

A NEW SPECIES OF *UROSKINNERA* (SCROPHULARIACEAE) FROM SOUTHERN MEXICO

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ABSTRACT

Uroskinnera almedae, a new species from north-central Oaxaca, Mexico, is described and illustrated. The species is unique in the genus by virtue of its relatively long, red corolla and exserted stamens. The distributional range of *Uroskinnera flavida* is extended from Tabasco to Chiapas. The range of *U. hirtiflora* is extended from Oaxaca and Veracruz to northern Puebla. A key to all species of *Uroskinnera* that incorporates data from recent collections of *U. flavida* and *U. hirtiflora* is presented. The known distribution of each species is plotted on a map.

RESUMEN

Se describe e ilustra *Uroskinnera almedae* como especie nueva de la parte nort-central de Oaxaca, México. El especie se distingue por su corola larga y roja y sus estambres exsertas. *Uroskinnera flavida* se reporta por primera vez para el estado de Chiapas; también *U. hirtiflora* se registre del estado de Puebla. Una clave de todas las especies de *Uroskinnera*, que incluye informaciones recientes de colecciones de *U. flavida* y *U. hirtiflora* es presentada. Se provee un mapa que muestra la distribución de cada una de las especies.

Four species have been described and three are currently recognized in *Uroskinnera* Lindley, a genus of southern Mexico and northern Central America. *Uroskinnera* has been included in the tribe Cheloneae (Thieret 1954, 1967) and is characterized by its racemose inflorescence, well-developed staminode, and distinct stigmas. Distinct stigmas are somewhat anomalous in the Cheloneae; thus the tribal position and relatives of the genus are uncertain. Keys to genera in Thieret (1954) and Standley and Williams (1973) are nearly identical in their treatment of *Uroskinnera*, *Tetranema* Benth., and *Penstemon* Mitch. In both keys, the leads for *Uroskinnera* and *Tetranema* appear to have been inverted. Correct information is provided in the generic descriptions and illustrations of Standley and Williams (1973).

Schultes (1941) recognized four species of *Uroskinnera* and provided a synopsis of the genus. Unfortunately, the species were known to him from relatively few wild collections (i.e., *U. flavida* Lundell, 1; *U. spectabilis* Lindley, 1; *U. watsonii* Schultes, 2; and *U. hirtiflora* Hemsley, 4). The distinctions between *U. watsonii* and *U. spectabilis*, which could be found growing together, appeared particularly tenuous. Standley and Williams (1973) combined the two species and

reduced *U. watsonii* to synonymy of *U. spectabilis*. Although they provided little rationale for combining the two species, their conclusion appears justified. Schultes (1941) had distinguished these species on the basis of foliar, corollar, and androecial size and stylar form. He recorded overlap in measurements of most of the quantitative characters, and we were unable to detect differences in the relative flatness of the style. It seems likely that the distinctions noted by Schultes (1941) were based on too small a sample and that additional collections from eastern Guatemala will further link the two species he recognized.

Recent field activities in southern Mexico have resulted in additional collections of *Uroskinnera*. Tom Wendt and colleagues, working in the Uxpanapa region of the Isthmus of Tehuantepec, collected a variant of *U. hirtiflora* (Wendt 1983) in Veracruz. A recent collection of typical *U. hirtiflora* from northern Puebla (Mpio. Zapotitlan de Méndez, Atehuiztita, 4.7 km SE de Zapotitlan, 28 February 1987, *P. Tenorio L. et al.* 12747, TEX) extends the distributional range of that taxon about 350 kilometers northwest of its previously known westernmost occurrence in Oaxaca. *Uroskinnera flavida*, previously known only from the type collected in Tabasco in 1939, has recently been collected in another region of Tabasco (Mpio. Teapa, Cerro del Coconá, 6 April 1980, *C. Cowan* 2894, CAS) and in three regions of Chiapas (Mpio. Las Margaritas, Laguna Miramar E of San Quintín, 11 February 1973, *D. Breedlove* 33245, CAS; Mpio. Ocosingo, 70 km SW of Palenque, 12 April 1981, *D. Breedlove* 50872, CAS; same locality, 4 December 1980, *D. Breedlove and F. Almeda* 48336, CAS; Mpio. Palenque, Agua Azul, 24 May 1973, *D. Breedlove* 35343, CAS; same locality, 8 November 1980, *D. Breedlove* 47315, CAS). It is likely that this species will also be found in adjacent regions of the Petén in Guatemala where similar habitats occur.

Two recent collections from north-central Oaxaca possess the diagnostic characteristics of *Uroskinnera* but do not represent any of the previously described taxa. They are described below as a new species, *U. almedae*. In all, we examined 38 specimens representing 24 collections of the genus from CAS, F, GH, LL, and TEX. Study of the specimens utilized by Schultes (1941) and more recent collections show that species of *Uroskinnera* can be distinguished by the following key:

- a. Corolla dark red, 50–55 mm long; stamens exerted beyond limb of corolla. *U. almedae*
- a.' Corolla white, yellow, or purple, 22–40 mm long; stamens included within corolla tube or if exerted from tube then not surpassing limb.
 - b. Corolla white to yellow; floral bracts 1–2.3 mm long; calyx lobes broadly triangular, 0.3–1 mm long; inflorescence rachis pubescent with trichomes less than 0.5 mm long. *U. flavida*

- b.' Corolla purple (usually with white markings); floral bracts 3–6 mm long; calyx lobes narrowly triangular to subulate, 1–7 mm long; inflorescence rachis pubescent with trichomes 0.5–2.5 mm long.
- c. Calyx 5-lobed; corolla externally densely pubescent over entire surface with glandular trichomes 0.2–1 mm long; staminode glabrous. . . . *U. hirtiflora*
- c.' Calyx 4-lobed; corolla externally very sparsely pubescent proximally with glandular trichomes 0.05–0.1 mm long and glabrous distally; staminode glandular pubescent (at least distally). *U. spectabilis*

***Uroskinnera almedae* T. Daniel & Breedlove, sp. nov. (Fig. 1).—**

TYPE: MEXICO, Oaxaca, 15 km N of Valle Nacional along road to Cd. Oaxaca, 150 m, 5 Jan 1982, *D. Breedlove and F. Almeda* 56695 (holotype, CAS!; isotypes, GH!, MEXU!, NY!).

Frutex debilis usque ad 1.5 m altus. Laminae foliorum ovatae vel ellipticae, 55–165 mm longae, 31–81 mm latae, 1.4–2.1-plo longiores quam latiores. Inflorescentiae racemosae usque ad 150 mm longae. Calyx 4–5 mm longus, 4-lobatus. Corolla atrorubra, 50–55 mm longa, extus glandulosa. Stamina corolla exserta; staminodium glabrum. Capsula 4.5–5 mm longa. Semina 0.8–1.1 mm longa, 0.6–0.8 mm lata, reticulata-foveata.

Weak shrub to 1.5 m tall. Young stems evenly pubescent with flexuose-antrorse eglandular trichomes to 0.7 mm long. Leaves opposite, petiolate, anisophyllous; petioles to 90 mm long; blades ovate to elliptic, 55–165 mm long, 31–81 mm wide, 1.4–2.1 times longer than wide, subacute to rounded at base, acute at apex, the surfaces sparsely pubescent with the trichomes becoming mostly restricted to major veins on older leaves, the margin coarsely dentate to crenate-dentate. Inflorescence of terminal (sometimes appearing axillary) unbranched racemes to 150 mm long; rachis pubescent like young stems; flowers solitary, alternate, pedicellate, subtended by a bract and 2 bractlets; bracts linear-subulate, 1.5–2 mm long, 0.3–0.4 mm wide; bractlets borne along proximal portion of pedicel, subulate or toothlike, 0.6–0.9 mm long, 0.1–0.2 mm wide; pedicels 2.5–5 mm long (accrescent and up to 6 mm long in fruit), pubescent with a mixture of eglandular and stipitate glandular trichomes. Calyx 4–5 mm long, shallowly 4-lobed, externally densely pubescent with antrorsely appressed eglandular trichomes, shattering irregularly when capsules dehisce and with proximal portion often remaining attached to pedicel; lobes broadly triangular, up to 1 mm long. Corolla dark red, 50–55 mm long, externally pubescent with stipitate glandular trichomes; tube 46–49 mm long, \pm gradually ampliate distally; limb \pm bilabiate, 12–13 mm in diameter, the upper lip 3–6 mm long with 2 lobes 1–3 mm long and wide, the lower lip 3–5.5 mm long with 3 lobes \pm reflexed, 2–5 mm long and 2–4.5 mm wide. Stamens inserted about midway up corolla tube, exserted, didynamous, the longer pair 31–40 mm long, the shorter pair 29–37 mm long; fila-

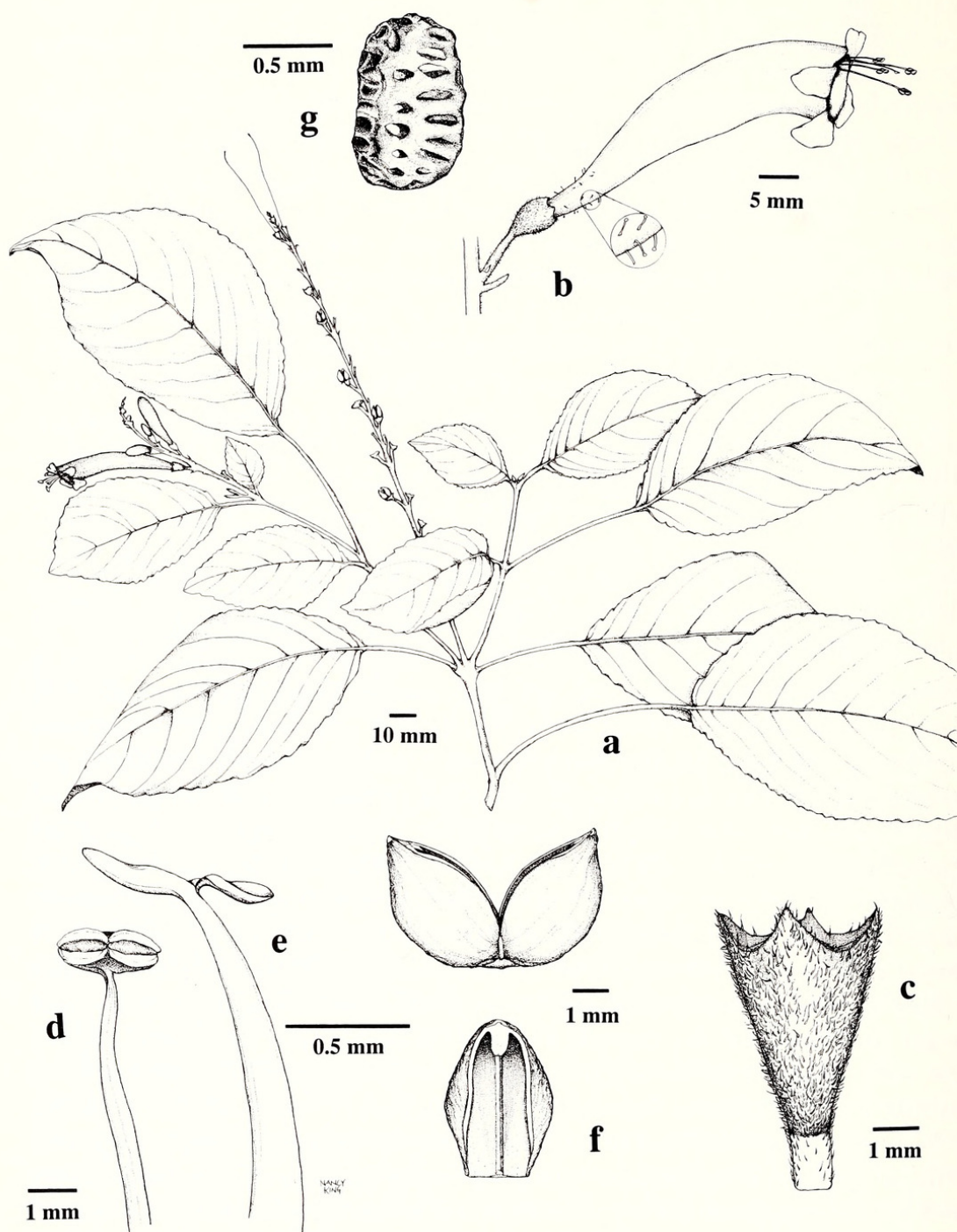


FIG. 1. *Uroskinnera almedae*. a. Habit. b. Inflorescence node with flower. c. Calyx. d. Distal portion of stamen. e. Distal portion of style and stigma. f. Dehiscent capsule (top), interior view of single valve with seeds removed (bottom). g. Seed. (a. Drawn from Fryxell and Lott 3222. b-g. Drawn from Breedlove & Almeda 56695.)

ments flattened, pubescent with downward-pointing eglandular trichomes near base; thecae cream tinged with red, 1.2–1.5 mm long, the pair oriented end-to-end on a dark and broad connective; staminode filamentous, 15 mm long, glabrous. Style 54–57 mm long, glabrous; stigma with 2 unequal lobes 0.2–0.5 mm long. Capsule

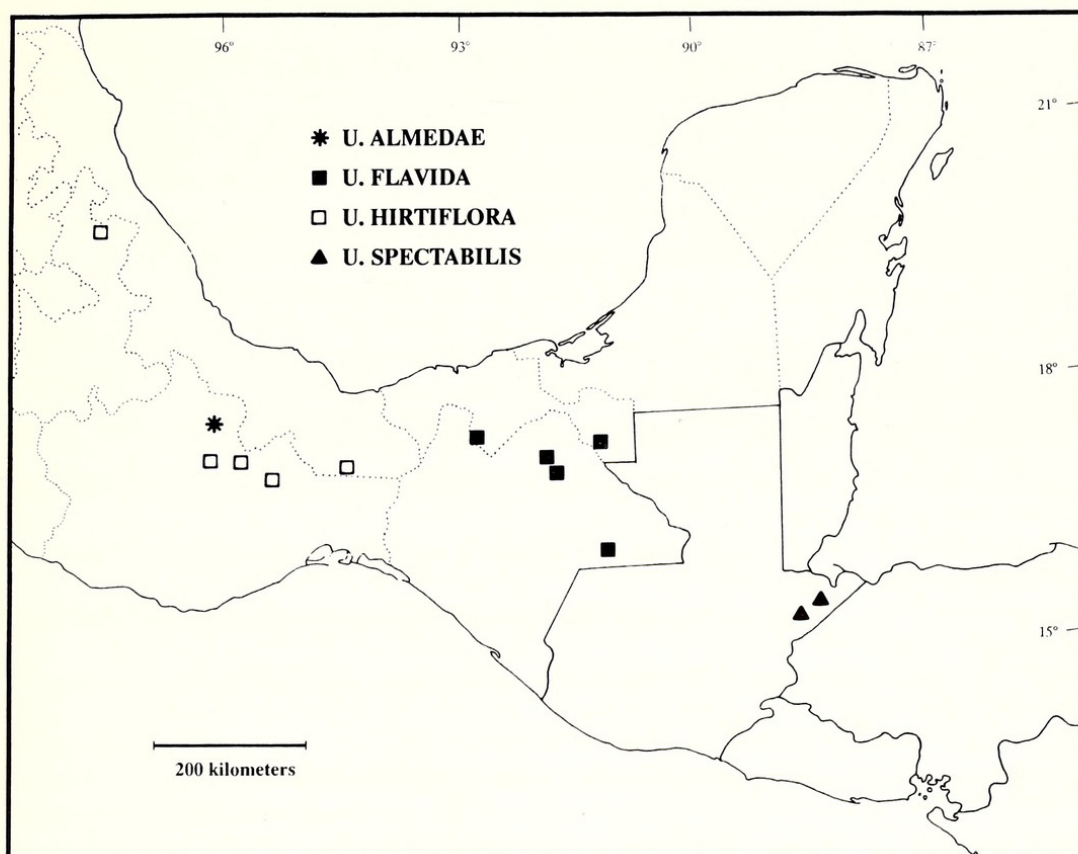


FIG. 2. Map of southern Mexico and northern Central America showing the known distribution of *Uroskinnera*.

ovoid to ellipsoid, 4.5–5 mm long, external surface roughened, lacking trichomes. Seeds numerous, blackish, subellipsoid, 0.8–1.1 mm long, 0.6–0.8 mm wide, the surface reticulate-foveate, lacking trichomes.

PARATYPE: MEXICO, Oaxaca, 21 mi S of Tuxtepec on Hwy. 175 to Oaxaca, 30 Oct 1980, *P. Fryxell and E. Lott* 3222 (CAS).

Distribution and habitat. Southern Mexico (north-central Oaxaca; Fig. 2) where plants occur on shaded slopes in lower montane rain forest at elevations from 50–150 m.

Phenology. Flowering and fruiting: October and January.

The sister species of *Uroskinnera almedae* is not readily identifiable at this time. The species resembles *U. hirtiflora* by its linear, glabrous staminode (vs. clavate and glandular in other species) and *U. flavida* and *U. spectabilis* by its four-lobed calyx (vs. five-lobed in *U. hirtiflora*). In features of pubescence, form of the calyx lobes, and seed form, *U. flavida* is most similar to *U. almedae*. Both *U. flavida* and *U. hirtiflora* var. *breviloba* Wendt occur in habitats similar to those of *U. almedae*. The floral features that are unique in *Uroskinnera* to *U. almedae* (i.e., long, tubular, and red corollas with

exserted stamens) are common adaptations for pollination by hummingbirds.

The epithet of this species honors the co-collector of the type, our colleague and friend, Frank Almeda.

ACKNOWLEDGMENTS

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