DEDICATED TO THE PRESERVATION OF THE CALIFORNIA NATIVE FLORA

BRISTLECONE • CHAPTER

CNPS

NEWSLETTER

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NEXT MEETING

May 28 at 7:30 p.m., Big Pine Methodist Church at Crocker and School streets, Big Pine. Turn west at yellow light on Hwy. Ralph Giffen, Resource Officer at Mount Whitney Ranger Station, will give us a program on the "Water Restoration Project in the Golden Trout Wilderness". Don't miss this informative presentation.

PRESIDENT'S MESSAGE:

There have been some great field trips this year. While it has not been a good flower year for Death Valley, there were some interesting things in Wildrose Canyon--I did take some pictures. Panamint daisies were in full bloom. There were many other beauties on Centennial Flat, where we camped. There were places where you could not walk without stepping on flowers.

The field trip chairman and leaders put a lot of effort into planning a good schedule throughout the season. Each trip missed is a special experience lost.

. . . . . Ann Yoder

FIELD TRIP REPORTS

March 15-16: Death Valley.

Strong winds along certain portions of the road from Lone Pine hustled us into Death Valley, but quieted at Stovepipe Wells where we met Peter Rowlands, our guide for the day. We were 10 Bristlecone Chapter members (one from Angel's Camp) and two guests. It was a beautiful blue-sky morning. We made several stops across the valley and in Mud Canyon. Less than ½ inch of moisture had fallen in Death Valley this year so flowers were sparse and scattered. Crowding into three 4-wheel-drive vehicles, we turned up into an unmarked canyon toward Chloride Cliff, a lovely desert-green area of hills, washes and little summits. *Lycium cooperi* and *L. andersonii* and *Salazaria mexicana* were predominant among other shurbs. *Phacelia fremontii* was the most plentiful annual. Gray clouds had swept across the valley sky, the breeze was nippy. At the old water tank and spring area our group split, some heading for home and others climbing a bit farther before returning to parked cars. Again the group divided to spend a damp overnight camp at Mesquite Springs or a rain-spattered homeward climb up the long Towne Pass grade, with fresh snow low on the Panamints and a threatening black cloud hiding the top of Hunter Mountain.

. . . . . Doris Fredendall

April 19-20:

A small but eager group met as scheduled Saturday morning in Panamint Valley at the junction of Highway 190 and Panamint Valley Road. We had been informed by Mary Ann and Ron Henry that roads to the areas in the Argus Range that we expected to visit were impassible due to washouts, so there was an abrupt change in plans. It was decided to visit Wildrose Canyon as far as the Charcoal Kilns the first day and back to camp at Lower Centennial Flat where we would explore the second day. Mary DeDecker agreed to lead on Saturday and the Henrys would take it from there.

Our first delight was to see the Panamint daisy, *Enceliopsis covillei,* in full bloom. A grand sight indeed! We also enjoyed thickleaf ground-cherry, *Physalis crassifolia*, rock primrose, *Camissonia walkeri* ssp. *tortilis*, five-spot, *Eremalche rotundifolia*, and several gilias and phacelias.

We made several stops on our way up to the Charcoal Kilns and were rewarded with prominent displays of desert paintbrush, *Castilleja chromosa*, magnificent lupine, *Lupinus magnificus* var. *magnificus*, large clumps of Mojave milk-vetch, *Astragalus mohavensis*, and showy blooms of Mojave aster, *Xylorhiza tortifolia.*

Then those of us who could spend a second day went to Centennial Flat for the night's campout. The evening was clear so we had a good look at the fast waning Halley's Comet. We were off early next morning up canyon toward the springs, which turned out to be severely trampled by cattle, heavily overgrazed, and a mess in general. It is disgusting to see springs so abused. This is in a yucca-dotted, shrubby area with mixed volcanics and sedementaries. Since the Cosos had received plentiful rains the last six months there was a good flower show. Highlights included several each of cryptanthas, phacelias, and gilias, *Linanthus aureus, Layia glandulosa, Nama aretioides, Oenothera avita ssp. avita, Eschscholzia covillei, Stanleya elata, Opuntia erinacea var. ursina, Eriophyllum ambiguum , Nama depressum, Eriogonum nudum, Ranunculus cymbalaria var. saximontanus, Carex douglasii,* and *Vulpia octoflora.*

. . . . . Vince Yoder

May 10-11: Bullfrog Hills and Titus Canyon.

Owens Valley people met early at Lone Pine Park and caravanned to the summit of Daylight Pass where we were joined by several cars from Ridgecrest. While there Mary Ann Henry had the dubious honor of finding a "pretty plant" with red stems and fleshy dark green leaves. We were aghast to recognize it as *Halogeton glomeratus,* well established in Death Valley National Monument. (See page 5.) It was a relief to find that there was none along the road, where it might be carried on and on, but the disturbed area on the summit had a plentiful amount. We spent the next hour hand picking it and depositing it in sturdy plastic bags. (Yes, we had a collector's permit for DVNM, but not for *Halogeton.*) All together we must have collected 15 pounds of it, which we delivered later at the Monument. Rangers will be alerted to the plant and instructed to watch for it.

Continuing on our way we went directly to the Bullfrog Hills, located between the Grapevine Mountains and Beatty, Nevada. The name originated from the green ore present in the Bullfrog Mine early after the turn of the century. The hills are considered remnants of a large caldera, as evidenced by peaks of volcanic tuff. The object of the trip was to see the rare Bullfrog sweet pea, *Lathyrus hitchcockianus*, published in 1971. Trip leader, Mary DeDecker, who had checked out its distribution for U.S. Fish and Wildlife, knew exactly where to find it. It is a perennial which follows seasonal water courses, and all known sites are

confined to either of two volcanic tuff formations. It is the only species of *Lathyrus* known in the Mojave Desert.

The year had been too dry for most wildflowers at this site near Sawtooth Mountain, but the *Lathyrus* was healthy and well developed. From there we went to visit another site which overlooked Sarcobatus Flat. It was a beautiful scene, and the *Lathyrus* population was even better. Frequent tufts of attractive gray leaves told us that dagger pod, *Phoenicaulis cheiranthoides*, would soon be showing its blooms, and soft yellow heads of oval-leaved buckwheat, *Eriogonum ovalifolium*, made cheery accents in the dark brush.

Camp was made that night in a secluded hollow in the Bullfrog Hills. Next morning Peter Rowlands, Environmental Specialist at Death Valley National Monument, came to lead the trip that day. (Mary had to leave due to a conflicting obligation.) Titus Canyon is a place of dramatic scenery, botanical gems, and colorful history. During the lunch stop at the site of Leadfield, Peter entertained the group with an account of its brief moment of glory before the promotion scheme of C. C. Julian collapsed.

The lovely bear poppy, *Arctomecon merriami*, was seen along the route, and the hardy giant orchis, *Epipactis gigantea*, was thriving at Klare Spring. Special treats at the turn of the canyon were the rare rocklady, *Maurandya petrophila*, the handsome napkinring buckwheat, *Eriogonum intrafractum*, and charming rock midget, *Mimulus rupicola*.

The trip was another rich sampling of the regions unique places.

. . . . . Mary DeDecker and Vince Yoder

COMING FIELD TRIPS

May 31: Fish Slough, north of Bishop. Leader: Mary DeDecker.
Join us in visiting this outstanding example of a desert alkali slough. A rich assemblage of desert marsh and alkali tolerant plants, along with several rare species, occur here. Meet at 9:00 a.m. in Bishop, along Highway 6, just beyond its junction with Highway 395. Easy walking.

June 14: McMurray Meadows, west of Big Pine. Leader: Doris Fredendall.
We will pass through sagebrush scrub in volcanic and granitic formations to this moist area at 6500 feet elevation. It should be abloom with a variety of wildflowers. Meet north of Big Pine at the Triangle Campground at the intersection of Highways 395 and 168; 9:00 a.m. Easy walking.

July 19: Whitney Portal, Sierra Nevada west of Lone Pine. Leader: Vince Yoder.
The road is paved to a parking area at 8360 feet elevation. From there we will take a day hike into the montane forest. Meet at the junction of Whitney Portal Road and Movie Road, 2+ miles west of Lone Pine, at 9:30 a.m. Moderate walking.

Our late May, June and July trips are all one-day outings. Bring a lunch and water or other drinks, along with the usual personal gear for a hike in the sun. Be prepared to carry your lunch, etc., on our June and July walks. Our August trip still is not confirmed, but we hope to have an overnighter to the Tuolumne Meadows area on the 1st or 2nd weekend of the month. Details will be in the July newsletter.

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THE FINAL TALLY upon completion of the burro removal program in Death Valley National Monument is 5724 burros, 95 horses, and 4 mules. Hallelujah!!

WEEDS

In our enthusiasm over native species we tend to ignore the introduced problems. But they will not go away. Many are very aggressive nuisances and some are serious threats. We should at least be prepared to recognize them. With this in mind I have prevailed on Dr. Thomas C. Fuller, noted authority on weeds, to describe the Russian thistles for us. Busy as he is, he kindly prepared the following article.

RUSSIAN THISTLES EAST OF THE SIERRA NEVADA

Thomas C. Fuller

Salsola australis, common Russian thistle, and *Salsola paulsenii*, barbwire Russian thistle, are the two species found east of the Sierra Nevada and south into the eastern Mojave Desert. Hybrid swarms between these two species are common, and therefore the identification of any one plant of *Salsola* in this area is often difficult. Innovations can be used to label such hybrid specimens as varying towards one parent or the other and including a description of the tips of the calyx segments.

The common Russian thistle has the valid scientific name *Salsola australis* R. Br. The following names are regarded as synonyms or have been used in error for this species:

Salsola kali L. var. *tenuifolia* Tausch

Salsola kali L. subsp. *ruthenica* (Iljin) Soo

Salsola kali L. var. *austroafricana* Aellen

Salsola iberica Sennen & Pau, which was published as

S. tragus L. var. *iberica* Sennen & Pau

Salsola pestifer A. Nels.

Salsola ruthenica Iljin

As it is now understood, *Salsola kali* L. is a maritime species, native to the immediate seacoast of Europe and naturalized along the coast of eastern North America.

Salsola australis, common Russian thistle, may be recognized by the plants having slender stems soft to the touch, not rigid until late summer; leaves usually less than 0.5 mm. wide, soft pubescent, weakly spine-tipped; bracts of the flowering stems are broader, rigid and spinose. The mature fruits are winged, 3 to 4 mm. across; the tips of the calyx segments are narrowly spatulate, therefore rounded at the tips, lax or spreading or even somewhat reflexed.

Salsola paulsenii, barbwire Russian thistle, may be identified by the rigid scabrid stems throughout the life of the plant from seedling to maturity; leaves are 1 to 1.5 mm. wide, short-pubescent; bracts of the flowering stems are broader and markedly rigid. The mature fruits are winged, 6 to 7 mm. across, the wings with prominent veins; the tips of the calyx segments are rigid, spinose and erect, appressed together.

These two species of *Salsola* were introduced into eastern California after 1891 as they were not collected by the Death Valley Expedition. Variability in Russian thistle had been noted but the presence of two species was not determined until the program for control of the beet leafhopper was started in 1950.

Entomologists of the California Department of Food and Agriculture immediately found that there were two distinct forms of Russian thistle. They were responsible for naming the barbwire Russian thistle because the damage to their insect nets was similar to trying to sweep a mass of barbwire. Green plants of the common Russian thistle are soft, and the insect nets bounce off the plants without damage. Plants of the common Russian thistle are good hosts for the leafhopper while those of the barbwire Russian thistle are poor. Where forms of the barbwire Russian thistle are abundant, control of the insect or removal of the host plants is not necessary.

Hybrid swarms between these two species are common. Frequently in a small area each plant can be discerned as somewhat different from all others. In some areas the plants tend to drift to one parental type or the other, but the causes of predominance of one genotype or the other are not known. *Salsola paulsenii* is known from the Mojave Desert and parts of Nevada, Arizona, and Utah. Areas in the San Joaquin Valley and the lower Sacramento Valley have developed populations of plants essentially like *Salsola paulsenii* but always showing introgression from *Salsola australis*. The earliest collection of such a hybrid in California was made in 1919 near Sacramento.

In hybrid populations an interesting variant is occasionally found on plants that are essentially *Salsola australis*. The terminal portions of the stems are unbranched and virgately erect, 6 to 8 inches tall. This character is found in this genus in *Salsola collina*, spineless Russian thistle, a species introduced into Colorado and further east, not established in California. The stiffly erect unbranched stem is the basis for assuming that *Salsola paulsenii* was introduced before 1913 as it is seen in a specimen collected by Alice Eastwood near Barstow in that year.

Deborah J. Meyer, Seed Botanist, California Department of Food and Agriculture, Sacramento, has kindly supplied drawings of the mature fruits of the two species. The upper drawing shows the darkly veined wings and the erect spinose tips of the calyx segments of *Salsola paulsenii*. The lower drawing indicates the lightly veined wings and the lax or spreading, narrowly spatulate tips of the calyx segments of *Salsola australis*. (See page 6)

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Halogeton glomeratus (Chenopodiaceae). (See page 6)

Since this bad one was discovered in the region on a recent field trip, we offer a description here. It is a dark green annual, fleshy and glabrous, superficially resembling *Salsola*. It branches from the base, the stems spreading and ascending, 2 to 20 inches long. They are sometimes colored a bright rose-red. The leaves are 1/4 to 3/4 inch long, fleshy-cylindrical, blunt-ended, and tipped with a fine, bristlelike hair. There are two types of flowers. The one we notice has membranous sepals, resembling those of Russian thistle but smaller and a pale yellowish-green. A mature plant is fairly covered with flowers and produces an abundance of seeds. Not only are they abundant but there are two kinds of seeds. The black ones germinate the first season while the brown ones lie dormant, but the latter remain viable in the soild for many years.

The plant was introduced from Siberia in 1930. It is now widespread in much of the Great Basin and next-door in Nevada. California has waged a valiant battle to keep it out of this state. Due to its high oxalate content it is poisonous to livestock, especially to cattle and sheep. It is said that six ounces will kill a sheep, but that may be only under certain conditions. It can tolerate alkali and agressively moves into disturbed places, especially where native vegetation has been weakened by overgrazing or mechanical disturbance.