

New Taxa, a New Name, and a New Combination in Rubiaceae from Southern Mexico and Mesoamerica

David H. Lorence

National Tropical Botanical Garden, P.O. Box 340, Lawai, Hawaii 96765, U.S.A.

ABSTRACT. Six new species of Rubiaceae from southern Mexico and Mesoamerica are described and illustrated: *Crusea andersoniorum* Lorence, *Deppea miahuatlanica* Lorence, *Glossostipula strigosa* Lorence, *Hedyotis terrellii* Lorence, *Rondeletia evansii* Lorence, and *Rondeletia pringlei* Lorence. One new combination is proposed, *Chomelia rudis* (Standley) Lorence, based on *Anisomeris rudis* Standley, and the new name *Psychotria molinarum* Lorence is proposed based on *Evea chiapensis* Standley.

During the course of preparing the Rubiaceae treatment for *Flora Mesoamericana*, collections representing undescribed taxa in various genera from Mesoamerica and southern Mexico were encountered. A number of these specimens were collected during field explorations of botanically poorly known areas for the *Flora Mesoamericana*, *Flora of Chiapas*, and *Flora de Oaxaca* projects. Six new species are described and illustrated and their affinities discussed. In addition, one new combination is made and one new name is proposed. The taxa are arranged here alphabetically by tribe and within each tribe following Anderson (1992). A complete account of the Mesoamerican Rubiaceae will be given in the forthcoming treatment for *Flora Mesoamericana* by D. Lorence, C. M. Taylor, and other contributors.

GARDENIEAE

Glossostipula strigosa Lorence, sp. nov. TYPE: Honduras. Atlántida: base of N slope of Pico Bonito, E of new CURLA (Centro Universitario Regional del Litoral Atlántico) camp building on Quebrada Grande, ca. ½ km above its confluence with the Río Bonito, ca. 10 km SW of La Ceiba, Parque Nacional Pico Bonito, 15°42'N, 86°51'W, 140 m, 8 May 1993, R. Evans 1559 (holotype, MO 04585952 (photo PTBG); isotype, PTBG 16114). Figure 1.

Species *Glossostipulae concinnae* (Standley) Lorence affinis, sed ramunculis foliis inflorescentia strigosa ex trichomatibus 0.2–1 mm longis constanti, folia acuminata, acumine 1–1.5 cm longo saepe falcato differt.

Understory tree 6 m tall, leafy twigs 1.5–3 mm diam., densely fulvous-strigose with stiff, simple, ascending hairs 0.2–1 mm long, pubescence persistent, internodes 0.7–6 cm long. Leaves opposite, short-petiolate, those of a pair equal or subequal; petioles 4–8 × 1–1.2 mm, densely strigose; lamina oblanceolate, 6.3–14.8 × 2.1–5 cm, chartaceous, adaxially sparsely strigose, hairs denser along costa, abaxially densely strigose along costa and veins, the surface strigose-hirtellous, base acute or narrowly cuneate, apex acuminate, the acumen 1–1.5 cm long, often falcate, secondary veins 7–12 pairs, festooned brochidodromous, venation visible to 4° or 5° on both surfaces, the margin ciliate; stipules intrapetiolar, 10–13 × 3–4.5 mm, foliaceous, oblong-elliptic, rounded at apex, externally strigose, internally glabrous, deciduous leaving ring of brown colleters 1 mm long at node. Staminate inflorescences terminal, pleiochasial, 15–18-flowered, sessile or peduncle to 2 mm long, with 3–5 densely strigose primary branches 5–6 mm long, subtended by 1–2 pairs of stipule-like bracts. Staminate flowers on densely strigose, minutely bracteolate pedicels 3–7 × 0.8 mm, hypanthium small, the calycine cup broadly campanulate, 2–2.5 × 3–4 mm, externally densely strigose, internally glabrous, the calyx 5–6-lobed or undulate, the calyx lobes broadly triangular or subcircular, 0.5–1 × 1–1.5 mm, strigose, the apex acute to obtuse or retuse; corolla white, traced with light yellow when fresh, shortly hypocrateriform at anthesis, the tube 6–7 mm long, 2 mm wide medially, externally densely strigose, internally glabrous, the lobes 6, spreading, 5–6 × 4 mm, obovate-ligulate, the apex rounded to truncate, the external margin ciliate; stamens 6, sessile, basifixed, the anthers linear, 3–3.5 × 0.7–0.9 mm, exserted and recurved, the apex apiculate, the base truncate; style 8–9 mm, strigose medially, stigma 2 mm long, clavate, exserted, weakly 4-lobed. Pistillate inflorescence and fruit not seen.

Distribution. Known only from the type locality in lowland primary tropical wet forest at



Figure 1. *Glossostipula strigosa* Lorence. —a. Habit, staminate flowering branch. —b. Staminate corolla, opened. —c. Style from staminate flower. All from *Evans 1559*. Bars = 1 cm in a, 15 mm in b, 12 mm in c.

140 m elevation in the Atlántida Department of Honduras. Although pistillate flowers and fruit have not been seen, this staminate collection is clearly referable to *Glossostipula* based on the following combination of characters: foliaceous intrapetio-
lar stipules; dioecy; distinctive pleiochasial inflorescences with dichasial branches; 6-merous flowers; 4-lobed stigma; and tricolporate pollen. This new species is most closely allied to *Glossostipula concinna* (Standley) Lorence, a cloud forest species occurring at 1200–2800 m and

ranging from southern Mexico to Honduras. *Glossostipula concinna* differs by its glabrous stems and inflorescence axes, glabrous leaves with acute to obtuse or rounded apices, presence of pit domatia in the secondary vein axils, and cloud forest habitat. The third member of the genus, *G. blepharophylla* (Standley) Lorence, restricted to *Quercus* forest in the Sierra Madre Occidental of western Mexico, differs by its sessile or subsessile leaves with ciliate margins and spreading, rufous-villous pubescence (Lorence, 1986).

GUETTARDEAE

Chomelia rudis (Standley) Lorence, comb. nov.

Based on *Anisomeris rudis* Standley, Field Mus. Nat. Hist., Bot. Ser. 17: 394. 1938. TYPE: Honduras. Comayagua: in forest near the summit of the ridge above El Achote, in cloud zone, above the plains of Siguatepeque, 1800 m, 1 Aug. 1936, G. T. Yuncker, R. F. Dawson & H. R. Youse 6253 (holotype, F 857678 (photo PTBG); isotype, MO 1115471).

Traditionally *Anisomeris* K. Presl and *Chomelia* Jacquin had been separated on the basis of the former genus having unappendaged corolla lobes and anthers with obtuse basal lobes versus the latter genus having corolla lobes with external corniculate appendages near the apex and anthers with sagittate basal lobes. Steyermark (1967) discussed the inconsistency of these characters and recommended combining the two genera under *Chomelia*, making 20 new combinations. Steyermark's view has been followed by authors of most recent floristic treatments (e.g., Andersson, 1992; Burger & Taylor, 1993; Dwyer, 1980). Although the type of *Anisomeris rudis* lacks corollas, it otherwise corresponds with *Chomelia* in other morphological characters, and the new combination is here proposed. Among its Mesoamerican congeners, *C. rudis* is distinguished by its leaf blades having both the tertiary and quaternary veins subparallel, and the smallest (quaternary) veins are also subparallel within the tertiary vein areoles. This character is shared with *Chomelia venulosa* W. C. Burger & C. M. Taylor from Costa Rica (Burger & Taylor, 1993), which differs from *C. rudis* by its appressed strigulose pubescence, twice-dichotomous inflorescences, and ovate-obtuse calyx lobes.

HAMELIEAE

Deppea miahuatlanica Lorence, sp. nov. TYPE:

Mexico. Oaxaca: Distrito de Miahuatlán, Municipio de San Jerónimo Coatlán, 17.9 Km al SO de San Jerónimo Coatlán, carretera Miahuatlán–Piedra Larga, 1800 m, 16°12'N, 96°57'W, 13 dic. 1987, R. Torres C. & A. Campos 10847 (holotype, PTBG 15197; isotype, MEXU). Figure 2.

Species *Deppea schultzei* Lorence affinis, sed corolla longiore hypocrateriforme, corollae tubo 30–35 mm longo, extus glabro differt.

Shrub 2–4 m tall, the twigs terete or slightly compressed, often bisulcate, 1.5–2.5 mm diam., finely and sparsely strigillose when young, glabrescent, the internodes 2–3.5 cm long. Leaves

opposite, petiolate, those of a pair unequal, one up to twice as large as the other; petioles 4–35 × 0.6–1.2 mm, finely strigillose when young, adaxially sulcate; lamina elliptic, narrowly elliptic, or ovate-elliptic, 4.5–17 × 1.5–5 cm, chartaceous, slightly discoloured, drying brownish green, adaxially minutely strigillose when young, glabrate, abaxially sparsely strigillose along costa and secondary veins, the base acute, narrowly cuneate, or attenuate, the apex short acuminate, the acumen 5–20 mm long, often falcate, the secondary veins 6–10 pairs, festooned brochidodromous, arcuate, rarely with pit domatia beneath, the ultimate venation reticulate, visible to 3°–4° adaxially, visible to 5° abaxially, the margin plane; stipules interpetiolar, broadly triangular to obtuse, 0.7–1 × 0.5–1.5 mm, thick, externally puberulent, persistent, margin with 6–8 short, brown, digitate collectors. Inflorescence terminal, dichasial, corymbiform, 7–8 × 3–4 cm, trichotomous, branching to 3°, the flowers 10–20(–50), the peduncle 20–23 mm long, the primary branches 6–10 mm long, these branching up to three times, the secondary branches 2–4 mm long, the ultimate branches ending in monochasial cymules of 3–7 flowers, the axes finely strigillose-hirtellous, with minute, triangular bracteoles 0.2–0.3 mm long; flowers 4-merous, on minutely strigillose pedicels 2.5–4 mm long, the hypanthium turbinate, minutely strigillose-hirtellous, 1.5 × 1.2–1.5 mm, the calyx cup 0.5 mm deep, the calyx lobes triangular, subequal, 0.4–1 × 0.4–0.8 mm, strigillose; corolla orange when fresh, drying dark reddish orange, at anthesis hypocrateriform, glabrous externally, the tube 30–35 mm long, 3 mm wide medially, 4 mm wide distally, the lobes contorted in bud, erect-spreading at anthesis, 3–3.5 × 2–2.5 mm, ovate-elliptic, glabrous, acute at apex; stamens attached near apex of tube, the tips exerted 4 mm, the anthers 5–5.5 mm long, the apex acute, the base sagittate, the filaments 2 mm long; style 32 mm long, the 2 stigma lobes 4 mm long, oblong. Capsules obovoid, 5.5–8 × 3.5–5 mm, glabrous, bisulcate, weakly to moderately 6–8-costate, the base rounded, the apex obtuse with protruding disc. Seeds angulate, 0.4–0.5 mm long, the testa dark brown, foveolate-reticulate.

Distribution. Known only from the Sierra de Miahuatlán in southern Oaxaca, a part of the Sierra Madre del Sur.

Habitat. Montane *Pinus-Quercus* forest with elements of cloud forest, growing in yellowish sandy soil, 1800–1900 m elevation. Collected in flower in December and in fruit in May and August. Collec-



Figure 2. *Deppea miahuatlanica* Lorence. —a. Habit, flowering branch. —b. Flower. —c. Infructescence. —d. Mature capsule. a, b, Torres C. & Campos 10847; c, d, Campos V. & Cortés 2260. Bars = 1 cm in a, b, c, 6 mm in d.

tors' notes indicate this species is frequent to abundant locally.

Deppea Chamisso & Schlechtendal is a genus of 25 species centered in central and southern Mexico and adjacent Guatemala (Lorence & Dwyer, 1988). On the basis of its orange, hypocrateriform corollas *D. miahuatlanica* is closely allied to *D. schultzei*

Lorence from the Sierra Madre del Sur of Guerrero, which differs in having a shorter corolla tube 10–13 mm long and leaves with vein axils consistently barbate beneath. *Deppea miahuatlanica* also resembles *D. grandiflora* Schlechtendal in vegetative and fruiting characters, but the latter species is distinguished by its smaller capsules 2–5 mm long



Figure 3. *Hedyotis terrellii* Lorence. —a. Habit, top of plant and detail of node. —b. Habit, base of plant. —c. Pistil. —d. Corolla, opened. —e. Capsule. a, b, e, *Torres C. & Martínez* 9067; c, d, *Torres C. & Téllez* 8643. Bars = 1 cm in a, b, 5 mm in c, 6 mm in d, 2 mm in e.

and 2–4 mm in diameter and much smaller, shortly funnelform or rotate corollas.

Paratypes. MEXICO. **Oaxaca:** Distrito de Miahuatlán, Municipio de San Jerónimo Coatlán, 17.9 km al

SW de San Jerónimo Coatlán, brecha a Piedra Larga, 16°12'N, 96°58'W, 1890 m, 17 May 1988, *Campos V. 1841* (MEXU, PTBG), 1852 (MEXU, PTBG), 19.2 km al SW de San Jerónimo Coatlán, 1900 m, 13 ago. 1988, *Campos V. & Cortés* 2260 (MEXU, PTBG); 9.6 km al

SE del Cerro de Vidrio, carretera Oaxaca–Puerto Escondido, 1850 m. 1 ago. 1984, *Torres C. & Martínez 5826* (MEXU, PTBG).

HEDYOTIDEAE

Hedyotis terrellii Lorence, sp. nov. TYPE: Mexico. Oaxaca: Distrito de Mixe, Municipio de Totontepec, 3 km al SO de Totontepec, carretera a Mitla, 1910 m, bosque mesófilo, 6 sep. 1986, *R. Torres C. & C. Martínez 9067* (holotype, PTBG 12314; isotype, MEXU). Figure 3.

Species *Hedyotis kingii* (Terrell) Nesom affinis, sed inflorescentia maiore 7–15 cm longa, 6–15 cm lata, floribus cum pedicellis longioris 7–25 mm longis, lobis calycinis minoribus subaequalibus, ovato-triangularibus vel lanceolato-ellipticis, 1–2 mm longis, 0.4–0.6 mm latis, corolla extus glabra differt.

Herb 45–80 cm tall, presumably perennial, branching from the base with several erect stems 2.5–3.5 mm diam. toward base, terete, glabrous, smooth, yellowish brown, distally compressed and bisulcate; leaves opposite, short-petiolate, those of a pair equal; petioles 3.5–5 × 1–1.5 mm, narrowly winged, adaxially grooved, glabrous; lamina elliptic to ovate-elliptic, (2.5–)4.5–10 × (1–)1.5–4 cm, the base acute, often decurrent, the apex short-acuminate, the acumen 1–1.5 cm long, glabrous, chartaceous, drying drab green or brownish green, the secondary veins 3–6 pairs, arcuate, camptodromous, prominent, the 3° venation forming a prominent, oblique, intersecondary reticulum and a distinct intramarginal vein, the margin thin, translucent, with minute serrulations when young; stipules persistent, interpetiolar, united with the petiole bases, the body triangular, 1–2 × 3–4 mm, the acuminate apex 3–3.5 mm long, the apex and margin with filiform, glandular-tipped appendages 1–2 mm long. Inflorescences terminal, compound cymes 7–15 × 6–15 cm, subtended by reduced leaves, branching dichasially to 2° or 3°, the primary branches 2–5 cm long, the axes slender, glabrous, subtended by stipule-like bracts; flowers 4-merous, on filiform pedicels 7–25 × 0.1 mm, in fruit to 32 mm long; hypanthium broadly obconic, 0.5–0.8 × 1–1.3 mm, glabrous, the calyx cup 0.2 mm deep, the calyx lobes subequal, ovate-triangular to lanceolate-elliptic, 1–2 × 0.4–0.6 mm, glabrous; corolla in bud quadrangular, rounded at apex, at anthesis campanulate, the tube 2–2.5 × 2.5–3 mm, both surfaces glabrous, the lobes erect or slightly spreading, elliptic, 3–4 × 1.5–1.7 mm, acute at apex, externally glabrous, internally villosulous with crinkled, white trichomes; stamens attached near middle of tube below sinuses, the filaments 0.5 mm long, the anthers linear-elliptic, 1 mm long; style 2–2.5 mm, the 2 stigma lobes linear, 1 mm long. Capsule hemispherical-depressed, 2–3 × 3–4

mm, ½ inferior, thin-walled; seeds [immature] few, ca. 6 per capsule, 1–1.2 × 0.5–0.8 mm, dorsally convex and irregularly wrinkled, ventrally angulate, testa blackish brown, shiny, foveolate.

Distribution. Known only from the type locality near Totontepec in the mountainous Mixe District of Oaxaca.

Habitat. Cloud forest at ca. 1900 m elevation. Collected in flower in March, and in flower and fruit in June and September.

This new species is most closely allied to *Hedyotis kingii* (Terrell) Nesom from Oaxaca, which differs by its shorter stipule appendages 0.3–0.5 mm long, smaller inflorescences 8–9 × 6–7 cm, and flowers with shorter pedicels 3–8 mm long, longer lance-linear calyx lobes 2–4.7 × 0.4–0.8 mm, and corollas which are externally glabrous and internally glabrous or puberulent. *Hedyotis terrellii* is also allied to *H. galeottii* (M. Martens) Terrell & Lorence from Veracruz and Oaxaca, which differs by its densely hirtellous stems and inflorescence axes, smaller leaves 2.5–6 × 0.8–3 cm, shorter stipule appendages 0.2–0.3 mm long, smaller inflorescences 3–5 × 2–5 cm, and flowers with shorter pedicels 1–4 mm long and funnelform corolla that is externally hirtellous or glabrous and internally short villous with a tube 3 mm long (Terrell & Lorence, 1989). Unfortunately, mature seeds of *H. terrellii* were not available for comparison with other species. I am pleased to name this species for E. E. Terrell, whose studies of the Hedyotideae have contributed to our understanding of this tribe.

Paratypes. MEXICO. **Oaxaca:** Distrito Ixtlán, Llano Verde, collector unknown, *Herb. Reichbach fils III-396* (W); Distrito Mixe, Municipio de Totontepec, Totontepec, bosque mesófilo de montaña, 1900 m, 17°15'N, 96°02'W, 11 mar. 1990, *Rivera R. & Martin 1403* (PTBG, UC); 2 km al SO de Totontepec, carretera a Oaxaca, 1900 m, 17 jun. 1986, *Torres C. & Téllez 8643* (MEXU, PTBG (also flowers preserved in alcohol)).

PSYCHOTRIEAE

Psychotria molinarum Lorence, nom. nov. Based on *Evea chiapensis* Standley, Contr. U.S. Natl. Herb. 23: 1392. 1926. *Cephaëlis chiapensis* (Standley) Standley, Publ. Field Mus. Nat. Hist., Bot. Ser. 4: 295. 1929, not *Psychotria chiapensis* Standley, 1926. TYPE: Mexico. Chiapas: Cerro del Boquerón, *C. A. Purpus 6928* (holotype, US 567214 (photos MEXU, PTBG); isotypes, F, MO (photos MEXU, PTBG)).

It is now generally agreed that *Cephaëlis* Swartz (including *Evea* Aublet) is an unnatural, polyphyletic assemblage, and that most species described in these genera are referable to the large genus *Psychotria* L.

(Steyermark, 1972; Hamilton, 1989; Taylor et al., 1991; Taylor & Lorence, 1992; Burger & Taylor, 1993). Examination of the species described as *Evea* (*Cephaelis*) *chiapensis*, which ranges from Chiapas to Jalisco in Mexico's Sierra Madre del Sur, shows it is clearly referable to *Psychotria* subg. *Heteropsychotria* Steyermark, thus necessitating a new name for this taxon.

Psychotria molinarum is allied to the group of neotropical species of *Psychotria* subg. *Heteropsychotria* with flowers in pedunculate, bracteate capitula, including *P. ostreophora* (Wernham) C. M. Taylor from western South America and Panama (Taylor, 1994). *Psychotria molinarum* differs from *P. ostreophora* in having much shorter stipule sheaths 0.5–0.7 mm long, stipule awns 2.5–5 mm long attached to outside base of the sheath, a larger inflorescence 15–20 mm long with eight flowers enclosed by four pairs of broadly ovate (outer) to narrowly ovate (inner) bracts 11.5–16 × 4.5–12 mm, acute or acuminate at the apex and subcordate at the base, and flowers with small, triangular calyx teeth 0.1–0.2 mm long and thin white corollas with a tube 9–10 mm long.

I am pleased to name this species for Antonio Molina R., former Curator of the Escuela Agrícola Panamericana (EAP) herbarium, and his wife, Albertina R. de Molina, for their valuable contributions to our knowledge of the Honduran flora and tropical American Rubiaceae.

RONDELETIEAE

Rondeletia evansii Lorence, sp. nov. TYPE: Honduras. Lempira: Parque Nacional de Celaque, sendero entre la planta eléctrica y la primera casa abandonada de Don Tomás, 14°36'N, 88°40'W, 1800 m, 28 Jan. 1992, *P. House 1163* (holotype, PTBG 16112; isotypes, EAP not seen, HEH not seen, MO, TEFH not seen). Figure 4.

Species *Rondeletiae laniflorae* Benthaffinis, sed inflorescentia breviori magis compacta 4–10 cm longa, 2.5–5 cm lata, floribus cum lobis calycinis obovato-ellipticis (1–)2–4 mm longis, 1.2–2.2 mm latis differt.

Shrub or small tree to 5 m tall, the twigs 2–3 mm diam., when young densely arachnoid tomentose, the trichomes pale brownish white, matted, the internodes 0.6–4 cm long. Leaves opposite, those of a pair subequal to unequal, one 2–3 times larger than the other, shortly petiolate; petioles 2–20 × 0.7–1.5 mm, densely arachnoid-tomentose; lamina elliptic or obovate elliptic, (1.3–)3–16 × (0.7–)1.5–5.3 cm, subcoriaceous, strongly discolorous, adaxially drying dark brown, sparsely flocculose-tomentose when young, glabrescent, abaxially densely and persistently pale brownish white, arachnoid-tomentose, the base acute or narrow-

ly cuneate, the apex acute or obtuse, rarely rounded or short acuminate with the tip 2–5 mm long, the secondary veins 7–11 pairs, straight then arching near margin, camptodromous or weakly festooned brochidodromous, sunken and visible to 5° adaxially, visible to 3° abaxially, the margin slightly revolute; stipules interpetiolar, erect, stiff, 5–8 × 2.5–3 mm, the base triangular, the apex subulate-acuminate, externally arachnoid tomentose. Inflorescence terminal, 25–60(–75)-flowered, 4–10 × 2.5–5 cm (including corollas), compact, subcapitate- or thyriform-cymose, shorter than or sometimes equaling the subtending leaves, the peduncle 1.5–4 cm long, the primary branches 2–4 pairs, 2–5 mm long, each subtended by a bract 5–10 × 1–2 mm and ending in compact 6–7-flowered dichasia, the axes densely pale brownish white, arachnoid-tomentose; flowers distylous, 4-merous, subsessile or the pedicels to 1.5 mm long, each subtended by a ligulate bracteole 2–3 mm long; hypanthium ovoid, 1–1.5 × 1–1.5 mm, densely tomentose, the calyx cup 0.5 mm deep, pilose within, the calyx lobes erect-spreading, foliaceous, venose, obovate-elliptic, subequal or unequal, 2–4 × 1.2–2.2 mm, externally densely tomentose, internally flocculose-pilosulous, each sinus with a brown colleter; corolla pink when fresh, hypocateriform at anthesis, the tube 8–14 × 0.8–1 mm medially, externally densely arachnoid tomentose, internally retrorsely pilose in basal 1/3, the lobes 4, spreading 90°, subcircular-obovate, 2–3 × 1.5–2.5 mm, obtuse, the margins undulate or crisped, externally tomentose basally, internally glabrous; stamens sessile, the anthers ellipsoid, 1.5–2 × 0.4–0.5 mm, in short-styled flowers attached 1 mm below apex of tube with tips exerted, in long-styled flowers attached 2.5 mm below apex of tube, included; style glabrous, in short-styled flowers 6 mm long, the 2 stigmas 1–1.5 mm long, in long-styled flowers 14–15 mm long, the 2 stigmas 0.5 mm long, the disc glabrous. Capsules broadly ovoid, 4–6 × 4–6 mm, compressed, bisulcate, arachnoid-tomentose, dehiscence at first loculicidal, then septicidal; seeds 0.5–0.6 mm diam., angulate, testa dark brown, deeply foveolate-reticulate.

Distribution. Known only from the Montaña de Celaque area (Parque Nacional de Celaque) in the Departamento de Lempira, Honduras.

Habitat. Primary and secondary montane wet forest and cloud forest from 2100 to 2540 m elevation. Flowers (said to be odorless, *Thomas 65*) have been collected in January, February, and November and fruits in November.

Rondeletia evansii is most closely allied to *R. laniflora* Benthaffinis, which ranges from Chiapas to Guatemala and El Salvador, and also to the widespread

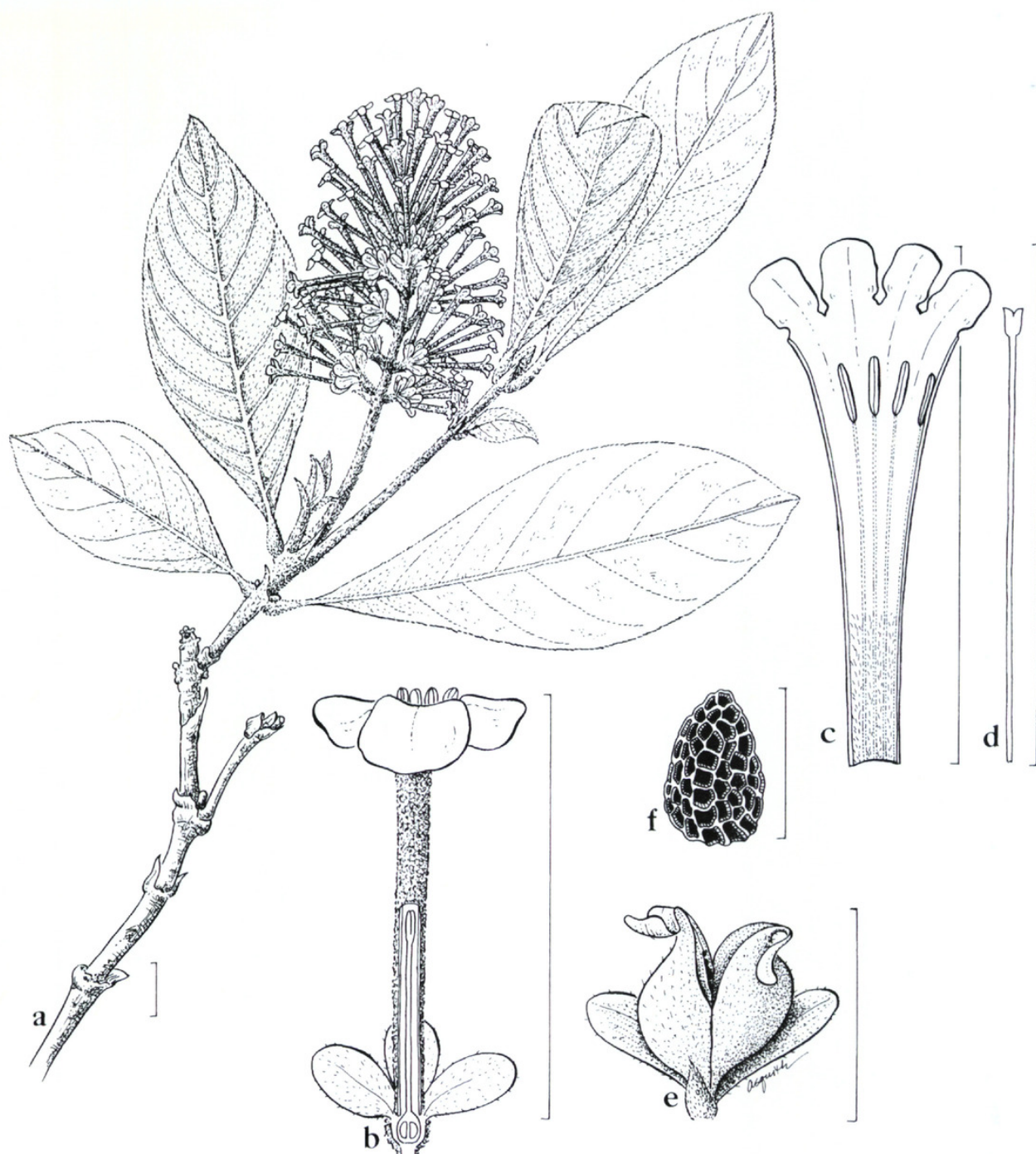


Figure 4. *Rondeletia evansii* Lorence. —a. Habit, flowering branch. —b. Short-styled flower, tube cut away. —c, d. Long-styled flower, opened corolla and style. —e. Dehiscent capsule. —f. Seed. a, c, d, *House 1163*; b, *Evans 1188*; e, f, *Hazlett 2288*. Bars = 1 cm in a, 16 mm in b, 15 mm in c, d, 8 mm in e, 1 mm in f.

and variable *R. buddleioides* Benthams, which ranges from Mexico to Panama. *Rondeletia evansii* differs from these two species in its more compact and condensed, subcapitate-cymose or thyriform-cymose inflorescences usually shorter than the subtending leaf pair (although inflorescences in the type are somewhat larger) and larger, obovate-elliptic, foliaceous calyx lobes $2-4 \times 1.2-2.2$ mm. This new species has been confused with *R. nebulosa* Standley from Honduras, which has, in addition to a white tomentum, numerous

long, reddish brown hairs on the stems, leaves, and inflorescence axes and a longer inflorescence exceeding the subtending leaves. I am pleased to name this new species for Randall J. Evans, whose excellent collections have contributed to our knowledge of the flora of Honduras.

Paratypes. HONDURAS. **Lempira:** Celaque National Park, six year old secondary vegetation of guamil surrounding the Don Tomás campsite, $14^{\circ}32'N$, $88^{\circ}40'W$, 2320 m, 11 Nov. 1991, *Thomas 65* (MO, PTBG); along trail from Camp

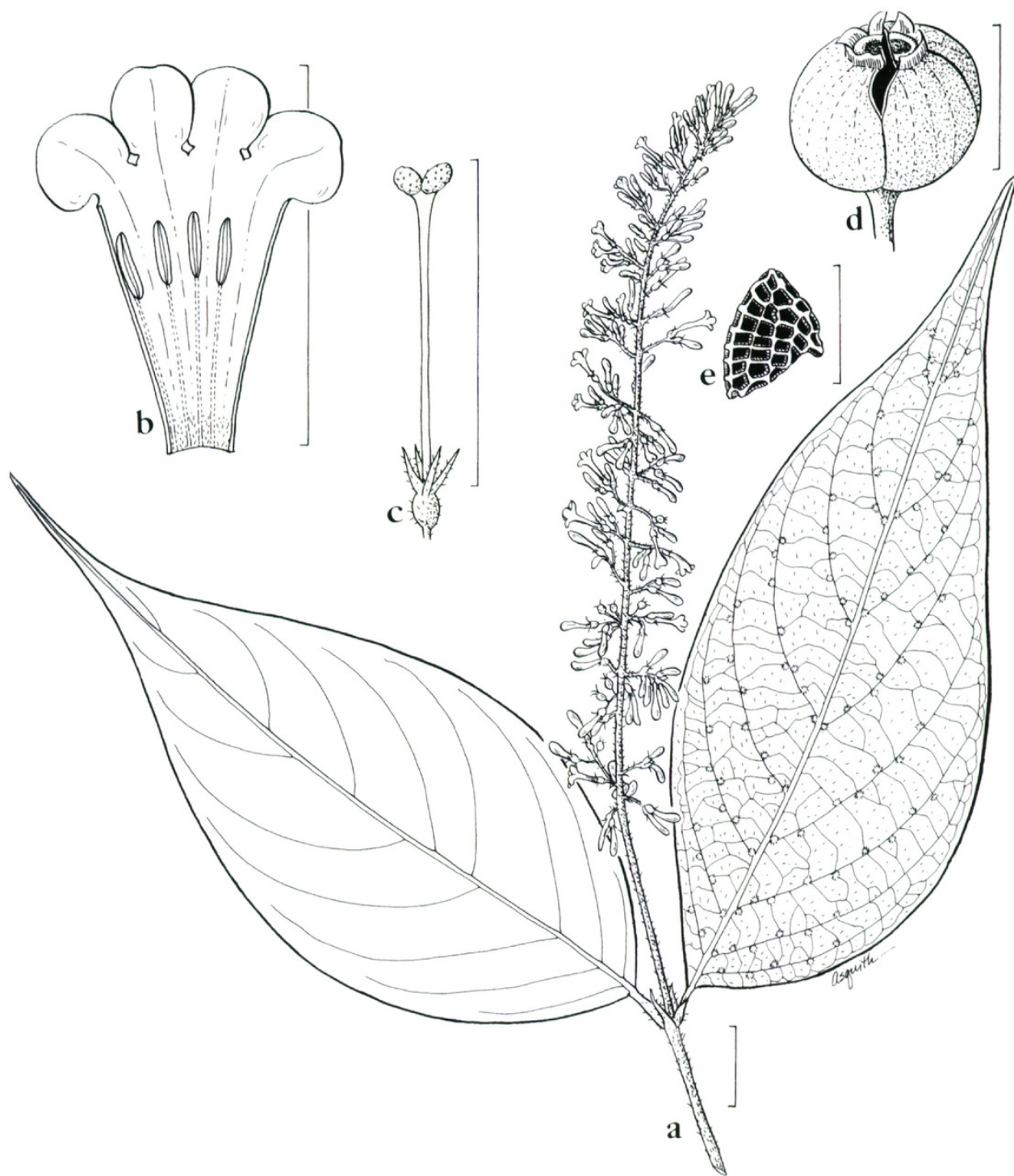


Figure 5. *Rondeletia pringlei* Lorence. —a. Habit, flowering branch. —b, c. Opened corolla and pistil of long-styled flower. —d. Dehiscing capsule. —e. Seed. a–c, *Gutierrez B. 2872*; d, e, *Lorence & Ramamoorthy 4296*. Bars = 1 cm in a, 7 mm in b, 6 mm in c, 2.5 mm in d, 0.5 mm in e.

Don Tomás to Camp Naranjo, near Camp Naranjo, ca. 10 km WSW of Gracias, Parque Nacional Celaque, 14°33'N, 88°40'W, 2540 m, 12 Feb. 1993, *Evans 1188* (MO, PTBG); Montaña de Celaque, arriba del Planta Eléctrica, 2100 m, 18–22 Nov. 1974, *Hazlett 2288* (MO).

Rondeletia pringlei Lorence, sp. nov. TYPE: Mexico. Veracruz: hills near Orizaba, 5000 ft., 9 Feb. 1895, *C. G. Pringle 6135* (holotype, GH; isotypes, K, MEXU, MO, WU). Figure 5.

Species *Rondeletiae capitellatae* Hemsley affinis, sed ramunculis foliisque sparsim strigosis ex trichomatibus 0.2–0.5 mm longis constanti, floribus cum lobis calycinis subaequalibus, 0.2–1.2 × 0.1–0.2 mm, triangularibus vel lineari-subulatis, tubo corollino 4–5 mm longo extus sparse strigilloso, corolla lobis sparse strigillosis, capsula minoribus 2.5–3.5 mm diametro differt.

Shrub or treelet 1.5–3 m tall, the young twigs strigillose, the trichomes white or fulvous, 0.2–0.5 mm

long, the leafy twigs terete, 1–1.5 mm diam., brown, persistently strigillose, the internodes 2–5 cm long. Leaves opposite, those of a pair equal or subequal, petiolate; petioles $1.5\text{--}5 \times 0.6\text{--}1$ mm, strigillose; lamina elliptic, narrowly elliptic, or ovate-elliptic, $4.5\text{--}12 \times 1.5\text{--}6.2$ cm, chartaceous, drying brown or brownish green, slightly discolorous, adaxially with scattered hairs, at least along costa and veins, or glabrous, abaxially strigillose-hirtellous, the hairs denser along the costa, veins, and margin, the base narrowly cuneate to acute, obtuse, or rounded, often slightly decurrent, the apex short to long acuminate, often falcate, the acumen 0.7–2 cm long, the secondary veins 5–8 pairs, camptodromous, the 2° and 3° vein axils barbate, the venation visible to 3° adaxially and to 4° abaxially, the margin thin; stipules interpetiolar, subulate, 2–4.5 mm long, 0.5–1 mm wide basally, brown, externally strigillose, rigid, erect, persistent. Inflorescence terminal and solitary, narrowly thyrsoïd or spiciform-cymose, $6\text{--}13 \times 1.8\text{--}2.5$ cm, the peduncle 1–3 cm long, 1 mm diam., the axes densely strigillose, the primary branches 10–15 per side, each 4–10-flowered, subtended by linear-subulate bracts 2–3 mm long, branching again 1–2 times; flowers 4-merous, distylous, on densely strigillose pedicels 0.3–1 mm long, the bracts subulate, 1 mm long, the hypanthium $0.7\text{--}0.8 \times 0.6\text{--}0.7$ mm, compressed, strigillose, the calyx cup 0.4 mm long, the lobes subequal or unequal, 1 often larger, narrowly triangular to linear-subulate, $0.5\text{--}1.2 \times 0.1\text{--}0.2$ mm, the other 3 triangular to narrowly triangular, $0.2\text{--}0.8 \times 0.1\text{--}0.2$ mm, externally strigillose, internally glabrous, each sinus with a minute brown gland; corolla red or salmon-pink when fresh, hypocrateriform, the tube $4\text{--}5 \times 0.6\text{--}1$ mm medially, externally sparsely strigillose or glabrous, internally retrorse puberulent toward base with a densely hirtellous ring basally, the lobes 4, spreading 90°, suborbicular, $1\text{--}2 \times 1\text{--}2$ mm, externally strigillose-setose, internally glabrous, the margin crisped; long-styled flowers with stamens attached 1.5 mm below apex of tube, the anthers linear-ellipsoid, 1.2 mm long, the style 4.5–5.5 mm long, the 2 stigmas 0.3–0.4 mm long, short-styled flowers with stamens attached 1 mm below apex of tube, the anthers 1.2–1.3 mm long, the style 2.5 mm long, the 2 stigmas 0.7 mm long; disc annular, 0.3 mm diam., glabrous. Capsules 2.5–3.5 mm diam., globose, compressed, bisulcate, weakly 8-ribbed, sparsely strigillose, apically loculicidal, then splitting septically; seeds 0.4–0.6 mm long, rhomboidal-angulate, the testa brown, foveolate-reticulate.

Distribution. Mexico, known from the Sierra Madre Oriental in Hidalgo, Puebla, and Veracruz states.
Habitat. “Bosque caducifolio” (semideciduous me-

sic montane forest with *Liquidambar*, *Quercus*, *Alnus*, *Meliosma*, *Ulmus*, and *Clethra*), *Pinus-Quercus* forest, and riparian forest with *Platanus*, *Heliocarpus*, and *Ternstroemia*, at 1300–1900 m elevation. Collected in flower in January to March, and October to November; collected in fruit in April, June to August, and November.

The name *Rondeletia capitellata* Hemsley has been misapplied to most herbarium collections I have seen of *R. pringlei*. In his Rubiaceae treatment for *North American Flora*, Standley (1918) also confused *R. pringlei* with *R. capitellata* (synonym *R. liebmanni* Standley), a closely related species occurring in cloud forests at 1100–2500 m elevation in the Sierra Madre de Oaxaca. *Rondeletia capitellata* differs by its densely whitish, purplish, or brownish villous-velutinous stems, larger adaxially rugose leaves with a denser pubescence of flat, twisted hairs on the upper surface and spreading-hirtellous hairs on the lower surface veins and costa, densely tomentose-villous hypanthium and calyx lobes, longer unequal, linear-lanceolate calyx lobes 0.8–2.5 mm long, more densely strigillose-hirtellous, red (rarely yellow) corollas with hairs to 0.5 mm long and tube 9–11 mm long, and larger capsules 3–4 mm diam. *Rondeletia pringlei* is also related to *R. secundiflora* B. L. Robinson from southern Mexico and Guatemala, which differs in its spreading hirtellous or villous pubescence on the floral hypanthium and capsules and white or pale yellow corollas. This new species is named for Cyrus Guernsey Pringle (1838–1911), who made extensive botanical collections in Mexico.

Paratypes. MEXICO. **Hidalgo:** Mpio. de Tenango de Dorio, camino de Tenango de Dorio a El Cirio, 6 km E de Tenango, 1750–1800 m, 9 nov. 1985, Lorence & Hernández M. 4903 (MEXU, MO); Mpio. de Zacualtipan, Tlahuelompan, 12 km S de Zacualtipan, 1900 m, 4 mar. 1982, Hernández M. & Tenorio L. 7091 (MEXU, MO); Río Malila, 7 km al S de Molango, 1490 m, Ramírez & Riba 648 (PTBG, XAL). **Veracruz:** Mpio. de Acajete, barranca Plan de Cedeño, 1500 m, 30 ene. 1976, Ventura F. 12369 (ENCB, MO); Mpio. de Banderilla, 3 km al W de Banderilla, 1600 m, 16 Feb. 1982, Dorantes 502 (MO); Piletas, cerca de Banderilla, 1600 m, 11 ene. 1973, Hernández M. & Dorantes L. 1766 (MEXU, MO); Mpio. de Catemaco, Loma Larga, N de la laguna de Catemaco, 17 sep. 1966, Sousa S. 2808 (MEXU, MO); Mpio. de Chiconquiaco, camino de Cuesta de Gutierrez Zamora a Barranca del Maiz, 1600 m, 19°47'N, 96°47'W, Gutierrez B. 2872 (PTBG, XAL), 1300 m, 19°46'N, 96°49'W, 1300 m, Gutierrez B. 2640 (PTBG, XAL); Mpio. de Huatusco, 1 km NW of Elotepec, along road to Chichiquila, 1700 m, 17 jan. 1984, Nee & Taylor 28872 (F, MO); Mpio. de Jilotepec, El Esquilon, 1370 m, 7 ene. 1976, Ortega O. et al. 90 (MO); Mpio. de Orizaba, Cerro San Cristobal al SE de Orizaba (al SE de la autopista), 1600 m, 29 ago. 1985, Lorence 4845 (MEXU); Paredes al N de Jalapa, carretera a Mizantla, 1740 m, 21 abr. 1983, Tenorio et al. 3657 (MEXU, MO); Orizaba, Botteri s.n. (P), Botteri 1015 (P), Muller 638 (P); Mpio. de Tequila, carretera Orizaba a Tequila, a 5 km S de San Andrés



Figure 6. *Crusea andersoniorum* Lorence. —a. Habit. —b. Detail of node with stipule. —c. Flower with calyx. —d. Corolla, opened. —e. Style. —f. Fruit. —g. Fruit, showing cocci, bifid carpophore, and deciduous calyx. All from *Breedlove 62063*. Bars = 1 cm in a, 5 mm in b, 12 mm in c, d, 15 mm in e, 9 mm in f, g.

Tejapan, 1500 m, 31 jul. 1983, Lorence & Ramamoorthy 4296 (MEXU, MO, PTBG); Mpio. de Tlacolulan, Cuesta del Pericon o Cerro de La Cruz, 1700 m, 19°40'N, 96°59'W, 27 oct. 1984, García-Orta 117 (PTBG, XAL); Mpio. de Xico, Rancheria de Coatitlan, 19°29'N, 97°04'W, 1820 m, 11 ene. 1980, Calzada 5747 (F, MO); Mpio. de Yecuatla, Gutierrez Zamora, 19°46'N, 96°49'W, 1500 m, 22 mar. 1978, Smith & Smith 6015 (F, MO); without precise locality, Vera Cruz to Orizaba, 1857, Muller 638 (K).

SPERMACOCEAE

Crusea andersoniorum Lorence, sp. nov. TYPE: Mexico. Oaxaca: [Distrito of Miahuatlán], crest of ridge and steep SW facing slope 90–100 km SE of Sola de Vega along road to Puerto Escondido, elevation 1830 m, 25 Oct. 1984, D. E. Breedlove 62063 (holotype, CAS 727669 (photo PTBG)). Figure 6.

Species habitu suffruticoso 2 m alto, ramunculis bisulcatis, sulcis albopuberulis, stipulis uniaristatis, floris fructibusque maioris a congeneribus bene distincta.

Shrub 2 m tall, young stems 1 mm diam., terete, bisulcate with hirtellous white pubescence in the grooves, older stems 2–3 mm diam., woody, the internodes 0.5–2.5 cm long, the bark reddish brown, peeling. Leaves opposite, those of a pair equal, shortly petiolate; petioles 1–1.5 mm long, narrowly winged, adaxially hirtellous and flattened; lamina lanceolate or narrowly oblong, 15–35 × 4–10 mm, the apex acute or slightly acuminate, the base narrowly cuneate to attenuate, stiffly chartaceous, discolorous, adaxially dull green, glabrous except hirtellous along sunken costa, abaxially pale green, glabrous, the costa raised, the venation obscure, the secondary veins 2 per side, the margin revolute, sparsely ciliolate toward the apex; stipules interpetiolar, the sheath 2–3 mm long, 1–2 mm wide distally, glabrous or sparsely hirtellous externally, the body triangular, 0.3–0.5 × 0.6–1.5 mm, externally sparsely hirtellous, prolonged into a glabrous, subulate awn 1.5–2 mm long. Inflorescence terminal, a bracteate capitulum, the bracts 4, subsessile, the larger pair leaf-like, the smaller pair narrowly elliptic, 10–15 × 3–4 mm, with 13–23 flowers per capitulum, nearly all the flowers opening simultaneously, mixed with stiff, white acicular trichomes; hypanthium 2–2.5 × 0.8–1 mm, villosulous with white, unicellular trichomes; calyx ca. 1/3 length of corolla, the calyx tube 0.7–0.8 mm long, sparsely villosulous externally, the calyx lobes 4, subequal, linear-subulate, 3–4 × 0.2–0.4 mm, the margins involute and sparsely ciliolate toward the base, usually bearing several setae at the apex; corolla white, hypocrateriform, the tube 12–13 × 0.5–0.7 mm medially, slightly flared distally, externally minutely papillose-puberulent, internally glabrous, the lobes ovate,

3–4 × 1.5–1.8 mm, usually recurved, both surfaces minutely papillose-puberulent; stamens exerted, the filaments attached at apex of tube, 3 mm long, glabrous, the anthers ellipsoid, 1.2–1.4 mm long; style 15 mm long, glabrous, the 2 stigmatic lobes 0.5 mm long. Fruit with a bifid carpophore, the base 2.5–3 mm long, the lobes 0.9–1 mm long, the calyx apparently deciduous at maturity of cocci, the calyx lobes spreading; cocci (immature) reddish brown, 3–5 × 1.2–1.5 mm, broadest toward the apex, externally villosulous with flat or twisted, spreading white hairs, denser toward the apex; immature seed free from the thick coccus wall, ca. 2.5 mm long, black.

Distribution. Known only from the type, collected in the Miahuatlán District in southern Oaxaca, Mexico (label lacks habitat notes).

Crusea Schlechtendal & Chamisso is a genus of about 14 species of annual or perennial herbs centered in Mexico and northern Central America (Anderson, 1972). Although the shrubby habit of this new species was unexpected in this genus, its bilocular fruit, which is longitudinally dehiscent into two cocci separating from the persistent bifid carpophore, and deciduous calyx are diagnostic characters of *Crusea*. This new species differs from its congeners in its shrubby habit, bisulcate stems with white pubescence in the grooves, stipules with a single awn-like projection, large white flowers, and fruits with large cocci (mature ones were not available). This new species is named for William R. Anderson, who revised the genus *Crusea*, and his wife, Christiane Anderson, in recognition of their extensive contributions to plant systematics.

Acknowledgments. Special thanks are due to Anna Asquith for the excellent line drawings and to Charlotte M. Taylor and Edward E. Terrell for providing valuable comments on the manuscript. I am grateful to the curators of the following herbaria for making their collections available for study: CAS, F, GH, K, MEXU, MO, P, PTBG, UC, US, W, XAL.

Literature Cited

- Anderson, W. R. 1972. A monograph of the genus *Crusea* (Rubiaceae). Mem. New York Bot. Gard. 22: 1–128.
Anderson, L. 1992. A Provisional Checklist of Neotropical Rubiaceae. Scripta Botanica Belgica 1: 1–199.
Burger, W. C. & C. M. Taylor. 1993. Flora Costaricensis. Family # 202 Rubiaceae. Fieldiana: Botany, n.s. 33: 1–333.
Dwyer, J. D. 1980. Rubiaceae. In: R. E. Woodson & R. W. Schery (editors), Flora of Panama IX. Ann. Missouri Bot. Gard. 67: 1–522.
Hamilton, C. W. 1989. A revision of Mesoamerican *Psychotria* Subgenus *Psychotria* (Rubiaceae). Ann. Missouri Bot. Gard. 76: 67–111, 386–429, 886–916.

- Lorence, D. H. 1986. *Glossostipula* (Rubiaceae), a new genus from Mexico and Guatemala. *Candollea* 41: 453–461.
- & J. D. Dwyer. 1988. A revision of *Deppea* (Rubiaceae). *Allertonia* 4: 389–436.
- Standley, P. C. 1918. Rubiaceae. *In*: North American Flora 32: 1–86.
- Steyermarck, J. A. 1967. Rubiaceae. *In*: B. M. Maguire & Collaborators, The Botany of the Guayana Highland—Part VII. *Mem. New York Bot. Gard.* 17: 230–436.
- . 1972. *Psychotria*. *In*: B. M. Maguire & Collaborators, Flora of the Guayana Highlands. *Mem. New York Bot. Gard.* 23: 406–717.
- Taylor, C. M. 1994. Taxonomic notes on *Psychotria* (Rubiaceae) in Western South America. *Novon* 4: 303–306.
- & D. H. Lorence. 1992. Notes on *Psychotria* subgenus *Heteropsychotria* (Rubiaceae: Psychotrieae) in Mexico and northern Central America. *Novon* 2: 259–266.
- , B. E. Hammel & W. C. Burger. 1991. New species, combinations, and records in Rubiaceae from the La Selva Biological Station, Costa Rica. *Selbyana* 12: 134–140.
- Terrell, E. E. & D. H. Lorence. 1989. *Hedyotis galeottii* (Rubiaceae), a new combination for a Mexican species. *Phytologia* 66: 1–4.



Lorence, D H. 1997. "New taxa, a new name, and a new combination in Rubiaceae from southern Mexico and Mesoamerica." *Novon a journal of botanical nomenclature from the Missouri Botanical Garden* 7, 46–58.

<https://doi.org/10.2307/3392073>.

View This Item Online: <https://www.biodiversitylibrary.org/item/14667>

DOI: <https://doi.org/10.2307/3392073>

Permalink: <https://www.biodiversitylibrary.org/partpdf/26993>

Holding Institution

Missouri Botanical Garden, Peter H. Raven Library

Sponsored by

Missouri Botanical Garden

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.