

**Added to California Rare Plant Rank 1B.1 of the CNPS Inventory on  
October 16, 2013**

**Rare Plant Status Review: *Erythranthe taylori*  
Proposed New Add to California Rare Plant Rank 1B.1, G1G2 / S1S2**

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### **Background**

*Erythranthe taylori* Nesom is an annual herb in the Phrymaceae that is endemic to Shasta County, 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 taylori* was recognized by Nesom (2013) after reviewing herbarium specimens from CAS-DS, UC-JEPS, and CHSC. It was originally identified as *Mimulus pulsiferae* and *Mimulus alsinoides*, probably due to the availability of choices of species known from northern California at the time. However, *E. taylori* differs from *E. pulsiferae* (*Mimulus pulsiferae*) in having larger, ovate leaf blades, calyces that are smaller and with different vestiture, flowers that are strongly and constantly herkogamous, and corollas that are more distinctly 2-lipped. It differs from *E. alsinoides* in having ovate leaf blades with palmate venation and in having broad, distinctly 2-lipped corolla limbs. These characters are also shared with *E. ampliata*, an Idaho endemic that is hypothesized to be its closest relative. *Erythranthe taylori* is known to mostly flower from April to May (Consortium of California Herbaria 2013; Nesom 2013), and one image of it in bloom was taken in mid-February (J. Nelson and D. Taylor pers. comm. 2013).

*Erythranthe taylori* occurs in crevices of limestone cliff faces and outcrops. All known occurrences of *E. taylori* are on Hosselkus Limestone and McCloud Limestone Formations, which are Upper Triassic fossiliferous marine micritic limestones that outcrop in Plumas and Shasta counties in California. *Ageratina shastensis* and *Neviusia cliftonii* are also almost exclusive to the Hosselkus Formation (Nesom 2013), with *N. cliftonii* being more of a generalist (occurring off limestone about as frequently as it is found on limestone); it is therefore predicted that a sizeable fraction of *A. shastensis* sites will also have *E. taylori* (D. Taylor pers. comm. 2013). *Erythranthe taylori* is known from an approximate elevation of 355 to 980 meters (J. Nelson pers. comm. 2013; D. Taylor pers. comm. 2013).

*Erythranthe taylori* is only known from approximately five occurrences, from the Shasta Lake region, Shasta County. Two of the occurrences are from 1993 and are considered historical (occurrences not "seen" within the past twenty years are considered historical by the CNDDDB), and the rest have been documented within the past three years. Four of the five occurrences are in the Shasta-Trinity National Forest, and one is on private timber lands. Three records of *E. pulsiferae* (as *Mimulus pulsiferae*) from Shasta County in the Consortium of California Herbaria (2013) housed at RSA were not reviewed by Nesom (2013), but were recently confirmed by N. Fraga (pers. comm.

2013) as *E. pulsiferae*. All other records in the Consortium of California Herbaria (2013) with the potential of being *E. taylori* have been annotated by Nesom (2013), or were confirmed by inspecting duplicates. Although *E. taylori* is currently only known from approximately five occurrences, it is suspected that fifteen or so sites of it will turn up after additional surveys in spring (L. Lindstrand, J. Nelson, and D. Taylor pers. comm. 2013).

Due to its occurrence near Shasta Lake, *Erythranthe taylori* is threatened by the Shasta Dam raise and reservoir enlargement project. Although none of the known occurrences are within the twenty foot, full pool water level increase that is proposed, potential habitat exists down to the current reservoir margin, so it's certainly possible that there are *E. taylori* plants and potential habitat that would be inundated. Furthermore, there may also be impacts from secondary effects of moving roads, campgrounds, and other infrastructures for the project (J. Nelson pers. comm. 2013). *Erythranthe taylori* has the potential to occur on the McCloud limestone at Fawndale, at the Calaveras limestone quarry (J. Nelson pers. comm. 2013). The possible threat of mining to *E. taylori*, however, is expected to be minor; even if it occurs at Calaveras (now Lehigh), the amount of habitat there is a very small portion of the limestone habitat in the region (L. Lindstrand pers. comm. 2013). Fire is also a possible threat to *E. taylori*, as a hot fire could destroy its seed bank, and prescribed burning in the late winter and spring could also kill actively growing plants (J. Nelson pers. comm. 2013). Lastly, *E. taylori* is potentially threatened along Gillman Road by non-native plants (specifically cheatgrass, tocalote, and crosswort) and county roadside maintenance, including the use of herbicide (J. Nelson and L. Lindstrand pers. comm. 2013). Due to the nature of its preferred habitat, timber harvest activities are not likely to be a threat to this species, as most of its suitable habitat doesn't have merchantable timber (L. Lindstrand, J. Nelson, and D. Taylor pers. comm. 2013). The type locality for *E. taylori* is on Sierra Pacific Industries land, and the outcrops where it occurs were mapped as non-timber, with the plantations set back from any outcrops (D. Taylor pers. comm. 2013).

Based on the available information, CNPS and CNDDDB recommend adding *Erythranthe taylori* to California Rare Plant Rank 1B.1 of the CNPS Inventory. Although there is the possibility of additional occurrences being found with more targeted surveys, the current data indicates that a threat rank of .1 seems most appropriate at this time. If additional populations are found that apparently lack threats, we will re-evaluate its status at that time.

### **Recommended Actions**

CNPS: Add to 1B.1

CNDDDB: Add to G1G2 / S1S2

### **Draft CNPS Inventory Record**

*Erythranthe taylori* Nesom

Shasta limestone monkeyflower

Phrymaceae

CRPR 1B.1

Shasta

Bollobokka Mountain (664B) 4012282, Devils Rock (664D) 4012271, Tombstone Mtn. (682D) 4112213

Cismontane woodland, lower montane coniferous forest / openings, carbonate crevices and rocky outcrops; elevation 355 to 980 meters.

Annual herb. Blooms (February) April-May

Known only from the Shasta Lake region. Threatened by Shasta Dam raise and reservoir enlargement. Possibly threatened by road maintenance, mining, alteration of fire regimes, and non-native plants. Previously identified, and similar to, *E. alsinoides* and *E. pulsiferae*. Also similar to *E. ampliata*, an Idaho endemic that is hypothesized to be its closest relative. 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/>

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