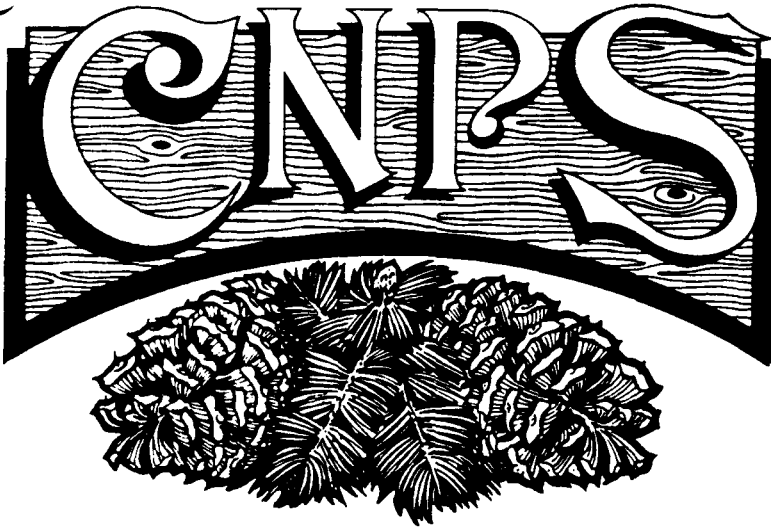


BRISTLECONE • CHAPTER



Volume 15 No. 1 January 1996

NEXT CHAPTER MEETING

Wednesday, January 31, 7:30 p.m. White Mountain Research Station, Bishop. Anne Halford, Botanist for the BLM's Bishop Resource Area will present a talk titled; From the Inyo Mountains to the Walker River Watershed - A day in the life of a BLM Botanist. Anne will bring members up to date on current projects the BLM is involved with.

Reminder: Bishop members please bring a treat to share.

NEXT CHAPTER BOARD MEETING:

Tuesday, January 23, 7:00 p.m. at Doris Fredendall's residence in Big Pine. All chairpersons are welcome and encouraged to attend.

PRESIDENT'S MESSAGE

Wow, another year already gone and a new one to look forward to. I would like to take a moment to thank everyone who has helped our chapter during the past year. There are too many of you for me to thank each one individually, but we all try to do our part one way or another. It takes a real team effort to make our chapter work so smoothly. Thanks to all of you who led field trips, helped with the newsletter, gave talks at our chapter meetings, and all the other big and little jobs that are so important to keep our chapter going. I know you feel as I do that the work we do for our native plants is important and fun as well.

In December our Vice President (Sally Manning) and I as well as Vince and Ann Yoder were able to attend the State Board Meeting and Banquet. It was really great to be able to meet so many conscientious people from around the state. I got such a good feeling knowing that at the state level we have the same type of dedicated people working for our native plants as we have at our local level. There is still much to be done to protect our state's flora, but I feel we are making a positive effort towards that goal. I am looking forward to the new year and the good things that our chapter will be doing. May the New Year bring many flowers for all of us to enjoy!Scott Hetzler

1996 BRISTLECONE CHAPTER DIRECTORY
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The following article by Mary DeDecker is the sixth in a series on native plants that will focus on ecology, taxonomy and other natural history information.

Dalea

Dalea has been suggested as a plant species for this newsletter. It is the former name for an attractive shrub in the Pea Family, a species which has been the subject of much confusion.

At one time we knew it as *Dalea fremontii*, "Fremont Dalea", but it turned out that species was limited to the far northeastern part of the Mojave Desert. Rupert Barneby of the New York Botanic Garden, and authority on the Pea Family, named our species var. *minutifolius* of *Psorothamnus arborescens* while saying that was a misnomer because none of the species *arborescens* are treelike. Regardless, we are stuck with the name, *Psorothamnus arborescens* var. *minutifolius* for our little shrub. Those who are familiar with it still fondly call it "Dalea". Common names are "Indigo Bush" or "Blister Dalea".

It is a low, white-barked, intricately branched, deciduous shrub, mostly 18 inches (45cm) to 4 feet (1.22m) tall. Leaves are divided into narrowly oblong leaflets and the small, pea-like flowers are indigo blue. Blooming time is usually in May. It is common on non-alkaline areas of the Owens Valley floor and on alluvial slopes, especially on the east side, and occasionally up to as high as 6,000 feet (1830m). Its pods are, small and ovoid tapering to a pointed tip, dotted with blister-like glands. Even in wintertime the shrub, with its white bark and interesting branching pattern, is attractive and easily recognized. I use one as a miniature Christmas tree.

The shrub is often infested with dodder, a parasitic plant favored as a food by Tule Elk. Otherwise "Dalea" has little forage value, although rodents nip off its tender shoots.

Native Americans cooked its leaves, flowers and stems to make a beverage. Roots and stems were boiled to make a medicinal tea which was used for stomach disorders.

An attractive but less frequent species is "Dotted Dalea", *Psorothamnus polydenius*, which is inclined to bloom a little later. It is easily recognized by its glandular dotted stems and tiny leaflets. It favors

sandy soil and can tolerate slight alkalinity. Owens Valley supports some good populations. The extremely large bushes at the Eureka Dunes indicate that it finds its ideal habitat there. The flowers are rose to lavender and are in heads rather than racemes.

The Indian people valued it as a medicinal plant, especially for kidney ailments.

The shrub is admired but seldom recognized. Some even call it "Sagebrush".

NOTE: Since the November Newsletter we have learned of another use for Rabbitbrush. Beekeepers value it as a source of winter honey when the bees need food to carry them through that season. Rabbitbrush honey is darker in color and less palatable than the honey which goes to market.

.....Mary DeDecker

Upcoming Events

Sierra Spring Sojourn

The Bristlecone Chapter is sponsoring the first annual Sierra Spring Sojourn, a wonderful weekend of field trips and desert plant enjoyment on **May 17 thru 19**.

We will be using the facilities of Camp Inyo at the Bernasconi Education Center, located in the foothills of the Sierra Nevada just west of Big Pine, at an elevation of 5,000 feet (1525m).

In addition to sleeping dorms, participants will be allowed to park their own RV's (no-hookups), or erect tents on the grounds. Motels are also available. The number of participants will be limited and available on a first-come, first-served basis, so sign up early!

We are planning a variety of field trips to cover the diversity of our area. Each trip will be limited to a maximum of 15 participants.

For further information regarding fees and registration contact;

Vince and Ann Yoder
POB 897
Lone Pine, CA 93545
(619) 876-4275



Volunteers are needed to help put on the Sierra Spring Sojourn! Please contact Evelyn-Mae Nikolaus at (619) 878-2149.

**Jepson Herbarium
Weekend Workshops**

The Jepson Herbarium is continuing to offer intensive weekend workshops on the systematics and ecology of botanical groups. The workshops are limited to 20 participants and enrollment is on a first-come, first-served basis.

Cost per workshop: \$145.00, plus room and board (approximately \$35.00/day) for field station workshops. For further information, contact Susan D'Alcama at the Jepson Herbarium (510) 643-7008.

The following is a partial list of upcoming workshops.

Class VI-Bryophytes

February 17&18

Brent Mishler, Dan Norris

Class VII-Fossil Botany of California

February 24&25

Nan Crystal Arens

Class VIII-Saxifragaceae

March 16&17

Patrick Elvander

Class IX-Ceanothus

March 30&31

Clifford Schmidt, Roger Raiche

Conservation

Looks as if protecting the environment is going to be more and more difficult given the apparent course Congress is taking. So it seems to me that one alternative will be for everyone to make things last longer; travel less (find things to do around where we live), change our diet to use less red meat, simplify our lifestyles (consume less, go fewer places...), use public transportation, etc. etc. You can add to the list too that our living "high-on-the-hog" takes a lot from the world's resources and environment and contributes greatly to pollution.

Another idea is to vote next March for those candidates who appear to be the most concerned about the environment. Sometimes there may not

seem to be much difference - but one party routinely seems to be more concerned about the short term business interests than the long term health and slower use of the earth's resources.

In only two months from now we can hope to make a difference in the primary. Give it a good shot!

.....Vince Yoder

What is a CNPS Fellow?

What is a CNPS "Fellow"? This question was asked recently following the Bristlecone chapter meeting when Mary Ann Henry received this prestigious award.

I began my research into this often asked question by phoning Jenny Fleming in Oakland, a state CNPS Committee Chairperson.

Jenny informed me that the Administrative Handbook is being revised to further expand the description of a "Fellow". Many who have been honored were professionals with Doctorate Degrees in Botany. However, there have been others who are self-taught, so-called "amateur" botanists from various walks of life with a common love for plants.

The basic requirement to be elected as a "Fellow" is that he/she must have given an exceptional amount of time and commitment for a period of many years for the protection of native plants.

"Fellows, from Ph.D's to amateur botanists, essentially share their knowledge by teaching others, from governmental agency personnel to the interested general public. Protection of native plants becomes more than a hobby or profession, it becomes part of a "Fellow's" persona, an all-pervasive part of his/her lifestyle.

The Bristlecone Chapter is fortunate to have four self-taught botanists who have achieved this honor: Mary DeDecker, selected in 1977, Doris Fredendall, 1994, Vince Yoder and Mary Ann Henry in 1995. Their contributions are too numerous to mention here, but they continue to practice and educate others in innovative ways about the wonders and unique values of native plants.

Their contributions to our community often go unsung though they are of great value. At other times, articles they have written or honors received appear in our local newspaper, the Inyo Register.

Headline in the October Inyo Register:
Wild Iris Honers six Local Women

Doris Fredendall was one of six women honored recently at Woman Weave, a celebration of women's lives and histories in Inyo and Mono counties. The program sponsored by Wild Iris Women's Services, was a multi-media presentation with music, song and theater, all humorously and poignantly portraying the unique achievements of these outstanding women.

Doris was applauded for becoming one of the outstanding self-taught botanists in the Eastern Sierra. Her joys in life are seeking out unusual wildflower places, making plant lists, leading field trips and generously sharing her wisdom with others. Single-handedly she has removed all the russian thistle and trash cluttering the Westgard Pass road from U.S. Hwy. 395 to the top of the pass. An incredible feat for anyone. All of this after a full life as a wife and mother of two, and girl scout leader for ten years, even then, inspiring young women with the special joy of nature and the need to protect our environment.

.....Betty Gilchrist

Tree Lore

Tree Lore is a series by Andrew Kirk that will be devoted to the identification, distribution and natural history of our native trees.

Netleaf Hackberry

When peering up at the massive columns of a redwood grove, it is easy to imagine cathedrals. When wandering among the bristlecones, one invariably ponders the meaning of deep time. But what images arise when looking at a scraggly Netleaf Hackberry (*Celtis reticulata*)?

Certainly their size is uninspiring: usually less than 30 feet (9.10m) tall and 2 feet (0.61m) in diameter. Nor do they sport a flashy flower; tiny greenish blossoms in spring suffice.

But the leaves are distinctive: rough on the top, and on the bottom covered with the raised mesh of veins that give this tree both its common and scientific names. Like other members of the Elm Family (Ulmaceae), the leaves are coarsely toothed, alternate and simple; unlike elm leaves, Hackberry leaves are asymmetrically heart-shaped.

In the autumn, pea-size berries ripen from green to deep red, hanging from half-inch stalks. Though the berries are produced in meager quantities, Native Americans gathered them as food. Birds, too, consume the berries and thereby distribute the seeds. Here in Independence, I have found five young Netleafs growing in yards and along roads, none far from an elderly grove at the west side of Dehy Park, all likely planted by mockingbird, waxwing, or robin. This willingness to germinate, along with rapid early growth when provided with water, makes Netleaf Hackberry a promising tree for revegetation projects.

From Dehy Park, the Netleafs extend as far as the Eastern California Museum, numbering less than forty individuals, though their many-trunkedness makes counting inexact. This is apparently the only population in the Owens Valley, and one of only a handful of native populations in California. The range of *Celtis reticulata*, which encompasses all the western states, includes many such relict groves. Peattie, in *A Natural History of Western Trees*, suggested that hackberries were more widespread in a wetter age.

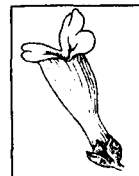
So when you stop in Independence to admire the Netleaf Hackberries, imagine a pluvial time, when Owens Lake lapped at the base of the Alabama Hills, when glaciers were prevalent, and the Netleafs - perhaps - throve innumerable.

(Many thanks to Mary DeDecker for clarifying the taxonomical status of *Celtis reticulata*).

.....Andrew Kirk

Native Plant Notes

Native plants have a reputation of being hard to propagate, which may be due, in some cases, to their seed treatment requirements. Many native plants have seeds that are "designed" not to germinate until their necessary requirements for successful growth have been met. These requirements may include one or several of the following: chilling, alternate chilling and warming, soaking, burning, being nibbled on by creatures, being passed through the digestive system of an animal, or just the natural wearing away of the germination inhibitors in the seed coat by weather and time.



Growers and researchers have found many techniques that have proven effective in breaking the dormancy of native plant seed. These methods include scarification, cold and warm stratification, hot water, dry heat, charate, fire, acid, other chemicals, water, and light. For our purposes, scarification, hot water, and cold stratification are the most useful treatments to perform at home.

Scarification is used on seeds with a very hard, thick coat, such as members of the pea family. Sandpaper, a file or knife can be used on tough seeds to slightly open or rupture the seed, while being very careful not to damage the embryo. Dissection of a seed or two might be helpful to see the inner structure. The seed should be sown after scarification.

The hot water treatment is an easy method to use on small, hard coated seeds. Drop seeds in neutral pH water heated up to 200°F. The amount of water should be about six times the volume of the seeds. Leave seeds to soak for 12-24 hours in the cooling water and then sow. Do not use an aluminum container.

Cold stratification is a common and effective technique for seed treatment. It entails storing seed in the refrigerator in a baggie, glass jar, or foil container. The seed should be mixed with damp sand, vermiculite or peat moss. This mix should be kept moist for the entire treatment and the seed should be checked periodically for germination. Sow the seed either when signs of germination appear or at the end of the stratification period. If the seeds show no signs of germination, it is not harmful to extend the stratification for a week or two until it is convenient to sow.

Properly storing seed prior to pre-treatment or sowing is very important. Most seed that is stored properly can be viable for many years. In fact, magnolia seeds found in a 2000 year old archaeological site in Japan were successfully germinated and grown into flowering trees! To store seed for a slightly shorter amount of time, a refrigerator works great. Simply put clean, dry seed into small paper envelopes, put the envelopes into an air-tight container along with some desiccant (which absorbs water and is available at pharmacies, camera stores and from some seed catalogues) and place in refrigerator. The desiccant may need to be periodically dried out or replaced.

The following treatments for our native plants and the information above have been gleaned from

several different publications (especially Seed Propagation of Native Plants by Dara Emery. If a plant is not listed, it either needs no pre-treatments or no reference to it was found. It is hoped that these recommendations may inspire some to experiment!

<i>Achnatherum hymenoides</i>	sow fresh, if possible
<i>Artemisia tridentata</i>	3 mos. stratification
<i>Astragalus newberryi</i>	scarify
<i>Ceanothus greggii</i>	hot water and then 2-3 mos. strat.
<i>Cercocarpus ledifolius</i>	2-3 mos. strat.
<i>Epilobium angustifolium</i>	1 mo.
<i>ssp. circumvagum</i>	
<i>Lupinus</i> spp.	scarify or hot water
<i>Monardella odoratissima</i>	3 mos. strat.
<i>Penstemon rostriflorus</i>	1-3 mos. strat.
<i>Potentilla fruticosa</i>	2 wks. strat.
<i>Purshia tridentata</i> var. <i>tridentata</i>	3 mos. strat.

Helpful Publications

Art, Henry W. 1990. *The Wildflower Gardener's Guide: California, Desert Southwest, and Northern Mexico Edition*. Garden Way Publishing.

Emery, Dara E. 1988. *Seed Propagation of Native California Plants*. Santa Barbara Botanic Garden.

Thompson, Peter 1992. *Creative Propagation*. Timber Press.

.....Karen Ferrell

Mono Lake Visitor's Center Needs Native Plant Volunteers

The Mono Lake Visitor's Center near Lee Vining has beautiful landscaping with beds containing local native plants. They are looking for volunteers to help maintain the beds and also people willing to grow native plants for them. It is a great opportunity to help educate the many visitors to the Center about the native plants of the Mono Basin. Please call Karen Ferrell at 387-2913 for more information about volunteering to help.



**Rare Combleaf found in the Bodie Hills
Mono County, CA**

Combleaf species belong to the Mustard Family (Brassicaceae) and the genus was described by E. L. Greene in 1912. They are diminutive perennials with rigid leaves and small white to purplish flowers borne on racemes.

In 1993 *Polyctenium fremontii* var. *confertum* Rollins (Crowded combleaf) was described from type material collected at Larkin Lake in Mono County, California. Dr. Robert F. Holland recently completed extensive surveys in western Nevada and adjacent California for this species as well as a Candidate 1 species, *Polyctenium williamsiae* (Williams' combleaf) that was discovered in the Virginia Range in Washoe County, Nevada in 1982. The surveys were part of a cosponsored US Fish and Wildlife Service, and Nevada Natural Heritage Program project.

Both species of *Polyctenium* have very similar habitat requirements and are difficult to separate taxonomically. Both are found around the margins of seasonal lakes within pinyon-juniper/sagebrush communities. Because the water in these lakes fluctuate widely, Holland believes these lakes have floristic affinities with the vernal pools in California.

Holland also believes that the three *Polyctenium fremontii* var *confertum* populations discovered in Mono County constitute the only three in California. No *P. williamsiae* has been discovered to date in California.

Currently, the majority of the potential habitat for these taxa in Nevada has been identified and surveyed. In Mono County additional sites for *Polyctenium fremontii* var. *confertum* may exist where relic pleistocene lakes remain.

.....Anne Halford

References

Holland, Robert F. 1995. Current Knowledge and Conservation Status of *Polyctenium williamsiae* Rollins, Williams' combleaf, and *P. fremontii* var. *confertum* Rollins, crowded combleaf, (Brassicaceae) in Nevada. Status report prepared for Nevada Natural Heritage Program and the US Fish and Wildlife Service, Nevada.

Rollins, Reed C. 1993. The Cruciferae of Continental North America. *Systematics of the Mustard Family from the Arctic to Panama*. Stanford Univ. Press.

In Memory of Theodore Frederick Gies

Bristlecone chapter member, Ted Gies, 52, died November 17 pursuing his love of long solo hikes in the mountains. From McGee Creek trailhead, Ted hiked up Esha Canyon to gain the summit of Nevahbe Ridge, in a gully off Esha Canyon he fell to his death on a steep snowfield. He is survived by both his parents, Theodore and Phyllis, and his brother Burl all of Riverton, Wyoming.

Ted was born in Alexandria, Virginia and grew up in Wyoming. He received a Ph.D. in geology from the University of Michigan in 1972. Ted first visited the Bishop area in 1986, and like many of us, he found the valley irresistible and made frequent visits to Bishop often expressing his desire to make it his home. A couple of years ago, he realized this goal and moved from Eugene, Oregon to Bishop.

Ted's life philosophy included living simply and promoting spiritual growth through wilderness and communal activities. His community and personal activities included leading vision quests, learning the local natural history, organizing old time dances, and frequently journeying into the deserts and mountains with minimal food and equipment. Besides the Native Plant Society, Ted was also active in the Sierra Club and the Eastern Sierra Country Dance Society.

Although Ted resided here only a few short years, he participated widely in our community, and friends will miss his gentle sense of humor and those frequent and clever puns which always elicited a communal groan. Although we mourn Ted's passing, we celebrate his beliefs in wilderness and community.

.....Robert Jellison and Friends

NEXT NEWSLETTER DEADLINE: February 26, 1996.

THE CALIFORNIA NATIVE PLANT SOCIETY - Membership Application

The California Native Plant Society is an organization of lay persons and professionals united by an interest in the plants of California. It is open to all. The society, working through its local chapters, seeks to increase the understanding of California's native flora and to preserve this rich resource for future generations. Varied interests are represented.

Name _____ P.O. Box or Street _____
 City _____ State _____ Zip Code _____ Phone _____
 I wish to be affiliated with the Bristlecone Chapter _____ Other _____.

Membership Category

<input type="checkbox"/> Student/Retired/Limited Income	\$20.00
<input type="checkbox"/> Individual or Library	\$35.00
<input type="checkbox"/> International	\$35.00
<input type="checkbox"/> Family or Group	\$45.00
<input type="checkbox"/> Supporting	\$75.00
<input type="checkbox"/> Plant Lover	\$100.00
<input type="checkbox"/> Patron	\$250.00
<input type="checkbox"/> Life	\$500.00
<input type="checkbox"/> Benefactor	\$1,000.00
<input type="checkbox"/> Corporate	\$1,000.00

Please make check payable to: The California Native Plant Society. **Mail to:** Bristlecone Chapter, CNPS. HCR 67 Box 35, Independence, CA 93526.

Gift Contribution: Where most needed _____ Conservation _____.

THE BRISTLECONE CHAPTER NEWSLETTER comes out bimonthly. It is mailed free to members of the Bristlecone Chapter, CNPS. The subscription is \$5.00 per year for others. Editor: Anne Halford.

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