

**Rare Plant Status Review: *Monardella breweri* subsp. *glandulifera***  
**Proposed Addition to California Rare Plant Rank 1B.2, G4 T1 / S1**  
R. Douglas Stone (CNPS), Aaron E. Sims (CNPS), and Katie Ferguson (CNDDDB)  
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This status review is being expedited through an agreement between the California Native Plant Society and the Center for Plant Conservation (CPC), with contributions from the state of California, CPC, and the California Plant Rescue initiative. 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**

*Monardella breweri* A. Gray subsp. *glandulifera* (I.M. Johnst.) Elvin is an annual herb in the Lamiaceae known from a single locality (known as Brown's Flat or Browns Flat) in the southern San Gabriel Mountains of Los Angeles County. It was first described as *M. lanceolata* var. *glandulifera* (Johnston 1919) and later considered by Epling (1925) as an insignificant form of *M. lanceolata* var. *microcephala*. Jokerst (1993) later treated *M. lanceolata* as a variable species and noted that the named forms are generally indistinct. Most recently, this taxon has been recognized as a subspecies of *M. breweri* for the *Jepson eFlora* (Elvin and Sanders 2009, Sanders et al. 2012). The treatment of Lamiaceae in the *Flora of North America* is still unpublished.

The Brown's Flat population of *M. breweri* (named as subsp. *glandulifera*) has a unique combination of characters in comparison to the other three currently recognized subspecies: *M. breweri* subsp. *breweri* (San Francisco Bay region, South Coast Ranges and western Transverse Ranges), *M. breweri* subsp. *lanceolata* (Cascade-Sierran axis southward to southern Calif.), and *M. breweri* subsp. *microcephala* (San Diego Co. and northern Baja Calif.). The name *glandulifera* refers to the abundant stalked glands on the stem. The subsp. *glandulifera* is further distinguished by its relatively small flowering heads mostly 5–15 mm wide (shared with subsp. *microcephala*) and hairy calyx sinuses (shared with subsp. *lanceolata*) (Elvin and Sanders 2009, Sanders et al. 2012).

### **Ecology**

The habitat of *Monardella breweri* subsp. *glandulifera* is an 80-acre flat created by an ancient landslide. The area supports a sparse stand of *Pinus ponderosa* over a grassy understory dominated by *Elymus ponticus*, *E. hispidus*, *E. condensatus*, *Festuca myuros*, and *Poa secunda* subsp. *secunda* (Cheng 2004; updated nomenclature from JEPS 2022). The adjacent mountain slopes and ridges are covered by chaparral vegetation. The elevational range is 1300–1500 meters (CCH2 2021; M. Elvin 2022, personal communication). The blooming period is May–August (Sanders et al. 2012).

### **Distribution and Abundance**

There are three known occurrences of *Monardella breweri* subsp. *glandulifera*, all in the southern San Gabriel Mountains approximately 6 miles north of the city of Claremont. They include the type locality at Brown's Flat and two localities along the ridge to the south (Johnston 1919, Elvin and Sanders 2009, CCH2 2021; M. Elvin 2022, personal communication). A 1902 collection from “[o]n dry mesa, Glendora” (*Abrams* 2662, DS) could not be precisely located but

is assumed to be from the same vicinity. All of the known occurrences are on the Angeles National Forest and within the established Fern Canyon Research Natural Area (Cheng 2004).

Several collectors have noted that *M. breweri* subsp. *glandulifera* is locally abundant at Brown's Flat (Johnston 1919, CCH2 2021), but field work is needed to verify this since the site has evidently not been visited since 1996. At the two ridgetop sites, 100+ plants and 25–50 plants were seen on 10 July 2021 (M. Elvin 2022, personal communication).

Online CCH2 (2021) results also showed four records of *M. breweri* subsp. *glandulifera* from Riverside, San Diego, Sierra, and Tehama counties, respectively. According to M. Elvin (2022, personal communication), these specimens were misidentified as this taxon because they have either very small flowering heads or a few stalked glands on the stems. One of these dubious records is based on *R.F. Thorne et al. 49544* from Riverside County. In this case, the duplicates in CHSC, DAV, RSA, SD, and UC are identified in CCH2 (2021) as *M. lanceolata* or *M. breweri* subsp. *lanceolata*, and it is only the duplicate in CAS that is misidentified as *M. breweri* subsp. *glandulifera*.

### **Status and Threats**

Threats to this subspecies are undocumented, and it may receive some protection due to its restriction to an established RNA located within the San Dimas Experimental Forest (accessible only with permission, managed by the Pacific Southwest Research Station of U.S. Forest Service). The area is subject to frequent wildfires, and fire effects on *M. breweri* subsp. *glandulifera* need study.

### **Summary**

*Monardella breweri* subsp. *glandulifera* might qualify for California Rare Plant Rank 3 since previous experts had considered it to be a local form not worthy of recognition. CNPS and CNDDDB recommend adding it to CRPR 1B.2 of the CNPS Inventory, because it is recognized in the *Jepson eFlora*, has a very limited range, and has few known occurrences. If knowledge on the taxonomy, distribution, threats, or rarity status of *M. breweri* subsp. *glandulifera* changes in the future, we will re-evaluate its status at that time.

### **Recommended Actions**

CNPS: Add *Monardella breweri* subsp. *glandulifera* to CRPR 1B.2

CNDDDB: Add *Monardella breweri* subsp. *glandulifera* to G4T1 / S1

### **Draft CNPS Inventory Record**

*Monardella breweri* A. Gray ssp. *glandulifera* (I.M. Johnst.) Elvin

Brown's Flat monardella

Lamiaceae

USDA Symbol: none

Synonym(s)/Other Name(s): none

CRPR 1B.2

Counties: Los Angeles

Quad name (code): Mt. Baldy (3411726)

Habitats: lower montane coniferous forest (sparse), chaparral

Micro-habitats: openings (dry, grassy), ridgetops

Elevation: 1300-1500 meters (4300-4900 feet)

Life form: annual herb

Blooms: May to August

Notes: Type locality at Brown's Flat not visited since 1996; field work needed. Fire effects need study.

Threats: Unknown, not reported.

Taxonomy: May be a local form of *M. breweri* ssp. *lanceolata* (a common and widespread taxon); plants from elsewhere on southern Transverse Ranges have stems with sparse glands (not abundant glands as in ssp. *glandulifera*). Flowering heads relatively small (mostly 5–15 mm wide). Most similar to *M. breweri* ssp. *microcephala* from southern SDG Co. but with calyx sinuses hairy.

#### Selected References:

- Original description: *Bulletin of the Southern California Academy of Sciences* 18: 20 (1919)
- Revised nomenclature: *Novon* 19(3): 336 (2009) [<https://doi.org/10.3417/2014002>]

#### Literature Cited

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[CCH2] Consortium of California Herbaria Portal 2. 2021. Data provided by the participants of the Consortium of California Herbaria and the California Phenology Thematic Collections Network. Regents of the University of California and Cal Poly, San Luis Obispo. Website <http://www.cch2.org/portal/index.php> [accessed December 2021].

Elvin, M.A. and A.C. Sanders. 2009. Nomenclatural changes for *Monardella* (Lamiaceae) in California. *Novon* 19(3): 315–343.

Epling, C.C. 1925. Monograph of the genus *Monardella*. *Annals of the Missouri Botanical Garden* 12: 1–106.

[JEPS] Jepson Flora Project (eds.). 2021. *Jepson eFlora*. Website <http://ucjeps.berkeley.edu/IJM.html> [accessed March 2022].

Johnston, I.M. 1919. Contributions on southern California botany. *Bulletin of the Southern California Academy of Sciences* 18: 18–21.

Jokerst, J.D. 1993. *Monardella*. Pp. 718–722 in J.C. Hickman (ed.), *The Jepson Manual: Higher Plants of California*. University of California Press, Berkeley.

Sanders, A.C., M.A. Elvin, and M.S. Brunell. 2012. *Monardella*. In Jepson Flora Project (eds.), *Jepson eFlora*. Available at: [https://ucjeps.berkeley.edu/eflora/eflora\\_display.php?tid=9470](https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=9470) [accessed March 2022]

**Personal Communications**

Elvin, Mark A. 2022. Senior Fish and Wildlife Biologist, U.S. Fish and Wildlife Service, Ventura, CA and Research Associate, University of California, Los Angeles. Email correspondence regarding information needs for *M. breweri* subsp. *glandulifera* and three other *Monardella* taxa nominated for CRPR status. Personal communication 13 February 2022.