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A New *Ruellia* (Acanthaceae) from Guerrero, Mexico

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Two collections from the Río Balsas depression in northern Guerrero, Mexico are described as a new species, *Ruellia foliosepala*. Distinctive characteristics include pedunculate dichasia, broad calyx lobes, blue-purple chasmogamous corollas, and elongate capsules bearing 12 or more seeds. Differences between the two collections, including cleistogamy, likely reflect seasonal variation. Morphological variation in and probable infrageneric affinities of the species are noted.

Se describen dos colecciones de la depresión del Río Balsas en el norte de Guerrero, México como especie nueva, *Ruellia foliosepala*. Las características distintivas incluyen los dicasios pedunculados, los amplios lóbulos del cáliz, la corola de las flores casmógamas azul-purpúrea, y las cápsulas alargan que llevan 12 o más semillas. Las diferencias entre las dos colecciones, incluyendo la presencia de flores cleistógamas, probablemente reflejan la variación estacional. Se observan la variación morfológica y las afinidades infragéricas probablemente de la especie.

With some 250 species worldwide, *Ruellia* is among the most species rich genera of Acanthaceae. Although about 65 species are known from Mexico (Daniel 2004) several names attributed to the genus there remain to be placed. Taxonomy of the genus is complicated by interspecific hybridization (*cf.* Long 1970; Daniel 2007) and cleistogamy (often seasonal). Two collections of *Ruellia* from the Río Balsas depression in northern Guerrero do not conform to previously described taxa. Despite some differences in their respective inflorescences, they appear to pertain to the same taxon, which is described below. Recognition of this species brings the number of endemic species of Acanthaceae in the Río Balsas basin to 13 (*cf.* Daniel and Steinmann 2007).

***Ruellia foliosepala* T.F. Daniel, sp. nov.**

TYPE.—MEXICO. **Guerrero**: Mpio. Buenavista de Cuéllar, 8 km NW de Iguala, camino Iguala—Taxco, 800 m, selva baja caducifolia, 6 July 1982, *E. Martínez S. & J. Soto N. 1203* (holotype: MEXU!). Figure 1.

Herbae perennes usque ad 4 dm alti. Folia petiolata, laminae ovatae vel late ellipticae, 30–105 mm longae, 21–54 mm latae, 1.2–2.4-plo longiores quam latiores. Dichasia in axillis foliorum vel bractearum foliacearum pedunculata. Bracteolae lineari-ellipticae vel oblanceolatae, 4–10 mm longae, 0.7–2 mm latae. Flores pedicellati pedicellis 3–30 mm longis; calyx 13–21 mm longus lobis ovatis vel ellipticis, 4–6 mm latis; corolla caeruleo-purpurea, 39–45 mm longa, extus trichomatibus eglandulosis. Capsula lineari-ellipsoidea vel lineari-obovoidea, 13.5–18 mm longa, pubescens non nisi apice trichomatibus eglandulosis. Semina 12 vel plus in capsula, paginis et margine pubescenti trichomatibus hygroscopicis.

Perennial herbs to 4 dm tall with numerous turgid but non-tuberous roots. Young stems quadrate-sulcate to quadrate-flattened, ± evenly pubescent with a conspicuous overstory of flexuose eglandular trichomes 0.5–2.3 mm long and an inconspicuous understory of sparse retrorse to retrorsely appressed sometimes bifariously disposed eglandular trichomes to 0.3 mm long. Leaves petiolate, petioles to 25 mm long, blades ovate to broadly elliptic, 30–105 mm long, 21–54 mm wide, 1.2–2.4 times longer than wide, rounded to acute at apex, ± abruptly acute to subattenuate at base, surfaces pubescent with eglandular trichomes, margins sinuate-crenate. Inflorescence of pedunculate dichasia borne in leaf axils or of subsessile dichasia borne in axils of reduced distal leaves (bracts) forming a ± dense terminal headlike thyrse; dichasia opposite or alternate, 1 per axil, 1–3 (or more)-flowered, peduncles 2–20 mm long, pubescent like young stems or with overstory trichomes sparser and understory trichomes denser. Bracts (if present) petiolate, elliptic, 18 mm long, 6 mm wide, pubescent like leaves. Bracteoles and secondary bracteoles linear-elliptic to oblanceolate, 4–10 mm long, 0.7–2 mm wide, abaxial surface pubescent with flexuose eglandular trichomes to 1 mm long. Flowers pedicellate, pedicels 3–30 mm long, pubescent like peduncles. Calyx 5-lobed, 13–21 mm long, lobes ovate to elliptic, 12–18 mm long, subequal in length, 4–6 mm wide, abaxially pubescent with flexuose eglandular trichomes 0.3–1.2 mm long, margin ciliate with mostly flexuose eglandular trichomes 0.5–1.5 mm long. Corolla blue-purple, 39–45 mm long, externally pubescent with flexuose eglandular trichomes 0.1–0.5 mm long, tube 26–33 mm long, narrow proximal portion 10–11 mm long, abruptly expanded distally into a distinct throat, throat 13–21 mm long, longer than narrow proximal portion of tube, 6.5–9.5 mm in diameter near midpoint, limb 28–37 mm in diameter, lobes 13–15 mm long, 11–16 mm wide. Stamens included, didynamous, presented at 2 heights in throat, longer pair 10–11 mm long, shorter pair 7–8 mm long, filaments glabrous, thecae 3.5–3.7 mm long, glabrous. Style 19 mm long, glabrous distally, proximal portion not seen. Capsule linear-ellipsoid to linear-obovoid, 13.5–18 mm long, pubescent at apex only with erect to flexuose eglandular trichomes 0.2–0.6 mm long, stipe 1.5–2 mm long. Seeds 12 or more per capsule, (2–) 2.5–2.7 mm long, (1.5–) 2–2.2 mm wide, surfaces and margin covered with appressed hygroscopic trichomes.

Phenology.— Flowering: July (chasmogamous), September (cleistogamous); fruiting: July–September.

Distribution and habitat.— Endemic to Mexico, plants occur in Guerrero (Fig. 2b) in tropical deciduous forest at elevations of 630–800 m.

Paratype.— Mexico. **Guerrero**: Mpio. Tepecoacuilco de Trujano, San Miguel Tecuiciapan, entre Los Amates afueras (Cerro Tepeyehualco), pie del Cerro Tepeyehualco, 7 km NNE de San Miguel, 18°01′N, 99°24′W, *J. Amith & G. Hall 878* (CAS).

The two known collections of this species occur about 50 km apart on the northern slope of the Río Balsas. Although both exhibit the characteristic calyx, capsule, and seeds, they differ in several features. *Amith & Hall 878* differs from the type by having terminal, headlike clusters of subsessile multi-flowered dichasia (vs. single-flowered, long-pedunculate dichasia from leaf axils) and capsules with 12 (vs. more than 16) seeds. An axillary, long-pedunculate dichasium is present on *Amith & Hall 878* proximal to the terminal cluster. This putative difference in inflorescence structure might be related to the flowering season. *Amith & Hall 878* was collected later in the season when chasmagamous flowers were not present. The cleistogamous flowers present on that collection are budlike and 4.5 mm long. The triaperturate pollen with a coarsely reticulate exine (Fig. 2a) is similar to most other species of *Ruellia* for which pollen has been reported (Daniel 1998).

Like many species of *Ruellia* the infrageneric affinities of *R. foliosepala* remain unclear. Using Lindau's (1895) provisional infrageneric classification of the genus, *R. foliosepala* would likely be included in section *Ruellia* (as "*Euruellia*") because of its linear-ellipsoid capsule and infundibuli-

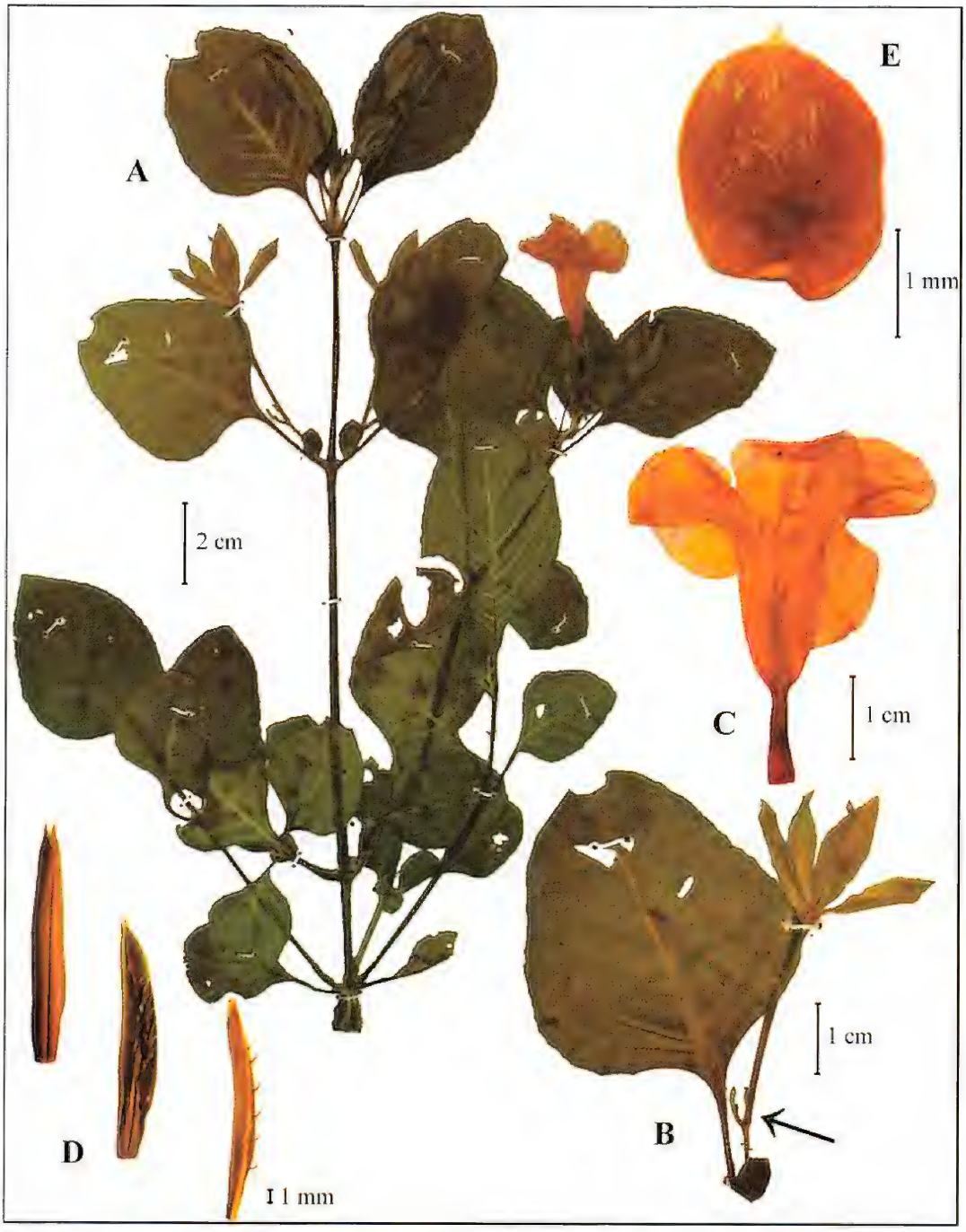

FIGURE 1. *Ruellia foliosepala* (*Martínez S. & Soto N. 1203*). A. Habit. B. Leaf subtending peduncle, bracteoles (arrow), and calyx. C. Corolla. D. Capsules, exterior at left, interior at center, profile at right. E. Seed.

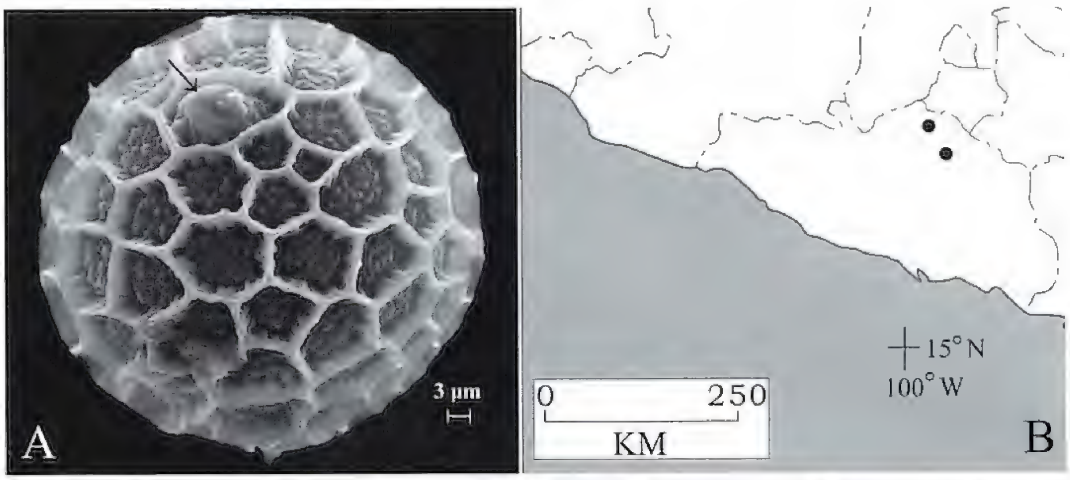

FIGURE 2. Pollen (*Martínez S. & Soto N. 1203*) and distribution of *Ruellia foliosepala*. A. Pollen showing one aperture (arrow). B. Portion of southern coastal Mexico showing distribution in northern Guerrero.

form corolla with a relatively short and cylindric narrow proximal portion of the tube. Among the informal taxonomic groups of *Ruellia* recognized for southern South American taxa by Ezcurra (1993) *R. foliosepala* corresponds to her "group *Ruellia*." Based on nuclear and chloroplast DNA sequences of a large sample of *Ruellia*, Tripp (2007) produced a phylogeny of the genus in which several New World lineages were recovered, including one that pertains to Lindau's section *Ruellia* and Ezcurra's "group *Ruellia*." Characters noted by Tripp (2007) for species in this lineage (as "*Euruellia*") generally correspond to those of *R. foliosepala*. If the species does pertain to this section/lineage, relatives in Mexico include *R. lactea* Cav., *R. nudiflora* (Engelm. & A. Gray) Urb., and *R. coerulea* Morong.

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