

**Rare Plant Status Review: *Erythranthe discolor***  
**Proposed Addition to California Rare Plant Rank 4.2, G3 / S3**  
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Changes to the original document are in blue text

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

*Erythranthe discolor* (A.L. Grant) N.S. Fraga is an annual herb in the Phrymaceae known only from Kern and Tulare counties in California. It was first described in 1924 (as *Mimulus discolor*) (Grant 1942) and transferred to *Erythranthe* in 2012 (Fraga 2012). It is recognized in the treatments of *Erythranthe* in the *Jepson eFlora* (Fraga 2018) and *Flora of North America* (Nesom and Fraga 2019). It was treated as a synonym of *Mimulus montioides* in *The Jepson Manual* (Thompson 1993). *Erythranthe discolor* has two color morphs, one that is yellow with red spots on the lower limb and another that is deep pink to purple with two yellow ridges on the lower limb (Fraga 2012). It is distinguished from similar annuals by having erect stems, attenuate leaf bases, erect to ascending pedicels, and a calyx that is membranous in texture and not greatly swollen in fruit; the calyx also has more or less equal lobes with glabrous margins (Fraga 2012, 2018). The specific epithet of this species means “of different colors,” referring to the different color morphs (Fraga 2012).

### Ecology

“*Erythranthe discolor* is endemic to the southern Sierra Nevada in Kern and Tulare counties, California. This species primarily occurs in decomposed granite in vernal wet depressions, swales, at the edges of streams, dry meadows, and in openings of pine forest, oak woodland, pinyon-juniper woodland, desert chaparral, and sagebrush scrub” (Fraga 2012) at elevations of 1370–2470 m (4500–8100 ft) (CCH2 2022). It blooms from (April) May to July (September) (Calflora 2022, CCH2 2022, iNaturalist 2022, Fraga 2023 pers. comm.). Associated species include the following: *Abies concolor*, *Pinus jeffreyi*, *P. monophylla*, *P. sabiniana*, *Quercus chrysolepis*, *Q. kelloggii*, *Artemisia tridentata*, *Ericameria nauseosa*, *Salix lasiolepis*, *Claytonia* spp., *Erythranthe* spp., *Phacelia exilis* (CRPR 4.3), *Collinsia parviflora*, *Eriastrum tracyi* (CRPR 3.2), *Eriophyllum pringlei*, *Gayophytum* spp., *Bromus tectorum*, *Poa bulbosa*, *Juncus bufonius*, and *J. bryoides* (Fraga 2012, CCH2 2022). It is possible that this species benefits from low-intensity fire (Fraga 2023 pers. comm.). In the habitat information for three occurrences, plants were observed post-fire (CCH2 2022). However, plants at Evans Flat (EO 8 in location spreadsheet) were not re-located in 2022 after the 2021 French Fire (Vengco 2023 pers. comm.). Therefore, the effects of fire on the seedbank of this species are not fully known.

### Distribution and Abundance

*Erythranthe discolor* is known from 59 estimated occurrences in Kern and Tulare counties, of which 28 are considered recent (observed since 2003) and 31 historical, with most historical occurrences last seen over 40 years ago (Calflora 2022, CCH2 2022, Fraga 2023 pers. comm.,

House 2023 pers. comm., iNaturalist 2022, Vengco 2023 pers. comm.). In addition, at the bottom of the location table submitted with this Status Review, there are seven records that are excluded from the distribution analysis based on vague locations or masked georeferencing; these cannot be assigned to one of the locations with certainty. Extensive field work performed by Fraga between 2010 and 2011 (years with good rainfall) failed to relocate many of the historical occurrences (Fraga 2023 pers. comm.). She especially had difficulties relocating records in the Greenhorn Range; in some cases, the habitat no longer appeared suitable, and she believes occurrence 23 in Kern County is extirpated due to conversion to agriculture (Fraga 2023 pers. comm.). Therefore, there may be fewer extant occurrences than indicated by specimen data. Thirty-nine of the occurrences are located on the Sequoia National Forest, 11 are on Bureau of Land Management land, one is on private land, and eight are on lands of unknown ownership. As detailed in the location table, 14 of the 58 occurrences were visited during 2017 and/or 2022 to document population size and flower color dimorphism. Population sizes ranged from one plant to over 1000. In the three cases where populations were visited in June 2017 and June 2022, populations declined from hundreds or over 1000 plants to fewer than 50 plants. This indicates that population sizes of this annual species may fluctuate widely from year to year, depending on precipitation patterns or other factors. It may also be that occurrences of this species have numerous small satellite populations that can appear and disappear, even in years with abundant rainfall, making it difficult to track trends (Fraga 2023 pers. comm.). It is possible that in a good rainfall year, more occurrences could appear, because of the amount of potential habitat (Fraga 2023 pers. comm.)

### **Status and Threats**

This species is ranked by NatureServe (2022) as G2G3, rounded to G2 (imperiled); it has no other conservation status. Although 50 of the occurrences are on Federal Land, the populations are not necessarily protected. Current threats include disturbance due to off-highway vehicles, road maintenance, [competition with invasive, non-native plants](#), and campground use (Fraga 2012, [Fraga 2023 pers. comm.](#)). Development has likely affected populations at lower elevations, and several occurrences may have been extirpated due to land use changes in the vicinity of Kernville (Fraga 2012, Fraga 2023 pers. comm.). [In addition, this species is potentially threatened by fuels reduction activities, such as dozer lines, thinning, mastication, chipping, and pile burning, as well as the invasion of non-native species that sometimes follows \(Fraga 2023 pers. comm.\)](#).

### **Summary**

Based on the available information, CNPS and CNDDDB recommend adding *Erythranthe discolor* to California Rare Plant Rank 4.2 of the CNPS Inventory. If knowledge on the distribution, threats, and rarity status of *E. discolor* changes in the future, we will re-evaluate its status at that time.

### **Recommended Actions**

CNPS: Add *Erythranthe discolor* to CRPR 4.2

CNDDDB: Add *Erythranthe discolor* to G3 / S3

### **Draft CNPS Inventory Record**

*Erythranthe discolor* (A.L. Grant) N.S. Fraga

Common name: two-colored monkeyflower

Family: Phrymaceae

USDA Plants Symbol: (none, included in *Mimulus montioides* in Plants National DB)

Synonym(s)/Other Name(s) in CNPS Inventory: none

CRPR 4.2

Counties: Kern, Tulare

States: endemic to CA

Quad name (code): Owens Peak (3511768), Lamont Peak (3511871), Durrwood Creek (3511814), Sentinel Peak (3511815), Emerald Mtn. (3511833), Oiler Peak (3511835), Pinyon Mtn. (3511842), Claraville (3511843), Piute Peak (3511844), Breckenridge Mtn. (3511845), Horse Canyon (3511851), Woolstalf Creek (3511853), Lake Isabella South (3511854), Walker Pass (3511861), Alta Sierra (3511865), Glenville (3511866), Cannell Peak (3511873), Kernville (3511874), Tobias Peak (3511875), Fairview (3511884), Johnsondale (3511885), California Hot Springs (3511886)

General Habitat: Meadows and seeps, lower montane coniferous forest, upper montane coniferous forest, pinyon and juniper woodland, cismontane woodland, Great Basin scrub

Microhabitat: Granitic (usually), openings, vernal mesic, seeps, streambanks

Elevation: 1370–2470 m (4500–8100 ft)

Life form: annual herb

Blooms: (April) May to July (September)

Threats: Threatened by recreational activities, foot traffic, road construction, road maintenance, vehicles, development, agriculture, [competition with non-native plants](#). [Potentially threatened by habitat disturbance from fuels management](#).

Taxonomy: Included in *Mimulus montioides* in *TJM* (1993) and original treatment of Phrymaceae in *TJM 2* (2012). Recognized as a separate species in the 2018 *Jepson eFlora* revision by Fraga.

Selected References:

- CNPS Status Review: Proposed Addition to CRPR 4.2, G3 / S3 (2023)
- Original Description: *Annals of the Missouri Botanical Garden* 11: 99–388 (1924)
- Revised Nomenclature: *Aliso* 30: 49–68 (2012)

### Literature Cited

Calflora. 2022. Information on wild California plants for conservation, education, and appreciation. Website <http://www.calflora.org/> [accessed December 2022].

[CNPS] California Native Plant Society, Rare Plant Program. 2022. Inventory of Rare and Endangered Plants of California (online edition, v9-01 1.0). Website <https://www.rareplants.cnps.org> [accessed December 2022].

[CCH2] Consortium of California Herbaria Portal 2. 2022. Data provided by the participants of the Consortium of California Herbaria and the California Phenology Thematic Collections Network (CAP-TCN). Regents of the University of California, Berkeley and Cal Poly, San Luis Obispo. Website <http://www.cch2.org/portal/index.php> [accessed November 2022].

Fraga, N. S. 2012. A revision of *Erythranthe montioides* and *Erythranthe palmeri* (Phrymaceae), with descriptions of five new species from California and Nevada, USA. *Aliso* 30: 49–68. [Revised nomenclature]

Fraga, N. S. 2018. *Erythranthe*. In: Jepson Flora Project (eds.), *Jepson eFlora*. Website [http://https://ucjeps.berkeley.edu/eflora/eflora\\_display.php?tid=99117](http://https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=99117) [accessed December 2022].

Grant, A. L. 1924. A monograph of the genus *Mimulus*. *Annals of the Missouri Botanical Garden* 11: 99–388. [Original description]

NatureServe. 2022. NatureServe Explorer [web application]. NatureServe, Arlington, Virginia. Website <http://explorer.natureserve.org> [accessed 30 December 2022].

Nesom, G. L. and N. S. Fraga. 2019. *Erythranthe* Spach, in Flora of North America Editorial Committee (eds.), *Flora of North America North of Mexico*, Volume 17. Website [http://http://floranorthamerica.org/Erythranthe\\_discolor](http://http://floranorthamerica.org/Erythranthe_discolor) [accessed December 2022].

Thompson, D. M. 1993. *Mimulus* (Scrophulariaceae). in Hickman, J. C. (ed.), *The Jepson manual: Higher plants of California*. University of California Press, Berkeley, CA. Website: [https://ucjeps.berkeley.edu/cgi-bin/get\\_JM\\_treatment?7177,7386,7425](https://ucjeps.berkeley.edu/cgi-bin/get_JM_treatment?7177,7386,7425) [accessed December 2022].

### **Personal Communications**

Fraga, Naomi. 2023. Research Assistant Professor of Botany, California Botanic Garden and Claremont Graduate University (and specialist on *Erythranthe*). Emails and Forum comments about distribution and abundance of and threats to *Erythranthe discolor*. Personal communication 5 January 2023 and Forum Comments 6 February 2023

House, Nina. 2023. Student, California Botanic Garden doing floristic research. Email with spreadsheet with collection information. Personal communication 6 January 2023.

Vengco, Selena. 2023. Student, California Botanic Garden doing research on *Erythranthe discolor*. Emails with spreadsheet with Vengco collection information and other distribution comments. Personal communication 5 January 2023 and Forum Comment 9 January 2023.