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## A NEW SPECIES OF *ROLDANA* (ASTERACEAE) FROM SOUTHERN OAXACA

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**Abstract:** *Roldana uxordecora* is described from Oaxaca, Mexico (Municipio de San Mateo Río Hondo). The genus *Roldana* is common in the montane regions of the state of Oaxaca (22 species), and this addition to *Roldana* adds to a list of endemic species, now five, already collected from this montane region.

**Resumen:** Se describen *Roldana uxordecora* de Oaxaca, México (Municipio de San Mateo Río Hondo). El género *Roldana* esta frecuente en los regiones montañosas del estado de Oaxaca (22 especies), y ese adición a *Roldana* agrega a una lista de especies endémicas, ahora cinco, ya colectado de ese región montañosa.

**Keywords:** Asteraceae, Senecioneae, Mexico, montane forests, endemism.

During field work in 2009, the authors discovered an interesting species of *Roldana* La Llave (Asteraceae: Senecioneae) that did not appear to match any of the currently described species in the genus. After close examination of the material collected, it was apparent that it represents a new species of *Roldana* and it is described below.

***Roldana uxordecora*** T.S. Quedensley & J.L. Villaseñor, sp. nov. (Fig. 1).

**TYPE: MEXICO. OAXACA:** Sierra Madre del Sur, Mpio. San Mateo Río Hondo, along Highway 175 to San Pachutla from Miahuatlán, 1 km northeast of San Jose del Pacifico; rocky slopes and secondary pine-oak forest with *Pinus* sp., *Baccharis heterophylla*, *Holodiscus* sp., and *Chiranthodendron pentadactylon*; 2482 m; 16°10'32.2"N, 96°30'24.0"W, 14 Jan 2009, T. Sultan Quedensley, J. L. Villaseñor, T. Buxton, & O. Hinojosa 7050 (HOLOTYPE: MEXU!; ISOTYPES: BIGU!, CAS!, F!, MICH!, MO!, NY!, TEX!, UC!, US!)

*Roldana schaffneri* (Sch. Bip. ex Klatt) H. Rob. & Brettell similis sed differt foliis subter floccoso-tomentosis, petiolis ad basim late expansis, caulibus juvenibus floccoso-tomentosis, et flosculis radii semper tres flosculis disci semper quinque.

**SHRUBS** erect, 1.5–2.5 m tall; stems woody, striate; young stems floccose-tomentose, old growth glabrous. **LEAVES** simple, pinnately-veined, petiolate; petioles 7–12 cm long, floccose, greatly expanded at base; blades ovate to oblanceolate, 11–15 cm long, 7–8 cm wide, weakly crenate with callose denticles; acute to acuminate at apex, cordate to truncate at base, dark green and glabrous above, densely floccose-tomentose below. **HEADS** numerous, arranged in terminal rounded cymes 5–8 cm wide, ultimate peduncles 7–11 mm, floccose. **PHYLLARIES** uniseriate, five, 8–10 mm long, 2–3 mm wide; brown in the center with scarios margins, apex floccose. **RAY FLORETS** three per head, 10–11 mm long, ligules yellow, 6–7 mm long. **DISC FLORETS** five per head, yellow, 10–12 mm long; corolla tube 7–8 mm long. **CYPSELAE** glabrous, brown, 1–2 mm long; pappus of numerous white bristles; 7–8 mm long.

*Roldana* is distributed throughout the montane regions of Mexico and Central America. It is a medium-sized Neotropical genus of suffrutescent herbs, shrubs, and small trees currently including forty-eight species (Funston, 2008) and a typical taxon in montane forests of southern Mexico, becoming most prevalent at elevations

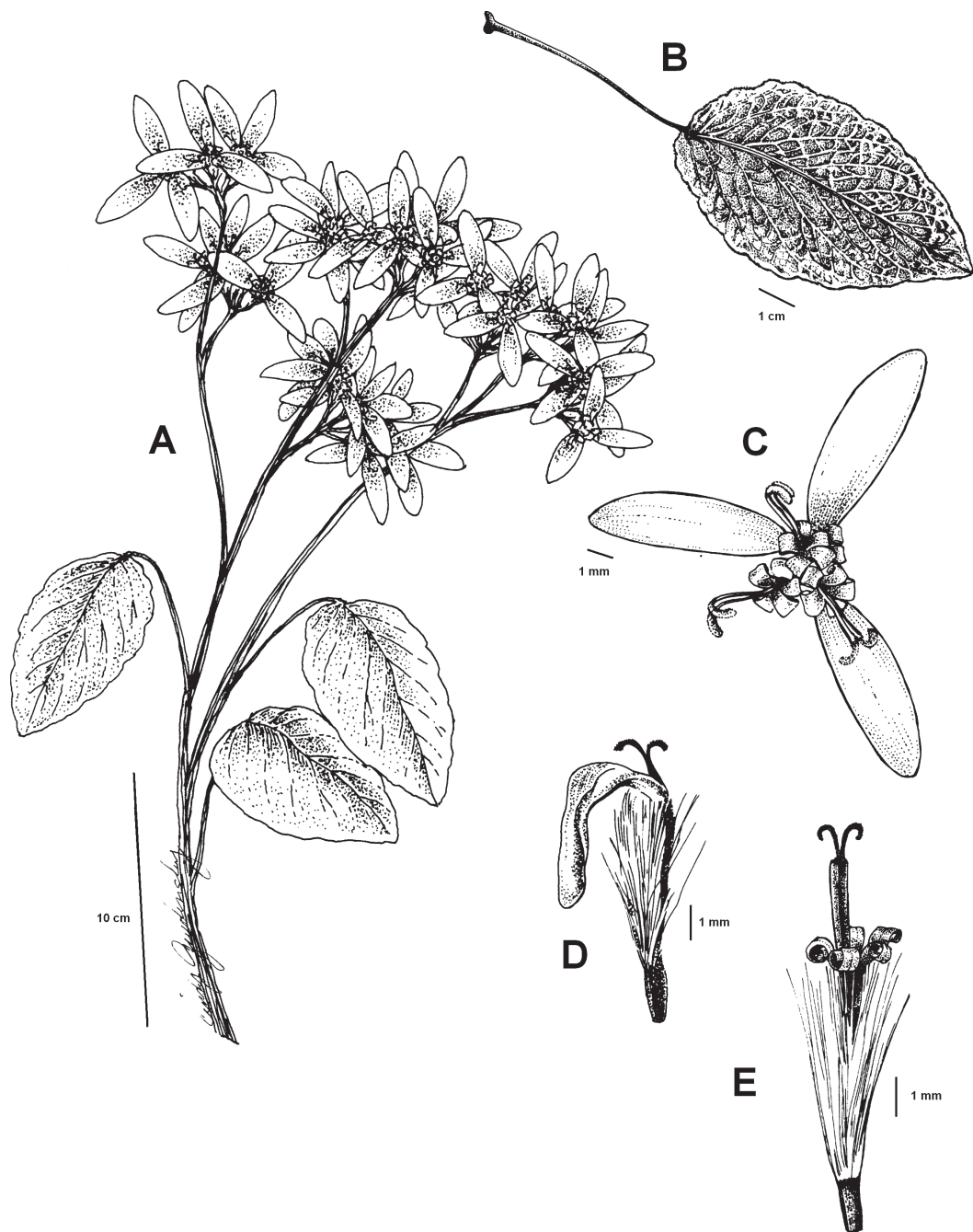


FIG. 1. A. Flowering branch. B. Abaxial leaf surface and expanded petiole base. C. Head. D. Ray floret. E. Disc floret. All images were drawn from isotypes and photos of living material in the field (*T. S. Quedensley et al. 7050*) by Cindy Quedensley.

between 2000 and 3000 meters. Currently, in the state of Oaxaca there are twenty-two recorded species of this genus, four of which are endemic to that state.

Although *Roldana uxordecora* is morphologically distinct in several features within the genus, it keys out to *R. schaffneri* (Sch. Bip. ex Klatt) H. Rob. & Brettell in all published treatments (Robinson & Brettell, 1974; Turner, 2005; Funston, 2008). Of the three previously-described species of *Roldana* with pinnately-veined

leaves that occur in Oaxaca, *R. uxordecora* differs from *R. schaffneri* in having a dense floccose-tomentum on the underside of the leaves, on the young stems, and on the flowering branches. It differs from *R. barba-johannis* (DC.) H. Rob. & Brettell in having five phyllaries instead of ten to thirteen. *Roldana lineolata* (DC.) H. Rob. & Brettell has lobed, sinuate leaves with petioles that are not expanded at the base and with blades that are only lightly tomentose abaxially.

#### KEY TO THE PINNATELY-VEINED SPECIES OF *ROLDANA* THAT OCCUR IN OAXACA

1. Leaves abaxially pubescent only along veins . . . . . *R. schaffneri*
1. Leaves abaxially pubescent on entire leaf surface
  2. Phyllaries 5; petioles expanded at base of leaves . . . . . *R. uxordecora*
  2. Phyllaries 7-13; petioles not expanded at base of leaves
    3. Leaves deeply lobed, sinus depth to one-third of way to midrib . . . . . *R. lineolata*
    3. Leaves sinuate to weakly lobed, sinus depth never approaching midrib . . . . . *R. barba-johannis*

Presently, *Roldana uxordecora* is only known from the type locality and more collections along the Sierra Madre del Sur, from southern Oaxaca would more accurately illustrate the species' distribution. Prior to this description, 22 species of *Roldana* have been collected in the montane regions of Oaxaca, representing 45% of the known species in the genus. Of these 22 species, four are strictly endemic to Oaxaca, and three species are found additionally to only one neighboring state. Endemism in the Asteraceae has been used to establish conservation priorities for Mexico, and Oaxaca is one of the most endemic-rich states in regards to this diverse flowering plant family (Villaseñor et al., 1998).

The Latin epithet means "beautiful wife," and the authors take pride in naming the species after their wives whom have supported their research with unwavering devotion.

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#### LITERATURE CITED

- Funston, A. M.** 2008. Taxonomic Revision of *Roldana* (Asteraceae: Senecioneae), a genus of the Southwestern U.S.A., Mexico, and Central America. *Ann. Missouri Bot. Gard.* 95: 282–337.
- Robinson, H. and R. Brettell.** 1974. Studies in the Senecioneae (Asteraceae). *Phytologia* 27: 402–439.
- Turner, B. L.** 2005. A recension of the Mexican species of *Roldana* (Asteraceae: Senecioneae). *Phytologia* 87: 204–263.
- Villaseñor, J. L., G. Ibarra, and D. Ocaña.** 1998. Strategies for the conservation of Asteraceae in Mexico. *Conservation Biol.* 12: 1066–1075.