NATIVE PLANT SOCIETY OF NEW MEXICO
NEWSLETTER

July/August 1998 Volume XXIII Number 4

Appreciating the Desert Willow

By David Will
reprinted from the Native Plant Society of Texas News 16(2):7 1998

I had a drive-by shooting in front of my home this past summer. A speeding car slid around the street corner and screeched to a stop in front of my house. From the open window a long lens emerged and four or five shots were fired off in rapid succession. The driver then quickly sped away, tires squealing — all the while leaving me in amazement as I watched from the window of my home.

The target was a pink and white desert willow on the corner of my property. The shooter using a camera hopefully got what she wanted, but she could have appreciated the beauty of the tree even more had she taken time to closely examine this wonder of nature. The desert willow, *Chilopsis linearis*, is a member of the Bignoneaceae family. Like other members of this family, the desert willow has large, beautiful and fragrant flowers that draw attention.

The long narrow leaves give *Chilopsis linearis* its common name of willow. Seen at distance, a young tree could be mistaken for the same, but the outstanding floral displays tell the viewer that this tree belongs to a different group. Flower colors range from light pink to violet with shades of dark pink and burgundy abundant. A white flower is occasionally found, but does not perform as well in the landscape. Flowers arise in clusters at the tips of branches developed from the year's new growth.

The desert willow does best in areas where rainfall does not exceed 35 inches a year, is placed on a slope or in well-drained soil in higher rainfall areas. While naturally occurring in the western portion of Texas with a small disjunct group near Uvalde, the desert willow has become popular everywhere west of Interstate 45. Occasional hard freezes will shock young trees back to their roots, but mature trees can handle cold weather anywhere in Texas.

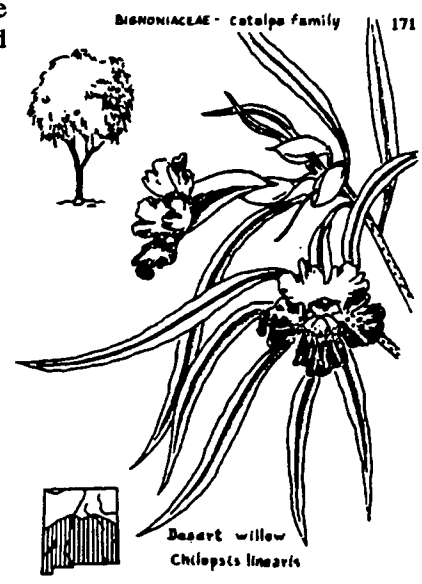
The tree is found throughout the Panhandle. It was planted by the Civilian Conservation Corps during the depression of the 1930 's to protect farmlands from wind erosion. As many of these areas have little water to spare, the desert willow was perfect. In addition, the tree is enormously flexible. It will withstand winds that will bend it to the ground without breaking. Indians used the resilient wood for bows and other tools.

The best use of *Chilopsis linearis* might be to replace the crapemyrtle in the home landscape. The tree flowers as long or longer than the crapemyrtle. Desert willows attract and nourish butterflies and hummingbirds, something that the crapemyrtle cannot do. It can be pruned into a single trunk tree, or allowed to freely branch at the base and become a large vase shaped shrub.

Pruning the desert willow only encourages it to flower more. An initial pruning of the tree should take place February 14 to March 1. It is best to remove branches the size of a pencil or smaller. As the new growth emerges, prune away branches that do not conform to the desired shape. By doing this, the tree will produce an abundance of flowers. Deadheading old flowers will prevent the formation of seed pods and encourage new wood growth. Seed production should be limited to the last month of the year before a hard freeze or frost.

Trees can be grown from seed or from cuttings. Seed produce a wide vanety of flower colors. If you desire a panicular color for your landscape, then selection should be made while plants are in bloom. A cutting of soft wood can be treated with a rooting hormone and placed directly in a one gallon pot filled with soil. Seed should be covered lightly with soil and kept wet until germination. A single pod can produce as many as 250 trees. Seedling trees may require two years before a bloom is produced.

Desert willows will grow to an average of 25-30 feet as a single trunk tree. A multi-trunk tree can be kept under 20 feet. Multi-trunk trees are best formed by cutting a second year tree trunk at ground level and allowing base sprouts to give rise to the new plant. With rapid new growth, comes more abundant flowering. Hopefully, though, your tree observers will stop and smell the flowers.



Notes:

The USFS unit in Bozeman MT requests **help in collecting** plants or seeds of *Crepis nana, Taraxacum ceratophorum, T. eriophorum, or T. lyratum* for a biological control of weeds project. Contact 406-994-1784 Wendy Bergstrom or Jennifer Birdsall.

A new **key to the genus *Cryptantha*** by Bob Sivisnki was published in the April issue of *The New Mexico Botanist.*

Hortus West (see adjacent ad) is primarily a **directory of suppliers of native plants** and seeds from around western NA. Although the suppliers are primarily from west coast states the directory is large with over 1000 species. Cross references from plant names to suppliers makes it easy to use. Also contains articles on natives with excellent photographs.

The Las Cruces chapter donated their NPS dues rebate ($2 per member) of $94 to the **Forest Guardians.**

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

Deadline for the next newsletter is August 1.

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SOCIETY CORRESPONDENCE: Our main address is: NPSNM, POB 5917, Santa Fe NM 87502-5917. See above for membership and newsletter correspondence.

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CHAPTER CONTACTS

Albuquerque		
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The End of Science

by John Horgan, 1996, Broadway Books, New York
Reviewed by Willard H . Beattie

During the past few centuries, science has grown from a pursuit by the educated elite, to become the dominant enterprise for learning about and understanding the world. It has produced an explosion of knowledge that could not have been contemplated by the people of former ages. Few people have dared to challenge our unspoken belief in the unlimited growth and progress of science. John Horgan, a senior editor for Scientific American, has done just that in his book, "The End of Science".

Horgan's book is based upon interviews with a host of scientists on the cutting edge. In chapters with titles such as, The End of Physics,The End of Cosmology, The End of Evolutionary Biology, The End of Social Science, The End of Neuroscience, he systematically developed the theme that as the easy problems in each field have been solved, the remaining problems demand increasingly great sophistication in tools and techniques, causing diminishing returns from time and money spent. He distinguishes science from technology, and does not predict any end to technology. I will review two chapters to try to give the "flavor" of his thesis.

In post-Newtonian Physics, the two great achievements have been Einstein's theories and quantum theory. Both were based upon mathematical analysis, and both have been validated by experimental observations. What remains after this is the search for unifying principles, but the search has not produced any promising results. In the wake of the unfunded superconducting supercollider, particle physicists were left without their most promising tool. Moreover, mathematically based theoretical physics (i.e. superstring theory) has become so esoteric, and so removed from the physical world, that verification may be impossible. Horgan argues that the separation of physics from the kinds of reality checks known in the past has left it with an uncertain and directionless future.

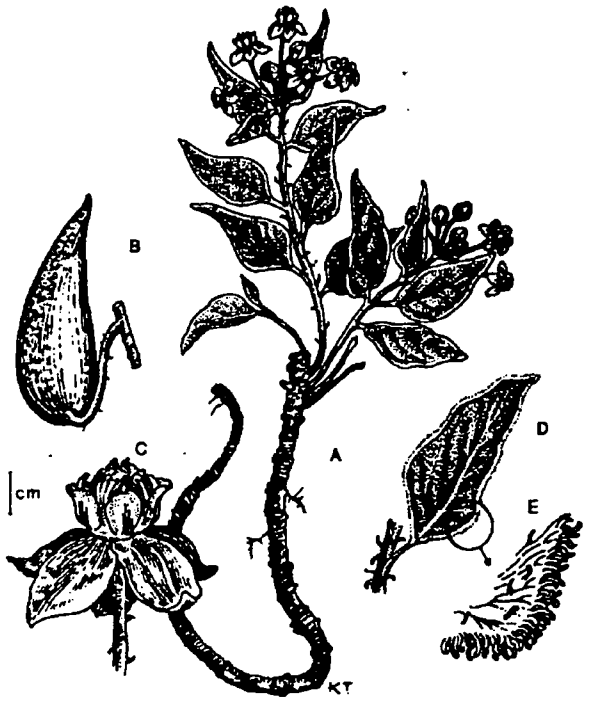
In evolutionary biology, the great confirmations of Darwin's theories, appearing first during the 1930's as the modern synthesis, and second by DNA and molecular biology, would appear to have completed the basic paradigm of biology. Horgan selected Richard Dawkins, Stephen J. Gould, Lynn Margulis, Stuart Kauffman, and Stanley Miller, to ask about the future of biology.

Dawkins, who reduced Darwin's theory of natural selection to the level of the gene, mentioned three remaining problems: the origin of life, the origin of sex, and human consciousness. He believes that solutions to these problems will amount to filling in the details of existing theories, not requiring fundamentally new theories. Gould, who has strived to banish the notion of progress from evolutionary biology, doesn't believe that any final theory of life is achievable. On the other hand, Margulis, who is known for her treatment of symbiosis in the evolution of cells, holds that Darwinian theory is basically finished, and that it will be just a blip in the history of ideas. Kauffman is unsatisfied with the theory of natural selection, believing that chance events cannot explain the complexity of either the evolution or the origin of life. He attempts to explain these in his theory of self organization, which is based upon computer algorithms. Stanley Miller, who gained fame from his synthesis of amino acids in a "primordial atmosphere", has found the synthesis of any replicating molecules to be extremely difficult, but he believes that the search will eventually point to an understanding of the creation of life.

These visionary people identify several diverse directions that theoretical biology could take, but there is little agreement among them. Once again the easy problems have been solved, and those remaining are either trivial or nearly impossible. Horgan seems to imply that the future of evolutionary biology has no unifying direction.

In other chapters, Horgan gives wide coverage to most fields of science, and presents some convincing evidence that science may have passed its apogee. In his last chapter, he says, "belief in the eternality of progress — not in crises and culminations — is the dominant delusion of our culture". At another point he said that he was surprised by the widespread denunciation in reviews of his book.

This book will appeal to those who wish to know how the leaders in the various fields of science look at the philosophical issues of science, and how they view the future. I personally react with some skepticism toward his thesis. It will be interesting to see if the future bears him out.



Asclepias

CALENDAR

GILA

July 19 Field trip to Mimbres Nature Conservancy area with the Grant Co. Archaelogy Society.
Aigust 16 Field trip to the "No Cattle Company Organic Farm", San Juan NM

OTERO

July 18 Field trip to Holcomb Ranch in Monument Canyon. Meet at 10 am in the Timberon lodge.
August 8 Field trip to Hembrillo on WSMR. Reservations 585-2546
August 12-15 Otero County Fair
August 22 Field trip hike to Bluff Springs. 9:30 am Sacramento Ranger Station.

LAS CRUCES

July 8 Show and Tell. Southwest Environmental Center. 1494 S. Solano. 7:30 pm
July 11-12. Overnight trip to the San Mateos. 10 am at the K-mart on highway 70
August 12 "World Wildlife Fund Programs" by Jennifer Atchley. 7:30 SW Environmental Center.
August 16 Field trip to Garfield area. 8 am Hwy 70 kmart.

ALBUQUERQUE

August 8-9 Native Plant show and sale
August 16 Field trip to Jemez
September 3 "Landscaping for Wildlife and Butterflies" by Nancy Daniel. 7:30 pm Albuquerque Garden Center, 10120 Lomas

Trees and Shrubs of the Trans-Pecos and Adjacent Areas

by A. Michael Powell
University of Texas Press 1998

Book Review by Tim McKimmie

This book is a revision of the 1988 edition. As the area east of the Pecos river, Trans-Pecos Texas is the only part of the state where mountain and desert habitats are found.. That said, this work will be of interest to readers from the southern part of New Mexico where the Chihuahuan Desert and its sky islands are a predominant feature.

This work is a key. That is, the reader is required to make choices from textual descriptions that will eventually lead to the correct species. The user will determine whether the plant is a gymnosperm or angiosperm and in the latter case whether it is a monocot or dicot. From there it is on to the family where another key will lead one to genus and finally species. Not always an easy task but one which the average person with a bit of perserverance should be able to accomplish. The task is made easier by the fact that there are only about 400 tree and shrub species with which to contend in this geographic area. Further, those who may know the family can skip to that section since the work is conveniently arranged by family.

The introduction describes the soils, climate, physiography, and the major vegetational areas. Plant descriptions include physical characteristics as well as distribution data and ethnobaotanical uses. Line drawings are included and some photographs, particularly for succulents species.

Those with the first edition may want to know whether to buy this one. According to the author, about 30% of the species have had taxonomic or name changes. Changes in the keys have also been made and new distribution data added. A few species have been dropped and the book is nearly 25% slimmer.

Includes glossary, literature cited, and index by common and scientific name. A useful and well done work by this Sul Ross State University biology professor.

CHAPTER REPORTS

Las Cruces - Lisa Mandelkern

May Meeting, Las Cruces Chapter: Our annual Show and Tell program, organized by Alice, was enjoyed by twenty people. Nine people brought things to discuss. Everyone participated in the discussions. Virginia gathered columbines from her garden. Columbine, the state flower of Colorado, likes a little extra water and some shade when grown in Las Cruces. The progeny of her original yellow variety has exhibited several different colors. Tim collected a mystery plant that had volunteered in his yard. The flowers, pink colored and reminiscent of a legume, had gone to seed. No one was positively able to identify it. Terry demonstrated a method for germinating a few seeds for a garden. He places the seeds between two pieces of paper towel, wets the towel, and then places the wet towel in ziplock plastic bag. The bag is positioned under a light at around 85(F). One packet he showed contained creosote seeds, another paintbrush. Each packet contained a few viable seedlings after only 10 days. Glennis passed around a tray of wildflowers she had picked near the Las Cruces airport. This area is soon to go under the bulldozer's blade. Common names for her samples were: spectacle pod, senna, pale blue trumpet, two kinds of buckwheat, scorpion weed, wooly white, purple three awn, and wire lettuce. Jerry asked the group to identify a plant growing in his yard. It had a green stem and toothed lanceolate leaves. The consensus was that it was a baccharis. Brian is growing plants for resale to mining companies for land reclamation. He related how he had experimented with two methods to germinate creosote. One method used bright light, the other, greatly reduced light. The reduced light batch had germination around eighty percent clearly superior to germination under bright light. John talked us through a short slide show about a trip he and Brian had taken twenty years ago in the Big Bend area. Their slides captured the birth of a lifelong botanical quest and some breathtaking Chiso's mountain scenery. Will shared some slides of beautiful (not too common) flowers and a few candid shots of our April trip to Red House Mountain. Dave intrigued us with a potpourri of plant pressings. The group was impressed with how much of what makes a plant identifiable can be preserved with this simple technique. Three of the species were new entries for his White Sands Plant List: Chaenactis steveoides, Macherantha gypsophylia, and Senecio thurberi. The Senecio thurberi was collected during the Chapter's field trip to Salinas Peak.

Addition to Earth Day report: Latoya Yancy of Las Cruces submitted the only essay to our essay writing contest for young students. The theme was: "Why desert plants are important." Here is her report. I think desert plants are important, because they keep the balance of nature going. They also camouflage the animals that are running from their predators. They give water to birds and provide shade for people and animals. La Toya received a "Chihuahuan Desert Gardens" booklet for her efforts, and we thank her very much.

Las Cruces Chapter, fieldtrip, May Our fieldtrip in May was led by Tim McKimmie. He took us to the west side of the Florida Mountains near Deming. On our way to the impressive and beautiful mountain range we stopped at an artificial irrigation pond. It was lined with willows and cottonwoods, and the chirping of many birds filled the air. On the lower slopes of the mountains we saw the following plants in bloom: Silybum maritanum (Milkthistle),Solanum elaeagnifolium (Silverleaf Nightshade), Sphaeralcea spec. (Globemallow), Hoffmanseggia glauca (Hog Potato), Ipomopsis longiflora (Pale Blue Trumpets), Dithyrea wislizenii (Spectacle Pod), Lepidium montanum (Peppergrass), Baileya multiradiata (Desert Marigold), Psilostrophe tagetina (Paperflower), Stephanomeria pauciflora (Wire Lettuce), Zinnia acerosa (White Zinnia), Melampodium leucanthum (Blackfoot Daisy), Rhus microphylla (Littleleaf Sumac), Linum spec. (Yellow Flax), Euphorbia albomarginata (Rattlesnake Weed), Mentzelia pumila (Stickleaf), Cryptantha spec. (Hiddenflower), Senecio douglasii (Threadleaf Groundsel), Microseris linearifolia (Starpoint), Machaeranthera tanacetifolia (Tahoka Daisy), Chaenactis stevioides (Dusty Maiden), Perezia wrightii (Desert Holly). Opuntia macrocentra was blooming everywhere and was a beautiful sight. We reached the higher elevations on a steep but passable dirt road. There we encountered entirely different plants. The washes supported old Hackberry trees (Celtis pallida), Soapberry trees (Sapindus saponaria), Oaks (Quercus spec.), Apache Plume (Fallugia paradoxa) and Littleleaf Mulberries (Morus microphylla). Fortunately the day was overcast and breezy, because there were so many more blooming plants to see: Dalea formosa (Indigobush), Anisacanthus thurberi (Desert Honeysuckle), Penstemon fendleri, Krameria spec. (Range Ratany), Gaillardia pinnatifida (Blanketflower), Lupinus spec. (Lupine), Berlandiera lyrata (Chocolate Flower). Bahia absinthifolia (Sageleaf Bahia), Allionia incarnata (Trailing Four o'clock), Castilleja spec. (Indian Paintbrush), Glandularia wrightii (Verbena), Cirsium neomexicanum (New Mexico Thistle), Chaetopappa ericoides (Babywhite Aster), Nolina microcarpa (Beargrass), Agave palmeri (Palmer's Agave), Hymenoxys scaposa (Perky Sue, Bitterweed), Yucca baccata (Banana Yucca), Asclepias nummularia (Tufted Milkweed), Tecoma stans (Yellow Bells), Phaseolus angustissimus (Slimleaf Limabean). On a limestone hill we found two specimens of Escobaria orcutti var. koenigi (Orcutt's Pincushion) blooming with salmon pink flowers. We came upon a spring in a rocky area, where a small amount of water pooled. There numerous butterflies, including a swallow tail, wasps and flies congregated for a drink. Once again, we observed that each hillside in the upper elevations supported a specific plant community. While the western slopes were dominated by Junipers, Chollas, and Range Ratany, the south facing slopes featured mainly Yellow Bells, Beargrass, and Agaves.

CHAPTER REPORTS

Otero - Jean Dodd

25 April 1998 the Otero Chapter revisited Dripping Springs. Next door is Aguirre Springs and the surrounding area is governmet land. We were accompanied by Oz Gomez of the BLM. At the end of the Dripping Springs trail Mr. Gomez said that the nearby land belongs to Ft.Bliss.

The Nature Conservancy purchased 2,852 acres from the Cox Ranch family. Later it was exchanged with the BLM although the Nature Conservancy kept one person on staff for awhile. At present the BLM is trying to restore the land and the buildings.

We started our trip with Mr. Gomez at the Visitor Center where we saw a barrel cactus that had been injured/damaged. Its top was a mass of new cacti all growing together on top of the old one. From there we went down to the netleaf hackberry grove where meetings and picnics have been held. Reminded some of us of the same grove we saw at the Jones Ranch. This is a large,shady, pleasant area in both places. This one faces the mountain side. Trees in general are,surprisingly, Big Tooth Maple,Desert Willow, Hop Tree-Ptelea trifoliata, N.M. Locust,oaks, and Mexican Buckeye-Ungnadia speciosa.

Going on the Dripping Spring Trail we saw some of the same plants we have seen on WSMR. One was Desert Chicory-Rafinesquia neomexicana-a long name for a small clump of white flowers. The petals have a maroon stripe on the under side. Desert dandelion has yellow flowers-Malacothrix fenderli-Composite. Other plants along the trail were Golden Smoke,Corydalis aureus-Fumitory Family; Phacelia, red paintbrush, gold poppies and Dalea formosa in bloom with its tiny purple flowers. We saw these last two on the roadsides coming from Hwy. 70. Its a handome color combination.

Lycium pallidum,Ivey p.405,pale wolfberry and Aloysia wrightii,Fendler rupicola-Cliff Fendler Bush, Dyssodia acerosa-a woody,prickly plant that looks like a small shrub were also along the trail.

As we neared the wooden remnants of buildings for the Butterfield stage stops, we started noticing the lichen on the rocks. Some groups of rocks were covered with green,yellow,and orange lichen The same thing could be seen on the distant mountainside.

After the wooden remnants of the stage stop we came to the remaining walls of the Dripping Springs Resort or VanPatten's Mountain Camp. At one time it had 16 rooms, a large dining room and a concert hall.It is hard to imagine how anyone in those days could haul a grand piano and chandeliers up to that particular spot.

The Dripping Springs consisted of a pipe out of a rock which at that time trickled a very small amount of water. Evidently during a rainy spell it is quite spectacular

This,like many other places, is well worth visiting at different times of the year.

On 6 June 1998 Otero member Charles Wood led a trip in Oliver LeeState Park. Charles works there and says he loves his joblearns sonething new every day.

We were taken down into the riparian area that has been closed to the public for a long time now. Water runs down the face of the rock just like it does along HWY 82. Yellow columbine grow in both places. Lots of maidenhair fern cover the rock. Nearby are the Helleborine orchids (see Warnock,Big Bend,p.27) Epipactis gigantea, and bright green stalks with black joints are growing in the water-AOTA-Horsetail family,Equisetum kansanum (Warnock-Guadalupes p. 19). They are suseptible to people damage which is hard to avoid when you are trying to find a place to step without crushing them.

More plants in this riparian area are Arroyo willow-Salix lasiolepis, Chihuahuan Ash-Fraxinus papillosa,Rio Grande Cottonwood,Desert Willow, and netleaf hackberry. Still in the riparian area are giant grass,Lanceleaf Sumac is beautiful in the fall with their red color,LotebushCondalia lycioides-Ruckthorn-see Warnock-Big Bend for the deep purplish color of the fruit.

At some point we split with a few staying behind to admire the beauty and the others going further into the canyon. The result was that on their return one person got pretty well soaked, two were wet nearly to the waist, and the rest were dry except possibly for shoes. Those who stayed behind had muddy rears from sliding down boulders. Wasn't long before all were dried out.

Further down the canyon going towards the highway we started looking at the flood marks of past years-very impressive. We had by then left behind all the many greens of the riparian area and could look back at the change in colors as we had gone into the desert.Hillsides are covered with soltol,ocotillos, and patches of mesquite. When we started walking by the mesquite, some had not seen evidence of the mesquite beetle-twig girdler. So we investi~ated dead branch ends back to a perfect round circle which had been made by thegirdler. If you find this where you live,you might take it to your extension agent and see if there is something to do except cut behind the girdle and destroy what you have cut off. There is a 4~ page list of plants identified at the park. Going through it you find out how much you miss by going only once, and missing the rest of the year. On the way to the highway are stinging Cevallia-Cevallia sinuata. See Warnock-Ft.Davis-p.155. There is formic acid in the long stinging hairs.

NATIVE PLANT SOCIETY OF NEW MEXICO
NOMINATIONS FOR OFFICERS AND DIRECTORS 1998-1999

Nominations committee: Jack Carter, Mary Goodman, John Stockert

Officers

President: Jack Carter, Silver City Chapter 388-9221 Professor emeritus of biology at Colorado College. Currently engaged in research at Gila National Forest and author of "Trees & Shrubs of New Mexico" .

V. President: Bob Sivinski, Santa fe Chapter. Botanist with NM Forestry Division. Member NPSNM since 1990. Past president of Santa Fe chapter. Curatorial Associate of UNM herbarium. Board member of Santa fe Botanical Garden.

Treasurer: Babs Peck, Santa Fe Chapter 466-1348 Currently serving her first term as treasurer of NPSNM. A retired teacher with many years of successful experience in financial management and a longtime committment to environmental issues.

Membership: Mary Goodman, Santa Fe Chapter 474-7996 Recent transfer from Oklahoma. MS in Zoology. Worked in Cartography and Geography. Volunteer experience from the Smithsonian Institution.

Recording Secretary: John Stockert, Otero Chapter 585-2546 Retired National Park Service, Volunteer at Lincoln National Forest. Preparing "Visitor Guide to Lincoln National Forest" for publication 1997.

Conservation Chair: open

Publications Chair: Tim McKimmie. Las Cruces Chapter. 646-7483. Agriculture Librarian at NMSU. NPSNM *Newsletter* editor since 1991. Co-editor of *Chihuahuan Desert Gardens: A Native Plant Selection Guide*

Directors at Large

Greg Magee, Las Cruces Chapter 525-0424 Landscape architect, owner of "Naturescapes" in Las Cruces, specializing in natural gardens. Author of "A Hiking Guide to Dona Ana County" and Co-editor of *Chihuahuan Desert Gardens.*

Don Tribble, Otero Chapter 585-9017. Retired Air force officer in NM 16 years, NPS member 10 years. Interested in native plant landscaping and water conservation issues.

Deborah Swetnam. Gila Chapter. Biology teacher. Member and field trip leader for Gila chapter.

Carolyn Dodson. Albuquerque chapter. Publishes on the history of botany in NM. Teaches wildflower identification.

Dean Ricer. CArlsbad Chapter. 887-5292 Botanical curator at the Carlsbad LIving Desert Museum. BS in Floraculture, Texas A&M

Ballot

Please mark ballot and return to:

Mary Whitmore, HC31 Box 120, Gabaldon Rt, Las Vegas NM 87701 **or:**

Ballots may also be delivered to any current board member before September 1, 1998.

Vote for as many as you wish. You may vote for each candidate.

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_____ Don Tribble, Director at Large

_____ Carolyn Dodson, Director at Large

LIVING WITH PLANTS by Jack Carter

I ask you to consider the following relatively simplified chemical equation to be the most important chemical reaction, from a human perspective, to have ever evolved on planet Earth. Had this process not evolved, animals could never have evolved.

(sugar)

6C02 + 12H20 + ENERGY > C6H12°6 + 6°2 + 6H2° (PHOTOSYNTHESIS)

Ater more than a billion years animals, including ~mo *sapiens*, are trapped in this relationship among carbon dioxide, water, the green plant (photosynthesis), and the resulting sugar and oxygen on which we all survive. As our species has evolved over the past 40 to 60 thousand years we have taken our relationship to the green plant for granted, with the unchallenged conclusion that plants will always be around, providing us with more than enough food (sugar) and oxygen. We know now that this is not true. As the Earth's green mantle is being destroyed and the world's human population continues to increase at an uncontrolled rate, practically all living things are placed in jeopardy . Our teachers and professors have taught us that when we destroy our forests, overgraze shortgrass prairies, or even cut down Christmas trees we are removing the oxygen we breathe and the food supply of many animals, including *Homo sapiens*. Perhaps because our life cycle is so short we have failed to comprehend our evolutionary connections to plants. Can we alter our behaviors and come to see ourselves as partners with plants and other animals in the preservation of New Mexico and planet Earth? Can we accept with enthusiasm our role in nature as one of promoting the conservation of plants and the communities in which these species exist? Will the study of growth patterns and natural plant arrangements in the field improve our ability to use plants to make our homes more attractive places in which to abide and share relationships? Finally, will this knowledge alter the way we vote in local, state and national elections? These and other related questions are confronted through lectures, discussions and field trips by the Native Plant Society of New Mexico.

Many thanks to Robert Dewitt Ivey for permission to use the wonderful drawings from his book *Flowering Plants of New Mexico*, in our *Newsletter*.

The Native Plant Society of New Mexico
1105 Circle Drive
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