde's classes in landscaping with native plants are primarily responsible for the shaping of the museum landscaping. In addition, the above average rainfall this year have not only allowed the plants to become established, but to spread. Hopefully before long the grounds will become a museum showplace illustrating what can be done with native plants. Students in the landscaping classes learned that peat moss mixed with naturally sandy soil did NOT help plants become more quickly established or better established. In fact, the peat moss proved TO BE A DETRIMENT to the plants natural growth.

From the museum we went on to the lovely grounds of the homes where the landscapes were an inspiration. Wildflowers, shrubs and herbs, too numerous to mention here, had formed intricate and interesting natural patterns beside walkways and curved driveways. The wildflowers' naturalness added much to the homes beauty as well as conserving irrigation water. Irene Mitchell, Nancy Eddy and Ellen Wilde led this group of 26 people on the tours.

Dr. Don Lowrie led a group to Pacheco Canyon north of Tesuque Road in July. This group saw Gallardia at least four or five times the seasonal number of plants due, we believe, to June being the second wettest June on record. Everything was in abundance, but some flowers were more prolific and in various growth stages. This area north of Santa Fe appeared to have had hundreds of times more flowers than years past.

Our July field trip was led by Irene Mitchell. This was a high altitude trip (Elevation 8,000 to 9,500 ft.) with five people attending and the group walked up the Santa Fe ski slope and returned by way of the Little Tesuque stream. Wildflowers seen on this trip were native to swampy, bog and damp meadow areas and were quite different from those seen on our lower elevation field trips. Following the stream, we discovered purple and white violets growing in filtered sunlight, Cardamine and Water Hemlock. Marsh Marigolds, Little Red Elephant and Bog Orchids were found in the bog and in the damp meadows were Shooting Stars, Iris, Honeysuckle, Chiming Bells, Pink Gentian, Golden Banner and Wallflower. Geraniums, Potentilla and Indian Paintbrush were growing among the grassy mountain slopes away from the swampy areas. This was a most colorful wildflower trip with refreshing cool breezes and then showers to send us on our way home.

The July 27 trip to Tierra Amarilla was led by Phyllis Hughes. Two cars formed our caravan making stops frequently to see flowers that normally bloom in and around Santa Fe in early Spring but were still blooming high in the mountains. Fields and fields of wildflowers commonly seen and known to NPS members formed a beautiful color mass. In addition, an interesting point: There were also many unusual flowers the group collected in order to take them to the herbarium at St. John's College in Santa Fe for identification.

On August 9, Phyllis Hughes led our field trip of interested and enthusiastic people to the Chicoma Mountain (Elevation 10,000 ft). This was an excellent trip with very good weather. The group climbed to the top of the mountain where they found hundreds of wine-color Mariposa Lilies (Calohortus dunnisonni). Other plants growing in the meadow were Maroon Penstemon and Blue Columbine. From the mountain top can be seen the Ghost Ranch area including the cave-like amphitheater as well as the other side of a volcanic hill called Pedernal (Flint Mountain). This Perdernal is well known as an Indian collection site for flint used in arrow construction. This is a magnificent view and well worth seeing. The flowers in the wild are spectacular!

Ballot

The ballot below is for the 1987 Officers in the Native Plant Society of New Mexico. Please return your completed ballot to the following address no later than November 30, 1986.

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

President	( ) Lisa Johnston
Vice President	( ) Tom Wootten
Recording Secretary	( ) Dovie Thomas
Treasurer	( ) Jean Dodd
Board of Directors (2)	( ) Bob Reeves
	( ) Ellen Wilde
Membership Secretary	( ) Judith Phillips

Dear NPS-NM....

Researchers at Walter Reed Army Hospital are currently conducting investigations into the anti-malarial properties of extracts from Artemisia species. Fresh plant materials for sampling are being grown at the Denver Botanic Gardens and other locations from seed offered by other botanic gardens throughout the world.

Your help in gathering seed of all species, subspecies, and varieties is requested. Only enough seed to grow 25 plants is needed and the correct identification of the plant is not absolutely necessary. Identification can be made at a later date upon blooming in the greenhouse. Unidentified seed should be accompanied, however, with good information regarding collection site (e.ge., state, county, elevation, etc.).

Please send to:

Jim Borland
Plant Propagator
Denver Botanic Gardens
909 York Street
Denver, CO 80206

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:
_____
_____
_____
_____

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
___Civic ___Commercial ___Highway

Special Uses: ___Food ___Fiber
___Medicinal ___Dyes
___Photography ___Field Trips
___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.)?

Books Books Books Books Books Books

WILDFLOWERS ALONG FOREST AND MESA TRAILS. By Nelson T. Bernard. Illustrated by Dan Godfrey. University of New Mexico Press, Albuquerque, NM 87131. 177 Pages. Paper: -0730-2 $9.95.

Poisonous Plants; Cacti and Yucca; Creepers and Climbers; Trees, Shrubs and Bushes; Flowering Plants by Color; and Other are the six divisions of plants retired forest ranger, Nelson Bernard, has used. Neither intimidating nor frightening are these divisions in plain English for use by plant watchers for whom this book was prepared. Plant watchers are people who like to get out-of-doors when the weather is right (something must be in bud or in bloom). They usually have other interests like bird or people watching. Although a great many people are addressed, the area targeted is small: What to see by easy access from Albuquerque. If you have been confused or frustrated by those shaded areas indicating plant habitat on a large map with little detail, here's good news. This book tells where and when and how to look for what. The directions are as clear as you could get for making it to Grandmas's on Thanksgiving. So, plant watcher, if you visit or live in Albuquerque, this book is certainly for you.

For the focused-on reader the illustrator has done a great job with full page sketches. He has avoided both the artistic and the academic treatment that exaggerate keying characteristics. Text and illustrations are on facing pages. Scientific names are given to reduce confusion about common names, which are also given and indexed. Scientific names are useful for name droppers, useful, too, for access to in-depth information about a plant that excites your interest and, of course, use is mandatory for trained, trainee or serious plant involved persons.

Though this work is specific in area covered, the plants are distributed over much of New Mexico. Text and illustrations make for interest even in New Mexico's eastside "Little Texas", the Four Corners and other "foreign" areas.

Criticism: All those blank halves of the plant text pages. Large areas of white paper may be proper for skinny volumes of poetry or for snob advertising but this text is interesting. Expansion to full pages would be welcomed.

George Finley

Symposium and Penstemons

The third week in June 1987 will offer TWO events related to native plants. Mark your calendars now, so you can participate in one or both events.

NPS-NM will sponsor a symposium on native plants in the southwest, June 18-19, 1987, at the University of New Mexico. Topics will be varied but will include conservation, landscaping, propagation and uses of the plants. Tours and displays are also part of the event and a proceedings will be published. For more information, write to Native Plant Symposium, P.O. Box 934, Los Lunas, NM 87031.

The Rio Grande Bosque: From Native to Almost Exotic

by

Dan Scurlock

Cottonwoods (Populus fremontii var. wislinzenii?) and a cottonwood bosque probably have been around from the beginning of the Pleistocene, or for almost one million years (Paul Knight, personal communication). This species is obviously adaptive, but can it survive the on-going and future environmental impacts on the bosque?

Historically, the Rio Grande was a relatively wide (up to a mile), meandering and shallow river with numerous islands and sandbars. Late spring or summer floods were frequent, and periodically some inundated the entire floodplain. The bosque, or riparian communities were maintained in part, by this flooding. One obvious beneficial aspect of flooding on riparion vegetation, especially the shallow-rooted cottonwood, is an increase in available moisture. Another benefit was the deposition of rich, silt alluvium as a prime habitat for the establishment of seedlings of pioneer tree species.[1]

The first detailed botanical description of the Rio Grande bosque was published by J. R. Watson. For the Rio Grande floodplain he described two major floristic associations: (1) nearly pure stands of valley cottonwood with a scattering of willows, Baccharis, senna, and sedge; and (2) a wet meadow-like community of sedge, yerba mansa, Baccharis, (Helianthus annuus) common sunflower, and canaigre (Rumex sp.). Watson did not mention salt cedar (Tamarix pentandra or Russian olive (Elaeagnus angustifolia) as components of the bosuqe, but does state that tamarisk was being planted in Albuquerque as an ornamental.[2]

With the arrival of Anglo farmers, irrigated lands had increased to about 125,000 acres by 1880. Within a decade, this acreage began to sharply decrease as the floodplain became water-logged from the extensive irrigation, recurring floods and an aggrading riverbed, which not only periodically saturated the floodplain surface but raised the water table as well. This latter phenomena was caused by an increasing sediment load derived from overgrazed and intensively farmed areas upstream being carried by a flow of the Rio Grande which had been decreased by 50% by 1930. Thus, the channel of the Rio Grande began to aggrade, or build up, rather than downcut. As the bed of the rose in elevation above the farmlands on the floodplain, the associated water table rose to the surface in many locations. Increased alkalinity of the soil, a condition which commonly develops in the Southwest as a result of intensive irrigation, also had become a serious problem by the late 1800s. By 1896 the cultivated acreage had decreased to 50,000 acres, and by 1925, to 40,000 acres.[3] By the end of World War I, approximately two-thirds of the valley was classified as either alkaline, marsh, or sand hills dominated by sagebrush (Artemisia spp.).[4]

To alleviate these problems, the Middle Rio Grande Conservancy District was established in 1923. Construction of flood control structures, drainage canals, levees, and a more complex irrigation system was soon begun in the district, which extended from present Cochiti Dam downriver to the north boundary of the Bosque del Apache National Wildlife Refuge. Included in the district is a total of 277,760 acres of which there are 128,787 acres of irrigable land.[5] Major flooding, drainage problems and soil alkalinity generally were mitigated through the efforts of the MRCD; but other environmental problems resulted due to changes in the hydrologic dynamics of the region.

Vegetative changes due to lowering of the high water table in the Rio Grande Valley was one of the notable impacts. This draw down of the water table was due to drainage projects undertaken by the Middle Rio Grande Conservancy District (MRCD) following its legislative creation in 1926. All of the five types of plant communities identified on the floodplain by Marjorie Van Cleave experienced varying degrees of environmental changes between 1926 and 1935. Two of these communities, lakes and swamps, virtually disappeared; but remnant components survived along ditches and drainage canals. Another association, wet meadows, were drying up; cottonwood and willow in the bosque and "fringing woodlands" (along the edge of the river) were decreasing, while the recently introduced salt cedar (Tamarix pentandra) and Russian Olive (Elaeagnus angustifolia) were increasing, especially in the southern portion of the area.

These two species, exotic phreatophytes, have deeper root systems and can tolerate higher soil alkalinity. Increased alkalinity resulted from the lowering of the water table which increased evaporation and thus caused increasing accumulations of alkali in valley soils. Cessation of periodic flooding due to dams and channelization which flushed out the alkalai from these soils, compounded the problem.[6]

Tamarisk was introduced from Euro-Asia into the eastern United States by nurserymen in the 1800's. The U.S. Department of Agriculture began growing tamarisk in the mid-nineteenth century and by 1868 listed six species that had been established at the arboretum in Washington D.C. By this time Tamarix was offered for sale in nurseries in California and had escaped from cultivation in the 1870's.[7]

The earliest report of salt cedar growth in New Mexico was in 1910 near Mesilla Park. A few seedlings were reported growing on the delta of Lake McMillan on the Pecos River. Some tamarisks were included in a shipment of exotic plants which the City of Albuquerque and the U.S. Forest Service purchased from the Stark Bros. Nursery in Missouri in 1919. Within a few years the first specimens were growing along the city's irrigation ditches, and by the 1930's Tamarisk was invading the bosque.[8] Thriving on an increasing soil salinity and silt load into the Rio Grande, and helped by planting along canal banks as erosion control, the salt cedar spread dramatically. By 1947, this species covered 60,640 acres of the Rio Grande Valley and was consuming an estimated 238,700 acrefeet of water.[9]

In recent years tamarisk has become the dominant species on portions of the Rio Grande floodplain, especially south of Bernardo. Russian olive has become a major understory component of the valley woodlands from Corrales to Belen. Salt cedar does not appear to be increasing in the Albuquerque area except where cottonwoods are cleared or die out due to flooding. On the other hand, Russian olive continues to increase on the Rio Grande floodplain throughout the middle Rio Grande Valley.[10]

Another introduced species which has spread and invaded portions of the floodplain and uplands from plantings in towns and cities in the region is the Siberian elm (Ulmus pumila). In Albuquerque, the Chamber of Commerce, the U.S. Forest Service and the city purchased several hundred exotic trees--among them American elms--for planting in residential areas and public parks in 1919. The first Siberian elms soon followed, championed by Mayor Clyde Tingley, in the late 1920's and this species quickly became a prominent part of Albuquerque's treescape.[11]

Spreading in disturbed areas in the bosque, but as yet, with less severe ecological-economic consequences than salt cedar and Russian olive, is the tree of heaven (Ailanthus altissima). When it was introduced into New Mexico has not been documented, but this native of China was brought to Philadelphia in 1784 and to New York City in the early 1800's.[12] Spreading from both seeds and root suckers and a rapid grower, it is common around older homesites, abandoned farmland, and irrigation ditches.

With continued incursion of these exotics, continued development on and along the floodplain and increased recreational use, what is the future of the bosque in Central New Mexico? In recent years a growing government and public concern over this riparian greenbelt, especially in and around Albuquerque, has resulted in establishment of the Rio Grande State Park, Rio Grande Nature Center and the Corrales Bosque Preserve. This is a good beginning, but how should these and other areas of the bosque be managed, especially the vegetation? Should the planting of exotics like Russian olive, which has been the recent policy at the Rio Grande Nature Center, be continued? Or should the exotics be removed and the indigenous species be "helped" by simulated flooding through irrigation of selected areas? Others might suggest that environmental change by humans in inevitable and "natural" and that the exotics and the bosque as a whole should be left as is. But whatever management decisions are made, the bosque will continue to change in botanical composition as it has for over a million years.

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4. Davis, Mary P. 1982 Farming along the American Nile. Century Magazine 2 (12): pp. 9-13.

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6. Van Cleave, Marjorie. 1935 Vegetative changes in the Middle Rio Grande Conservancy district. M.A. thesis, University of New Mexico, Albuquerque. pp. 4-31, 42-44.

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9. Robinson. 1965, pp. A5-A7. Hay, John. 1963 Upper Rio Grande: embattled river. In American Association for the Advancement of Science, Publication No. 74, Washington, D,C. p. 292.

10. Freehling, Michael D. 1982 Riparian woodlands of the middle Rio Grande Valley, New Mexico: a study of bird populations and vegetation with special reference to Russian-olive (Elaeagnus angustifolia). U.S. Fish and Wildlife Service, Albuquerque. p. 10

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11. Walton. 1984, pp. 6-8.

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