

Added to California Rare Plant Rank 1B.1 of the CNPS Inventory on July 2, 2013

**Rare Plant Status Review: *Erythranthe hardhamiae*
Proposed New Add to California Rare Plant Rank 1B.1, G1 / S1**

Aaron E. Sims (CNPS) and Kristi Lazar (CNDDDB)
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Changes made to the original document appear in blue text.

Background

Erythranthe hardhamiae is an annual herb in the Phrymaceae that is endemic to the Coast and Inner Coast ranges of Monterey and San Luis Obispo counties, California. It was recently described by Fraga (2012) and is not included in *The Jepson Manual, Second Edition*, but will be included in the upcoming *Flora of North America, Vol. 17* treatment of Phrymaceae. *Erythranthe hardhamiae* was named in honor of Clare Butterworth Hardham (1918-2010), a botanist from Paso Robles that studied the flora of the Santa Lucia Mountains. Hardham was an avid collector, and collected specimens of *E. hardhamiae* at almost all of its currently known locations. *Erythranthe hardhamiae* was recognized by Fraga (2012) after reviewing herbarium specimens of *E. palmeri* (*Mimulus palmeri*) and in conducting field work. It is differentiated from *E. palmeri* in having glabrous calyx lobe margins (vs. ciliate calyx lobe margins). In addition to being morphologically distinct, *E. hardhamiae* is also distinguished based on molecular studies analyzing nuclear ribosomal ITS and three non-coding chloroplast regions. *Erythranthe hardhamiae* is similar to, and appears to be closely related to *E. androsacea* (*Mimulus androsaceus*); however, they are distinguished from each other by corolla size and fruiting pedicel characters. *Erythranthe hardhamiae* has pedicels that are 10-60 mm long (vs. 5-30 mm long in *E. androsacea*) and spread horizontally in fruit (vs. ascending to spreading in fruit), and a limb that is 7-11 mm when pressed (vs. 3-7 mm when pressed). Based on the corolla morphology of *E. hardhamiae*, it is presumed to be primarily outcrossing, although no pollinators were observed visiting this species over the course of Fraga's (2012) study. *Erythranthe hardhamiae* is known to flower from March to May and is most commonly fruiting in May (Fraga 2012).

Erythranthe hardhamiae "occurs in sandy soils in openings of chaparral, and in sand-filled crevices of sandstone outcrops" (Fraga 2012), and is known from an approximate elevation of 300 to 730 meters (Fraga 2012, N. Fraga pers. comm. 2013, Consortium of California Herbaria 2013). It also sometimes occurs on serpentine, as indicated by one of its occurrences in Fort Hunter Liggett (N. Fraga pers. comm. 2013, Consortium of California Herbaria 2013). Species associates of *E. hardhamiae* include the following (* denotes non-native species): *Adenostoma fasciculatum*, *Camissonia* sp., *Chorizanthe* sp., *Crassula connata*, **Erodium botrys*, **E. cicutarium*, *Eriogonum fasciculatum*, *Festuca microstachys*, **F. myuros*, *Minuartia californica*, *M. pusilla*, *Nemacladus* sp., and *Quercus chrysolepis* (Fraga 2012).

Erythranthe hardhamiae is known from approximately six occurrences, mostly from Fort Hunter Liggett (three occurrences), with two occurrences on private property, and one

occurrence in Los Padres National Forest. Half of its occurrences are historical, having not been documented since 1960 (occurrences not 'seen' in the past twenty years are considered historical by the CNDDDB). The historical occurrences should be sought after in attempts to determine their current status. Only one occurrence of *E. hardhamiae* is known from San Luis Obispo County; on private property that lies just 50 feet south of Monterey County, from approximately one mile northwest of Bee Rock (*Hardham RSA140157*).

Possible and potential threats to *E. hardhamiae* include disturbance from grazing, road maintenance, presence and abundance of non-native plants, and development (Fraga 2012). [Occurrences at Fort Hunter Liggett are threatened by development \(J. Chesnut pers. comm. 2013\)](#). Populations of *E. hardhamiae* should be monitored in attempts to quantify the influence of these disturbances, and protection measures should be implemented as necessary for its long-term viability/sustainability.

Based on the available information, CNPS and CNDDDB recommend adding *Erythranthe hardhamiae* to California Rare Plant Rank (CRPR) 1B.1 of the CNPS Inventory. Its small distribution and occurrence number, high number of possible/potential threats, and historical status of half of its occurrences indicate that a threat rank of 0.1 is warranted.

Recommended Actions

CNPS: Add to 1B.1

CNDDDB: Add to G1 / S1

Draft CNPS Inventory Record

Erythranthe hardhamiae N.S. Fraga

Santa Lucia monkeyflower

Phrymaceae

CRPR 1B.1

Monterey, San Luis Obispo

Tierra Redonda Mountain (294C) 3512078, Barnett Peak (295C) 3512172, Stockdale Mountain (293A) 3512085, Cone Peak (319C) 3612114, Jolon (295B) 3512182, Alder Peak (296A) 3512183, Burro Mountain (296D) 3512173

Chaparral (openings) / sandy, sandstone outcrops, sometimes serpentinite; elevation 300 to 730 meters.

Annual herb. Blooms March-May.

Many occurrences historical; needs field surveys. [Threatened by development](#).

Possibly threatened by grazing, road maintenance, development, and non-native plants. Previously identified as *E. palmeri*. Similar to *E. androsacea*. Not in *TJM* 2. See *Aliso* 30(1):49-68 (2012) for original description.