

California Native Plant Society

Sacramento Valley Chapter
Stockton Sub-chapter

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PANAMINT DAISY - *Enceliopsis covillei*
by Martha Mallery

the Desert 2006

Our car caravan bounced and jogged along the washboard road up Wildrose Canyon as we entered the Panamint Range of Death Valley National Park. Dr. Mark Brunell led the way, followed by his UOP botany students and our CNPS car. Suddenly he pulled to the side of the gravelly road. Why are we stopping here, I wondered. The barren canyon seemed devoid of vegetation other than scattered creosote bush and *Chrysothamnus* (thanks for the ID, Mark). Then I saw it. Right by the side of the car. In a rocky wash sparsely populated with brush, the magnificent Panamint Daisy raised it huge, hand-sized yellow blossoms to the sun.

Why?

Why was all this beautiful energy expended in a region so desolate? Were the large buttery petals trying to attract botany professors? That had worked. Dr. Brunell was delighted to lead his class to study this rare treasure. Maybe the daisies were hailing passing CNPS cars to lobby for their preservation. That worked too. When David Marraccini and I returned to Wildrose Canyon a couple of days later we were followed up the wash by Dave Imper of the North Coast Chapter of CNPS. Dave is the rare plants chair for his group and was on one of his frequent pilgrimages to visit the rare daisy. He thought it was a good omen for two CNPS groups to meet in Wildrose Canyon on one day, and we spent a most pleasant time discussing our hopes for

(Cont'd page 2)



Photo by Jim Rexroth



Photo by David Imper



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Photo by Jim Rexroth

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PANAMINT DAISY - *Enceliopsis covillei* cont'd.

preserving the Endangered Species Act. Later we admired the gorgeous gray-green leaves arranged around the base of the tall stems of the daisies and basked in the glow of their backlit petals. It was fascinating, too, to see clumps of the daisies growing straight out of the scree and even scattered high up the walls of the wash.

How appropriate, I thought, that this brave daisy would emblazon our state logo. I only wished that all of our CNPS members could see its rare beauty and feel the happiness it inspired.

But maybe the daisy wasn't trying to attract us after all. Maybe it was just calling for some bees or bats to preserve its splendor.

NATIVES FOR THE GARDEN

Apricot Mallow - *Sphaeralcea ambigua*

by David Marraccini

Apricot mallow is a multi-stemmed shrub member of the mallow family, the Malvaceae. Its gray hairy leaves and apricot-colored flowers make a nice contrast between flower and foliage. The unusual gray leaves also contrast with standard green foliage of the garden. The apricot mallow grows throughout the Mojave Desert and is therefore suited for xerophytic landscaping. I've noticed that the apricot mallow and some other desert plants exhibit a phenomenon where old dead stems persist among the new live ones. Fussy gardeners can prune out the dead twigs. The apricot-colored flowers are 1 1/2 - 2" wide. They are generally apricot colored but can also be orange, salmon or red-orange. The flowers of some plants have a light sweet scent, almost an orange honeysuckle smell. Although sparsely foliated, this plant may be used as a specimen plant, as a dry border or in a desert theme garden. The apricot mallow is native to the Mojave Desert, southern Nevada, southern Utah, Arizona and into Mexico (both Baja and the mainland). The apricot mallow grows in most types of soil but prefers sandy loam to rocky sandy soil. The apricot mallow is extremely drought-tolerant but will tolerate watering; if watered, it will bloom for a much longer period of time. It does not tolerate saturated clay soil. Rabbits, ground squirrels and deer will eat the plants to the ground so appropriate measures may need to be taken.



photos by Bob Stahmer

Chico Grunder's Table Mountain Trip

by James Rexroth

On Sunday March 26th, five brave souls set out in two vehicles to see what might be blooming on the Owl Creek Ranch lava plateau. Of course getting there was half the battle. Martha led us around the southeast corner of San Joaquin County looking for her "shortcut" to Oakdale. Poppies, meadowfoam, goldfields and some seep monkeyflower were identified as we made our way. When we arrived in Oakdale, Martha switched vehicles and joined my wife Carol and myself to act as guide for the remainder of the trip there.

After a short ride we came to the Grunders' property. As we drove in, I noted a few bluedicks blooming on the hillside. We stopped briefly at the barn to meet Chico, who was hosting a group of college students from OSU. Here we found a violet in bloom. We all piled into Martha's 4-wheel drive vehicle and headed for the plateau. There were some brief doubts about crossing the creek (it was running full). Martha surged forward and we were across.

As we crested the hill onto the plateau, we were greeted to a patchwork of meadowfoam and goldfields. Martha parked under some oaks that were leafing out and the group exited the car quickly and began looking around. Redmaids and miner's lettuce were close at hand. I started taking pictures of those flowers close to the car. After a wonderful lunch, we headed northwest across the plateau. Lots of meadowfoam, goldfields, more redmaids, and lupines (not yet blooming).

(Cont'd on page 3)

Chico Grunder's Table Mountain Trip... (cont'd)

Martha said to be on the lookout for a rare species of coyote thistle (*Eryngium spinosepalum*) that occurred in the area. We think we found it in one of the vernal pools. Several more were found, as well as one of the common type.

We headed for a small stony hill and found a *Phacelia* species, goldback fern, and a few lupines starting to flower. We continued towards the cliff edge that overlooks the Stanislaus River. There we found an *Allium* blooming and more bluedicks. Heading east along the cliff, we came across a woodland star (*Lithophragma* sp.). While the rest of the group was studying the woodland star, Carol and I continued east along the cliff edge. As we wandered along, we found *Dudleya* starting to flower, paintbrush, bush monkeyflower and a jewelflower (*Streptanthus* sp.) plant. We turned southeast and headed back onto the plateau proper. The water was flowing in little streams here and we found more *Allium* and an annual *Sedum* flowering. Again, seep monkeyflower, meadowfoam and goldfields were scattered all around.

We turned west and headed back towards the rest of the group. Once reunited, we took a few more photos and headed back to the car. Martha drove us down the hill and back to the barn area where she, Bob and David went to look for Chico to say thank you. Carol and I got in our truck and briefly got stuck in the mud as we backed out to leave. After a couple of the college kids helped us get out, we headed for home, recounting the events and plants we experienced that day.



photos by Bob Stahmer

HORNWORTS, DENIZENS OF THE SHADY BANK

by Dr. Mark Brunell, UOP

The April 29th field trip to Calaveras County's Rock Creek Road was attended by the UOP California Flora class and several members of the Stockton CNPS sub-chapter. Although the main focus of the trip was the viewing and collecting of ferns, conifers, and flowering plants, we did encounter a few plant species that are seldom seen by the layman and botanist alike. At several locations along the road, on the nearly-vertical, north-facing dirt banks created by the road-cut, were found the tiny non-vascular plants called mosses, liverworts, and hornworts. These three plant groups, collectively called bryophytes, are primitive land plants that lack roots, stems, leaves, seeds, cones, and flowers. Their body is a simple "thallus" that can be either ribbon-like, disk-like, or appearing leafy. An observant nature enthusiast can routinely find mosses and liverworts in moist areas throughout the world, however the hornwort is a very seldom seen plant because of its small size, resemblance to tiny grass blades, and the fact that most people have no knowledge of them and therefore don't recognize that they are different or special.

The basic hornwort body is tiny, just one or two centimeters across, and consists of a round, disk-shaped thallus that bears tiny rhizoids on its lower surface (for anchorage), with long, horn-like reproductive structures attached to the upper surface of the thallus and pointing straight up. These "horns" are technically called sporangia, and they produce thousands of microscopic spores that

(cont'd on page 4)



photo by Bob Stahmer

Hornworts, Denizens of the Shady Bank... (cont'd)

are blown away by the wind. In the thallus itself are found microscopic pockets that harbor colonies of the blue-green alga *Nostoc*, which live in a symbiotic relationship with the plant. *Nostoc* is capable of converting atmospheric nitrogen gas, normally useless to organisms, into a nitrogen-rich chemical that is useful to the hornwort. Essentially, the hornwort possesses an internal fertilizer factory.

The curious "horns" on the plant start out at the thallus surface and gradually grow upward. They will continue to lengthen and once the spores are mature the horn will split along its length, starting at the tip, and the sides will peel down in two curls as the spores are dispersed. Horn growth will stop once the environment dries out. If the spores reach a favorable environment, they will germinate and grow into a new thallus. The thallus will form antheridia and archegonia, that is, sperm and egg containers, respectively. Once covered by a water film, the sperms will swim to the archegonia of nearby plants and fertilize the egg, forming a zygote. The zygote will grow and form the new sporangium or "horn".

Hornworts are thought to be some of the earliest land plants, and indeed many of their traits are primitive. Green algae are generally believed to be the ancestors of the land plants, and hornworts have many algal-like features. For instance, each hornwort cell possesses a single, massive chloroplast organelle, which is the cellular structure that performs photosynthesis. A single chloroplast per cell is an algal trait, and hornworts are the only land plants to have it. Based on their biology and closest relatives, the hornworts appear to be perhaps 400 million years old as a group, however the oldest known fossil hornworts are only about 70 million years old. Therefore, the hornworts represent a problem to evolutionary biologists.

So the next time you are wandering the flower-rich roadsides during spring, try your luck at finding hornworts...these unique plants are a thrill to find.

Edgewood Park & Natural Preserve

<http://www.friendsofedgeWOOD.org/>

by Bob Stahmer

Mother's Day weekend, since I was going home to Redwood City for a Sunday celebration, I decided to check out the docent-led tour of a park and preserve near where I had grown up. The Edgewood Park & Natural Preserve is located just off of Interstate 280 and Edgewood Road. The park is a variety of habitats on 476 acres of hills. Shady forests to open chaparral are found on this little jewel of a park in the Bay Area. Serpentine grasslands make for an interesting flora. A few rare plants are found within the park boundaries. Unfortunately, one I would have liked to have seen, the San Mateo thornmint is off the trail and hikers are not allowed to stray. I was also told the thornmint doesn't bloom until later in the year to add to my disappointment. However, we did get to see the rare Franciscan onion, *Allium peninsulare* var. *franciscanum*. In appearance it was very similar to an onion we saw on our trip to Rock Creek Canyon Road, *A. peninsulare*. The hike may have taken 4 hours, partly due to my slowing our group a bit with questions and stops to take a photograph here and there. I purchased the complete plant list for the park before we started up the trail and at the end had checked off 71 flowering plants we saw on our hike, including the most abundant species, poison oak!

Of course there is never enough time on these walks for proper photography so after bidding our able docent, Diane Hunt, farewell, I checked in with my folks in Redwood City for a bite of lunch. Then I raced back to the park and finished up what flower photos I could before the park closed around 8pm. I logged another 5 or 6 flowering species that I (we) had missed in the morning session. By next year, the proposed interpretive center may be completed. (Thanks again to the Friends of Edgewood Natural Preserve)

photos by Bob Stahmer



TRIP POSSIBILITIES...

1. Mt. Diablo (new member Floyd Cranmore reports "lots" of wildflowers in bloom)
 2. Ring Mountain
 3. Hetch Hetchy
- [for updates call Bob Stahmer (209) 943-2277]

Quiz flower of the month

Volunteer found this month (May) in member Grover's front yard... (near Lodi)



Eryngium sp. from Owl Creek Ranch

photo by Bob Stahmer

Rare Coyote-thistle (*Eryngium spinosepalum*) Update

by Bob Stahmer

Even though we have heard rumors that the rare coyote-thistle, "Spiny-sepaled Button-celery" (*Eryngium spinosepalum*) may be found in the vernal pools of our favorite table mountain overlooking the Stanislaus River, I wouldn't rush to claim that we've seen it yet. We have only seen the early vegetative growth phase of this coyote thistle both trips that we have made to the mountain so far.

Not having any success finding even one picture of this species on the internet, we contacted Carol Witham, who seems to have misplaced the photo she has of the plant. In a last ditch effort to find out what this plant looks like, I took a trip to the U.C. Davis Herbarium. Jean Shepherd was kind enough to allow me to view all collections of *E. spinosepalum*. In addition, I had earlier talked to Dr. Brunell at UOP and he informed me that another common widespread species that we could possibly be seeing would be *E. castrense*. I pulled these specimens out for comparison.

A couple of character distinctions used in the Jepson key to separate the two species: *E. castrense* has "bracts similar to bractlets and spines on outer side dense" vs. "bracts unlike bractlets, spines on outer side 0 or few" for *E. spinosepalum*.

After looking at all the specimens for a long time I think I was more confused than ever. I just could not find clear-cut morphological distinctions that could be readily seen in the smashed dried specimens from the Hortus Mortuus.

"Permission to speak freely?" I would almost suspect from looking at the collection, that some of the old collections may not even be properly identified... I know, "Blasphemy!" (I wouldn't, of course stake my life on this brazen proposal).

I would love to see this plant when it blooms, not only to examine the bracts & bractlets of living specimens but to check the petal color since if they are any color besides white, this would rule out *E. spinosepalum* according to Jepson. I think we owe it to native plant lovers the world over to track this beast down and bring home some big-game photos to share!

