NATIVE PLANT SOCIETY OF NEW MEXICO
NEWSLETTER

March/April 1997 Volume XXII Number 2

INDICATOR PLANTS AS LIVING "ARTIFACTS"

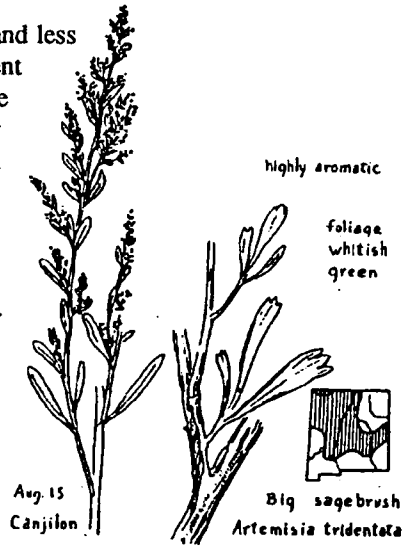
Reprinted with permission from "Wild Plants of the Pueblo Province" by William Dunmire and Gail Tierney.

As you observe the natural setting of ancient ruin sites such as those at Bandelier National Monument, you may wonder why the patterns of vegetation growing on and around these places often appear different from that found on adjacent land. These differences have also piqued the curiosity of professional archeologists and botanists, who developed the concept of indicator plants, that is, native or introduced plant species whose nature, distribution, and abundance correlate to specialized local soil conditions often associated with past activity of indigenous people or early settlers.

The observation of indicator plants has been motivated by the wish to find answers to many questions. Can the surface vegetation suggest the best place to dig a shallow well? Does plant growth ever reveal the presence of valuable underground mineral resources? Did the occurrence of certain native trees or shrubs give early homesteaders a clue to where good, deep farming soil might be found? Are certain unique plant assemblages a sign of the former presence of humans? The answer to these kinds of questions more often than not is a qualified yes, but the reasoning leading to the answers is seldom direct and often rivals the sleuthing straight out of Sherlock Holmes.

One of the most well-known examples of an indicator plant is cottonwood, whose growth in bottomlands invariably indicate the presence of a relatively shallow source of groundwater. Less obvious are the associations of antelope-sage (Eriogonum jamesii) and milkvetch (Astragalus spp.) with uranium ores or the occasional association of mesquite with petroleum-bearing rocks. Historically, early settlers of the west noted that big sagebrush (Artemisia tridentata) indicated deep, fertile soils - usually the taller the plants the deeper, better structured and less saline the soils. With sufficient rainwater and a little luck, these areas were considered better suited for marginal dryland farming.

The introduced white clover, which became known as "white man's foot", is another case of an indicator plant. To the American Indian its presence not only heralded the intrusion of non-Indians into their territory, but also the heretofore unknown stinging honeybee. This led Longfellow to pen,



"Wheresoe'er they tread, beneath them
Springs a flower unknown among us,
Springs the White Man's Foot in blossom"
Hiawatha by H.W. Longfellow (1855)

Perhaps the first published scientific recognition of indicator plants was recorded by that keen observer of natural history, Sir Charles Darwin. In 1832, while exploring Tierra del Fuego during his voyage aboard The Beagle, he noted that shell heaps of former Fuegian inhabitants could be "... distinguished at a long distance by the bright green colour of certain plants, which invariably grow on them. Among these may be enumerated the wild celery and scurvy grass, two very serviceable plants, the use of which has not been discovered by the natives".

About 120 years later and a continent away, Swedish scientist Olof Arrhenius attempted to determine prehistoric settlement patterns by the relative amount of phosphorus in the soil. From his previous work in Sweden he knew that elevated levels of phosphorus in soil are often coincident with organic material remains at old habitation sites, and he speculated that he would also find high phosphate levels

Inside...

in the soils around ancient villages in New Mexico. Soils from one buried Indian ruin at Bandelier and from other prehistoric sites near Santa Fe were sampled. There was some correlation with levels of phosphate, but his results generally were inconclusive (Arrhenius, 1963). Elsewhere high phosphorus levels are usually associated with prehistoric animal butchering sites and bones. Unknowingly, Arrhenius had discovered that the ancient Pueblo Indian diet was not meaty, what many archeologists and historians have known for a long time.

Even today those same ruin mounds that Arrhenius studied stand out from the surrounding hills. They are covered with wolfberry (Lycium pallidum), fourwing saltbush (Atriplex canescens), cholla (Opuntia imbricata) or, where the ruins have been recently excavated or pot-hunted, summer cypress (Kochia scoparia). A little botanical or ecological know-how has redeemed many a student of archeology who was able to discern old ruins from a distance by the tell-tale vegetation growing on the surface around them.

In areas of low nitrogen, such as arctic tundra, the impacts of humans may be direct. A vegetational study of a 3,600-year-old Eskimo site at Walakpa Bay in Alaska brought this out. Sodhouses were used at this site as recently as 100 years ago. Grass cover of the slopes from the eroded sod walls was determined to be up to ten times greater than cover on the surrounding tundra, and a highly significant increase in bluegrass (Poa spp.) and liverwort (Marchantia spp.)

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 February 1.

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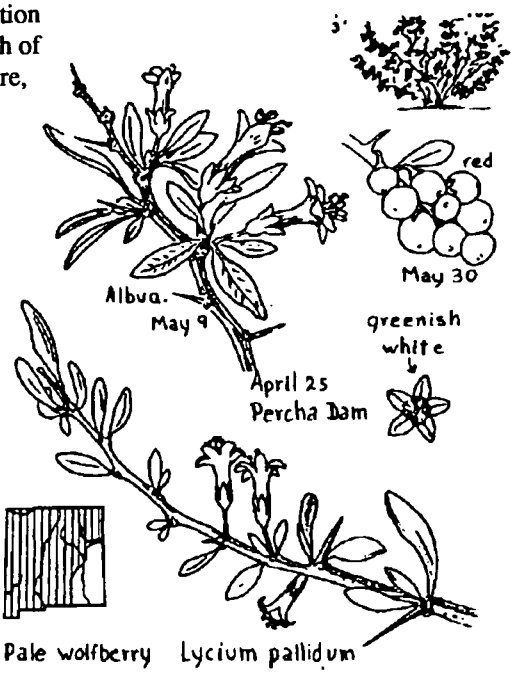
occurred on the inland (leeward) side of the houses - environmental evidence of nitrogenous soil enrichment. Eskimos frequently tanned skins against the sides of their houses, using nitrogen-rich urine in the tanning process. They were also most likely to have urinated on the leeward side of their dwellings, never giving a thought to the long-term effects on local vegetation.

The occurrence of indicator plants on old human habitation sites reflects conditions that are favorable to the growth of these plants. Soil acidity, soil phosphorus, soil texture, water availability, and subterranean compaction are factors that have been locally and (for the plants) favorably altered by the past activities of humans.

The wolfberry shrub tends to be concentrated over buried prehistoric rooms at archeological sites in some areas. New Mexico ecologist Loren Potter and his colleagues have explained this phenomenon by first observing that wolfberry is favored by relatively moist soils, such as occurs between subterranean rocks. Where wolfberry was aligned in straight rows, buried rock walls of basketmaker or Anasazi sites were found below the surface. Where greasewood (Sarcobatus vermiculatus) was growing in angular patterns, taller and greener than in surrounding areas, the cause was determined to be the artificial underground catchment basin for percolating rainwater trapped by the compacted floor of an ancient dwelling (Potter and Young, 1983).



When he conducted his investigations at Chaco Canyon, Potter would note any anomalies in species and alignment or vigor of wolfberry or other indicator plants. From these occurrences he was successfully able to predict the presence of buried ruins, even though there was no other physical evidence of what was interred below.

Perhaps this phenomenon of buried water catchment basins points to the former presence of Archaic peoples in the sandy terrain of the Rio Puerco River drainage west of Albuquerque. It has been suggested that wolfberry shrubs sometimes found there indicate that archaic seasonal shelters with packed dirt floors were constructed long ago on the native Indian ricegrass and sand dropseed prairies.

Western tansy mustard (Descurainia pinnata) also tends to thrive above buried rooms, owing to the increased clay content of the soil, a result of the weathering of the former adobe walls (or clay mortar used on stone walls). Increased clay content is also implicated as a factor in the absence of broom snakeweed above buried rooms. Although snakeweed is a common shrub on various soils, especially on overgrazed rangelands that often surround prehistoric sites, it seldom grows on the higher-clay soils associated with the sites themselves.

Cane cholla, is still another plant that may indicate old habitations, especially where it is clearly out of its natural range. For example, cholla has been found growing on archaeological sites in ponderosa pine habitat north of Jemez Pueblo at a higher elevation than where it normally occurs. It has been suggested that the stands of cholla north of the Pueblo are descendants of plants brought to that area, for food or fencing, between 1250 and 1700 A.D.

In the Pueblo Province the frequently observed concentration of fourwing saltbush on mounds covering prehistoric trash middens may be a counterpart of the phenomenon Darwin observed at Tierra del Fuego. In his survey of numerous sites on the Pajarito Plateau, archaeologist Charles Steen noted that at one location a stand of fourwing saltbush grew on one mound and not elsewhere in the near vicinity. At the 6,900-foot elevation of this particular ruin saltbush is not normally found. Steen speculates that the saltbush plants here could survive on the rich soil of the midden. His observations are consistent with those of other experts who have found a correlation of saltbush with prehistoric ruins; indeed, a site in Frijoles Canyon at Bandelier National Monument is officially named "Saltbush Ruin" in honor of the Atriplex that abundantly covers it.

Even with the extra nutrients and water available on some prehistoric sites, there is still the problem of how these plants came to be associated with ruins. No doubt an anthropogenic element is involved. Plants that tend to be concentrated on ruins, those that have remained relatively undisturbed in recent times, often had economic value for the prehistoric inhabitants.

The question is: Did the early inhabitants accidentally or intentionally introduce these plants to the site or was soil disturbance caused by human activity sufficient to create optimum conditions for the plants to become established on their own? Both ideas have merit, depending on the nature of the site and the species of plant.

In either case, in addition to the shrubs mentioned previously a number of other plants seem to indicate prehistoric disturbance. In his study of distinctive flora on Indian ruins at Bandelier National Monument, Richard Yarnell included the following herbaceous plants as "likely to be significant" indicator species used during occupation: beeplant (Cleome serrulata), doveweed (Croton texensis), buffalo gourd (Cucurbita foetidissima), datura (Datura meteloides), groundcherry (Physalis sp.), horsenettle (Solanum eleagnifolium),

See "Indicator Plants" page 5

CALENDAR

LAS CRUCES

Mar. 12 "Agaves" by Charles Galt. 7:30 pm, SW Environmental Center, 1494 S. Solano
Mar. 16 Field Trip to Bishop Cap. 9 am. Pan Am Lot
April 9 "The Rio Grande" by Kevin Bixby. 7:30 pm SW Environmental Center, 1494 S. Solano
April 13 Field Trip to Three Rivers. 7 am. KMart/Hwy 70 Lot
April 19 Earthday workshops at Young Park

OTERO

Mar. 8 Hike at High Rolls. 585-2546
Mar. 14 "E.O. Wooten 'Trail'" by Kelly Allred. 7:30 pm, NMSVH
April 4 Tour NMSU Herbarium. 9:30 am. Ag Building (Gerald Thomas Hall), NMSU campus
April 25-27 Chiracahua Trip
May 3 Prep. for plant sale. 2 pm. Pat Nott's house

GILA

Mar. 21 "Mushrooms" by Terry Heiner, WNMU Harlan Hall, 7pm

ALBUQUERQUE

March 6 "Shrubs and Trees for City Landscapes" by Tom Ellis. 7:30 pm, Albuquerque Garden Center, 10120 Lomas
April 3 "Field Studies of Plant Materials" by Greg Henschel. 7:30 pm Albuquerque Garden Center
April 4 Tour of Los Lunas Plant Materials Center, 12:30 pm, Albuquerque Garden Center
April 26 Garden Fair. 9-4, Albuquerque Garden Center
May 1 "Plant Communities of the Rio Grande Bosque" by C. Crawford. 7:30 Albuquerque Garden Center
May 3 Field trip to Corrales Bosque

CHAPTER REPORTS

Gila-Martha Carter

Dec. 14, 1996 Forty five members and guests gathered at the home of Peter Isacson to feast on the usual wonderful variety of food and to enjoy a generous helping of holiday spirit. The menu was coordinated by Julie Fitzgerald assisted by a committee of Neil and Pat Millage, Glenn and Janice Lovig, Bill Armstrong, Jennifer Vincent and Martha Carter. There seemed to be just the right assortment of main dishes, vegetables, salads and desserts. The consensus was that perhaps we should have a summer solstice pot luck as there seems to be so many good cooks among our members.

Jan.17 Dr. Kelly Allred, "How to Spend a Nice Quiet Evening with Corn". Forty-eight people were on hand when Dr. Allred, of the Dep.t of Animal and Range Sciences, NMSU, presented a friendly look at grasses, one of the most important and interesting plant families in the world. The title attracted guests from the agricultural and ranching communities, local citizens and the U.S. Forest Service. Dr. Allred used slides to illustrate how to distinquish the grasses and identify some of the common species that can be found growing in New Mexico. His presentation included a comparison of the structure and evolution of the grasses as an example of monocots with dicots, and explained how the success of the monocots provided for the rise of mammals during the Cretaceous period. He also discussed and illustrated the fascinating history of corn from the earliest known extant genus *Teosinte*, to *Tripsacum*, to today's many hybrids of *Zea mays*. Many inquiries were answered about native grasses that are appropriate for landscaping in the southwest, including Blue Grama, *Bouteloua gracilis*, and Buffalo Grass, *Buchloe dactyloides*. Dr. Allred's areas of study are grasses of New Mexico, especially three-awn grasses and bluestems, as well as mosses of the southwest. He is also a biographer of E. O. Wooton, an early New Mexico botanist.

Albuquerque - Leta Porter

Our annual potluck was held on December 12, 1996. Following a festive time the election of new officers was held. The 1997 officers for the Albuquerque Chapter are: President - Lucy Beals; Vice-President - open; Secretary - Susan Cook; Treasurer - Bill Dodson;. We appreciate any member interested in becoming vice president to volunteer for this position by contacting the chapter president.

At the annual meeting an honorary lifetime membership in the Society was awarded to Robert Dewitt Ivey in recognition of his many contributions to the NPSNM in bettering our understanding, appreciation and enjoyment of the flora of New Mexico. Sandra Lynn and Carolyn Dodson gave glowing testimonials as to why Dewitt is so deserving of this recognition. His work as scientist, artist and advocate of the conservation of New Mexico native flora is documented in his book, "Flowering Plants of New Mexico." George Duda from NM State Forestry, Bernalillo Division, was the speaker for this meeting. He is in charge of the Re-Leaf Program and spoke on the subject of "Forestlands and Fire, Past, Present and Future." He described the Backyard Tree Farm Program where participants can gain information and experiences which will enable them to manage their property toward a goal of forest health, personal and property safety and wildland fire pre-suppression.

We are extremely grateful to Carolyn Dodson (assistant professor, wildflower instructor and librarian at UNM) for her willingness to substitute for Mr. Morrow on a very short notice for our January meeting. She chose as her topic "The Co-Evolution of Plants and Insect Pollinators". She presented a beautiful slide show while explaining how flowers have evolved to attract the important insect pollinators (bees, butterflies and moths). Likewise, these insects have evolved special features to enable them to pollinate certain flowers.

"Indicator Plants" continued from page 3

wild potato (Solanum jamesii) and Indian tea (Thelesperma filifolium) (Yarnell, 1965). Note that these are wild plants that happen to favor sites with past soil disturbance of some kind, whether from man-made or natural causes. Such disturbance did not necessarily take place in an archeological context, and lists such as Yarnell's are of marginal value in locating buried sites.

Where ruins have been excavated or disturbed in the past 50 years or so they are likely to be covered with exotic weedy annual plants, especially cheatgrass (Bromus tectorum), non-native species of tansy-mustard (Descurainia spp.), summer cypress (Kochia scoparia) or Russian thistle (Salsola kali).

Late historic agriculture was a notorious disturber of native plant habitats. It is less certain if the changes to natural vegetation patterns caused by early historic and late prehistoric agricultural practices would have lasted until the present. Nevertheless, distinctive patterns of vegetation at sites that are believed to be long-abandoned fields or gardens have consistently been observed and recorded in the technical literature.

In the homestead claims reviewed for the Pajarito Plateau, nowhere is it mentioned that the claimants had to clear the land; only that they had to break ground for their crops. In fact, the homesteaders of the late 1890s often sought out and plowed the sites of prehistoric field clearings surrounded by stands of piñon and juniper on the mesas. For the most part, the homesteaders, like those who came before, grew corn and beans. At the edge of these homesteads one may still find the characteristic rectangular or L-shaped stone borders of prehistoric soil and water catchment gardens.

In his report of 1847, Lt. James W. Abert mentioned that a Spanish schoolteacher near Jemez told him the Indians grew beans on the mesa tops. On a nearby mesa top that had never been plowed we noted the same type of rock outline covering the surface. Whereas the remaining historic fields are covered with introduced weeds, the prehistoric grid gardens have reverted to strictly natural vegetation. Small natural and man-made rock catchment basins are evident on these mesas and they probably collected the water that would have been carried to the garden plots. On the other hand, in similar mesa-top locations the large plowed fields of historic times were directly dependent on rainfall.

Carl White, biology professor at the University of New Mexico, has undertaken studies of prehistoric grid gardens near Ojo Caliente and along the Rio Chama. Grid gardens at these locations tend to be plots outlined with large cobbles and covered with a smaller cobble or pebble mulch. Dr. White has found many of them intact in sandy alluvium on top of steep hills, outwashed terraces and knolls. The rock outlines and pebble mulch have stabilized the soil, retarded direct evaporation, increased retention of infiltrating water and provided a refugium for certain plant species. For example, three species of grama grass, including black grama (Bouteloua eriopoda), are more abundant within the protected ancient gardens than on the surrounding land. These grasses have roots that are vulnerable to plant infection caused by the cutting from sharp hooves. Only in those areas whose precarious location and grid garden walls have deterred domestic animals and wildlife do these grasses seem to thrive. Dr. White asserts that because of this phenomenon, long-abandoned grid gardens probably would be identifiable features on infra-red aerial photographs, thus providing us with yet another plant indicator technique.

The broad valley bottoms of the Rio Grande and other major streams surely were used for gardens or fields in the distant past; however, in most cases the evidence has been obliterated by recent farming, animal impoundments and other developments. But in some of the less disturbed drainages, an unusual abundance of certain plants such as threeleaf sumac suggests that the vegetation of today may still be influenced by agricultural practices of the distant past. In the southwestern part of our state, prehistoric terraces have been found with the progeny of an ancient cultivated Agave crop still growing on them. Other plants are indicators of the arrival of the Spanish and still others are immigrants from different countries, but these stories are for another book.

Suggested Reading

Potter, Loren D. and Richard Young
1983 Indicator Plants and Archeological Sites, Chaco Canyon National Monument. COAS: New Mexico Archeology and History 1(4):19-37.

Winter, Joseph C and William J. Litzinger
1976 Floral Indicators of Farm Fields. In Hovenweep 1975, ed. by Joseph C. Winter. Archeological Report No. 2, Department of Anthropology, San Jose State Univ., CA

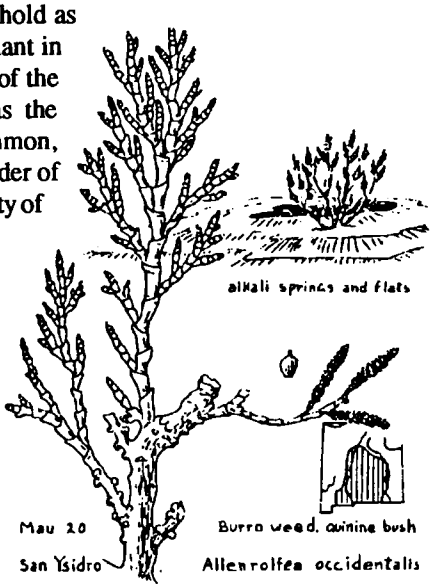
Yarnell, Richard
1965 Implications of Distinctive Flora on Indian Ruins. American Anthropologist 67(3):662-674.

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

Further Reflections on Allenrolfea

by Diane McMillen, Albuquerque

A recent contribution to this newsletter on "Ugly Shrubs Get No Respect" by Steve Nelle has got me thinking about "ugly" plants that I know. Not only do I respect these ugly plants, I find that I seek them out, not so much for their ugliness but rather for their weirdness. I know I am not alone in this- I call my friends with similar tastes "plant connoisseurs." The trick in enjoying these plants is to let go of expectations you may hold as to the 'usefulness' of a plant in landscaping. The pursuit of the weird for me, as well as the appreciation of the common, deepens my sense of wonder of the complexities and beauty of plants in general.



In a short list of weird plants that have caught my attention in New Mexico, I'd include *Desmanthus illinoensis* (Bundle Flower), *Frasera speciosa* (Elkweed), and *Pterospora andromeda* (Pinedrops). But, at the top of my list recently is *Allenrolfea occidentalis*. Known commonly as Burroweed, Iodinebush, and Quininebush, I first saw these shrubs just outside of San Ysidro. They were growing in the white, crusty soils next to a spring. There were many *Allenrolfea* in this population, most about four feet tall. A good twothirds of that was bare, old wood with bizarre, green, jointed new growth only on the top. Even I, with my tendency toward blind love for native plants, could not call this shrub pretty. But, as I looked at the alkali soil it was thriving in and as I touched it's almost succulent, primitive-looking joints, there was no doubt I found it interesting.

A member of the Chenopodiaceae, *Allenrolfea is* the major shrub of alkali sinks riparian vegetation, according to William Dick-Peddie in New Mexico Vegetation Past, Present, and Future. While it does not require saline soils to grow (that is, it is not an obligate halophyte), it may not have the ability to compete with other plants in non-saline soils. The soil I saw these shrubs growing in near San Ysidro was heavily trampled by cattle, so I am sure that the *Allenrolfea* were playing an important part in controlling soil erosion with their roots. Other than this, I know nothing about this ugly shrub. If anyone knows of articles on *Allenrolfea*, I'd be happy to hear about them.

It seems to me that there is a lot to learn from native plants-all native plants- the goodl bad and the ugly. *Allenrolfea is* only one example. While you may never want to put it in your yard or paint a picture of it, take time to notice it's general wackiness the next time you pass it on the trail.

NPSNM Retreat Held

Twenty two members of the NPSNM met at the Sevilletta National Wildlife Refure for a weekend retreat, Feb. 7-9. A complete report will be available in the next newsletter. Among the topics discussed were education, conservation, publication, and other society activities. The retreat site permitted a minimum of distractions and it was generally agreed that this was an ideal way to plan long term society goals.

NPSNM Board Meeting

The NPSNM Board meeting was held on Feb. 9 following the Retreat at Sevilletta. Some of the decisons included:

* increase the price of newsletter ads to $50 per year.
* move ahead on new publication "Landscape Plants for the Chihuahuan Desert".
* Treasurer reported balance of $45,000
* Endowment fund of $25,000 approved
* Annual Meeting 1997 to be held in Gallup, Sept. 12-14
* Annual Meeting 1998 to be held in Llano Estacado, October

Continental Divide Trail

"United Along the Divide", a special event of the Continental Divide Trail Alliance will be held July 12, 1997. On this day hundreds of people will unite to hike and gather information about the Continental Trail. Volunteers will be part of a team (there are 31 teams for the 3100 mile trail extending from Montana to New Mexico. A book will be written about the experience. For more information contact the Alliance at:
POB 628, Pine, CO 80470
303 838-3760

The American Penstemon Society will hold it's annual meeting in conjunction with the Great Plains Native Plant Society. The meetings will be held June 6-8, 1997 in Hot Springs South Dakota. For more information contact Ellen Wilde at 505 982-1406.

The Rancho Santa Ana Botanic Garden in Claremont. CA will present its 13th annual Southwestern Botanical Systematics Symposium, May 23-24, 1997. The theme will be **Evolution and Taxonomy of Southwestern Plants**. For more information contact Ann Joslin, 909 625-8767 or joslina@cgs.edu.

note: The Gila Bird and Nature festival features field trips on birds, flora, archaelogy, and geology. It also includes lectures and a banquet. Call 800 548-9378

Plant Talk

A new magazine focusing on plant conservation around the world has been introduced. This is a colorful publication featuring many aspects of plant conservation including horticultural and garden varieties as well as wild and native plants. Subscriptions are $25. For a free sample issue contact:
Plant Talk, POB 65226, Tucson, AZ 85728-5226

Photos Needed

The native plant society is in the process of developing a professional quality display that will be used for events around the state. We are in need of color prints depicting our flora, landscapes, people on field trips, etc. If you can provide quality 8x10 color prints that might be suitable, please contact Mary Whitmore, or another board member or your chapter contact. In addition, we will soon be soliciting for color slides for out Chihuahuan desert landscaping publication. If you have suitable slides contact Greg Magee or any of the above named people. Credits will be given for materials used.

Bill Isaacs, 1938-1997

Bill Isaacs, well known Santa Fe Mycologist, died in January after suffering from prostate cancer. He was 58. Isaacs who had been named one of Santa Fe's living "treasures" introduced many native plant society members to the study of mushrooms. He studied botany at Southern Oregon College, the University of Washington, and the University of Michigan. He co-authored "A Handbook of Rare and Endangered Plants in New Mexico" and contributed to "New Mexico Vegetation - Past, Present, and Future". He taught natural history courses at Santa Fe Community College and the Colelge of Santa Fe.

Benny J. Simpson, 1928-1996

Pioneering Texas horticulturist, Benny J. Simpson, died in December at the ago of 68. NPSNM members may remember him as a speaker at the annual meeting in Carlsbad in 1992. Simpson spent more than 40 years as a research horticulturist, mostly with Texas A&M. His most famous achievement was the development of several varieties of "Texas sage" *Leucophyllum* sp. but he also worked on improving cultivars of Desert willow, and false indigo. He served as president of the Native Plant Society of Texas and was involved in numerous other wildflower and horticulture organizations.He was honored last year with the dedication of the "Benny J. Simpson Texas Native Plant Collection" at the Dallas Horticulture Center.

Carlsbad Caverns National Park Botanical Expedition

Botanists from around the southwest are invited to explore the normally inaccessible backcountry of CCNP. The objective is to develop a floristic inventory of the park and the map the distribution of *Escobaria sneedii v. leeii*. The survey will take place March 26-31 1997. Interested persons should contact:
Patricia Barlow-Irick, Herbarium, Dept. of Biology
University of New Mexico
Albuquerque, NM 87131
email <pbarlow@unm.edu>
WWW <http://www.unm.edu/~pbarlow/ccnp.htm>

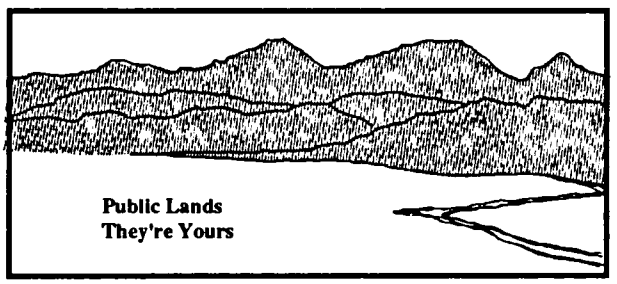
Mark Your Calendars

The 1997 NPSNM Annual Meeting will be held in Gallup New Mexico Sept. 12-14.

Fun As An Amateur Botanist

by Tom Wootten
reprinted from the Chihuahuan Desert Conservation Alliance Newsletter

So often articles I write regard some problem and some type of action is encouraged. An experience this last fall has turned out to be quite interesting and fun for me. I would like to share. Mike Howard, a wildlife biologist at Caballo Resource Area of BLM and I have worked together on a number of projects. One of these involved an attempt to provide some protection for Gypsum Scalebroom, Lepidospartum burgessii, a plant found in the salt flats between Dell City, Texas and the Brokeoff Mountains. We planned an inspection trip to the area last September, and while in the area, planned to inspect a wildlife waterer north of the area at the edge of the Sacramento escarpment. Mike was aware of an interesting plant in this area which, based on vegetative characteristics he believed to be Gyp ring stem, Anulocaulis gypsogenus. Unfamiliar with this plant, I studied the entry in The Flora of New Mexico. The Flora showed no record of an herbarium specimen of this plant from Otero County. I asked Dr. Richard Spellenberg, Curator of the NMSU Herbarium, if he would like a specimen, assuming the plants were plentiful. Little did we know that this genus is one of Dr. Spellenberg1s specialties. He asked me to collect a specimen because he was unaware of the species in Otero County and this would add to its range. Our trip to the area was pleasant, we found the plant, collected a sample (there were numerous plants), pressed the plant and returned home. I rechecked the botanical key to verify our identification, and while it did not fit perfectly, the key led us definitely to Anulocaulis gypsogenus. Subsequently the specimen was given to Dr. Spellenberg who took one look and said 3No2 this is not gypsogenus as identified by flower size. Questions about the identity called for another trip to the area, later, to collect seed. Unquestionable from the fruits and flower, our plant is Anulocaulis leisolenus. Unquestionably from the foliage, our plant is of the species gypsogenus. Guess what! Yep, another field trip is in order next spring to look at the extent of the population and perhaps take more measurements. I am anxious. This kind of problem is not new to professional botanists, I suppose, but it is fascinating to me. As well, I always welcome the opportunity to be associated with Dr. Spellenberg and Mike Howard. I will write a follow up on this after further investigations. The lesson here perhaps for all of us, is not to take matters for granted, but be inquisitive. Many of us in NPS-NM need to keep in mind, we have a responsibility to contribute as well as enjoy.



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