

**RECOGNITION OF *ERYTHRANTHE PUBESCENS* (PHRYMACEAE):  
JALISCO, NAYARIT, AND ZACATECAS**

**EMMANUEL GUEVARA-LAZCANO**

Tikal 2736  
Zapopan, Jalisco 45080  
e.guevara.lazcano@gmail.com

**GUY L. NESOM**

Research Associate  
Academy of Natural Sciences of Drexel University  
Philadelphia, Pennsylvania 19103  
guynesom@sbcglobal.net

**ABSTRACT**

***Erythranthe pubescens*** (Benth.) Guevara-Lazcano, **comb. nov.** (sect. *Mimulosma*), is recognized as a distinctive species endemic to Nayarit, central and western Jalisco, and southern Zacatecas, Mexico. It is similar to *E. floribunda* but occurs south of its range and differs in its shorter pedicels, more inflated calyx, and white to cream corollas. Some plants produce only a single flower per node, an unusual expression in *Erythranthe*. *Erythranthe pubescens* is illustrated by images of herbarium specimens and in situ photographs.

*Mimulus pubescens* Benth. was tentatively regarded as a synonym of *Erythranthe floribunda* (Douglas ex Lindl.) Nesom by Nesom (2012), with the acknowledgment that it appears to occur south of the known range of the latter and perhaps is morphologically distinct. Other collections that match the type and protologue are now available, confirming its geographical and morphological distinction, and in situ photographs and observations by Guevara add further evidence. The plants have been collected from Nayarit, central and western Jalisco, and southern Zacatecas, Mexico, and are characterized by their prostrate habit, vestiture of gland-tipped hairs slimy to the touch, short pedicels (shorter than the petioles), inflated and radially symmetric calyces, and white to cream-colored corollas.

The species is formally brought into *Erythranthe* (sect. *Mimulosma*) here.

**ERYTHRANTHE PUBESCENS** (Benth.) Guevara-Lazcano, **comb. nov.** *Mimulus pubescens* Benth., Prodr. (DC.) 10: 372. 1835. **TYPE: MEXICO. Nayarit.** "In Mexico prope Talisco," Dec 1827, Beechey s.n. (holotype: K not seen, photo MO!). The only information on the type specimen is "Mexico, Beechey." The protologue is reproduced here.

21. *M. PUBESCENS*, viscoso-pubescens, foliis dentatis inferioribus subcordatis penninerviis, pedunculis folio multo brevioribus, calycibus ovatis fructiferis inflatis, dentibus brevibus acutis subæqualibus. — In Mexico prope Talisco (Beechey!). Planta pusilla, *M. floribundo* affinis, sed pedunculi vix calyce longiores. Calyces fructiferi magis inflati dentibus evidentioribus. Corolla minor videtur. (v. in herb. Hook.)

The expedition of the H.M.S. Blossom, "under the command of Captain F.W. Beechy, touched at San Blas [Nayarit] in December 1827, and remained until the following February; and Mr. Lay, the naturalist, spent a long time at Tepic, about fifty-four miles inland, where he made a collection of dried plants, containing most of the new species described by Hooker and Arnott in their 'Botany' of the voyage, throughout which Jalisco is misprinted Talisco" (Hemsley 1887, p. 124). At one time, the name of Xalisco, a town just south of Tepic, was spelled as Jalisco, and it is assumed here that this was Lay's collection locality.

**Plants** annual, fibrous-rooted, stems, leaves, and calyces villous with gland-tipped hairs and viscid-slimy. **Stems** 5–20 cm long, decumbent to prostrate, apparently not rooting at the nodes. **Leaves** cauline, basal deciduous by flowering, petiolate, blades broadly ovate to ovate, elliptic-ovate, or ovate-lanceolate, 8–22 long, 5–14 mm wide, subpinnately to subpalmately veined, base rounded to cuneate or truncate, apex obtuse to rounded, margins shallowly serrate or crenate-serrate with 3–5 sharp-pointed teeth per side; petioles 2–6 mm long. **Flowers** 1 or 2 per node (the number consistent on a single plant); fruiting pedicels 2–3 mm long. **Fruiting calyces** broadly cylindrical to urceolate-cylindrical, 4–5 mm long, radially symmetric, light green, becoming white at maturity, ridge-angled to wing-angled at maturity, lobes narrowly triangular-acuminate and equal to subequal in length. **Corollas** tubular, slightly asymmetric (2 adaxial lobes, 3 abaxial), tube-throats cylindrical, 4–5 mm long, limbs weakly bilabiate, expanded 3–4 mm across (pressed); tube and lobes white to cream, tube sometimes with red dots abaxially near the throat, limb becoming distinctly yellow to yellow-orange past maturity and after being shed, inner tube-throat prominently villous abaxially; stigma apparently not exerted from tube-throat.

Flowering December–May. Stream banks and bottoms, wet rocks and rock faces; (900–)1200–1500 m.

**Additional collections.** **Jalisco.** Mpio. San Martín de Hidalgo: Sierra de Quila, por el cauce del Río Grande, bosque de galería, suelo limoso, 1400 m, 10 Apr 1992, *Guerrero N. 723* (IBUG). Mpio. San Cristóbal de la Barranca: Poza Azul, 20° 59' 39" N, 103° 25' 13" W, 1239 m, 3 Mar 2021, *Guevara-Lazcano s.n.* (IBUG). Mpio. San Sebastián: W of San Sebastián, Hacienda del Ototal, wet sand of stream bottom, 1500 m, 9 May 1927, *Mexia 1853* (UC, Figs. 4, 5). Mpio. Tala: SE de Tala, Arroyo La Lobera, vegetación riparia, 13 May 2006, *Chazaro B. & Morales R. 8560* (MEXU, Figs. 2, 3); a través del Arroyo Caliente, Bosque Escuela, La Primavera, 1450 m, veg. ligada a arroyos o riachuelos, donde se mezclan elementos del bosque de encino-pino y bosque tropical deciduo, 19 Mar 1988, *Rodríguez C. y Reynosa D. 1200* (IBUG). Mpio. Zapopan: Barranca "Cola de Caballo," en el fondo, veg. acuática arraigada, 10 Feb 1971, *González T. 23* (IBUG); Cascada San Lorenzo, 20° 56' 30" N, 103° 24' 08" W, crevices of rock walls, 1183 m (3880 ft), 3 Mar 2021, *Guevara-Lazcano s.n.* (IBUG). **Zacatecas.** Mpio. Juchipila: San Miguel de Juchipila, junto al Río de Juchipila, veg. riparia, 15 Dec 1975, *Faudón s.n.* (IBUG).



Figure 1. *Erythranthe pubescens* distribution.

Some plants of *Erythranthe pubescens* at Cascada San Lorenzo (Mpio. Zapopan) produce only a single flower per node (e.g., Figs. 13, 14) — this not observed at other collection localities. Only one other species of *Erythranthe* is known to produce a single flower per node — *E. trinitiensis* (sect. *Mimulosma*) produces 1 or 2 per node (variably, on the same plant) while all others of the genus consistently produce 2 (Nesom 2012; Nesom & Fraga 2019). In contrast, numerous species of *Diplacus* produce a single flower per node (Thompson 2005; Nesom & Tulig 2019) — this is a heritable trait, seen in all species (4 species) of sect. *Oenoe* and 5 species of sect. *Eunanus*. *Diplacus pictus* (sect. *Pseudoenoe*) variably produces 1 or 2 flowers per node. Most other *Diplacus* species consistently produce 2 flowers per node; some species of sect. *Diplacus* produce 4 per node.

#### LITERATURE CITED

- Hemsley, W.B. 1887. A sketch of the history of the botanical exploration of Mexico and Central America. Pp. 118–137, in *Biologia Centrali-Americana*, Volume IV.
- Nesom, G.L. 2012. Taxonomy of *Erythranthe* sect. *Mimulosma* (Phrymaceae). *Phytoneuron* 2012-41: 1–36.
- Nesom, G.L. and N.S. Fraga. 2019. *Erythranthe*. Pp. 372–425, in *Flora of North America North of Mexico*, Vol. 17. Oxford Univ. Press, New York and Oxford.
- Nesom, G.L. and M.C. Tulig. 2019. *Diplacus*. Pp. 426–452, in *Flora of North America North of Mexico*, Vol. 17. Oxford Univ. Press, New York and Oxford.
- Thompson, D.M. 2005. Systematics of *Mimulus* subgenus *Schizoplacus* (Scrophulariaceae). *Syst. Bot. Monogr.* 75: 1–213.



Figure 2. *Erythranthe pubescens*. Details from Figure 3 (Cházaro & Morales 8560, MEXU).



Figure 3. *Erythranthe pubescens*. Mpio. Tala, Cházaro & Morales 8560 (MEXU).



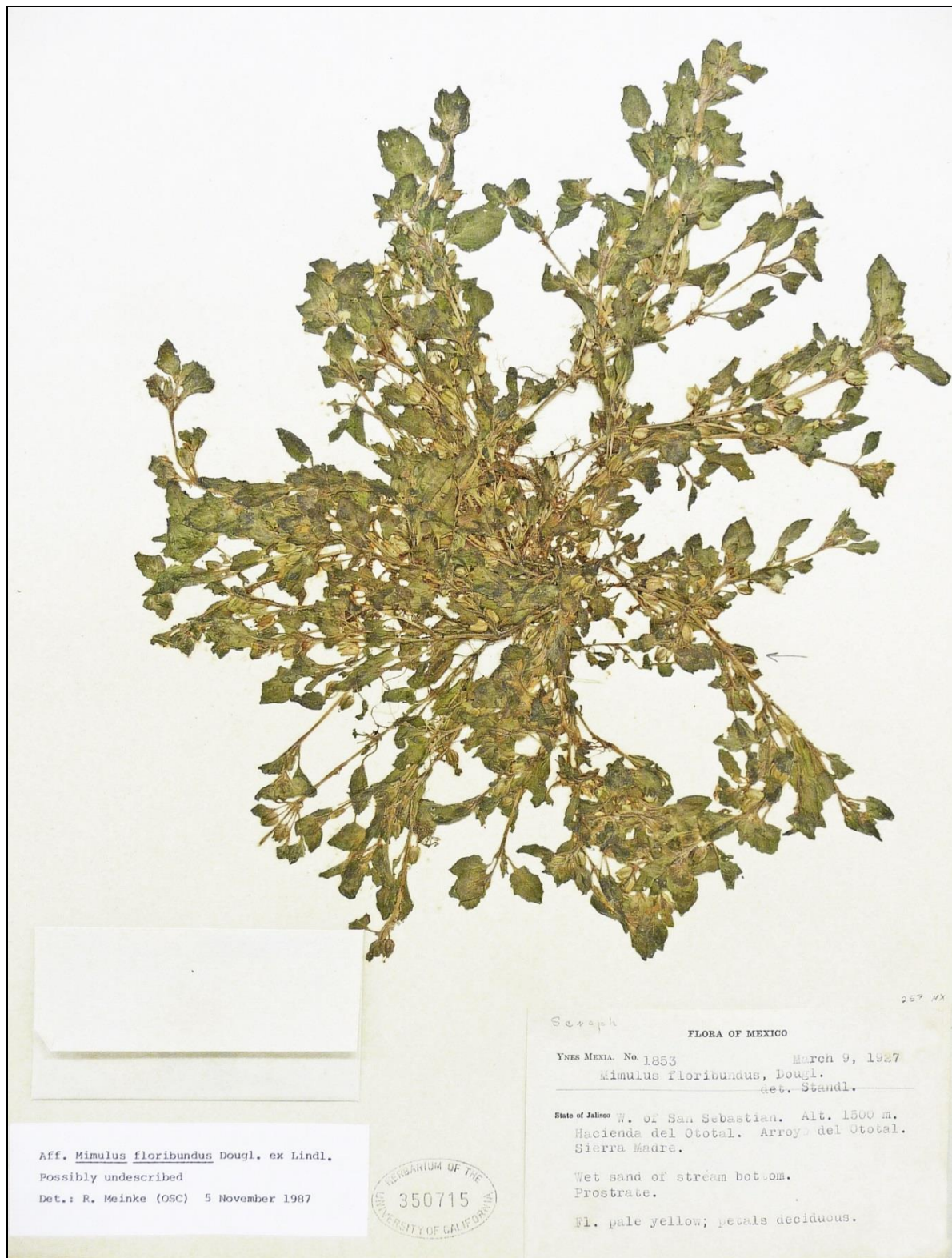


Figure 4. *Erythranthe pubescens*. Mpio. San Sebastian, Mexico 1853 (UC).



Figure 5. *Erythranthe pubescens*. Details from *Mexia 1853* (UC).





Figure 6. *Erythranthe pubescens*. “Poza Azul,” San Cristobal de la Barranca, Jalisco, Mexico. Photo by E. Guevara-Lazcano, 20 February 2021.





Figure 7. *Erythranthe pubescens*. “Poza Azul,” San Cristobal de la Barranca, Jalisco, Mexico. Photo by E. Guevara-Lazcano, 20 February 2021.





Figure 8. *Erythranthe pubescens*. “Poza Azul,” San Cristobal de la Barranca, Jalisco, Mexico. Photo by E. Guevara-Lazcano, 20 February 2021.



Figure 9. *Erythranthe pubescens*. “Poza Azul,” San Cristobal de la Barranca, Jalisco, Mexico. Photo by E. Guevara-Lazcano, 3 March 2021.





Figure 10. *Erythranthe pubescens*. “Poza Azul,” San Cristobal de la Barranca, Jalisco, Mexico. Photo by E. Guevara-Lazcano, 20 February 2021.





Figure 11. *Erythranthe pubescens*. “Poza Azul,” San Cristobal de la Barranca, Jalisco, Mexico. Photo by E. Guevara-Lazcano, 3 March 2021.



Figure 12. *Erythranthe pubescens*. “Poza Azul,” San Cristobal de la Barranca, Jalisco, Mexico. Photo by E. Guevara-Lazcano, 20 February 2021.





Figure 13. *Erythranthe pubescens*. One flower per node. “Cascada San Lorenzo,” Zapopan, Jalisco, Mexico. Photo by E. Guevara-Lazcano, 31 March 2021.





Figure 14. *Erythranthe pubescens*. One flower per node. “Cascada San Lorenzo,” Zapopan, Jalisco, Mexico. Photo by E. Guevara-Lazcano, 3 March 2021. Lower is detail from the upper.





Figure 15. *Erythranthe pubescens*. One flower per node. “Cascada San Lorenzo,” Zapopan, Jalisco, Mexico. Photo by E. Guevara-Lazcano, 3 March 2021. Both are details from Figure 14 (top).



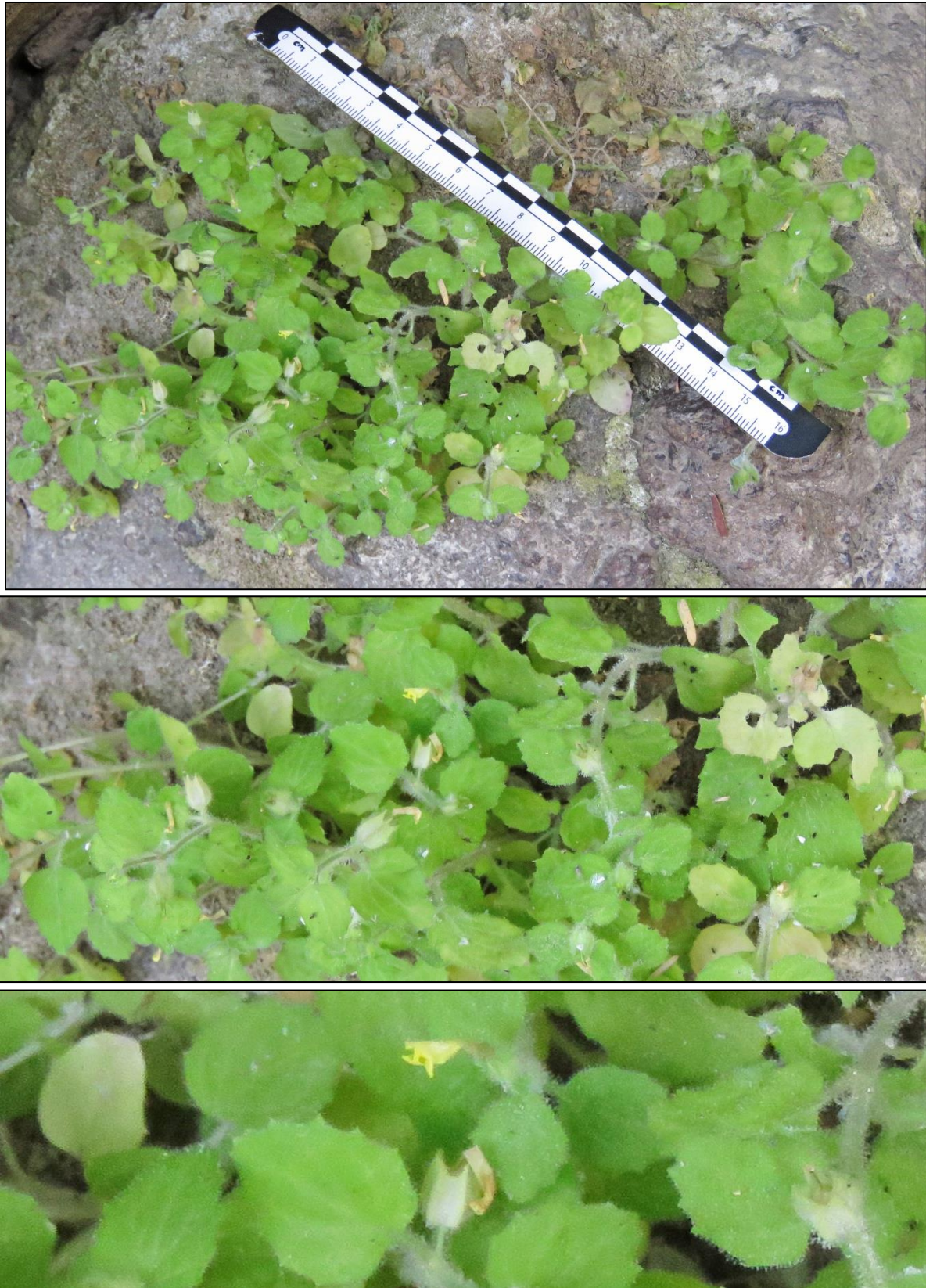


Figure 16. *Erythranthe pubescens*. One flower per node. “Cascada San Lorenzo,” Zapopan, Jalisco, Mexico. Photo by E. Guevara-Lazcano, 3 March 2021. Lower two are details from upper.





Figure 17. *Erythranthe pubescens*. One flower per node. “Cascada San Lorenzo,” Zapopan, Jalisco, Mexico. Photo by E. Guevara-Lazcano, 3 March 2021.