

# NATIVE PLANT SOCIETY OF NEW MEXICO NEWSLETTER

March/April 1998

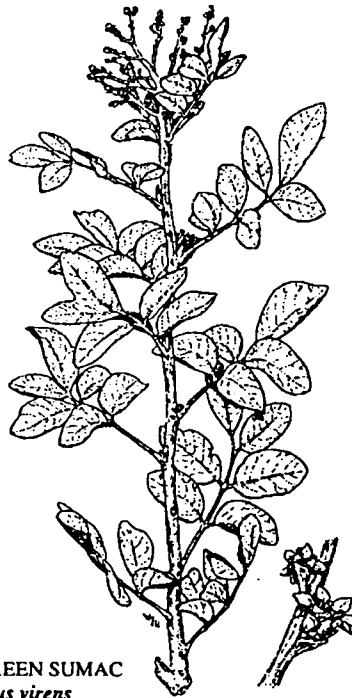
Volume XXIII Number 2

## Trees and Shrubs of New Mexico

by Jack Carter. Mimbres Publishing. 1997. \$29.95

Book Review by Tim McKimmie

Trees and shrubs are of special interest to many people. Trees often have beautiful architecture and add great interest to our landscapes. They provide shelter for birds and provide us with building products, food, and shade. If we are observant, they tell us much about the soil, environment, and microclimate where they are growing. Nature lovers usually start out by learning the wildflowers because of their interesting colors. Anyone can learn a bit about the local wildflowers using a field guide or helpful friend. Similarly, it is not difficult to learn a few local trees and shrubs. However, for some reason most amateurs balk at learning more about trees and shrubs. It seems they're not as easy to get a handle on. An obvious reason is that the flowers of trees and shrubs are often inconspicuous or out of reach. Trees and shrubs can be more difficult to identify because you often need information about leaves (not needed with wildflowers), bark, tree shape, or habitat. With wildflowers you can usually ignore everything but the flower whereas many woody plants can be identified without flowers. When you do get past the barriers of learning trees and shrubs the fun and challenge is accompanied by a new interest in the landscape at large. Jack Carter, retired professor of botany, came to N.M. from Colorado a few years ago and his new book has been eagerly anticipated by both amateur and professional botanists. He is dedicated to education both in the classroom and through societies such as the Native Plant Society of New Mexico.



EVERGREEN SUMAC  
*Rhus virens*



It is important to note that this work is a KEY, all 534 pages of it. (No color photos, but lots of black and white line drawings.) Dichotomous keys consist of steps one must take in order to arrive at an identification. Each step consists of a choice between two descriptions and you decide which most closely describes the plant at hand. While not inherently easy to use, a well planned dichotomous key is a thing of logical beauty because the user is able to make the necessary decisions that lead to the species name and description (identification can be confirmed, if necessary, by viewing specimens in an herbarium).

There are more than 500 trees and shrubs in New Mexico, out of a total of nearly 4000 higher plants. This work includes natives as well as commonly found non-native species. As in many keys, the more unusual groups are "dropped out" or "keyed out" first. With their needle like leaves, the 25 or so pines, junipers, fir, and other conifers come out first. The approximately 20 woody monocots (agaves, yuccas, etc.) drop out with their parallel veins and/or flower parts in threes, etc. After the (woody) cacti, mistletoes, and ephedra have been separated, we are left with more than 400 broad leaved trees. These can be separated into trees with either opposite or alternate leaves and further subdivided by having either simple or compound leaves. The group having simple/alternate leaves makes up perhaps half of the broad leaved trees. The largest genus in N.M., by the way, is *Salix* (the willows) with their simple/alternate leaves. *Salix* contains 26 New

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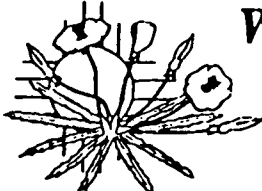
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The *Newsletter* is published six times per year by the Native Plant Society of New Mexico. The Society is composed of professional and amateur botanists and others with an interest in the flora of New Mexico. Original articles from the *Newsletter* 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. We encourage the use of suitable native plants in landscaping to preserve the state's unique character and as a water conservation measure. Members benefit from chapter meetings, field trips, publications, plant and seed exchanges, and educational forums. A wide selection of books is available at discount. The society has also produced two New Mexico wildflower posters by artist Niki Threlkeld. Contact our Poster Chair or Book Sales representative for more information. Call chapter contacts for local information.

**Advertising Schedule**  
 Approved advertisements will cost \$50 per year.

**Membership Fees**  
 Dues are \$12.00 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, NPSNM, POB 5917, Santa Fe, NM 87502-5917

**Newsletter Contributions**  
 Please direct all contributions for the newsletter to Tim McKimmie, editor. See address below or email to [tmckimmi@lib.nmsu.edu](mailto:tmckimmi@lib.nmsu.edu)  
**Deadline for the next newsletter is April 1.**

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**Trees and Shrubs of New Mexico cont'd**

Mexican species and is an especially difficult genus to ID. For this reason a table with numerous vegetative and floral characteristics has been included here for those who wish to tackle this genus.

A sample key choice (the first in the book) is as follows.

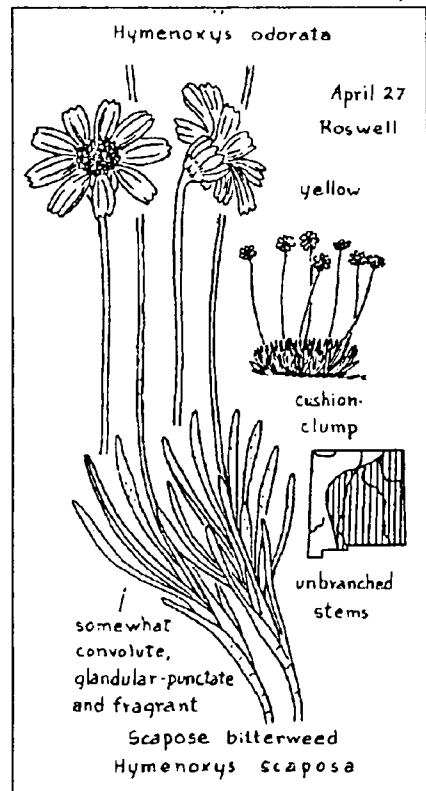
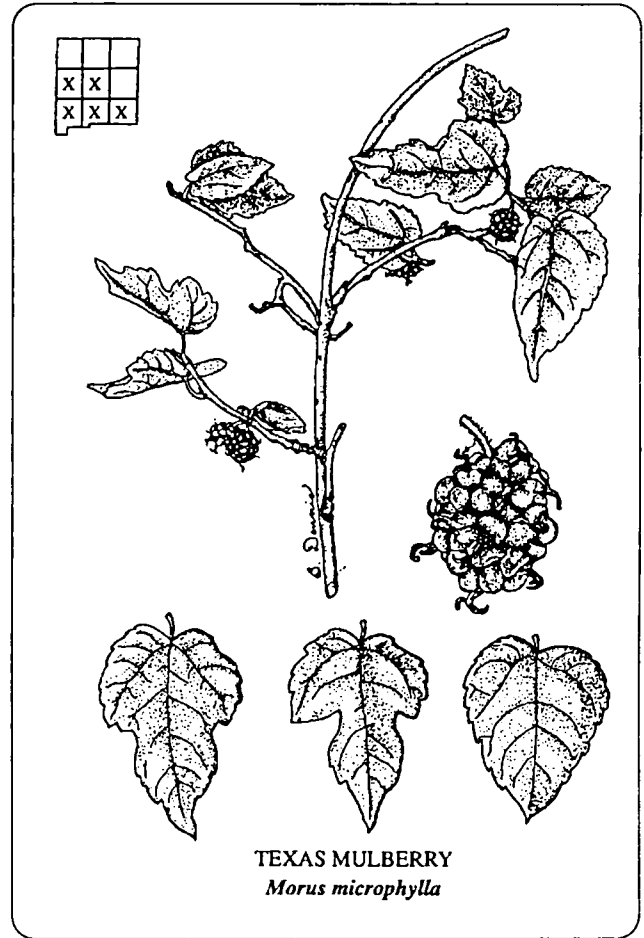
- 1. Woody plants with needle-like, overlapping, or scale-like leaves, somewhat deciduous with age in *Ephedra*; fruit a cone, small strobilus with several thin scales, or berrylike; plants not producing true flowers with sepals and petals; seeds borne externally and exposed on cones or small strobili .....2
- 1. Woody plants with broad leaves; leaves seldom needle-like, or scale-like and rarely evergreen, usually deciduous in winter; fruit variable but not a cone or small strobilus; plants producing true flowers with basic flower parts including sepals, petals, stamens and pistils in various combinations; seeds enclosed in the ovary and fruit .....3

Illustrations accompany about 75% of the plants. These are generally of high quality and will be very useful (see accompanying examples). There are maps included as well (see accompanying graphic), one more tool to make identification easier. A glossary defines terms used in the keys. An illustrated glossary is also included to show, for example, what is meant by a "palmate leaf" or "dentate leaf margin". Nearly 50 references are included. Finally, the work is indexed by common name, scientific name, and plant family.

So who needs this book? This book will be helpful to anyone who is interested in improving their ability to identify our woody plants and is willing to take a little time to learn some terminology and how to use the keys. For example, you may know you're looking at an oak but want to know which one. As the author states "like all learning it does require a visceral enthusiasm to examine some part of the botanical world and some messing about in the botanical sciences." The fact that coverage is limited to the state of NM is an added benefit for NPSNM members. While I have not had much time to use the keys they do appear user friendly. The descriptions are succinct yet often contain interesting sidenotes such as collecting tips or plant uses. I did notice a few inaccuracies in the maps. Well, nothing is perfect. It should be noted that this is the second work of this title. "Trees and Shrubs of New Mexico" by E.O. Wooton appeared in 1913 and covered more than 200 woody plants. Interestingly, that work included "a plea for the use of native plants".

**Reference**


Wooton, E.O. 1913. Trees and Shrubs of New Mexico. Agriculture Experiment Station. Bulletin No. 87. State College, N.M.



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## CALENDAR

### GILA

March 15 - Field Trip. Tres Hermanas, south of Deming, NM.

March 20 - PENSTEMONS. Jean & Bill Heflin. Harlan Hall, WNMU campus. 7:00

April 19 - Fort Bowie National Historic Site, San Simon, AZ.

All Field Trips start at 8:00 am at the WNMU south Fine Arts Building parking lot.

### OTERO

March 21 Potluck and video. noon, Cloudcroft Community Center.

April 25. Field Trip to Dripping Springs. 9 am. Star Wars Deli, Organ, NM

### LAS CRUCES

March 11. First meeting of 1998. Video on life in the desert and discussion. 7:30 SW Environmental Center 1494 S. Solano

March 15. Field trip to the Robledo Mtns. Old Fairacres post office. 9 am.

April 8 "Global Warming" by Laura Huenneke. 7:30 SW Environmental Center. 1494 S. Solano

April 18 Earth Day and NPS display.

April 26. Field Trip to Red House Mtn. 8 am. Kmart - Hwy. 70.

### ALBUQUERQUE

March 5 Update on Rio Grande Botanical Garden.

March 7 Field trip to Rio Grande Botanical Garden.

March 29 Field trip to Tent Rocks.

April 1 "The Art of Navajo Weaving" by Pearl Sunrise

Meetings are held at the Albuquerque Garden Center, 10120 Lomas Blvd. at 7:30 pm

### Otero - Jean Dodd

Floyd & Pat Nott led Otero Chapter members on a trip into Sabinet Canyon 18 Oct., 1997. They both walk in the area a lot, Floyd especially. The weather was perfect and everything seemed to be in bloom. October is the blooming month for 4 o'clocks this year.

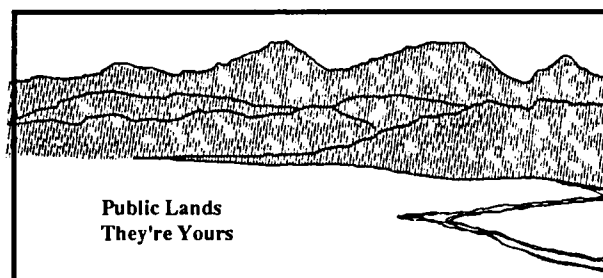
We started with desert scrub-creosote, mesquite, etc.. After we parked and walked down the hill to the wash all the blossoms started. Saw clumps of very tall paintbrush with gray leaves and red blossoms. See them in canyons occasionally but not often, see Warnock-Davis Mtns. p.201. Wire lettuce, *Stephanomeria tenuifolia*, *Leucilene ericoides*-baby aster, pea bush-*Dalea formosa*, tall milkweed, desert tobacco-nicotiana-grows at Desert Foothills Park in Alamogordo, too. Some shrubs-Broom poreleaf-*Porophyllum scoparium*, mariola, buckthorn, sumac-*Rhus trilobata* (lemonade bush), Apache plume, *Brickellia*, Wright's siltassel, Mormon tea, *Aloysia Wrightii*. Starting seeing seepwillow as we walked. Saw more and more, then the actual seep was there where the water came to the surface. We started seeing large clumps of flowering buckwheat, bull rush, also vines on the ground going from one side of our walking space to the other but not in bloom. Don't remember seeing this before. Saw a smaller purple snapdragon vine-*Maurandya antirrhiniflora*. The trailing windmills-*Allionia incarnata*-4 o'clock were blooming. Everywhere for a long stretch we saw clumps of an especially beautiful 4 o'clock sticking above the bushes-blossoms are a beautiful red-purple color, hanging down on the branch, stamens sticking out of the blossoms. Saw the Mexican Orange, *Choisya dumosa*-Citrus Family. Several of our members have tried to grow them without success even though some followed the directions of Nokes in "How to grow Native Plants". Dr. Spellenberg said he has grown them in his yard from roots. The resulting bushes are fine now. Any other experiences?

### Gila-Martha Carter cont'd from page 5

seal. It is speculated that the species migrated south from the Arctic Ocean by way of the Yensei and Angara Rivers, slowly adapting to fresh water.

During the past twenty years pulp plants for the extraction of cellulose to use in the manufacture of airplane tires, were polluting the waters along the Selenga River in the southeast part of Baikal. This activity has slowed considerably with the adverse attention of conservationists around the world and with the end of the Communist government.

The Russians are a friendly and out-going people who, even though little English is spoken, are curious about the western world. People from the villages along the railroad seemed well fed and content and we learned that English is taught in public schools. They are just very shy about trying it on Americans, as we were about using the limited Russian our guides were trying to teach us on the train. Questions and discussion continued into the social hour following the program.



## CHAPTER REPORTS

Gila-Martha Carter



Albuquerque -- Jean Heflin

The Albuquerque chapter Christmas potluck, Thursday, December 11, was well attended. President Lucy Beals announced chapter officers for 1998: Carolyn Dodson and Jean Heflin co-chairpersons; Beth Herschmann, vice president and treasurer; Maryanne Syroid, secretary. Volunteers in 1998 were presented with copies of Jean Heflin's new book "Penstemons; The Beautiful Beardtongues of New Mexico." The speaker for the evening was Dr. Scott Auerbach who told us about the declining bat populations of the state but their habit of sometimes appearing in new sites or reappearing in new sites. Some work has been done with old mines to enable the bats to live there undisturbed. He showed marvelous photographs of the bats, some taken in laboratory situations to show how bats drink and other behavior.

The January 8 meeting featured Baker Morrow, landscape architect, historian and author of "Best plants for New Mexico Gardens and Landscapes." His subject was "New Mexico: Historic landscapes, Historic Plants". He discussed Native American and Spanish uses of plants and how New Mexico's settlers from the midwest brought with them their home landscapes of green lawns, trees and white picket fences, typified by the landscaping of Las Vegas and many New Mexico historic sites. March 5, David Bleakley, Albuquerque botanist and biologist, who participated in the biological survey, fire study and kapuka (volcanic "island") surveys of the Malpais National Monument lectured and showed his slides of the kinds of lava existing in the monument and their effect on the vegetation. Some flows are as late as 3000 years ago. The old lava tubes have collapsed to form ice caves in some places which can hold amazing ice stagmites in early spring. The dampness encourages populations of mosses, lichens and liverworts. Some very old trees exist in the Monument, including the oldest known inland Douglas fir. Some 441 taxa exist in the Monument, including the uncommon cinder phacelia. The NM Bureau of Mines has just published "Natural history of El Malpais National Monument which contains a current plant list.

PROGRAM REPORT January 16 - RUSSIA: THE LAND, THE FLORA AND THE PEOPLE. Jack Carter. Approximately 80 members and guests heard a program and slide presentation by Carter who visited The Far East Territories and Eastern Siberia in July of 1997. He compared the countryside and landscape of Siberian Russia with the northern North Temperate Zone and the Rocky Mountains of the United States as far south as New Mexico.

Martha and Jack traveled 2,000 miles through the taiga by Trans-Siberian Railway from Khabarovsk to Irkutsk on the shores of Lake Baikal in Siberia. Noted were the similarities and differences in the daily lives of the people, where society is attempting to recover from many years of repression by their government and the contrasting democratic government of the U. S.

Plants of the taiga zone along the railway were typical of the marshy areas where permafrost creates a bog environment with fields of fireweed (Epilobium), wild iris (Iris), the brilliant orange milkweed Asclepias, and the ever present members of the Asteraceae. The Salicaceae, including both cottonwoods and willows, filled the margins of the many streams and rivers that drain Siberia to the north. Pines, larches, cedars, and juniper were the predominant conifers of the taiga. The taiga has been logged over a long period of history in order to support the building of the railway and the settlement of this vast region.

A guided tour of the Irkutsk Botanic Garden by our English-speaking botanist guide allowed the 20 participants from Canada and the United States to discover similar or the same plants with which we are familiar in the U. S. However, many specific names were different, mostly being siberica or some form of that specific name. The Russian botanical community is very aware of the medicinal uses of plants and nearly every plant we observed had some historic use as a medicinal. Sometimes the uses seemed contradictory to us but we did not question their firm belief in the curative power of plants. (They were not aware of the use we in the U. S. are making of St. John's Wort (Hypericum sp.) as a substitute for Prozac, but they were very sure Echinacea could alleviate almost any ailment.

Lake Baikal was the ultimate destination and six days were spent cruising with one or two shore excursions each day. Seven Russian scientists provided information on every aspect of Baikal—an ichthyologist, a mammalogist, a geologist, two botanists, a solar astronomer and a limnologist, the Director of the Baikal Research Institute were at all times giving lectures and answering our questions. The Russian economy is so unsure that leading tours is one way of receiving monies for their personal research projects. Baikal is known by various subtitles: Blue Pearl of Siberia and Sacred Sea of Siberia being the most common. It is the most ancient lake on earth at 20-30 million years and over a mile in depth. It forms a crescent nearly 400 miles long and holds one fifth of all the fresh water on earth. It has 334 tributaries and just one outlet, the Angara River at Irkutsk. Of Baikal's 2,000 plus aquatic forms, at least two-thirds of the lake's flora and fauna are endemic to the lake. Among these are the nerpa, (Phoca siberica), the planet's only fresh water



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(corrections and additions welcome)

## Honey Mesquite

by Joe Ideker, Excerpted from the Native Plant Society of Texas News XVI(1):8-10 1998

Honey mesquite is either one of the most loved or most hated trees in Texas. A scrubby to medium-sized tree with a broad, open crown, *Prosopis glandulosa* provides shade without any care where few other trees will grow. Some hate any tree with thorns or looking like it is at home in the local natural environment. People in the Lower Rio Grande Valley seem to either learn to live close to their natural environment or try to modify it to resemble an unnatural Eden. Some ranchers dislike its ability to occupy range where grass could grow. Honey Mesquite's solitary or paired, supra-axillary spines may grow to 5 cm (2 in) long on the zigzag twigs. The root system extends radially more than 30 m (100 ft) and the large, thick taproot may reach down as far to reach ground water. This Mimosa Family member reaches 15 m (50 ft) in height and 1 m (3 ft) in diameter. The National Champion grows in Real County and measures 3.86 m (152 in) in circumference, 15.8 m (52 ft) in height, and 21.6 m (71 ft) in average crown spread.

The deciduous, twice-pinnately compound leaves have 1 or 2 pair or pinnae with 6-13 (15) pairs of smooth, dark-green leaflets per pinna. The alternate, long-petioled leaves reaching 25 cm (10 in) length grow on branchlets of the current year. Old timers say the leaves never appear before the last freeze in Spring and plant by it. The exceptions are winters that are so mild many mesquite trees retain their leaves.

Creamy-white or yellowish flowers appear in cylindrical spikes from April to September. The spikes grow from 1.2-5 cm (1/2-2 in) in length on stout; axillary peduncles. Close examination of a spike shows five petals, a calyx one-fourth the petal length, and ten stamens twice the petal length — per small flower.

The familiar clusters of flattened, leathery, yellow pods follow or overlap the flowering. These usually straight pods reach 10-25 cm (4-10 in) in length. The seeds are partitioned, brown and within a spongy matrix of sweet pulp. Each quarter-inch-long seed is separately enclosed in a nut-like envelope placed obliquely within the constricted pod. The bark at first appears rough and reddish-brown, divided by shallow fissures. It changes color and appearance greatly at least three times with age. Older trees display a grayish bark with deep fissures and thick ridges.

The rich dark-reddish-brown wood contrasts attractively with the yellow sapwood. The heavy, hard, durable, and close-grained wood proves almost indestructible in contact with soil. Honey Mesquite wood is valuable as firewood, flooring, gunstocks, fenceposts, railway ties, underpinnings of bridges, furniture, felines or wheels, hubs, posts, spokes, building beams, and (formerly) city street pavement. The best fuel in its region, Honey Mesquite burns easily, evenly, and leaves good coals for barbecuing. It imparts a unique, tasty flavor to meat rivaled only by hickories. Both wood and charcoal are heavily harvested and widely sold. This harvest becomes a problem as woodchoppers and charcoal burners continue to sneak into unguarded refuges, sanctuaries, and natural areas destroying the habitat, to rustle the mesquite wood, sometimes recklessly burning the wood in situ to make charcoal to pirate. How can these rustlers be steered to those ranchers who would give them all the mesquite wood they can cut in return for a cleared pasture?

Once a tree restricted to moist bottoms, cattle consumed the tasty pods and carried the undigested seeds onto ridges where

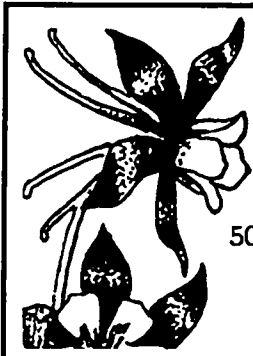
they were deposited, moistened, well fertilized and left to germinate and grow. Natural fires which eliminated trees from grasslands have been suppressed. Thus, a great increase has occurred, especially in disturbed grasslands, although the actual range has shrunk. The type locality in northeastern New Mexico no longer lies within the range. In Texas, "Mesquite" is known only from an adventitious stand in Nueces County which is heavily hybridizing with the native Honey Mesquite. By the way, true Mesquite is *Prosopis laevigata*, a Mexican species which does not occur elsewhere in Texas.

Our *Prosopis glandulosa* (Honey Mesquite) has two recognized varieties. Our concern herein primarily lies with the variety *glandulosa*. It grows abundantly in the Lower Rio Grande Valley and South Texas Plains, Plains Country, and north-central and southeast Texas. From Kansas, Oklahoma, Arkansas, and Louisiana, it occurs through Texas into eastern New Mexico, Coahuila, Nuevo Leon, and Tamaulipas. The smaller-leaved variety *torreyana*. Common in the Trans-Pecos of Texas, it occurs west through New Mexico, Arizona, Nevada, and California and south into Baja California, Sonora, Chihuahua, Coahuila, and Nuevo Leon.

The seeds have a hard seedcoat and can lie dormant for decades until conditions become right for germination. In addition to being a pioneer or invading species, Honey Mesquite resprouts from the root crown, thus adding to its dislike by root plowers but large Honey Mesquites often are left for livestock shade. Livestock and wildlife browse both leaves and pods. The beans provide an excellent food source for browsers during droughts. Honey Mesquite provides food, shelter, cover, and nest sites for wildlife. Scaled Quail, White-winged Dove, ground squirrels, Coyote, Striped Skunk, jackrabbit, and White-tailed Deer all eat the seeds. In the Lower Rio Grande Valley, Honey Mesquite grows thickest and most abundant as it reoccupies disturbed sites, primarily accompanied by *Granjeno* and *Nopal Prickly Pear*.

"Honey Mesquite furnishes important fodder (the pods) for horses, cattle, goats, (humans), etc." Ripe pods supply a nutritious food, a food also readily devoured by many herbivorous and omnivorous mammals, including Mano Coyote. Ground into meal, it provides flour (pinole) for cakes and breads. It has been fermented into alcoholic beverages by the indigenous peoples within its range. The flowers, eaten by Indians, provide nectar and pollen for bee and butterfly food and serve as a superlative honey source. Like other leguminous plants, Honey Mesquite hosts in symbiosis nodules, bacteria which fix nitrogen in soil. The nitrogen is then utilized by other plants. A gum resembling gum-arabic exuding from the trunk can be eaten like candy or dissolved in water and used to treat dysentery, sore throats, and open wounds. The roots and bark provide a rough cordage after soaking thoroughly in water. Honey Mesquite also provides a black dye and a cement used to mend pottery.

Honey Mesquite's drought tolerance makes it an excellent, often employed, specimen tree in native xeriscapes and other landscapings. The openness of its foliage permits lawn grasses to grow beneath it. It provides shade during the hot seasons and drops its leaves allowing El Sol's beams to reach and warm dwellings in the cool season. It is not easily damaged by disease and insects. For landscapings and revegetation, pods can be gathered from the ground or tree and opened, or the seeds with their matrix can be washed from collected coyote scats. Recommended preplanting seed treatments include soaking in sulfuric acid 15-30 minutes or placing in boiling water (off the burner) and allowed to cool and soak for 24 hours before planting.



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## Notes

**Plant Sale.** The UTEP Centennial Museum (El Paso) will hold its annual Plant Fest April 25-26, 1998 from 10 am to 4 pm. Good selection of plants. Volunteers needed to answer q's about native plants. call 915 598-2449 or 747-6669 or email jb98450@aol.com.

**New Guide to Chihuahuan Desert Landscaping.** "Chihuahuan Desert Gardens: A Native Plant Selection Guide" will be available in March 1998. Published by the NPSNM, this 32 page booklet describes 75 natives suitable for landscaping with color photos of each. Watch the next issue of the newsletter or contact your chapter representative.

**1998 NPSNM Annual Meeting.** Once again the annual meeting will be a joint meeting with the NPS of Texas. NPS Oklahoma will also participate. The meeting will be centered in Amarillo Oct. 16-18, 1998.

### ***PENSTEMONS: The Beautiful Beardtongues of New Mexico***

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