

**Added to California Rare Plant Rank 1B.3 in the CNPS Inventory on
January 3, 2014**

**Rare Plant Status Review: *Erythranthe trinitiensis*
Proposed New Add to California Rare Plant Rank 1B.3, G2 / S2**

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Background

Erythranthe trinitiensis Nesom is an annual herb in the Phrymaceae that occurs in the vicinity of the Trinity Alps, Scott Mountain, and the Eddys' in Humboldt, Siskiyou, and Trinity counties of northwestern California. It was recently described by Nesom (2013) and is not included in *The Jepson Manual, Second Edition*, but is expected to be included in an updated version of the *Jepson eFlora* (B. Baldwin pers. comm. 2013), and the upcoming *Flora of North America, Vol. 17* treatment of Phrymaceae.

Erythranthe trinitiensis was recognized by Nesom (2013) after reviewing herbarium specimens from CAS-DS, UC-JEPS, and CHSC. It was originally identified as *Mimulus pulsiferae*, but in having a unique combination of characters with other taxa. The holotype of *E. trinitiensis* (*Rattan s.n., DS49216*) was annotated by A. L. Grant as *M. pulsiferae* approaching *M. latidens*, another collection (*Parker & Roderick s.n., CAS507181*) was tentatively recognized as an undescribed species by an unknown annotator, and the type was annotated by R. J. Meinke in 1987 with notes that it combines characters of *M. pulsiferae*, *M. breviflorus* subsp. *robustus*, and *M. latidens* (Nesom 2013). *Erythranthe trinitiensis* is most similar to *E. pulsiferae*, but differs in having pale yellow to light purplish or white corolla lobes, with distinctly pink borders (vs. yellow corolla lobes); a mature calyx that is oblong to ovoid (vs. oblong to cylindrical); longer petioles (4-8 mm vs. 0 or 1-2 mm); flowers that are herkogamous and apparently allogamous (vs. plesiogamous to herkogamous and apparently autogamous to weakly allogamous or allogamous); and various differences in leaf size, shape, and persistency (see Nesom 2013 for comprehensive suite of taxonomic differences). *Erythranthe trinitiensis* and *E. pulsiferae* apparently also grow in close sympatry, "indicating that an effective isolating mechanism is in effect" (Nesom 2013). *Erythranthe trinitiensis* is known to flower June to July, and rarely as late as August (Consortium of California Herbaria 2013; Nesom 2013).

Erythranthe trinitiensis occurs in serpentine seeps, wet meadows, and roadsides. Most of its known occurrences are in sites where the bedrock geology is mapped as peridotite or serpentine (Irwin 1994), which suggests that it is an ultramafic endemic.

Erythranthe trinitiensis is mostly known from an approximate elevation of 1,300 to 2,000 meters (Nesom 2013). The holotype record from near Hyampom (*Rattan s.n. DS49216*) indicates a much lower elevation estimate of approximately 400 meters, and a collection record from the south side of Mt. Eddy (*Heller 13573, DS*) indicates an elevation high of 2,285 meters (Consortium of California Herbaria 2013).

Erythranthe trinitiensis is known from approximately ten occurrences, from Humboldt, Siskiyou, and Trinity counties. Over half (approximately six) of the known occurrences

of *E. trinitiensis* are historical (occurrences not 'seen' in the past twenty years are considered historical by the CNDDDB), and two occurrences are only known from herbarium specimens that are over fifty years old. Nesom (2013) did not annotate specimens of *E. pulsiferae* (*Mimulus pulsiferae*) at Humboldt State Herbarium (HSC); however, a recent review of all specimens of *E. pulsiferae* at HSC by R. Bencie and M. Mesler (pers. comm. 2013) revealed nine additional collections of *Erythranthe trinitiensis*. Bencie and Mesler (pers. comm. 2013) were unable to confidently determine whether four records of *E. pulsiferae* are actually *E. trinitiensis* (*Unknown, HSC00429; Sawyer 2607, HSC24137; Butler 9711, HSC55643; Newton 583, HSC72697*), but confirmed that the remaining specimens at HSC are all *E. pulsiferae*. The majority (approximately five) of the known occurrences of *E. trinitiensis* are in the Six Rivers National Forest, one is known from Klamath National Forest, two are from Shasta-Trinity National Forest, and the remaining two are on lands with an unknown ownership. Since *E. trinitiensis* and *E. pulsiferae* are sympatric, it would be useful to survey known occurrences of *E. pulsiferae* (particularly those on ultramafic substrates) from the Pacific Northwest in attempts to discover additional occurrences of *E. trinitiensis*.

Threats to *E. trinitiensis* are unknown. Since eight of the ten known occurrences are on U.S. Forest Service lands, it appears that the possible and/or potential threats to *E. trinitiensis* are minimal at this time.

Based on the available information, CNPS and CNDDDB recommend adding *Erythranthe trinitiensis* to California Rare Plant Rank 1B.3 of the CNPS Inventory. If knowledge on the distribution, threats, and rarity status of *E. trinitiensis* changes in the future, we will re-evaluate its status at that time.

Recommended Actions

CNPS: Add to 1B.3

CNDDDB: Add to G2 / S2

Draft CNPS Inventory Record

Erythranthe trinitiensis Nesom

pink-margined monkeyflower

Phrymaceae

CRPR 1B.3

Humboldt, Siskiyou, Trinity

Hyampom Mtn. (651B) 4012364, Hyampom (651C) 4012354, Willow Creek (670B) 4012386, Grouse Mtn. (670C) 4012376, Seven Lakes Basin (682B) 4112224, Mumbo Basin (683A) 4112225, Mount Eddy (699C) 4112234, South China Mtn. (700D) 4112235

Lower montane coniferous forest, upper montane coniferous forest, cismontane woodland, meadows and seeps / often serpentinite, often roadsides; elevation 400 to 2,285 meters.

Annual herb. Blooms June-July (August)

Known mostly from the vicinity of the Trinity Alps. Previously identified as, and similar to, *E. pulsiferae*. Not in *TJM* 2. See *Phytoneuron* 2013-43:1-10 (2013) for original description.

Literature Cited

Consortium of California Herbaria (CCH). 2013. Data provided by the participants of the Consortium of California Herbaria. Regents of the University of California, Berkeley. Accessed on 29 August 2013. Available online at: <http://ucjeps.berkeley.edu/consortium/>

Irwin, W. P. 1994. Geological map of the Klamath Mountains, California and Oregon. U.S. Geological Survey, Misc. Investigation Series, Map I-2148. (not seen)

Nesom, G.L. 2013. Two new species of *Erythranthe* sect. *Mimulosma* (Phrymaceae) from California. *Phytoneuron* 2013-43: 1-10. (original description)