

A NEW SPECIES OF *ROLDANA* (ASTERACEAE) FROM HUEHUETENANGO, GUATEMALA

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Abstract: *Roldana riparia* is described from Huehuetenango, Guatemala (Municipio de Chiantla). The genus *Roldana* is abundant in montane forests of Guatemala (nine species) and the new species is endemic to the Sierra Cuchumatanes.

Resumen: Se describe *Roldana riparia* como especie nueva de Huehuetenango, Guatemala (Municipio de Chiantla). El género *Roldana* es abundante en los bosques montañosos de Guatemala, con nueve especies, y la especie nueva es endémica de la Sierra Cuchumatanes.

Keywords: Asteraceae, Senecioneae, Guatemala, Sierra Cuchumatanes, montane forests.

In 2009, the authors discovered an herbarium voucher at BIGU that appeared to be a distinct taxon in *Roldana* La Llave (Asteraceae: Senecioneae) that did not resemble other species collected in Guatemala. A subsequent field visit to the Sierra de las Cuchumatanes in western Guatemala confirmed the discovery of the new taxon, which is described below.

Roldana riparia T. Sultan Quedensley, M.E. Véliz Pérez & L.E. Velásquez Méndez, sp. nov. (Figs. 1, 2).

TYPE: GUATEMALA. HUEHUETENANGO: Sierra Cuchumatanes. Mpio. de Chiantla. Laguna Magdalena; small lagoon surrounded by disturbed forest with *Abies guatemalensis*, *Pinus hartwegii*, *Cupressus lusitanica*, and *Baccharis vaccinioides*; 2913 m; 15°32'32"N, 91°23'43"W, 10 Dec 2009, T. Sultan Quedensley 10188 with M.E. Véliz Pérez & L.E. Velásquez Méndez. (HOLOTYPE: BIGU!; ISOTYPES: CAS!; NY!; TEX!; US!)

Roldana lanicauli (Greenm.) H. Rob. & Brettell similis sed differt petiolis glabris, paginis abaxialis foliorum glabrescentibus, pedunculis sparsim strigosis, et flosculis disci 14–18.

RHIZOMATOUS SUFFRUTESCENT HERBS erect to scandent, 1.0–2.5 m tall; most basal stems woody, pilose, striate; young stems glabrous, striate. LEAVES simple, palmately-veined, petiolate; petioles 8–18 cm long, pilose to hispidulose, trichomes tawny; blades reniform, 6–12 cm long, 8–15 cm wide, 8–12 shallow lobes, margins with callose denticles, leaf base cordate to truncate at base, adaxial surface dark green and strigulose, abaxial surface sparsely strigulose. HEADS numerous, arranged in terminal rounded cymes 5–8 cm wide, ultimate peduncles 7–11 mm, floccose. PHYLLARIES uniseriate, 7–8, 7–8 mm long, 1–2 mm wide; brown in the center, mammilate, apex villose. RAY FLORETS pistillate, 7–8, 18–20 mm long, ligules yellow, 9–11 mm long, 2–4 mm wide. DISC FLORETS 14–18, yellow, 12–14 mm long; corolla tube 6–7 mm long. CYPSELAE glabrous, brown, 1–2 mm long, 8–10 ribs; pappus of numerous white bristles; 7–8 mm long.

Roldana is distributed from the Arizona-Mexico border to Panama, with most species occurring at elevations between 1500–3000 meters (Funston, 2008). The genus of herbs, shrubs, and small trees

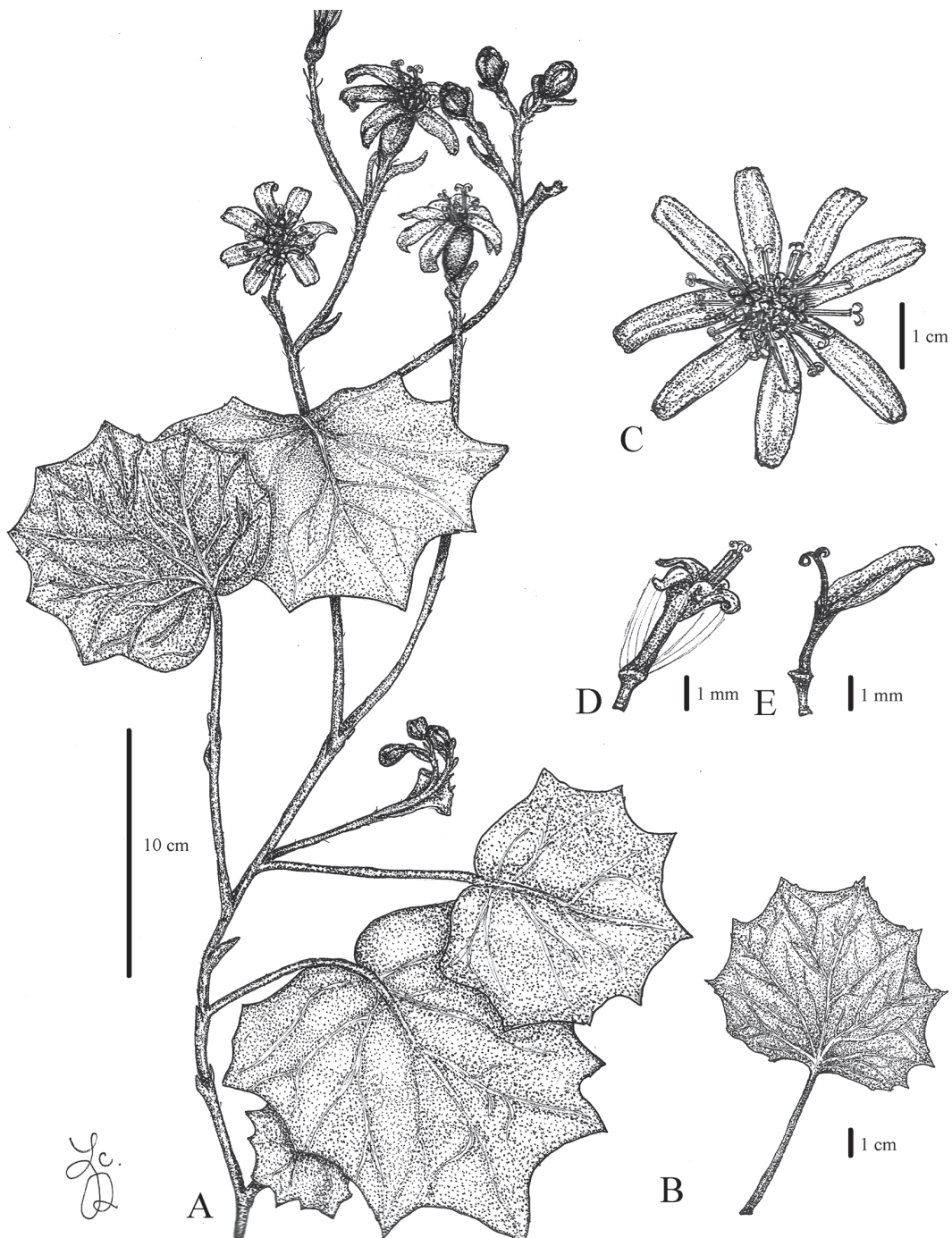


FIG. 1. A. Flowering branch. B. Abaxial leaf surface. C. Head. D. Ray floret. E. Disc floret. All images were drawn from isotypes and photos of living material in the field (T. Sultan Quedensley et al. 10188) by Leah Dannenberg.



FIG. 2. Capitulescence of *Roldana riparia* at Laguna Magdalena, the type locality. Photo by M.E. Véliz Pérez.

consists of 49 species and is a common floral component of montane ecosystems, especially in Central to Southern Mexico and Guatemala.

Roldana riparia is morphologically similar to *R. lanicaulis* with its reniform leaves but differs from this taxon in having 7–8 phyllaries versus 10–13 in the latter species, 14–18 disk florets versus 7–12, and the abaxial leaf surfaces are sparsely strigulose while in *R. lanicaulis* the abaxial surfaces are lanate tomentose. The other species in

Guatemala do not have reniform leaves. Ecologically, this new species is unique in the genus as the three known populations occur immediately adjacent to a water source (Fig. 3). No other species in the genus always occurs so close to water sources.

PHENOLOGY. Flowering December–April.

DISTRIBUTION AND HABITAT. Guatemala, Huehuetenango; *Roldana riparia* occurs in the Sierra Cucumatanes along streams and standing bodies of water in disturbed montane forests with *Abies guatemalensis*, *Pinus hartwegii*, *Cupressus lusitanica*, and *Baccharis vaccinioides* at elevations of 2500–2900 m. The plants, including seedlings, have not been observed more than 5 m from a water source.

ETYMOLOGY. The Latin epithet refers to the riparian habitats in which this plant occurs with its “roots in the water.”

Additional specimens examined: GUATEMALA. HUEHUETENANGO: Sierra Cucumatanes. Mpio. de Chiantla. Laguna Magdalena; 2913 m; 15°32'32"N, 91°23'43"W, 10 Dec 2009, M.E. Véliz Pérez 21098 with T. Sultan Quedensley & L.E. Velásquez Méndez. (BIGU; F; MO; TEX); Mpio. San Mateo Ixtatán; 2538 m; 15°50'23.7"N, 91°28'50.9"W, 4 Feb 2011, M.E. Véliz Pérez 22460 with L.E. Velásquez Méndez (BIGU; US); Mpio. San Juan Ixcay. 2700 m; 15°33'29.22"N, 91°25'22.26"W, 18 April 2009, P. Bourgoin 20 with S. Montpetit. (BIGU).

KEY TO THE SPECIES OF *ROLDANA* FROM GUATEMALA

- 1a. Leaf blade venation pinnate.
 - 2a. Leaves abaxially glabrous; phyllaries 5–6 *R. schaffneri*
 - 2b. Leaves abaxially lanate tomentose; phyllaries 10–13 *R. barba-johannis*
- 1b. Leaf blade venation palmate.
 - 3a. Leaf blades peltate *R. heterogama*
 - 3b. Leaf blades marginally attached
 - 4a. Phyllaries 7–8
 - 5a. Leaf lobes deeply cut forming rectangular segments *R. greenmanii*
 - 5b. Leaf lobes shallowly cut
 - 6a. Leaf lobes rounded; ultimate peduncles 8–20 mm long *R. petasitis*
 - 6b. Leaf lobes, acute; ultimate peduncles 2–6 mm long
 - 7a. Phyllaries glabrous *R. acutangula*
 - 7b. Phyllaries pubescent
 - 8a. Leaves with 5–7 lobes; ovate to palmatifid *R. jurgensenii*
 - 8b. Leaves with 8–12 lobes; reniform *R. riparia*

- 4b. Phyllaries 10–13
 - 9a. Heads 12–20 mm long, disk florets ca. 30; white latex present *R. gilgii*
 - 9b. Heads 8–12 mm long disk florets 10–20; latex absent
 - 10a. Leaf blades ovate to rotund *R. aschenborniana*
 - 10b. Leaf blades reniform *R. lanicaulis*



FIG. 3. Habitat of *Roldana riparia* at Laguna Magdalena, the type locality. Photo by T. Sultan Quedensley.

Only the three cited populations are known of *Roldana riparia*. Prior to this discovery, ten species of *Roldana* had been collected in Guatemala. Two species, *R. gilgii*

and *R. greenmanii* have relatively restricted geographic ranges (i.e., Chiapas, Mexico, and Guatemala) and are considered endemic (Funston, 2008; Nash & Williams, 1976).

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