

Deleted from California Rare Plant Rank 1B.2 of the CNPS Inventory on 21 July 2020**Rare Plant Status Review: *Eucephalus vialis*****Proposed Deletion from California Rare Plant Rank 1B.2, G3 / S1**

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This species review is being expedited through a challenge cost share agreement between the California Native Plant Society and the USDA Forest Service, Pacific Southwest Region. Aside from being advanced as part of this agreement, the process, content, and information provided herein is not altered, modified, or developed differently in any way or form compared to other status reviews developed by CNPS.

Background and Taxonomy

Eucephalus vialis Bradshaw is a perennial herb in the Asteraceae that has been included in the CNPS Inventory as a California Rare Plant Rank (CRPR) 1B.2 taxon since 2004. It is distributed in west-central Oregon and was previously believed to have been in northern California (from Humboldt and Del Norte counties). More information about *E. vialis* can be found in the CNPS Online Inventory at <http://www.rareplants.cnps.org/detail/2087.html>.

Distribution and Abundance

Evidence of *Eucephalus vialis* in California consists of a specimen from 1919 in Humboldt County, two specimens found in 1999 from Del Norte County, and three accounts of it from 2001 (CCH1, CNDDDB 2020). With such a small number of examples of *E. vialis* in California there has been some question to the validity of its range reaching into California. In order to answer this question Geraldine Allen, Thomas Kaye, and Julie Kierstead examined the morphological and molecular similarities of several species of *Eucephalus* that share a common range across Oregon and northern California. They found *E. vialis* to be distinct in some traits, but having the greatest morphological overlap with *E. glabratus*, a CRPR 4.3 plant that was added to the CNPS Inventory in 2018 and is found in several counties across northern California (additional information on *E. glabratus* can be found in the Online Inventory at <http://www.rareplants.cnps.org/detail/4066.html>). When mapped occurrences of *E. vialis* are compared to estimated occurrences of *E. glabratus*, all occurrences of *E. vialis* either fall directly within, or within the vicinity of, *E. glabratus* in California. This indicated that plants believed to be *E. vialis* may in fact be misidentified as *E. glabratus*. When Allen and Kaye researched the molecular differentiation between these species it became clear that *E. vialis* only occurs in west central Oregon, and specimens of *E. vialis* in California were incorrectly identified and are actually *E. glabratus*. Their DNA sequencing clearly shows that *E. vialis* comes out on its own, and when compared to the geographic region is only found in central Oregon (Allen et al. 2019).

Summary

Based on the available information, CNPS and CNDDDB recommend deleting *Eucephalus vialis* from California Rare Plant Rank 1B.2 of the CNPS Inventory and placing it on the Considered But Rejected list. *Eucephalus vialis* has been confirmed to not occur within California and specimens labeled as such are in need of reexamining and annotation. If future field surveys and specimen voucher collections bear evidence that *E. vialis* does occur in California, we will re-evaluate its status for inclusion in the CNPS Inventory at that time.

Recommended Actions

CNPS: Delete *Eucephalus vialis* from CRPR 1B.2

CNDDDB: Delete *Eucephalus vialis* from CNDDDB

Current CNPS Inventory Record – *Eucephalus vialis*

Eucephalus vialis Bradshaw

wayside aster

Asteraceae

CRPR 1B.2

Del Norte, Humboldt

Oregon

Willow Creek (670B) 4012386, Polar Bear Mtn. (738A) 4112385

Lower montane coniferous forest, upper montane coniferous forest / gravel; elevation 910-1545 meters.

Perennial herb. Blooms June to September.

State-listed as Threatened in OR. Oregon Department of Fish and Wildlife uses the name *Aster vialis*. Once considered extinct but rediscovered in OR (1980). Not in *The Jepson Manual*. See *Torrey* 20:122 (1921) for original description, *Rhodora* 30:288 (1928) for alternate nomenclature, and *Phytologia* 77(3):256 (1994) for taxonomic treatment.

Revised CNPS Inventory Record – *Eucephalus vialis*

Eucephalus vialis Bradshaw

Changed from 1B.2 to CBR on 2020/MM/DD

Considered But Rejected: Does not occur in CA; plants previously considered *E. vialis* in CA are assignable to *E. glabratus*.

Revised CNPS Inventory Record – *Eucephalus glabratus*

(Changes to original record are in blue text.)

Eucephalus glabratus (Greene) Greene

Original Blooms ~~July~~ **June** to September.

Occurrences are few and possibly local, but widely distributed; needs field surveys. **Includes plants previously identified as *E. vialis*; a former CRPR 1B.2 plant that is endemic to, and state-listed as Threatened, in OR.** Difficult to differentiate from *E. tomentellus*; needs further study.

See *Pittonia* 2(7B): 17 (1889) for original description, and *Pittonia* 3(14B): 56 for revised nomenclature (1896).

Literature Cited

[CNPS] California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 3 June 2020].

[CNDDDB] California Natural Diversity Database. 2020. RareFind 5 [Internet]. California Department of Fish and Wildlife [Government Version, 3 June 2020].

Allen, G.A., T.N. Kaye, and J.A. Kierstead. 2019. Species boundaries and the conservation of rare asters (*Eucephalus*, Asteraceae). Presented at Northern California Botanists 10th symposium:

The Diversity of Northern California Botany Challenges and Opportunities. Bell Memorial Union, California State University Chico.

Personal Communications

Kierstead, Julie. 2019. Botanist, Shasta-Trinity National Forest (retired). Email correspondence regarding conservation status of *Eucephalus vialis*. 8 August 2019.