

Changed from 1B.2 to 4.2 on October 29, 2012

Rare Plant Status Review: *Clarkia biloba* ssp. *brandegeae*
Proposed Rank Change from 1B.2, G4G5T3 / S3 to 4.2, G4G5T4 / S4
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Changes made to the original document appear in blue text.

Background

Clarkia biloba ssp. *brandegeae* is an annual herb in the Onagraceae family that is endemic to the central and northern foothills of the Sierra Nevada. It has been included as a California Rare Plant Rank (Rank) 1B taxon in the CNPS Inventory since 2001 (6th edition). In 2009, it was proposed for downranking to Rank 4, but rare plant status reviewers and regional botanical experts were divided on whether the plant should remain on Rank 1B or be moved to Rank 4. Ultimately, *C. biloba* ssp. *brandegeae* was retained on Rank 1B, as many occurrences faced significant threats, such as development, invasive species, and roadside maintenance activities. At the time, it was known from 77 occurrences, but only 33 of those occurrences were ranked “good” or “excellent” by the CNDDDB (in general, California Rare Plant Rank 1B contains plants that are known from fewer than 50 occurrences ranked as “excellent” or “good” by CNDDDB). Please visit the Rare Plant Review Forum (<http://cnps.org/forums/showthread.php?t=1311>) to see all comments related to the previous downranking proposal for this taxon (contact Aaron E. Sims, asims@cnps.org, for instructions on how to register on the Forum).

Since the time when *C. biloba* ssp. *brandegeae* was last reviewed, many field survey forms have been submitted to the CNDDDB, and 63 forms have not yet been processed by the CNDDDB. These additional forms have been reviewed and mapped for the purposes of this status review, and are included in the attached “Locations_ClarkiaBilobaBrandegeae” spreadsheet and “Distribution_ClarkiaBilobaBrandegeae” map document. Much of the data submitted recently has documented nearby colonies that are actually part of larger occurrences (e.g., CNDDDB EO# 31, 93, 106, 117; see attached “Locations_ClarkiaBilobaBrandegeae” spreadsheet), so the actual increase in number of occurrences is fewer than the number of forms submitted. However, surveyors continue to find new populations; for example CNPS Rare Plant Treasure Hunt volunteers, N. Blackburn and L. Couper, documented 11 new occurrences in the 2011 field season alone. Currently, there are 114 occurrences of *C. biloba* ssp. *brandegeae*; of those, 67 are ranked “good” or “excellent” by the CNDDDB. Nineteen of the occurrences are ranked “fair” or “poor”, while 28 have an unknown rank. Some of the occurrences with an unknown rank, however, may be robust, as their documentation notes that the plants are common (EO# 78, 81), abundant (EO# 74), that there are many plants (EO# 75) or that there are over 1000 plants (EO# 48). Most of the occurrences have been documented recently; with only 16 occurrences being historical

(occurrences not documented in the past 20 years are considered historical by the CNDDDB).

While *Clarkia biloba* ssp. *brandegeeeae* is endemic to the northern and central Sierra Nevada Foothills, it has a relatively broad distribution, similar to its common congener *C. biloba* ssp. *biloba*. *Clarkia biloba* ssp. *brandegeeeae* spans approximately 120 km from its northern extent in Butte County to northern Amador County. Centered around the town of Coloma, ssp. *brandegeeeae* intergrades somewhat abruptly into ssp. *biloba* (Roberts and Lewis 1955). Several mixed or hybrid populations have been seen in this area (L. Couper pers. comm. 2011). *Clarkia biloba* ssp. *biloba* extends from the Coloma area about 140 km south, a range similar to *C. biloba* ssp. *brandegeeeae* (D. Taylor pers. comm. 2009). Further south, *C. biloba* ssp. *australis* (Rank 1B.2) has a more restricted range, extending about 40 km from north to south (D. Taylor pers. comm. 2009). *Clarkia biloba* ssp. *brandegeeeae* is much more comparable in distribution to its common relative ssp. *biloba* than it is to its rare relative ssp. *australis* (D. Taylor pers. comm. 2009).

Many threats to *C. biloba* ssp. *brandegeeeae* have been noted throughout its range. One of its greater threats may be development, as many occurrences are found on private land in areas of high development pressure (K. Callahan pers. comm. 2012). It is frequently found in disturbed areas, such as along roads and trails, so some surveyors note road maintenance as a threat or potential threat (e.g., EO# 13, 21). However, many others note that roadside populations have little threats, as they appear to thrive in areas of disturbance and erosion (e.g., EO# 8, 14). In a personal communication from 2009, K. Van Zuuk noted that invasive weeds, such as yellow star thistle, dogtail grass, and Scotch broom were invading roadside occurrences of *C. biloba* ssp. *brandegeeeae*. Both competition from the weeds as well as herbicide spray were noted as threats to some populations.

Although some occurrences of *C. biloba* ssp. *brandegeeeae* are threatened by development, invasive species, and herbicide spray, the plant appears to be too common to merit Rank 1B status. With a total of 114 occurrences, 67 of which have a "good" or "excellent" rank by the CNDDDB, it is over the general threshold of criteria for Rank 1B taxa. The fact that new occurrences continue to be found also suggests that downranking is appropriate. Based on the available information, CNPS and CNDDDB recommend re-ranking *C. biloba* ssp. *brandegeeeae* from Rank 1B.2 to Rank 4.2. If threats increase and/or populations significantly decline in the future, CNPS and CNDDDB will re-evaluate its status at that time. CNPS and CNDDDB also recommend that *Clarkia biloba* ssp. *brandegeeeae* continue to be evaluated under CEQA as a Rank 4 plant.

Recommended actions

CNPS: Re-rank from CRPR 1B.2 to 4.2

CNDDDB: Re-rank from G4G5T3 / S3 to G4G5T4 / S4

Revised CNPS Inventory Record

Clarkia biloba (Durand) Nels. & Macb. ssp. *brandegeae* (Jeps.) Lewis & Lewis

Brandegee's clarkia

Onagraceae

Rank 4.2

Butte, El Dorado, Nevada, Placer, Sacramento, Sierra, Yuba

Caples Lake (507A) 38120F1, Camino (509B) 38120F6, Aukum (509C) 3812056, Placerville (510A) 38120F7, Shingle Springs (510B) 38120F8, Latrobe (510C) 38120E8, Fiddletown (510D) 38120E7, Clarksville (511A) 38121F1, Folsom (511B) 38121F2, Slate Mtn. (525C) 38120G6, Greenwood (526B) 38120H8, Coloma (526C) 38120G8, Garden Valley (526D) 38120G7, Auburn (527A) 38121H1, Gold Hill (527B) 38121H2, Rocklin (527C) 38121G2, Pilot Hill (527D) 38121G1, Michigan Bluff (540C) 39120A6, Dutch Flat (541A) 39120B7, Chicago Park (541B) 39120B8, Colfax (541C) 39120A8, Foresthill (541D) 39120A7, Grass Valley (542A) 39121B1, Rough And Ready (542B) 39121B2, Wolf (542C) 39121A2, Lake Combie (542D) 39121A1, Camp Far West (543D) 39121A3, Pike (557B) 39120D8, North Bloomfield (557C) 39120C8, Camptonville (558A) 39121D1, Challenge (558B) 39121D2, French Corral (558C) 39121C2, Nevada City (558D) 39121C1, Bangor (559B) 39121D4, Oregon House (559D) 39121C3, Oroville Dam (575C) 39121E4, Forbestown (575D) 39121E3, Oroville (576D) 39121E5

Chaparral, cismontane woodland, lower montane coniferous forest / often roadcuts; elevation 75 – 915 meters.

Annual herb. Blooms May – July.

Threatened by weed control measures, [non-native plants](#), [road maintenance](#), fire suppression, and development. See *University of California Publications in Botany* 2:334 (1907) for original description and 20(4):323 (1955) for revised nomenclature.

Literature Cited

Roberts, M.R. and H. Lewis. 1955. Subspeciation in *Clarkia biloba*. *Evolution* 9: 445-454.