DEDICATED TO THE PRESERVATION OF THE CALIFORNIA NATIVE FLORA

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NEXT CHAPTER MEETING

Annual Bristlecone Chapter Potluck and Slideshow

Thursday, November 21, at 6:00 at the Big Pine Methodist Church on School Street. The potluck set up will begin at 6:00 and dinner will be at 6:30 sharp. Please bring your favorite slides and stories to our annual gathering.

NEXT CHAPTER BOARD MEETING

Tuesday, November 12, 7:00 p.m. at Doris Fredendall's residence in Big Pine. All chairpersons are welcome and encouraged to attend.

PRESIDENT'S MESSAGE

This is elections month. Not only national, state, and county but for our local chapter of CNPS as well. I have been asked by the nominating committee to serve a third term as President. We will be voting on our slate of officers at our general meeting on the 21st of this month. I would like to thank Karen Ferrell-Ingram, Mary Allen, and Steve Ingram for agreeing to serve with me as officers for this coming term. I would also like to thank Sally Manning for serving the past two years as our Vice-President. She has been diligently attending all the State Board meetings in my place to represent our chapter.

For all of you that missed our annual banquet this year too bad! Dr. James Morefield gave a fine talk on the plants of Nevada. In the past he has lead some really neat field trips for our chapter in the White Mountains and we hope to have him lead additional ones in 1997. The Gold Diggers put on a wonderful dinner for the banquet and any profits they made went to local charities - which is really a great set up! I want to give another big thanks to Diane Payne for organizing this year's banquet. She put in a lot of hours getting the banquet organized and we just wouldn't have had the event this year without her.

A couple of weeks ago we had our annual seed cleaning and packaging party. It was well attended and we really had a good time. In no time at all we had all the seeds cleaned and it was pretty amazing to see all the techniques we came up with to get all that seed cleaned!

I will be looking forward to seeing you at our November meeting and don't forget to bring lots of money to give to my reelection campaign. Any money left over from my campaign will be wisely spent on my trip to the Bahamas!

……..Scott Hetzler

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

Four-wing Saltbush

The *Atriplex* species known as saltbushes, are dominant in eastern California. Four-wing saltbush, *Atriplex canescens,* is the largest and most widely distributed of the six species represented. Not only is it widespread in California and Mexico but it occurs as far east as Texas and South Dakota and northward into Canada. It is a member of the Goosefoot or Saltbush Family (*Chenopodiaceae).*

It is a rounded, pale gray shrub, up to 5 feet high. It's leaves are narrowly linear, up to ½ inch long, scurfy-gray on both surfaces, and the plant is evergreen. It is also dioecious, which means that the male and female flowers are borne on different plants. Its male flowers (staminate), which produce pollen, are in short, dense pikes. The female flowers are in larger panicles but are inconspicuous. It is the mature fruits (seeds) which attract attention. Although each seed is only 1.5 to 2.5mm long it has four prominent wings. When they are mature in the fall the panicles have the general appearance of popcorn.

This is an attractive shrub which does well in moderately dry habitats up as high as 8500 feet in elevation. It varies in its tolerance to alkalinity and is so adaptable that it occurs in extremely different plant communities, from the Greasewood Scrub of alkali flats or Creosote Bush Scrub of the deserts to Grasslands, Pinyon-Juniper Woodland or even into Ponderosa Pine-Douglas Fir Forests. It is a good candidate for desert landscaping where the choice of plants is limited.

It is highly valued by native Americans and the Spanish-Americans who used its leaves and young shoots as greens or in soups. They ground its parched seeds, and added water and sugar for a drink known as pinole. The shrub was especially valued in desert areas and grasslands for the shade and cover it provided for birds and small mammals. Indians in Nevada used it medicinally by boiling fresh roots in salted water and giving it in ½ cup doses as a physic. The Zuni Indians were said to have ground its seeds and flowers, moistened them with saliva, and used the mixture to relieve ant bites.

In modern times it is considered an excellent browse plant for sheep and cattle, as well as for antelope and deer.

……..Mary DeDecker

Plant List of the Alabama Hills Now Available

Poison oak on the east side? Yes! *Toxicodendron diversilobum*, rare plants, introduced species, our familiar Mojave shrubs, and a plethora of wonderful wildflowers reside among the picturesque boulders of the Alabama Hills.

To acquaint locals and visitors with the diversity of plants in the Alabama Hills near Lone Pine, the Bristlecone Chapter has recently printed a booklet compiled by Vince Yoder entitled: An Alabama Hills Plant List. This 14-page booklet is the result of Vince's long interest in the flora of the unique Alabama Hills; he has walked nearly every inch of the hills and left no stone unturned! The 300+ species are organized by family, and listed in alphabetical order according to their Jepson (1993) Latin names. Common names accompany all listings, and more familiar synonyms are included for reference. A brief introduction describes the setting, habitat notes are included, and notes on commonness appear. The booklet is, appropriately, dedicated to Mary DeDecker.

This 8 ½ x 5 ½" booklet sells for only $2.95 and can be purchased in Lone Pine at the Interagency Visitor Center, the Lone Pine Drug Store and Lorene's Gift

and Rock Shop. It is also available at the Eastern California Museum in Independence, at chapter meetings, and from Vince himself. Be sure to pick one up in time for spring (maybe Vince will even autograph it for you). This would make a great stocking-stuffer for your nature loving friends.

……..Sally Manning

Native Plant Notes

Native Plant Notes is a column for sharing techniques about how to grow our native plants. All contributions are welcome so let your ideas germinate.

New Growers of the Purple Sage

One of the shrubs that grows abundantly on the upper edges of our valley is getting some recognition as a fine garden plant. *Salvia dorrii* var. *dorrii* commonly known as purple sage, has been featured recently in several publications as a good drought tolerant, low-maintenance plant. It is striking in the spring with rich purple flowers and the fragrant foliage contributes a beautiful blue-gay hue to the landscape year are around. Purple sage is a spreading , rounded shrub that can reach several feet high. The flowers are very attractive to bees and butterflies.

The perfect garden situation for purple sage would be a sunny, well-draining spot out of reach of the automatic sprinklers. Although purple sage will need a little extra water to get established, settled plants will thrive on a deep once-a-month watering regime. Purple sage grows fast and will benefit from a light shearing after flowering to encourage reblooming and fullness.

Purple sage is easy to grow from seed, especially after a cold stratification treatment. Simply put the seeds in a zip-lock baggie with some moist vermiculite and store in the refrigerator for one to two months and then sow. Or even easier yet, look for purple sage at our Bristlecone chapter native plant sale in the fall of next year!

……..Karen Ferrell-Ingram

1996 Bristlecone Chapter Summer Field Trip Reports

Green Lake

August 3

Aquilegia pubescens,
white columbine

Skirting the South Lake parking lot, we wandered through a wet area containing *Platanthera leucostachys*, white rein orchid, *Platanthera sparsiflora,* green orchid, *Aconitum columbianum,* monkshood, *Parnassia californica,* grass-of-parnassus in bud, *Saxifraga odontoloma,* brook saxifrage, the delicate *Dodecatheon alpinum*, alpine shooting star and *Castilleja miniata,* streamside paintbrush.

We walked on the pipeline that diverts water from the Green lake drainage to South Lake. The area traversed by the pipeline is through an area dominated by *Pinus contorta* ssp. *murrayana,* lodgepole pine and *Poa wheeleri*, Wheeler bluegrass. As the forest opened up, we had fine views to the north of Rock Creek gorge and the Owens River gorge. Leaving the pipeline at the junction of the trail from Parcher's Lodge, we zizagged up switchbacks stopping often to rest and looking south to get grand views of Mt. Thompson, Mt. Gilbert, Hurd Peak and Johnson Peak with South Lake in the foreground. In one of the wet areas, we saw lovely displays of *Trifolium monanthum*, carpet clover, *Erigeron peregrinus* var. *callianthemus,* wandering daisy and *Castilleja miniata,* streamside paintbrush.

Below Brown Lake in the dry areas, we encountered *Castilleja nana*, alpine paintbrush, *Raillardella argentea,* silky raillardella, *Ivesia muirii,* Muir's Ivesia, *Eriophyllum lanatum* var. *integrifolium,* woolly yarrow, *Ericameria suffruticosa,* alpine goldbush, *Eriogonum lobbii,* Lobb buckwehat with its cream colored flowers laying on the soil, *Eriogonum ovalifoium* var. *nivale,* fell-field buckwheat. In scattered dry locations, we saw

Swertia puberulenta, Inyo gentian, its type locality nearby South Lake. In the meadows below Brown Lake, *Lupinus pratensis,* meadow lupine was in its all glory along with *Pedicularis attolens,* little elephant heads, and *Mimulus primuloides,* meadow monkey-flower. From these meadows one can look to the west and see Mt. Tom, Basin Peak, Mt. Humphreys, and Mt. Emerson. At the outlet of Browns Lake, there was a nice stand of *Dugaldia hoopseii,* tall helenium.

The meadow above Brown Lake was yellow in color, the yellow furnished by *Ivesia lycopodiooides,* club-moss Ivesia and *Potentilla gracilis* var. *fastigiata*, slender cinquefoil. Also in this meadow, were found *Gentianella amarella* ssp. *acuta,* felwort and *Gentiana newberryi* var. *tiogana.* Alpine or white gentian, a harbinger of fall. At the dry edges of the meadow, we found *Oxytropis borealis* var. *viscida,* sticky oxytrope and a few plants of *Astragalus whitneyi*, Whitney milk-vetch.

Immediately to the south of Green lake is a moraine upon which grows some of the special plant jewels of this area; *Primula suffrutescens,* Sierra primrose, the only *Primula* in California, *Hulsea algida,* alpine gold, a food of the Bighorn Sheep, and the attractive *Carex helleri*, Heller sedge. Both the *Hulsea* and *Carex* are usually found in alpine settings, thus a relatively easy walk allows one to see two of the showier alpine plants. Green lake is fed by a small glacier. This silt brought down by melting water to the lake is too fine to settle out. The silt scatters light, creating the greenish color of the lake.

A fine day was had by al, thanks to lovely plants, fine views, and a wind that kept the mosquitoes at bay.

……..Jack Crowther

Convict Lake

September 14

The cool morning breeze that trembled the aspens around Convict Lake carried the first hint of fall after a long, hot summer. It was an energetic and enthusiastic group that met on that September morning to explore the south reaches of Convict Lake and the dwindling, autumn creeks that feed the lake. Our leader, Cathy Rose, promised us a walk full of botany, birds and good views.

We didn't dawdle in the parking lot but strode right out onto the trail, walking quickly through the chilly, shady places and stopping in the sun to enjoy the many species of shrubs that surround the lake. With Cathy's help we soon had tallied up a good number of sightings: mountain mahogany (*Cercocarpus ledifolius*), snowberry (*Symphoricarpos vaccinioides)*, wild rose (*Rosa woodsii),* bitterbrush (*Purshia tridentata)*, desert peach (*Prunus andersonii),* bittercherry (*Prunus emarginata*), serviceberry (*Amelanchier pallida*), and common dogbane *(Apocynum cannabinum).* We especially appreciated the rock inhabiting plants, including the fuzzy-leaved cliff bush (*Jamesia americana)* that grew out of a crack in a bit granite outcrop along with the beautiful pink Heuchera *(Heuchera rubescens*), red columbine (*Aquilegia formosa),* and a few still-flowering paintbrushes (*Castilleja* spp.)

Along the boardwalk, we enjoyed the large black cottonwood (*Populus balsamifera* var. *trichocarpa)* grove that borders the south end of the lake. Making our way to the edge of the lake, we were excited to see the unusual aquatic buttercup (*Ranunculus aquatilus)*, floating just off the shore. It was a large floating mat with the small flowers just visible with binoculars.

Leaving the lake behind we headed towards a small rocky knoll which would give us a great view of the basin and the awesome surrounding mountains. We walked through three species of buckwheat (*Eriogonum nudum, E. umbellatum and E. microthecum)*, and various grasses including indian rice grass, desert needle grass, and Great Basin wild rye (*Acnatherum hymenoides, A. speciosa, and Leymus cinerus),* among others who prefer to remain anonymous.

Cathy guided us to a beautiful Sierra juniper (*Juniperus occidentalis* var. *australis*) tree and we enjoyed lunch and a great view. We learned about the Townsend's solitaire, a thrush that is known to

stake out fruiting juniper trees by sitting in the upper branches and warbling melodiously. Cathy, showing her sharp natural history skill again, pointed out just such a bird perched in the top of a juniper just a few trees away. It was another treat on a day full of treats.

……..Karen Ferrell-Ingram

Aspen Art
October 12

As our leader, Richard Potashin, pointed out to our group of ten, we were on "the first field trip in the Eastern Sierra exclusively devoted to the rapidly growing phenomenon of aspen petroglyphs." Our first stop on the aspen highway was in Conway Meadows where some of us got our first glimpse of what Richard, a.k.a. Alkali Aspenknowza, calls "glyphitti". Most of the carvings are names and dates of shepherds past. But the names are French and Spanish Basque, Peruvian, and Mexican, and the dates range from the 1980's to the late 1800's. Since aspen tress typically live only 80 or 100 years, it is relatively rare to find dates before 1920 or so. The unspoken challenge became finding the oldest carved date, which was 1910 in this grove.

Next stop, just in time for lunch under the colorful canopy of golden aspen leaves, was Bohler Canyon, south of Lee Vining. Even to glyphittii-searching amateurs, some of the names and personal idiosyncrasies became familiar. R. Martin, who herded sheep in the Eastern Sierra in the 1970's etched years in two columns on the aspen trunks. But were they really carved at different years, or all carved at one time, as it looked? Was the robed figure on one old aspen the devil, a priest, or somebody's mother?

Our final stop was Walker Canyon, the next canyon further south. Some of the letters of names carved here, even if you do view them as eco-vandalism, had fine artistic quality. Several shutterbugs in our group documented the carvings before they would disappear with the death and decay of the trees.

One of the figures etched into a tee along the creek looked like an owl or koala bear. Or was it somebody's mother?

……..Stephen Ingram

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.

The Willow Family

The Willow Family (*Salicaceae)* accounts for more deciduous tree species in the Owens Valley and flanking mountains than any other family. Aspen, willows, and cottonwoods…no fewer than six species bring autumn gold to our streamsides and wetlands, and provide a soft, brittle wood highly esteemed by fungi, termites, and woodpeckers. All are abundant here but one: the narrowleaf cottonwood (*Populus angustifolia)*. Its remarkable occurrence here, defining the extreme western limit of its range, is quite restricted, as well as a bit misunderstood.

Certainly, Division Creek, rushing down from the east side of the Sierra Nevada west of Black Rock, sports a handsome stand of narrowleaf cottonwood. To see them drive up Division Creek Road past the powerhouse, and on up to the diversion at about 5700 ft. (Go in the spring and you will hear the "bouncing ball-bearing" song of the dapper black-chinned sparrow). Here there are scores of mature "narrowleaf's ", up to 60' tall, with typical cottonwood bark: gray and deeply furrowed.

The outstanding characteristic of this tree is its leaves. While most cottonwood species carry leaves nearly as broad as long, *angustifolia* (Latin for narrowleaf) bears leaves 1-3cm wide and 4-9cm long. Leaf shape and size vary even on a single twig, with some looking willow-like; one of its common names is "willow-leaf poplar". The leaves are borne on short, for a cottonwood, petioles. They are also noteworthy for their yellow midribs. At Division Creek "narrowleafs" also grow well away from surface water, accompanied by California black oak (*Quercus kelloggii).*

Less certain are other local occurrences listed in the literature. Does it "line" Lone Pine Creek, as mentioned in Trees of the Great Basin (Lanner 1984)? No, those are black cottonwoods (*P. trichocarpa),* growing right down to the valley floor. Similarly, a Wyman Canyon population listed in the Natural History of the White-Inyo Range (Hall 1991) also appears to be black cottonwood.

Leaves on root sprouts of black cottonwood do sometimes develop a narrow shape, but will have a red midrib rather than the yellow of "narrowleaf".

It could well be that local populations of narrowleaf cottonwood remain to be discovered. Further field work and collections will solve this part of the equation. More complex are the central mysteries of *P. angustifolia*: why is it here at all, far from the Rocky Mountain heart of its range; and how does a tree whose seeds are wind-dispersed maintain this limited distribution.

CONSERVATION

Of all the many reports contained in the Sierra Nevada Ecosystem Project (SNEP) I've read so far, the one concerning Rangeland Assessment is of considerable interest and importance to us. It is contained in Volume III 901-972.

"This public rangeland/livestock grazing assessment includes a post - 1905 history of livestock use on 10 National Forests of the Sierra Nevada and [the Modoc Plateau], a compilation of plant species indicators of livestock grazing effects, an assessment of grazing effects on sagebrush-steppe and mountain meadows rangelands, and a case study on correlation's of meadow and riparian conditions in the Sierra Nevada".

Prior to 1905 the Sierra Nevada and the Modoc Plateau were "abusively grazed" throughout most of the study area. Since 1905 when forest preserves were being established, the intensity of grazing began to be reduced and positive changes were evident by the 40's, except for the years of the two world wars when "all available forage was to be used".

Since the mid - '50's' more and more data has been gathered to facilitate assessment of range conditions on 10 National Forests in the study area. "The status of blue oak/foothill pine savannas and blue oak/interior live oak woodlands is assessed in a separate report…" Assessment of the mid-elevation conifer ranges is not included as it is not a primary range area and range condition analyses can be controversial as they are likely to be "confounded by plant successional processes unrelated to grazing". This leaves higher elevation mountain meadow and sagebrush range types which have been monitored more intensively.

In general, meadow use is evaluated by examining plant indicator species. Most meadows have suffered to a more or less degree (usually more) in the past. The severity is usually evident by the degree to which the streams have incised down into the meadow. Deep incision lowers the water table which through time, changes plant community species composition. Wet loving sedges and certain rush species are gradually replaced by grasses which are more tolerant of drier site conditions. Overall productivity declines as the meadow dries out, bare areas begin to appear and eventually, the overall structure and composition of the meadow community is compromised.

Fortunately, riparian areas (meadows and streamsides) heal rapidly and a few years of rest or greatly reduced utilization will produce remarkable recovery, even to streambank healing, raising the water table, reducing the preponderance of shrubs, etc. This can usually be achieved by implementing some very basic grazing practices, e.g. herd control, careful salt/mineral block placement, and construction of pasture fences.

Sagebrush-steppe over-use is often indicated by a decrease in the perennial grass component, and an increase in annual grasses, especially cheat grass and red brome. At higher elevations, according to the study, the perennial grass component has increased by as much as 30-40%. However, these sites which receive higher levels of precipitation are from the start, not as prone to cheat grass invasion, which greatly facilitates the recovery of the perennial grasses. Unfortunately, the study did not examine lower elevation sagebrush-steppe communities that comprise a large percentage of BLM lands. These lower elevation ranges are very susceptible to invasion by annual, non-desirable invasive species such as cheat grass. Disturbance regimes in these upland sites have often catalyzed plant successional pathways that greatly inhibit the recovery of the perennial grass component, even after years of rest.

In the overall picture, …"adequate knowledge and skills exist to assess rangeland site specific problems and to prescribe solutions…Within land management agencies this is a call for coordination between those closest to the ground with their place-basic knowledge and those higher up in the bureaucracy with their systems-based knowledge…One clear

need arises from this effort - greater plant identification skills re essential for resource specialists doing rangeland monitoring and assessments.

……..Vince Yoder

Seed Gathering

Cycles of time
Circles of stone
Breathe in and out.
Plants give seed to the earth
In and out
Cycles of time.

Circles of stone
Breathe in and out
The ancient ones hiding
The three of us
fearing the sun.
Hearts beat to the
Cycle of life
Cycles of time

Breathe in and out
The primal process
Of gathering seed
And sowing the seed
And nurturing life.
The primal process
Of gathering seed.
In and out
Cycles of time.

……..Kathy Duvall

New Members

The Bristlecone Chapter Warmly Welcomes the Following New Member

Rosemary Jarratt
Bishop

Next Newsletter Deadline: December 27th.

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

___ Student/Retired/Limited Income	$20.00
___ Individual or Library	$35.00
___ International	$35.00
___ Family or Group	$45.00
___ Supporting	$75.00
___ Plant Lover	$100.00
___ Patron	$250.00
___ Life	$500.00
___ Benefactor	$1,000.00
___ 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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