

Added to California Rare Plant Rank 1B.1 of the CNPS Inventory on July 8, 2013

**Rare Plant Status Review: *Erythranthe rhodopetra*
Proposed New Add to California Rare Plant Rank 1B.2 .1, G1 / S1**

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Changes made to the original document appear in blue text.

Background

Erythranthe rhodopetra is an annual herb in the Phrymaceae that is endemic to the El Paso Mountains in Kern County, 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 rhodopetra* was named after the red sedimentary rocks of Red Rock Canyon State Park, included in the region where the species is endemic. It was recognized by Fraga (2012) after reviewing herbarium specimens of *E. palmeri* (*Mimulus palmeri*) and in conducting field work. *Erythranthe rhodopetra* is similar to, and appears to be closely related to *E. palmeri*; however, they are distinguished from each other by corolla size, corolla color, and nectar guide patterns. *Erythranthe rhodopetra* has a wider corolla limb than *E. palmeri* (16-25 mm vs. 8-15 mm), and has flowers that are pale pink with a broad yellow palate and orifice (vs. flowers that are deep pink with two yellow ridges on the palate). In addition to being morphologically distinct, *E. rhodopetra* is also distinguished based on molecular studies analyzing nuclear ribosomal ITS and three non-coding chloroplast regions. Based on the corolla morphology of *E. rhodopetra*, it is presumed to be primarily outcrossing, although no pollinators were observed visiting this species over the course of Fraga's (2012) study. *Erythranthe rhodopetra* is known to flower from March to April and is most commonly fruiting in April and May (Fraga 2012).

Erythranthe rhodopetra occurs in sandy canyon washes of Mojavean desert scrub, at the base of red sedimentary cliffs. It is known from highly compacted sandy soils that are derived from sedimentary rock of the Ricardo Formation; a formation that was originated in the Miocene and is colored with alternating bands of red, white, and brown, and composed of sandstones and consolidated conglomerates (Cox and Diggles 1986, Fraga 2012). *Erythranthe rhodopetra* occurs at an approximate elevation of 610 to 915 meters. Species associates include the following (* denotes non-native species): **Bromus madritensis* subsp. *rubens*, **B. tectorum*, *Calyptridium monandrum*, *Eremothera boothii*, *Erythranthe guttata*, *Lepidium flavum*, *Juncus bufonius*, *Plagiobothrys arizonicus*, and *Platystemon californicus* (Fraga 2012).

Erythranthe rhodopetra is known from approximately seven occurrences. All of its recent occurrences (four) are only known from Red Rock Canyon State Park; from Red Rock, Last Chance, and Hagen Canyons. Two historical occurrences are known from Bureau of Land Management (BLM) lands, from "Petrefied Forest" in the El Paso Mountains (*Johnston et al. 17230, Wheeler 6856*). The third historical occurrence is

known from either BLM and/or an unknown landowner, from “North of Randsburg” (*Pierce POM10945*). All of the historical occurrences are over sixty years old (occurrences not ‘seen’ in the past twenty years are considered historical by the CNDDDB) and should be sought after in attempts to determine their current status. Many of the occurrence records for *E. rhodopetra* are vague, and with further field surveys some occurrences (particularly those from Red Rock Canyon and Hagen Canyon) might turn out to be a single, larger occurrence, or alternatively split into additional occurrences.

Observed disturbances to *E. rhodopetra* include historic mining operations, off-highway vehicle (OHV) use, and the presence of non-native plants (Fraga 2012). Although Red Rock Canyon State Park prohibits OHV use, unauthorized OHV use is known to occur within the park (Sampson 2007), and may pose a threat to *E. rhodopetra*. [It is also threatened by hiking and trampling by recreationists; especially at the Red Rock site \(M. Egger pers. comm. 2013\).](#) Populations of *E. rhodopetra* 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 rhodopetra* to California Rare Plant Rank (CRPR) 1B-2 .1 of the CNPS Inventory. Its small distribution and occurrence number, moderate number of possible/potential threats, and historical status of nearly half of its occurrences indicate that a threat rank of ~~0-2~~ 0.1 is warranted.

Recommended Actions

CNPS: Add to 1B-2 .1

CNDDDB: Add to G1 / S1

Draft CNPS Inventory Record

Erythranthe rhodopetra N.S. Fraga

Red Rock Canyon monkeyflower

Phrymaceae

CRPR 1B-2 .1

Kern

El Paso Peaks (234B) 3511746, Saltdale NW (235B) 3511748, Cantil (235C) 3511738

Mojavean desert scrub / sandy, canyon washes; elevation 610 to 915 meters.

Annual herb. Blooms March-April.

Known only from the El Paso Mtns. Many occurrences historical; need field surveys.

Possibly threatened by mining, vehicles, [recreational activities](#), [foot traffic](#), and non-native plants. Previously identified as, and similar to, *E. palmeri*. Not in *TJM* 2. See *Aliso* 30(1):49-68 (2012) for original description.