

**Rare Plant Status Review: *Monardella australis* subsp. *occidentalis*
Proposed Addition to California Rare Plant Rank 1B.1, G4T1 / S1**

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Background and Taxonomy

Monardella australis Abrams subsp. *occidentalis* Elvin, R.A. Burgess & A.C. Sanders is a perennial herb in Lamiaceae known from only two occurrences in the Transverse Ranges and the southeastern edge of the outer south Coast Ranges in Ventura and Santa Barbara counties. It was described by Elvin et al. in 2015 and is not included in *The Jepson Manual* (Jokerst 1993) or *Jepson eFlora* (Elvin and Sanders 2012); the *Flora of North America* volume on Lamiaceae is not yet available. *Monardella australis* subsp. *occidentalis* is distinguished from *M. australis* subsp. *australis* (the most similar taxon) by its wider leaves (4–11 mm vs. 2.5–5 mm in subsp. *australis*), shorter bracts (7–12 mm vs. 12–18 mm), shorter calyces (7–8.5 mm vs. 8.5–10 mm), and short non-glandular stem trichomes, 0.1–0.2 mm long. *Monardella australis* subsp. *occidentalis* is distinguished from *M. australis* subsp. *gabrielensis* by its wider leaf blades (4–11 mm vs. [2.2]3.5–5[6] mm) and wider glomerule bracts ([3.5]4–5.5 mm versus 2–4.5 mm), which exceed or equal the calyces length versus being less than calyx lengths in subsp. *gabrielensis*. It is further distinguished from subsp. *gabrielensis* in having short (0.1–0.2 mm) non-glandular trichomes on its stems (which are lacking in subspecies *gabrielensis*). *Monardella australis* subsp. *occidentalis* is distinguished from *M. australis* subsp. *cinerea* (a CRPR 4.3 taxon, <http://www.rareplants.cnps.org/detail/1144.html>) in having larger leaves (11–17 x 4–11 mm vs. 5–10 x 2–5 mm in *cinerea*), green vestiture (vs. cinerous), and overall plant stature (subsp. *occidentalis* tends to be slightly taller at 8–22 cm vs. 3–15 cm in subsp. *cinerea*). *Monardella australis* subsp. *occidentalis* differs from subsp. *jokerstii* (a CRPR 1B.1 taxon, <http://www.rareplants.cnps.org/detail/3621.html>) in having leaf blade margins that are more or less entire (vs. serrate in *jokerstii*) and the presence of solitary glomerules (vs. one to five glomerules in an open compound cyme in *jokerstii*). The subspecies' epithet '*occidentalis*' refers to the western distribution of this taxon in comparison to the other *Monardella australis* subspecies (Elvin et al. 2015), and the specific epithet '*australis*' refers to the southern distribution of the species in relation to other species of *Monardella*.

Ecology

The single recent occurrence of subsp. *occidentalis* is known from a “steep slope with clay loam soils derived from a sandstone base in a rocky/scree colluvium matrix” (Elvin et al. 2015). It occurs at an approximate elevation of 1,890 and 2,435 meters and blooms between early June and early July; however, its flowering season may extend well into late summer and perhaps into early fall (Elvin et al. 2015). Species associates at the single recent occurrence include: *Ceanothus cordulatus*, *Chaenactis santolinoides*, *Eriastrum densifolium* subsp. *austromontanum*, *Ericameria nauseosa* var. *mohavensis*, *Epilobium canum* subsp. *latifolium*, *Frangula californica* subsp. *tomentella*, *Pinus jeffreyi*, *P. lambertiana*, and *P. ponderosa* (Elvin et al 2015, D. L. Magney pers. comm. 2020).

Distribution and Abundance

The single recent occurrence of *M. australis* subsp. *occidentalis* is on Reyes Peak, Pine Mountain Ridge in Ventura County and was last documented by D. L. Magney on July 9, 2020 (pers. comm. 2020). The only other referenced occurrence of this taxon is based on a collection

from the San Rafael Mountains near Big Pine Mountain (*Hoffmann 644*, CAS, SBBG; Elvin et al. 2015). Additional information about the Hoffmann collection was not accessible at the time of this writing but is expected to have been collected in June 1931 based on a sequential, subsequent collection of *Holodiscus discolor* var. *discolor* made by Hoffman in Santa Barbara County on June 5, 1931 (*Hoffmann 645*, CAS-BOT-BC150074; CCH1 2020). The status of this historical record from the vicinity of Big Pine Mountain is unknown, and surveys should be conducted in attempts to relocate and assess this taxon's viability in that area. Both occurrences are wholly known from Los Padres National Forest.

A *Monardella* collection from Sewart Mountain (*Burgess 9433* [VFWO]) represents a putative intermediate specimen between *M. australis* subsp. *occidentalis* and *M. linoidea* subsp. *oblonga*. Introgression between the two taxa may be expected due to established intergradation between *M. australis* s.l. and *M. linoidea* s.l. in the San Bernardino, San Jacinto, and San Gabriel mountains in areas where these species occur in close proximity (Elvin and Sanders 2009; Elvin et al. 2015). The total estimated extent of occurrence size for the taxon is estimated to be approximately 27 square km (Elvin et al. 2015). However, Elvin et al. also acknowledge the limitations of sampling associated with the harsh terrain immediately surrounding these areas and suggest that intensive surveying of these areas may yield additional occurrences of the taxon.

Status and Threats

Due to its narrow distribution, the separation of the two sites where records have been collected, and uncertainty regarding climate change, Elvin et al. (2015) consider this taxon to be Critically Endangered according to IUCN (2001) categories and criteria. The Reyes Peak Forest Health and Fuels Reduction Plan has been proposed for an area containing the single recent occurrence, and to-date this taxon is not considered in that plan. The potential existence of unknown populations of *M. australis* subsp. *occidentalis* in this vicinity, as suggested by Elvin et al., as well as the taxon's response to fire events should be considered in further development and implementation of the fuels reduction plan.

Summary

Based on the available information, CNPS and CNDDDB recommend adding *Monardella australis* subsp. *occidentalis* to California Rare Plant Rank 1B.1 of the CNPS Inventory. If knowledge on the distribution, threats, and rarity status of *M. australis* subsp. *occidentalis* changes in the future, we will re-evaluate its status at that time.

Recommended Actions

CNPS: Add *Monardella australis* subsp. *occidentalis* to CRPR 1B.1
CNDDDB: Add *Monardella australis* subsp. *occidentalis* to G4T1 / S1

Draft CNPS Inventory Record

Monardella australis Abrams ssp. *occidentalis* Elvin, R.A. Burgess & A.C. Sanders
southwestern mountain monardella
Lamiaceae
CRPR 1B.1
Ventura, Santa Barbara
Reyes Peak, 3411963; Big Pine Mtn. 3411966

Upper montane coniferous forest, chaparral (montane)/ clay loam, rocky scree; elevation 1890-2435 meters

Perennial herb. Blooms June to July.

See *Novon* 23(4): 416-431 (2015) for original description.

Literature Cited

Elvin, M.A., A.C. Sanders, R.A. Burgess, and B.J. Hellenthal. 2015. Three new subspecies of *Monardella* (Lamiaceae) from southern California, U.S.A. *Novon* 23(4): 416-431. (Original description.)

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Personal Communications

Magney, David. 2020. CNPS Rare Plant Program Manager. Field notes submission and email regarding distribution, annotation, and associated taxa of *Monardella* specimens collected from Pine Mountain. Personal communication 31 August 2020.