



Bristlecone Chapter

Dedicated to the Preservation of California Native Flora

The California Native Plant Society

Bristlecone Chapter Newsletter

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President's Message

What a gorgeous eastern Sierra day for the volunteer work party at the Mary DeDecker Native Plant Garden! On Sunday Oct 10th an outstanding group of volunteers spent the morning caring for and cleaning up the garden. These dedicated folks planted young plants, trimmed dead brush, hauled heavy tarps of debris, and removed weeds from the edge of the creek. A new bed was lined with rocks to embrace the Wickman stone memorial bench at the south end of the garden. After so many weeks of smoke-filled air, we were fortunate to have clear vistas and cool temperatures—there was a true sense of fall in the air. Mt. Williamson rose crisply against the sky, “Scrappy” the vocal Scrub Jay made his presence known, and a few visitors toured the garden asking questions and expressing admiration. It was also wonderful to see everyone in person. A great big thank you to Jayne, Kathy, Kathleen, Maria, and Katie—I so appreciate your hard work. And the garden looks lovely!

On the following day the first cold storm of the season hit, with nighttime temperatures near freezing and winds up to 50 mph. Amazingly all the new plants still appear healthy! Since then, the water birch, western hackberry and desert olive have started turning color, providing a subtle golden backdrop for the silvery greens of big sagebrush and fourwing saltbush. In contrast, splashes of dramatic yellow-gold rubber rabbitbrush blossoms dazzle the eye. Pollinators need these beautiful late summer flowers as well. It's a perfect time to visit the garden and walk the museum pathways west of the creek.

Speaking of volunteering...our chapter (and the plants!) are always in need of volunteer help. Do you have some time to donate? Here are some of the

many ways that you can assist—help coordinate field trips, work hands-on at the Bishop demonstration garden, write an article for the newsletter, or help with the native plant sales. Please contact us if you'd like to get involved.

—Kelly Bahr



Volunteers Jayne Hall and Maria Jesus getting plants in the ground (top). Kathleen Nelson and Katie Quinlan haul tarps of debris to the truck (bottom). Photos by Kelly Bahr.

***Castilleja angustifolia* var. *flavescens* (Northwestern Paintbrush): a new Paintbrush for Mono County, and for California**

If you've driven the Masonic Road through the Bodie Hills in early June, you may have noticed a striking, multi-colored stand of paintbrush covering several acres at the northwest base of Masonic Mountain (Figure 1). During a Bristlecone Chapter field trip in 2018, I speculated that perhaps this population was the result of years of hybridization between yellow and red-bracted forms of our typical desert paintbrush, *Castilleja chromosa*, producing an array of colors. However, this idea wasn't very satisfying because it seemed so unlikely: the tapestry-like stand lacked individuals with the deep red bracts characteristic of desert paintbrush, and the 8,200-foot elevation of that site is rather high for desert paintbrush.



Figure 1. Multi-colored population of *Castilleja angustifolia* var. *flavescens* (northwestern paintbrush) at the northwest base of Masonic Mountain, Bodie Hills, CA. Photo by Ann Howald.

I decided to try keying these plants in *Intermountain Flora* (Cronquist et al. 1984). This reference is very useful when you suspect that a plant you've found in the Great Basin part of California (which includes the Bodie Hills) might not have been documented previously from our State, and therefore wouldn't be included in *The Jepson Manual*. To my surprise, the Masonic Mountain plants keyed directly to northwestern paintbrush, *Castilleja angustifolia* var. *flavescens*. Still uncertain, I checked images online and found that the Masonic Mountain plants matched online images of *C. angustifolia* var. *flavescens* from

Nevada. Many of these images were taken by Mark Egger, co-author of *Castilleja* for the *Flora of North America North of Mexico* (Egger et al. 2019). I sent Mark some images of the Masonic Mountain plants, and he got right back to me, saying, yes, these looked like *C. angustifolia* var. *flavescens*. I sent Mark voucher specimens from the Masonic Mountain population (Howald 4549, UCR; and others), as well as from a similar, smaller population in another part of the Bodie Hills (Howald 4640, UCR; and others), about 11.5 miles east-southeast of the Masonic Mountain stand. Both of these are on the ancient volcanic rocks found throughout most of the Bodie Hills. Mark confirmed that plants from both locations were *C. angustifolia* var. *flavescens*. So northwestern paintbrush has been verified as being present in the Bodie Hills. These Bodie Hills locations are a western range extension of about 140 miles from their nearest known locality, in Monitor Valley, Nye County, Nevada (Swinney 777, UCR).

The most noticeable characteristic of northwestern paintbrush is the bract color. This varies in individual plants, usually from light yellow to bright yellow, light orange and dark orange (Figures 2–4); or rarely from white to pink and magenta (these latter colors found in plants near Wells, Nevada), but never the dark red of desert paintbrush. The bract color is consistent within an individual, but varies within the population. The galea and calyx are slightly shorter in northwestern paintbrush than in desert paintbrush. Northwestern paintbrush usually grows at higher elevations than desert paintbrush. It's typically found in sagebrush scrub dominated by low sagebrush, *Artemisia arbuscula*, which is likely its host plant (Egger et al. 2019).



Figure 2. *Castilleja angustifolia* var. *flavescens* from the Masonic Mountain population with low sagebrush and lupines. Photo by Tim Messick.

In preparing a Noteworthy Collection item on this new find for the journal *Madroño* (Howald 2021), I consulted with Mark Egger about his knowledge of the presence of *C. angustifolia* var. *flavescens* in other locations in eastern California. Mark sent me an image of a specimen that he had annotated as *C. angustifolia* var. *flavescens* from the Chico herbarium (Castro 2094, CSH). This collection was made in eastern Lassen County, near the southeast corner of the Warner Mountains. This location represents a western range extension of approximately 217 miles from its nearest known locality in Elko County, Nevada (Hodzic 2017-29, RENO). Mark said that northwestern paintbrush also likely occurs in Modoc County, although no records from there are currently known.



Figure 5. *Castilleja angustifolia* var. *flavescens* on the east slope of the Sierra Nevada, Hwy 89, Mono County. Photo by Ann Howald.

We can conclude that northwestern paintbrush is definitely found in those parts of eastern California that define the western edge of the Great Basin. I'm sure additional populations are out there, just waiting to be discovered by those who wish to search for this beautiful plant!

—Ann Howald

References:

Cronquist, A., A.H. Holmgren, N.H. Holmgren, J.L. Reveal, and P.K. Holmgren. 1984. *Intermountain flora*. Vol. 4:1-573. The New York Botanical Garden, Bronx, NY.

Egger, J.M., B.L. Wilson, P.F. Zika, R.E. Brainerd, and N. Otting. 2019. *Castilleja*. Pp. 565-665 in *Flora of North America* editorial Committee (eds.), *Flora of North America North of Mexico*. Vol 17. Oxford University Press, New York, NY.

Howald, A.M. 2021. Noteworthy collections: *Castilleja angustifolia* var. *flavescens*. *Madroño* 68 (1):4-5.

Conservation: November Update

Long Valley Exploration Drilling Project Approved

On September 27, the Acting District Ranger of the Mammoth Ranger District released a decision that will allow KORE Mining to proceed with its exploratory drilling project in Long Valley. The approved plan of operations allows for 0.82 acres of land disturbance, mainly for construction of 12 drill pads and temporary access roads. Numerous public comments were submitted between April 8, 2021 and May 13, 2021 raising concerns about potential impacts to tourism, wildlife, cultural resources, water quality, and recreation. Our chapter's own letter



Pale orange and dark orange colors (Figure 3, top) and close-up view (Figure 4, bottom) of *Castilleja angustifolia* var. *flavescens*. Photos by Tim Messick.

In addition to these locations, Tim Messick, an expert on the plants of the Bodie Hills and author of the popular online flora, *Plants of the Bodie Hills* (available at: bodiehillplants.com), has posted photographs on iNaturalist of plants from Monitor Pass Road (Hwy 89), on the east slope of the Sierra Nevada in Mono County that have been identified as *C. angustifolia* var. *flavescens* by Mark Egger (see <https://www.inaturalist.org/observations/13443072> and <https://www.inaturalist.org/observations/71846744>). These Hwy 89 plants are growing on old volcanics similar to those seen in the Bodie Hills (Figure 5).

called attention to possible impacts to rare plant species, native plant communities, and related resources.

According to the final decision, no special status plant species were observed within the project area and the area does not appear to contain any suitable habitat for species of conservation concern. Additionally, several mitigation measures were added onto the plan of operations intended to protect cultural values, wildlife, dark skies, soils, and water resources. The seed mix prescribed for reclamation consists of antelope bitterbrush (*Purshia tridentata*), big sagebrush (*Artemisia tridentata*), desert peach (*Prunus andersonii*), Indian ricegrass (*Stipa hymenoides*), prickly poppy (*Argemone munita*), spurred lupine (*Lupinus argenteus* var. *heteranthus*), squirreltail (*Elymus elymoides*), and western needlegrass (*Stipa occidentalis*). Let's hope future environmental conditions favor germination and establishment of these plant species for the benefit of all those who use these lands.

The General Mining Law of 1872 guarantees a claimholder's right to conduct mineral exploration and development. Since this law is usually interpreted to mean that mining is a higher use than conservation, recreation, or even renewable energy, we will continue to see projects like these take place until our country's mining laws are reformed.

—*Maria Jesus*

Welcome to the Bristlecone Chapter and Thanks for Joining!

Our newest members are Elizabeth in Berkeley, Kevin and Gina in Bishop, Kirsten in Felton, Patricia in Kings Beach, William in Los Angeles, Lydia in Monrovia, Lorrie in Palmdale, Tamsen in San Diego, Leslie in Tularosa, and Carol in Verdi. We appreciate your support of our chapter and your interest in the plants and areas we focus on of the eastside!



Sunset view over the Sierra from the DeDecker Garden with western hackberry in the foreground. Photo by Kelly Bahr.

<p>Up-Coming Events (For updated information, visit www.bristleconecnps.org/events)</p>
<p>Chapter Events</p>
<p>Wednesday, November 17, 6:00 p.m. Board Meeting All members are welcome to join. Contact our Secretary, Kathleen Nelson, at goatheads@aol.com for the Zoom link.</p>
<p>December Chapter General Meeting and Joint Potluck with Eastern Sierra Audubon Potluck details TBD.</p>
<p>Other Events</p>

Up-Coming Events

(For updated information, visit
www.bristleconecnps.org/events)

Tuesday, November 16, 7:30–8:30 p.m.
CNPS Milo Chapter, Online Presentation
Speaker Lorenzo Washington, PhD candidate in Plant and Microbial Biology at UC Berkeley, will present *The Extraordinary Microscopic Relationship Between Arbuscular Mycorrhizal Fungi and the Roots of 90% of All Plants*

Join the virtual talk to explore a relationship between plants and fungi that hinge on cooperation instead of competition to improve their odds of survival. Located in soil everywhere, these extensive underground communication networks play crucial roles within ecosystems and can provide new strategies for agricultural cultivation.

More details will be available at the Milo Baker Chapter website:
<http://milobaker.cnps.org/index.php>

Thursday, December 2, 5:30–6:30 p.m.
CNPS NatureHood Webinar Series
Nature Gardening: Watering 101

How do you water like nature? As we enter the wettest time of year, we will hear from panelists about different watering systems, and watering tips and tricks to fake the rain for your California natives.

The event is free, but please register here to be able to join live and ask questions:
<https://bit.ly/naturehoodtalks>

Monday–Tuesday, January 10–11, 2022
Northern California Botanists Symposium
California State University, Chico

Northern California Botanists is planning to have their next symposium at California State University, Chico on January 10–11, 2022 with optional workshops on the 12th. They hope to have an in-person symposium but are looking into having virtual options as well. Updates will be available at:
<http://www.norcalbotanists.org/>

Up-Coming Events

(For updated information, visit
www.bristleconecnps.org/events)

Sunday February 6, 2022, 9:00 a.m.–3:00 p.m.
Friends of the Inyo, Bodie Hills Winter Outing
Join FOI for a fun outing on skis or snowshoes to explore the Bodie Hills. All ages and skill levels are welcome. We will decide as a group how far to go and may split up depending on how far you want to go. The day begins with breakfast at the Virginia Creek Settlement (if possible under Mono Co. public health guidance), and we will head off to a trailhead for snowshoeing and cross country skiing with discussions about preservation of the beautiful Bodie Hills. Read about this year's outing here
<https://bodiehills.org/2021/03/04/winter-exploration-2021/>

Meet at the Virginia Creek Settlement in Bridgeport at 9:00 a.m. Bring water, lunch, snacks, camera, and skis or snowshoes. If you don't have any, FOI will have snowshoes to borrow. Dress in warm clothing. Contact FOI if you need more information on the event, guidance on gear and/or what to bring.

**Please send any submissions to us by
January 15, 2022 for the next issue.**

Bristlecone Chapter Directory

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Mammoth Plant Sales: **OPEN**
Hospitality: **OPEN**

The California Native Plant Society

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Membership

The California Native Plant Society is an organization of laypersons 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.

To join or renew online: Go to www.cnps.org and select JOIN/RENEW (at the top of the webpage or select it after clicking the menu button) or mail the form below:

Name: _____

Address: _____

City: _____ **State:** _____

Zip Code: _____ **Phone:** _____

Email: _____

I wish to be affiliated with the Bristlecone Chapter: _____

Other: _____

Mail To / Make Payable To:

California Native Plant Society, Attn: Membership
2707 K Street, Suite 1
Sacramento, CA 95816

Gift Contribution: _____ Wherever needed
Specific Area: _____

Membership Category

__ Student / Fixed Income	\$25
__ Individual	\$50
__ Plant Lover	\$120
__ Supporter	\$500
__ Patron	\$1,000
__ Benefactor	\$2,500
__ Steward	\$5,000
__ Guardian	\$10,000
__ Additional Contribution	_____

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Go Perennial! To become a monthly sustaining (perennial) member, join or renew online at www.cnps.org/perennial