Rubiacearum Americanarum Magna Hama Pars XVIII: New Species of *Psychotria* Subg. *Psychotria* from Central America and Western South America

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Abstract. Nine new Neotropical species of *Psychotria* subg. *Psychotria* (Rubiaceae, Psychotrieae) are described and illustrated here: *P. areolata* of montane western Colombia has previously been confused with *P. rugulosa* Kunth; *P. ceronii* of eastern Andean slopes in Ecuador and Peru has previously been confused with *P. acreana* K. Krause; *P. convergens* of montane Costa Rica, Panama, Colombia, Ecuador, and northern Peru has previously been confused with *P. sylvivaga* Standley; *P. cutucuana* of montane Ecuador has previously been confused with *Notopleura*; *P. esmeraldana* of coastal Ecuador and Colombia has previously been confused with *P. orosiana* Standley; *P. montivaga* of montane Colombia, Ecuador, and Peru has previously been confused with *P. alba* Ruiz & Pavón and *P. carthagenensis* Jacquin, and replaces these species at higher elevations; *P. paravillosa* of Amazonian Ecuador and Peru has previously been confused with *P. villosa* Ruiz & Pavón; *P. puyoana* of eastern Andean slopes of Ecuador is notable for its subsessile, cordate, relatively large leaves; and *P. ucumariana* of montane Colombia and Ecuador has previously been confused with *P. rimbachii* Standley.

Key words: Colombia, Costa Rica, Ecuador, *Notopleura*, Panama, Peru, *Psychotria*, Psychotrieae, Rubiaceae.

Psychotria L. (Rubiaceae, Psychotrieae) in its broad sense comprises very approximately 1650 (Hamilton, 1989) species, mostly shrubs and small trees, found throughout the world's tropics. This genus is characterized by its usually woody habit; its relatively small, entomophilous, usually white or cream-colored flowers that are typically distylous; its valvate corolla lobe aestivation; its inferior ovary with usually two locules, each with one basal ovule; and its drupaceous fruits with usually two plano-convex pyrenes (Hamilton, 1989). Systematic studies using both morphological and molecular characters have indicated that Neotropical *Psychotria* as it is currently circumscribed is systematically complex (Taylor, 1996, 2002; Nepokroeff et al., 1999; Andersson & Rova, 1999; Piesschaert, 2001; Andersson, 2002), but all of these studies have considered *Psychotria* subg. *Psychotria* a generally monophyletic group.

Neotropical *Psychotria* subg. *Psychotria* is characterized by the distinctive color of its dried specimens, which usually are strongly tinged with brown, reddish brown, reddish gray, gray, or grayish green; its stipules of widely varied form but that are usually quickly caducous to expose a ring of well-developed infrastipular colleters (i.e., glandular trichomes), which are up to 3 mm long and typically persistent on the stem as a chestnut-brown fringe; its white flowers that are usually relatively short, with tubes 1–8 mm long, and pubescent in the throat and/or at the point of stamen insertion; and its orange to red fruits that bear two plano-convex, usually longitudinally ridged pyrenes. The pyrenes are characterized by an alcohol-soluble reddish pigment and a lack of preformed germination slits, and both of these characters are shared with paleotropical species of *Psychotria* subg. *Psychotria* (Petit, 1964; Nepokroeff et al., 1999; Piesschaert, 2001). In contrast, the Neotropical group *Psychotria* subg. *Heteropsychotria* Steyermark has dried specimens with a usually green or brownish green color; stipules of various forms but usually persistent and without colleters or with the colleters caducous or drying clear; fruits that are white, blue, or purple at maturity; and pyrenes two to five per fruit and widely varied in form but lacking alcohol-soluble red pigments and bearing preformed germination slits. Another pantropical group of ca. 50 species, the Neotropical members of which were previously included in *Psychotria*, is distinguished by its combination of green drying color, stipules with the basal portion persistent or tardily falling by fragmentation, and red to orange fruits; this group has recently been separated from *Psychotria* by Andersson (2001) and moved to the expanded genus *Margaritopsis* Grisebach.

The species described below were discovered during preparation of treatments for the *Flora Mesoamericana* and the *Flora of Ecuador*.

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Psychotria areolata C. M. Taylor, sp. nov. TYPE: Colombia. Valle del Cauca: mpio. Cali, correg. Elvira, Cordillera Oriental, Finca Zingara, km 18 de la carretera Cali–Buenaventura, km 4 vía a Dapa, 3°30′N, 76°34′W, 1900 m, 23 Apr. 1994, *J. Giraldo-Gensini 285* (holotype, CUVC; isotype, MO-4947507). Figure 1E–H.

Haec species a congeneris colombianis foliorum venis secundariis tertiariisque abaxialiter prominentibus adaxialiter sulcatis areolas irregulares formantibus atque floribus in glomerulos densos dispositis distinguitur.

Shrub or small tree to 5 m tall; stems densely short-tomentellous to glabrescent. *Leaves* elliptic to oblanceolate, 13–22 × 3–8 cm, at apex acute to acuminate, at base cuneate, drying membranaceous to papyraceous, adaxially glabrous, abaxially hirtellous to glabrescent on lamina and hirtellous to tomentellous or puberulous on veins; secondary veins 13 to 17 pairs, looping to interconnect with submarginal vein moderately to well developed and often nearly straight, without domatia, adaxially with costa, secondary veins, and tertiary veins shallowly sulcate, abaxially costa prominent and secondary veins and remaining venation prominulous; margins entire; *petioles* 5–16 mm long; *stipules* interpetiolar, caducous, ovate to ligulate, 10–18 mm long, obtuse to rounded, in basal portion tomentellous, distally glabrous. *Inflorescences* terminal, paniculate, hirtellous to tomentellous; peduncle 2–4.5 cm long; branched portion pyramidal, ca. 10 × 12 cm, secondary axes paired; bracts deltoid, 0.5–1 mm long. *Flowers* sessile in hemispherical to subglobose glomerules of 5 to 11; hypanthium turbinate, 0.5–0.8 mm long, densely hirtellous to tomentellous; *calyx limb* puberulous to glabrescent, ca. 0.5 mm long, truncate to denticulate; *corolla* funnelform, white, externally glabrous, internally densely pubescent at stamen insertion, tube ca. 2.5 mm long, lobes 5, ca. 2 mm long, abaxially with a small thickening on upper middle portion; anthers ca. 1 mm long, exserted shortly; stigmas ca. 0.5 mm long, included, situated in upper part of corolla tube. *Infructescences* similar to inflorescences. *Fruits* ellipsoid, ca. 5 × 4 mm, glabrous, red; pyrenes 2, dorsally with 4 to 5 low rounded ridges, ventrally plane.

Habitat, distribution, and phenology. Wet montane forests and cloud forests, 1500–1920 m, central Cordillera Occidental of Colombia; collected in flower in July, in fruit in April and December.

This new species is distinguished by its secondary and tertiary leaf veins that are abaxially prominent and adaxially shallowly sulcate in somewhat irregular areoles, and its flowers borne in dense glomerules. In general aspect, this new species is similar to several other montane species of *Psychotria* subg. *Psychotria*, especially *P. rugulosa*, which also sometimes has the leaf venation shallowly sulcate adaxially. *Psychotria rugulosa* can be separated from this new species by its narrower leaves, 1.5–4 cm wide, with usually fewer secondary veins, 8 to 12 pairs; its flowers that are subsessile and pedicellate in dichasial cymules; and its longer corolla tubes, 3–4 mm long. All the flowers of *P. areolata* seen resemble the short-styled form of distylous *Psychotria* species, but whether this new species is distylous cannot be determined from the few collections available.

Paratypes. COLOMBIA. **Valle del Cauca:** Santa Helena, above Topacio, edge of Los Farallones de Cali Nat. Park, 3°30′N, 76°35′W, *A. Gentry & M. Monsalve 53189* (MO); Río Bravo, NW of Darién, *J. W. L. Robinson 99* (US).

Psychotria ceronii C. M. Taylor, sp. nov. TYPE: Ecuador. Napo: cantón Tena, Estación Biológica Jatun Sacha, Río Napo, 8 km al E de Misahuallí, 1°04′S, 77°36′W, 400 m, 19–23 Mar. 1989, *C. Cerón 6318* (holotype, MO-5067253). Figure 2G–I.

Haec species a *Psychotria acreana* foliorum venis secundariis multioribus in venam submarginalem convergentibus, inflorescentia majore atque corolla longiore; a *P. megistophylla* Standley foliis basi obtusis usque cuneatis, venis secundariis paucioribus atque stipulis minoribus distinguitur.

Shrub or small tree to 5 m tall; stems glabrous. *Leaves* elliptic to broadly elliptic or elliptic-oblong, 14–33 × 6–19 cm, at apex acute to shortly acuminate, at base obtuse to cuneate, drying papyraceous, glabrous on both surfaces; secondary veins 13 to 21 pairs, uniting in a well-developed undulating submarginal vein, in abaxial axils without domatia or perhaps with shallow cavities, adaxially venation plane or costa prominulous, abaxially costa prominent, secondary veins prominulous, and remaining venation plane to thickened; margins entire; *petioles* 10–45 mm long; *stipules* interpetiolar, caducous, ovate to suborbicular, 6–15 mm long, glabrous, obtuse to rounded, entire to crisped or a little erose, usually bicostate in basal half. *Inflorescences* terminal, paniculate, glabrous to puberulous; peduncle 3.5–25 cm long; branched portion pyramidal, 16–30 × 20–40 cm, secondary axes 4 per node in strongly unequal pairs; bracts triangular, 0.1–1 mm long; pedicels 1–2 mm long. *Flowers* pedicellate in umbelliform cymules; hypanthium cylindrical, ca. 1 mm long, glabrous to puberulous; *calyx limb* 0.5–0.8 mm long, glabrous to puberulous, denticulate to shallowly lobed, entire to ciliolate; mature *corolla* not seen, corolla in bud funnelform, yellow to yellow-orange,

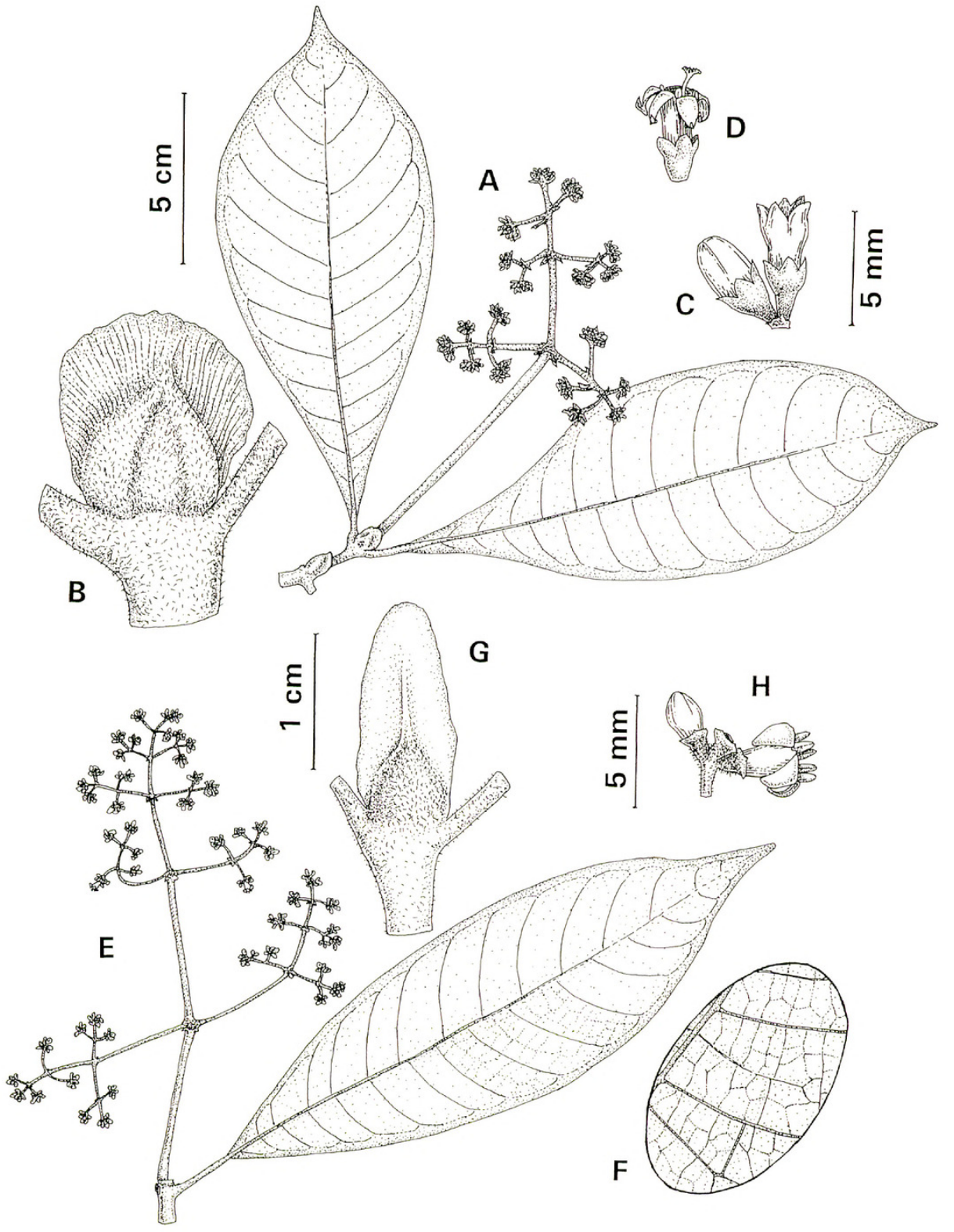

Figure 1. A–D, *Psychotria ucumariana* C. M. Taylor. —A. Portion of flowering stem; based on *Gentry et al. 65388*. —B. Portion of stem with stipule and portions of subtending petioles; based on *Fosberg 19125*. —C. Portion of inflorescence with two flower buds, the right-hand one older with the abaxial appendages of the corolla lobes developed and spreading; based on *Orozco et al. 8*. —D. Flower at anthesis; based on *Orozco et al. 8*. E–H, *Psychotria areolata* C. M. Taylor. —E. Portion of flowering stem, showing adaxial leaf surface; based on *Robinson 99*. —F. Detail of abaxial leaf surface, from distal half of leaf, showing part of costa in upper left-hand portion, parts of two secondary veins, and reticulated intersecondary and tertiary venation; based on *Robinson 99*. —G. Portion of stem with stipule and portions of subtending petioles; based on *Gentry & Monsalve 53819*. —H. Portion of inflorescence showing three flowers, one at anthesis, one in bud, and one from which corolla has fallen; based on *Robinson 99*. A, E to 5 cm scale; B, G to 1 cm scale; C, D, F, H to same 5 mm scale.

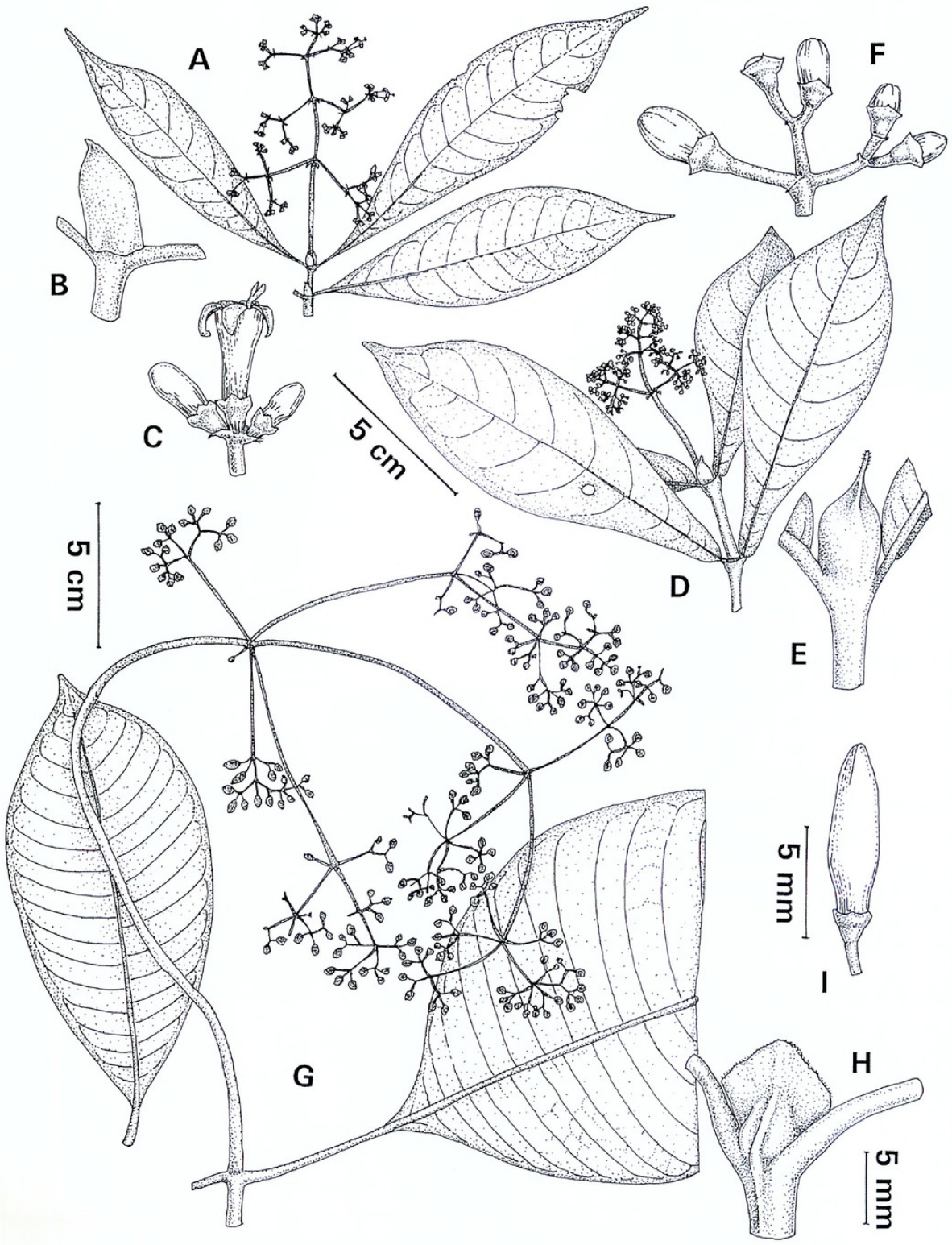

Figure 2. A–C, *Psychotria convergens* C. M. Taylor. —A. Portion of flowering stem; based on *McPherson 13451*. —B. Portion of stem with stipule and portions of subtending petioles; based on *McDade 1066*. —C. Portion of inflorescence with one flower at anthesis and two flower buds; based on *McDade 1066*. D–F, *Psychotria esmeraldana* C. M. Taylor. —D. Flowering stem; based on *Bass & Pitman 244*. —E. Portion of stem with stipule and portions of subtending leaves; based on *Bass & Pitman 244*. —F. Portion of inflorescence with one flower from which the corolla has fallen and four flower buds; based on *Carvajal 7*. G–I, *Psychotria ceronii* C. M. Taylor. —G. Portion of fruiting stem; based on *Knapp et al. 7714*. —H. Portion of stem with stipule and portions of subtending petioles; based on *Timaná & Astete 659*. —I. Flower bud; based on *Ceron 6318*. A, D to same 5 cm scale; B, C, E, F, H to same 5 mm scale; G to adjacent 5 cm scale; I to adjacent 5 mm scale.

externally glabrous, internally densely pilosulous at ca. 1/3 of length of tube above base (at stamen insertion), tube to 6 mm long, lobes to 2.5 mm long, abaxially with a rounded appendage to 0.5 mm long on upper middle portion; anthers in bud ca. 2.2 mm long, included, situated just above middle of corolla tube; stigmas in bud ca. 1 mm long, situated at same level as anthers. *Infructescences* similar to inflorescences or often displaced to a pseudoaxillary position by subsequent growth. *Fruits* ellipsoid, ca. 4.5 × 4 mm, glabrous, red; pyrenes 2, dorsally with 4 to 5 sharp ridges, ventrally plane except with a shallow longitudinal sulcus.

Habitat, distribution, and phenology. Wet forests at 400–750 m, eastern Andean slopes of Ecuador and Peru; collected in flower in March and April, in fruit in June and July.

This species has been confused with *Psychotria acreana*, but *P. acreana* is found in wet lowland forests of the western Amazon basin and can be separated from *P. ceronii* by its fewer secondary leaf veins, 8 to 12 pairs, that are free or loop only weakly to interconnect; its generally smaller inflorescences, with the branched portion 13–18 × 13–22 cm; and its shorter corolla tubes, 2.5–3 mm long. Also similar to this new species is *P. megistophylla* Standley from Panama, western Colombia, and northwestern Ecuador, but *P. megistophylla* can be separated from *P. ceronii* by its leaves that are abruptly obtuse to rounded or cordulate at the base and have more numerous secondary veins, 36 to 44 pairs, as well as by its larger stipules, 28–45 mm long.

Psychotria ceronii shows notable variation in leaf size and number of secondary veins. The stigmas and anthers have been seen only in flower buds, where they are held at the same level in contrast to their separated positions in distylous flowers. However, it is possible that *P. ceronii* is actually distylous, and that as the flower buds mature the style elongates and finally positions the stigmas above the anthers as in long-styled flowers of distylous species.

Paratypes. ECUADOR. **Napo:** Loreto, faldas del Volcán Sumaco al E de Avila Viejo, 00°38′S, 77°27′W, *E. Freire & P. Cerda 108* (MO); Archidona, al SE del Volcán Sumaco, carr. Hollín–Loreto, km 65, Huaticocha, 00°45′S, 77°28′W, *F. Hurtado 2352* (MO); Parque Nac. Sumaco Napo-Galeras, 00°53′S, 77°33′W, *E. Freire & J. Cerda 418* (MO). PERU. **Amazonas:** Bagua, slopes of Cerro Unki (or Punpuntas), km 44 of Samaneriza–Chiriaco, ca. 52 km NE of bridge over Río Nieva, 4°40′S, 77°38′W, *S. Knapp, P. Akoru & J. Mallet 7714* (MO). **Cuzco:** Quispicanchi, Camanti, Maniri, 8 km O de Quincemil, 13°17′S, 70°48′W, *M. Timaná & H. Astete 605* (MO), *659* (MO). **San Martín:** Mariscal Cáceres, Tocache Nuevo, Palo Blanco, *J. Schunke V. 5608* (MO).

Psychotria convergens C. M. Taylor, sp. nov. TYPE: Ecuador. Pichincha: cantón Quito, Reserva Orquidológica El Pahuma, carretera Calacalí–Los Bancos, Km 22, 00°02′N, 78°38′W, 2000 m, 6 Nov. 1999, *A. Cedeño & Grupo Post-Grado MO-QCNE 10* (holotype, QCNE; isotype, MO-5873158). Figure 2A–C.

Haec species a *Psychotria sylvivaga* inflorescentiae axibus pubescentia hirtella sparsa densave vestitis atque tubo corollino 6–10 mm longo distinguitur.

Shrub or small tree to 5 m tall; stems densely hirtellous or short-pilosulous to glabrous. *Leaves* elliptic to oblanceolate, 5–14 × 1.2–6 cm, at apex acute to acuminate, at base acute to cuneate, drying papyraceous, adaxially glabrous, abaxially glabrous or costa and secondary veins sparsely to densely hirtellous or short-pilosulous; secondary veins 6 to 11 pairs, usually looping to interconnect, in abaxial axils without domatia or with domatia in the form of cavities usually with tufts of denser pubescence in or next to them, adaxially venation plane or costa shallowly sulcate, abaxially costa prominent, secondary veins and often intersecondary veins prominulous, and remaining venation plane; margins plane or shortly revolute; petioles 3–15 mm long; *stipules* interpetiolar, caducous, ovate to rather broadly triangular, 7–13 mm long, glabrous or densely hirtellous near base, acute or usually shortly bidentate, the teeth triangular, 0.5–1 mm long, margins (of stipule) entire. *Inflorescences* terminal, paniculate to densely or sparsely hirtellous with pubescence present at least in lines along higher order axes, often becoming glabrescent with age; peduncle 1–8 cm long; branched portion pyramidal, 1.5–5 × 2–7.5 cm, secondary axes paired; bracts triangular to narrowly triangular, 1.5–4 mm long; pedicels 0–1 mm long. *Flowers* distylous, sessile and shortly pedicellate in dichasial cymules of 3 to 9; hypanthium turbinate to cupuliform, ca. 1 mm long, glabrous; *calyx limb* glabrous, 1.2–1.5 mm long, lobed for 1/2–3/4 of its length; *corolla* tubular, white to cream-yellow, externally glabrous, internally densely pubescent in a ring near or above middle of tube, tube 6–10 mm long, lobes 5, 2–2.5 mm long, abaxially smooth or with a small thickening on upper middle portion; anthers in short-styled form ca. 1.5 mm long and shortly to well exserted, in long-styled form ca. 1.5 mm long and included; stigmas in short-styled form ca. 1.2 mm long and included, situated just above middle of corolla tube, in long-styled form ca. 0.8 mm long and exserted. *Infructescences* similar to inflorescences. *Fruits* subglobose to ellipsoid, 6–7 × 5–6 mm, glabrous, red; pyrenes 2, dorsally with 4 to 5 rounded ridges, ventrally plane.

Habitat, distribution, and phenology. Wet montane forests at 2000–3000 m, Costa Rica to southern Ecuador and northern Peru; collected in flower February through September, in fruit March, April, July through September, and November.

The inflorescences of this species are at least sometimes pendulous (e.g., *McDade 1006*, MO), and this orientation together with the relatively long corolla tubes (for this group) suggest that this species may be adapted for hummingbird pollination. Corollas of similar size and color are found in some species of *Palicourea* Aublet that are visited by hummingbirds (e.g., *Palicourea garciae* Standley). These apparent adaptations for hummingbird pollination are convergent in *Palicourea* and *Psychotria convergens*, and the epithet of this new species refers to this similarity.

This new species has been previously confused with *Psychotria sylvivaga*, but it can be separated by its sparse to dense hirtellous pubescence on the inflorescences axes (sometimes this is reduced to lines along the higher order axes, but it is present) and usually (though not always) on the abaxial leaf veins, together with its longer corollas, with tubes 6–10 mm long, that are internally pubescent in a ring near the middle. In contrast, *P. sylvivaga* has inflorescences axes and abaxial leaf surfaces that are glabrous to uniformly puberulous and shorter corollas, with tubes 4–5 mm long, that are densely hirtellous above the middle.

Paratypes. COLOMBIA. **Antioquia:** Granja Forestal Univ. Nac., Antigua Carr., Medellín–Guarne, *R. Fonnegra & Curso de Palinología 2221* (MO); Entrerríos, road betw. Entrerríos & San Pedro, 12 km from center of Entrerríos, *J. M. MacDougal & F. J. Roldán 3676* (MO); Frontino, region of Murrí, ca. 12 road-km from Nutibara, *G. McPherson 13451* (MO). **Cauca:** El Tambo, Parque Nac. Munchique, trail to Nueva Granada, *L. Andersson, F. González, C. Gustafsson, C. Persson & J. H. E. Rova 2122* (MO). **Valle del Cauca:** Palmira, Res. La Sirena, quebrada los Cuzumbos, *L. F. Prado & H. Berrio 335* (MO); Res. Nat. "Hato Viejo," Parque Nacional Natural Farallones de Cali, *U. Schmitt 108* (MO); El Cairo, Cerro del Inglés, Serranía de los Paraguas, a 1 hora en jeep de El Cairo, *P. A. Silverstone-Sopkin N. Paz, R. Eriksson & J. Knudsen 3833* (CUVC, MO). COSTA RICA. **Limón:** Cordillera de Talamanca, headwaters of unnamed W branch of Río Teribe, betw. Río Sini & Continental Divide at Cerro Bekom, *G. Davidse, G. Herrera Ch. & R. H. Warner 25751* (MO); Valle de Silencio, area just N of Cerro Hoffman, *G. Davidse, G. Herrera Ch. & M. H. Grayum 28628* (MO); Kamuk massif, ridge betw. Río Tararia & NE-most Kamuk páramo, *G. Davidse & G. Herrera Ch. 29227* (MO); Talamanca, Parque Nac. La Amistad, Tararia, Valle del Silencio, sendero a Cerro Tararia, *B. Gamboa R., O. Esquivel, R. Villalobos & J. S.* [sic; no surname given] *1220* (MO). **Limón-Puntarenas Border:** Cordillera de Talamanca, Cerro Bekom, 11 airline km SSW of peak of Cerro Kámuk, *G. Davidse 25711* (MO). **Puntarenas:** Coto Brus, Parque Internac. La Amistad, Valle del Silencio, Río Terbi, *J. F. Morales & F. Quesada 5799* (MO). ECUADOR. **Azuay:** NE of Cuenca, 32 km beyond town of Paute, ca. 2 km past town of Sevilla de Oro, *L. A. McDade 1066* (MO); Sevilla de Oro & vicinity, *W. H. Camp E-4500* (AAU, MO, NY, S), *E-4668* (S), *E-4775* (AAU, MO, S), *E-5280* (AAU, MO), *E-5283* (S). **Carchi:** across Río Plata from Tambo La Palma, *W. C. Steere 8093* (F, S); above Río Cofanes below San Antonio, *W. C. Steere 8135* (F); Cerro Golondrinas, *B. Boyle, A. Boyle, J. Bradford & N. Skinner 3431* (MO); Espejal, El Gualtal, Faldas de Cerro Golondrina Hembra, *W. Palacios 12616* (MO). **Imbabura:** Cotacachi, Plaza Gutiérrez, sector Tabla Chupa, *G. Tipaz & E. Gudiño 1194* (MO). **Loja:** crest of Cordillera de Zamora, E of Loja, *W. H. Camp E-85* (NY); Parque Nac. Podocarpus, *J. Jaramillo, V. Zak, & R. Valencia 8780* (AAU, MO, NY); Cerro Uritusinga, Loja–La Palma km 18–20, *P. Jørgensen, C. Ulloa, S. León, H. Vargas & P. Lozano 1079* (MO). PANAMA. **Bocas del Toro:** Valle de Silencio, *T. Antonio 1586* (MO), *1615* (MO). PERU. **Amazonas:** Bagua, Cordillera Colán SE of La Peca, *P. Barbour 3833* (MO).

Psychotria cutucuana C. M. Taylor, sp. nov. TYPE: Ecuador. Santiago-Zamora (Oriente) [sic; i.e., Morona-Santiago]: Cordillera Cutucú, ridge between Ríos Itzintza & Chupiasa, ca. 2°40′S, 78°W, 4000–4500 ft., 17 Nov.–1 Dec. 1944, *W. H. Camp E-1272* (holotype, US). Figure 3E–H.

Haec species a congeneris aequatorialibus foliis sat angustis, stipulis bene evolutis atque inflorescentia pseudoaxillari pedunculo sat longo insidente distinguitur.

Shrub or subshrub to 1.5 m tall; stems glabrous. *Leaves* narrowly elliptic, 13–29 × 2.3–7.2 cm, at apex acute to acuminate, at base acute, drying papyraceous, adaxially glabrous, abaxially densely puberulous on costa and secondary veins and sparsely puberulous to glabrous on lamina; secondary veins 16 to 23 pairs, looping to interconnect, without domatia, adaxially venation plane or costa thickened, abaxially costa prominent, secondary veins prominulous, and remaining venation plane to thickened; margins plane; *petioles* 15–32 mm long; *stipules* interpetiolar, caducous or often persisting on 2–3 apical nodes, ligulate to lanceolate, 18–25 mm long, puberulous to glabrous, acute to bidentate with teeth to 2 mm long, entire. *Inflorescences* pseudoaxillary and pendulous, paniculate, hirtellous, becoming glabrescent with age; peduncle 8–20 cm long, flexuous; branched portion pyramidal, 4–10 × 4–10 cm, secondary axes paired; bracts narrowly triangular, those subtending secondary axes 3–12 mm long, those subtending flowers 1–2.5 mm long. *Flowers* sessile in congested dichasial cymules of 3 to 7; hypanthium turbinate, ca. 0.8 mm long, glabrous to puberulous; *calyx limb* 1–1.5 mm long, glabrous to puberulous, dentate; *corolla* tubular, white or lobes green, externally glabrous, internally densely pilosulous at stamen insertion, tube ca. 2 mm long, lobes 5, ca. 1.5 mm long, abaxially with a conical thickening 0.3–0.5 mm long on upper middle portion; anthers ca. 1 mm long, partially to fully exserted; stigmas ca. 0.2 mm long, apparently exserted. *In-*

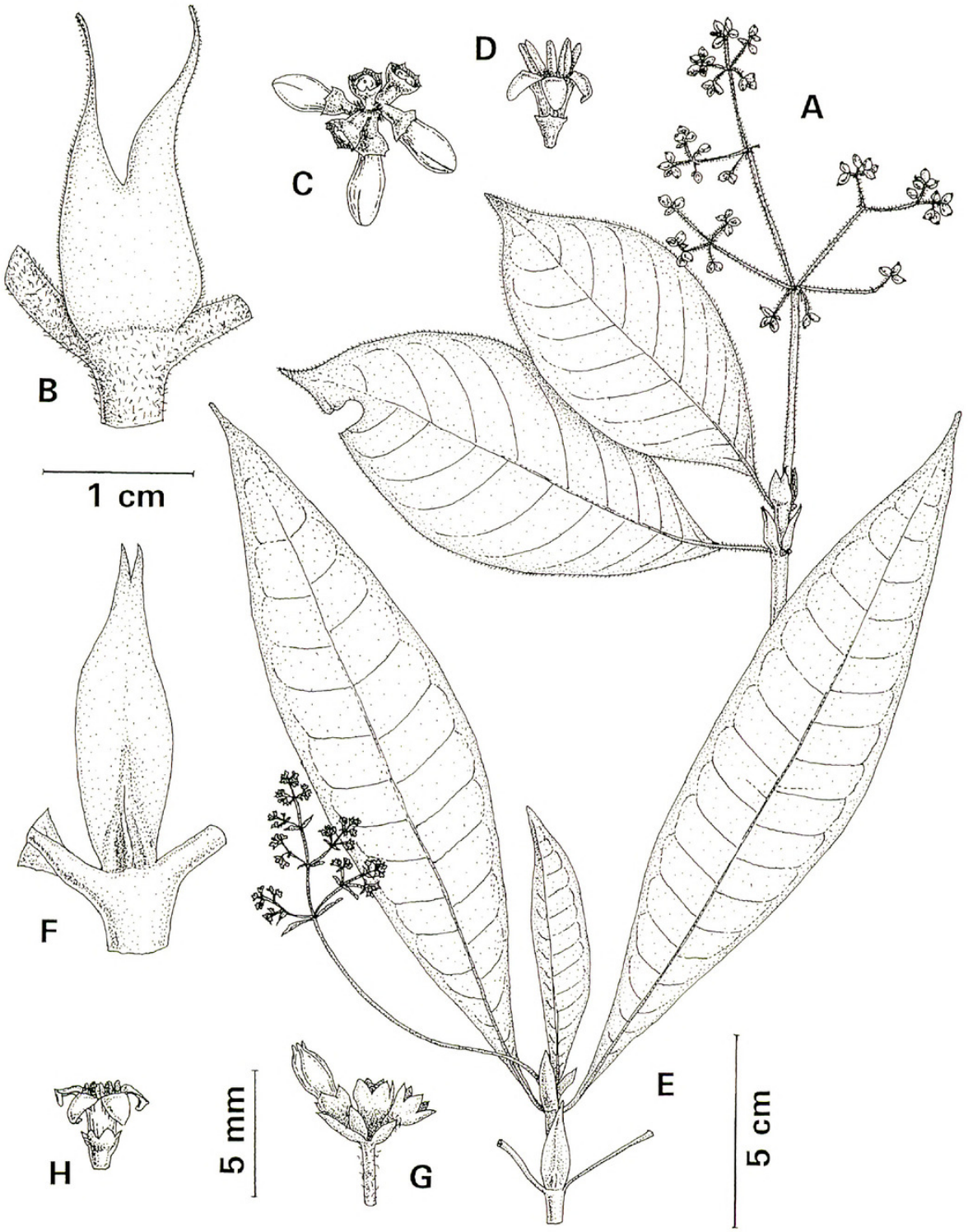

Figure 3. A–D, *Psychotria paravillosa* C. M. Taylor. —A. Portion of fruiting stem; based on *Neill & Palacios 6736*. —B. Portion of stem with stipule and portions of subtending petioles; based on *Clark et al. 1047*. —C. Portion of inflorescence with three flower buds and three old flowers from which corollas have fallen; based on *Clark et al. 1047*. —D. Flower at anthesis; based on *Clark et al. 1047*. E–H, *Psychotria cutucuana* C. M. Taylor; based on *Madison et al. 3424*. —E. Flowering stem. —F. Portion of stem with stipule, portion of a subtending petiole, and portion of a subtending leaf. —G. Portion of inflorescence with one flower bud and two old flowers from which corollas have fallen. —H. Flower at anthesis. A, E to 5 cm scale; B, F to 1 cm scale; C, D, G, H to 5 mm scale.

fructescences similar to inflorescences. *Fruits* ellipsoid, ca. 6 × 5.5 mm, glabrous, color unknown; pyrenes 2, dorsally with 4 to 5 rounded ridges, ventrally plane.

Habitat, distribution, and phenology. Wet forests at 450–1750 m, known only from Ecuador; collected in flower November and December, in fruit in May, November, and December.

This new species can be recognized by the combination of its relatively narrow leaves, well-developed stipules that frequently persist on the distalmost nodes, and its pseudoaxillary inflorescences with relatively long peduncles. It is similar in its rather low habit, well-developed papery stipules, and pseudoaxillary inflorescences to several species of *Notopleura* (Bentham & Hooker fils) Bremekamp. However, its stipules that are not glandular and enclose a ring of persistent short trichomes, its brown drying color, and its pyenes without marginal preformed germination slits show its affinities are instead with *Psychotria* subg. *Psychotria*. *Psychotria cutucuana* is known from the Andes and the Cordillera Cutucú; its epithet refers to the latter locality.

Paratypes. ECUADOR. **Azuay:** Loma de la Plata, slopes bordering Río Putucay, at Chancanceo, *J. A. Steyermark 52673* (F). **Guayas:** Res. Ecol. Churute, Cerro Pancho Diablo, *X. Cornejo & C. Bonifaz 5530* (GUAY). **Morona-Santiago:** Cordillera Cutucú, ridge ascending into central Cutucú, *W. H. Camp E-1160* (NY); Cordillera de Cutucú, W slopes along a trail from Logroño to Yaupi, 2°46′S, 78°06′W, *M. T. Madison, E. O. Bush III & E. W. Davis 3424* (US), *3479* (US).

Psychotria esmeraldana C. M. Taylor, sp. nov. TYPE: Ecuador. Esmeraldas: cantón Quinindé, Bilsa Biol. Station, Montañas de Mache, 35 km W of Quinindé, 5 km W of Santa Isabel, Old Mono Road, 3–5 km SW of the station, 00°21′N, 79°44′W, 400–600 m, 13 Nov. 1994, *M. S. Bass & N. Pitman 244* (holotype, QCNE; isotype, MO-4913342). Figure 2D–F.

Haec species a *Psychotria orosiana* stipulis uni- (nec bi-) aristatis atque foliis abaxialiter efoveolatis distinguitur; etiam in Aequatoria crescit.

Shrub or small tree to 1 m tall; stems glabrous. *Leaves* oblanceolate to elliptic-oblong, 4–12.5 × 1.5–4 cm, at apex acute to shortly acuminate, at base tapered then shortly and abruptly obtuse to rounded, drying papyraceous, adaxially glabrous, abaxially glabrous or puberulous to pilosulous on costa and secondary veins; secondary veins 6 to 10 pairs, looping to interconnect, without domatia, adaxially venation plane or costa prominulous, abaxially costa prominent, secondary veins prominulous, and remaining venation plane; margins plane to crisped; *petioles* 2–3 mm long; *stipules* caducous, interpetiolar, triangular to ovate, the body 4–7 mm long, glabrous to densely hirtellous, usually costate, acute to usually aristate, with arista 2–3 mm long, hirtellous to glabrescent. *Inflorescences* terminal, paniculate, glabrous; peduncle 0.8–3.5 cm long; branched portion pyramidal, 3–7 × 3.5–8 cm, with secondary axes paired; bracts triangular to linear, 0.3–1 mm long; pedicels 1–2 mm long. *Flowers* pedicellate in umbelliform cymules of 2 to 5; hypanthium turbinate, 0.8–1 mm long, glabrous; *calyx limb* 0.3–0.5 mm long, undulate to dentate; mature *corolla* not seen, corolla in young bud externally glabrous, with tube to 1 mm long, lobes 5, to 2 mm long, abaxially smooth; anthers and stigmas not seen. *Infructescences* similar to inflorescences. *Fruits* ellipsoid, 5–6 × 4.5 mm, glabrous, red; pyrenes 2, dorsally with 4 to 5 rounded ridges, ventrally plane with a shallow central depression.

Habitat, distribution, and phenology. Wet premontane forests of northwestern Ecuador and western Colombia at 80–900 m; collected with flower buds January, April, November, and December, with fruit February, April, July, September, and November.

This new species is distinctive due to its relatively small, generally oblanceolate leaves that are narrowed to an abruptly rounded or obtuse base. This species is similar to *Psychotria orosiana*, of Costa Rica and western Panama; *P. orosiana* differs from this new species in its bi-aristate stipules and well-developed foveolate domatia. This new species is also similar to *P. orosioides* C. M. Taylor of Costa Rica; *P. orosioides* can be separated by its bi-aristate stipules and calyx limbs 1.2–2 mm long.

Paratypes. COLOMBIA. **Chocó:** left bank of Río Baudó, ca. 6.5 km upstream from estuary near quebrada Chigoul, *H. P. Fuchs & L. Zanella 22095* (MO). ECUADOR. **El Oro:** 10 km W of Pinas, *C. H. Dodson, A. Gentry & G. Shupp 8966* (MO). **Esmeraldas:** San Lorenzo, Res. Etnica Awá, 1°15′N, 78°40′W, *C. Aulestia, G. Tipaz, L. Delgado & G. Lao 221* (MO); San Miguel, Río Cayapas, sector Loma Linda, 00°45′N, 78°47′W, *G. Tipaz, P. Méndez, H. Vargas & M. Chapiro 2265* (MO); Quinindé, Bilsa Biol. Sta., Montañas de Mache, 35 km W of Quinindé, 00°21′N, 79°44′W, *J. L. Clark & B. Adnepos 85* (MO), *J. L. Clark & Y. Troya 685* (MO), *J. L. Clark, E. Austen, S. Bennett & D. Kapan 3751* (MO), *W. Palacios & N. Jaramillo 13580* (MO), *N. Pitman, J. [L.] Clark & B. Adnepos 683* (MO); Quinindé, carr. vecinal Herrera–Los Monos, cabecera del Río Aguacatal, 00°20′N, 79°46′W, *W. Palacios 13691* (MO). **Pichincha:** Cooperativa Santa Marta #2 along Río Verde 2 km SE of Santo Domingo de los Colorados, *C. H. Dodson 7422* (MO); within 3 km of Santo Domingo de Colorado [sic; de los Colorados], *E. L. Little Jr. 6149* (F); Río Chiquilpe near jct. with Río Baba, 7 km E of km 7 on hwy. Santo Domingo–Quevedo, *C. H. Dodson, M. Fallen & P. Morgan 7856* (F, MO); Res. For. Endesa, Río Silanche, Km 113 de la carr. Quito–Puerto Quito, 00°5′N, 79°02′W, *C. Carvajal 7* (AAU, MO), *J. Jaramillo 7460* (MO).

Psychotria montivaga C. M. Taylor, sp. nov. TYPE: Ecuador. Zamora-Chinchipe: area of Estación Científica San Francisco, 35 km from Loja on road Loja–Zamora, 3°58′S, 79°04′W, 1930 m, 20 Apr. 2003, *J. Homeier 1224* (holotype, MO-5679313). Figure 4A–C.

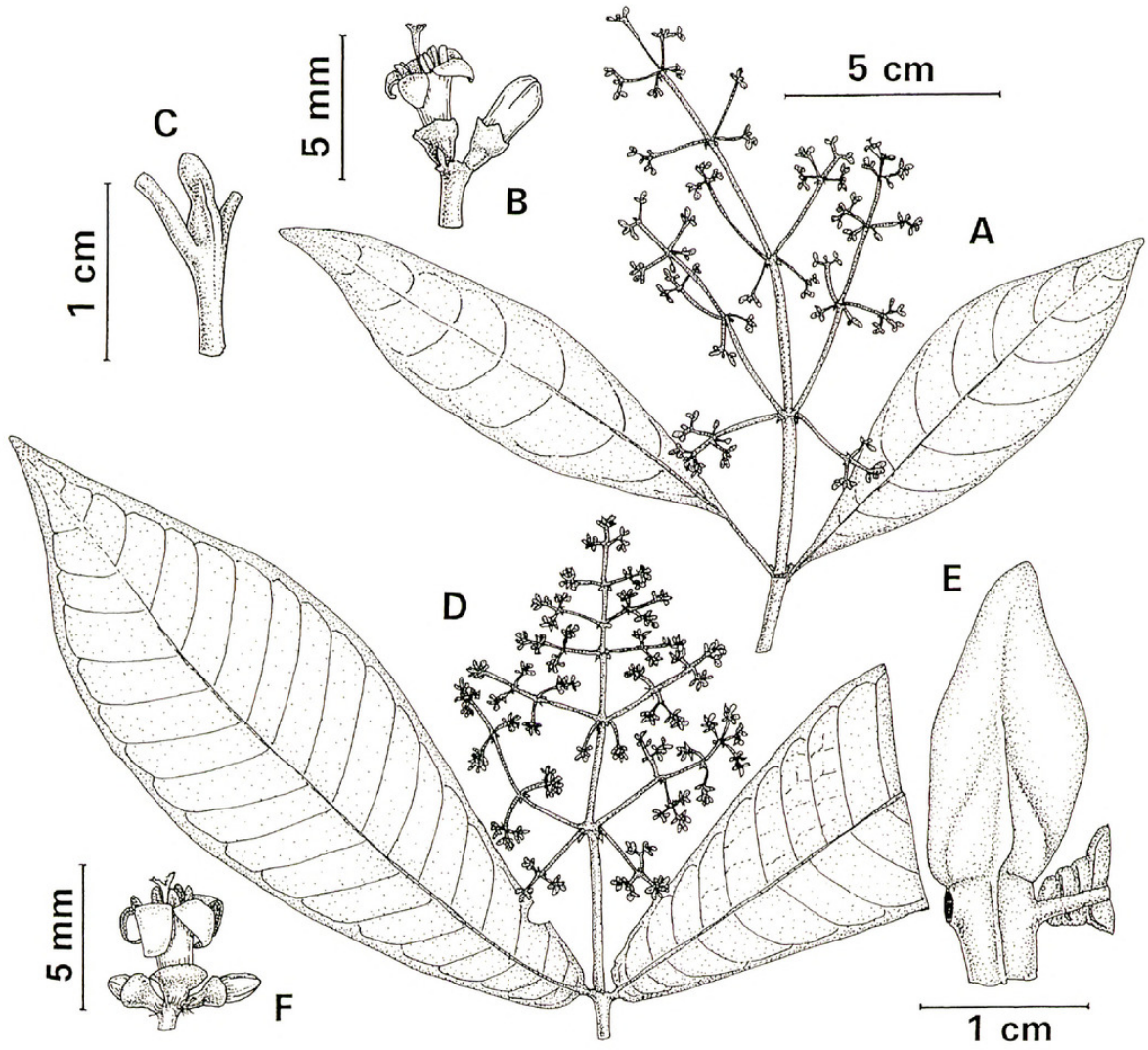

Figure 4. A–C, *Psychotria montivaga* C. M. Taylor. —A. Flowering stem; based on *Homeier 1224*. —B. Portion of inflorescence with one flower bud and one flower at anthesis; based on *Homeier 1224*. —C. Portion of stem with stipule and portions of subtending petioles; based on *Wolff 50*. D–F, *Psychotria puyoana* C. M. Taylor; based on *Hudson 819*. —D. Flowering stem. —E. Portion of stem with stipule and portion of one subtending leaf. —F. Portion of inflorescence with one flower at anthesis and two flower buds. A, D to 5 cm scale.

Haec species a *Psychotria alba* et *P. carthagenensi* venatione tertiaria et ordinum altiorum non manifesta distinguitur; etiam sylvas premontanas montanasque habitat.

Shrub or small tree to 7 m tall; stems densely hirtellous or puberulous to glabrous. *Leaves* elliptic, 6–19 × 2–8.5 cm, at apex acute to a little acuminate, at base obtuse to acute, drying papyraceous, adaxially glabrous, abaxially glabrous to puberulous or hirtellous at least on principal veins; secondary veins 7 to 13 pairs, free or usually looping to interconnect, in abaxial axils without domatia or occasionally with a cavity under expanded tissue or rarely with small foveolae, these opening apically, adaxially venation plane, abaxially costa prominent, secondary veins prominulous, and remaining venation plane and not evident or sometimes a few intersecondary veins present and prominulous; margins plane, entire; *petioles* 5–18 mm long; *stipules* interpetiolar, caducous, ligulate to ovate or elliptic, 5–20 mm long, glabrous to hirtellous or puberulous in basal portion, obtuse to rounded, entire to ciliolate at least at apex, smooth or a little costate near base, in bud apparently convolute. *Inflorescences* terminal, paniculate, hirtellous to puberulous; peduncle 2.5–7 cm long; branched portion 6–15 × 4–12 cm, secondary axes 4 per node in unequal pairs; bracts triangular, 0.2–1 mm long; pedicels 0–1 mm long. *Flowers* distylous, sessile to pedicellate in dichasial cymules of 3 to 9; hypanthium turbinate, ca. 1 mm long, puberulous to glabrous; *calyx limb* 0.5–0.8 mm long, puberulous to glabrous, truncate to denticulate; *corolla* funnelform, yellow-green to white or pale green, externally glabrous, internally densely pilosulous at stamen insertion, tube 1.5–2 mm long, lobes 5, ca. 1.5 mm long, abaxially smooth; *anthers* ca. 2 mm long, partially exserted; stigmas ca. 1 mm long, exserted and

held above anthers. *Infructescences* similar to inflorescences. *Fruits* subglobose to ellipsoid, 4–7 × 3.5–6 mm, glabrous, red; pyrenes 2, dorsally with 4 to 5 low rounded ridges, ventrally plane.

Habitat, distribution, and phenology. Wet premontane and montane forest at 1200–2430 m, central Colombia to central Peru; collected in flower February to April, August, September, and December, in fruit often concurrently, in February, April, June, September to December.

In spite of its frequent collection, there does not seem to be a previous name for this new species; this lack is probably due to its long confusion with *Psychotria carthagenensis* and *P. alba*. The specific epithet of this new species refers to its montane habitat and rather wide geographic distribution. *Psychotria montivaga* can be separated from *P. alba* and *P. carthagenensis* by its habit in wet premontane and montane forest at higher elevations and its tertiary leaf venation that is not visible; these other two species are found in lowland wet to seasonal forest, 0–1800 m, and have the tertiary venation visible on the abaxial leaf surfaces. This new species is most similar to *P. alba*, but can be separated from that also by its flowers borne mixed sessile and shortly pedicellate in dichasial cymules, versus flowers all sessile or subsessile in *P. alba*. In *P. montivaga* often the terminal flower of a cymule is pedicellate and the younger flowers are sessile, although in most species of *Psychotria* subg. *Psychotria* the terminal flower of the cymule is sessile, whereas the younger flowers may be sessile or pedicellate. One collector (*Wolff 50, 165*) reported that the flowers are distylous, but the specimens seen only have corollas in bud and, among the mature flowers seen, all are similar to the long-styled form of other species. It seems most likely that this species is indeed distylous, but because of the limitations of the dried specimens available measurements cannot be provided here for the short-styled floral form.

Paratypes. COLOMBIA. **Nariño:** Ricaurte, Res. Nat. La Planada, vertiente occidental, Cordillera Occidental, *O. de Benavides 8890* (MO), *C. Restrepo 423* (MO). ECUADOR. **Cotopaxi:** Sigcios, Latacunga, Paquia, San Francisco de la Pampa, Res. La Otonga, *P. Delprete & G. Onore 6500* (MO); Hacienda Nanaló, Macuchi Mines region, *H. C. Steere 8078* (F). **El Oro:** betw. Pampa de los Cedros, NE of San Pablo, & Curtincapa, *J. A. Steyermark 53822* (F); Cordillera de Güishagünña, E [of] Zaruma, *R. Espinosa E 1894* (F). **Imbabura:** Cotacachi, Hacienda La Florida, *A. Alvarez & R. Castro 603* (MO). **Napo:** along road betw. Baeza & Tena, 72 km N of Archidona, *T. B. Croat 49556* (MO); Quijos River region below Baeza, 10 km NW of Chaco on trail to Río San Juan, *M. Ownbey 2658* (F, MO); El Chaco, margen derecha del Río Quijos, Finca La Ave Brava de Segundo Pacheco, *W. Palacios 5339* (MO); Las Palmas, Finca Carmita de Luis Salazar, *W. Palacios 6249* (MO); Río San Juan Grande, ca. 9.5 km NW of El Chaco, *B. Ståhl, B. Øllgaard, H. Navarrete & P. Asimbaya 2181* (AAU, MO); hills above Río San Juan at confluence with Río Oyacachi, ca. 10 km W of El Chaco, *B. Ståhl, P. Asimaya, H. Navarrete & J. T. Knudsen 2362* (AAU). **Pichincha:** Quito, Chiriboga, en la carr. vieja Quito–Santo Domingo, Res. For. La Favorita, *C. E. Cerón, G. Benavides & E. Guzmán 7983* (MO), *C. E. Cerón & C. Iguago 8582* (MO), *8609* (MO); Nono, Res. Orquidológica El Pahuma, carr. Calacalí–Nanegalito km 30, *E. Freire, M. Reina & Y. Reina 1057* (MO), *W. Rojas & Grupo de Post-Grado MO-QCNE 400* (MO); Res. Florística-Ecol. Río Guajalito, a 3.5 km al NE de Km 59 de carr. antigua Quito–Santo Domingo de los Colorados, estribaciones occidentales del Volcán Pichincha, *J. Jaramillo & V. Zak 7876* (AAU, F, MO), *V. Zak & J. Jaramillo 584* (AAU, F, MO, S, US); Bosque Protector Maquipucuna, below Cerro Montecristi, ca. 7 km SE Nanegalito, *G. L. Webster & B. Castro 30616* (DAV). **Tungurahua:** El Mirador, Sierra de León, valley of Río Pastaza below Baños, *W. H. Steere & W. C. Camp 8268* (F); Baños, Los Llanganates, Colonia México, a 18 km del Topo, *H. Vargas & D. Sandoval 344* (MO). **Zamora-Chinchipe:** area of Estación Científica San Franciso, ca. 30 km from Loja, *J. Homeier 610* (MO), *D. Wolff 50* (MO), *68* (MO), *165* (MO); Zamora–Loja road, 4°02′S, 79°00′W, *J. Madsen & J. T. Knudsen 86788* (AAU). PERU. **Amazonas:** Bongara, between Río Utcubamba & Pomacocha, km 317.5 E of Olmos on Rioja rd., *P. C. Hutchison & J. K. Wright 3889* (F, MO).

Psychotria paravillosa C. M. Taylor, sp. nov. TYPE: Ecuador. Orellana: Parque Nacional Yasuní, pantano moretal km 94.9, parcela 25, 00°54′S, 79°13′W, *A. P. Yanez, M. J. Macía & la comunidad Huaorani de Dicaro 2446* (holotype, QCA; isotype, MO-4963612). Figure 3A–D.

Haec species a *Psychotria villosa* stipulis bilobis atque foliis saepe latis; a *P. romolerouxiana* C. M. Taylor foliis abaxialiter in axillis venarum domatiis carentibus, stipulis majoribus profundius bilobis atque tubo corollino breviore distinguitur.

Shrub or small tree to 6 m tall; stems glabrous or hirtellous, sometimes quickly becoming glabrescent. *Leaves* narrowly elliptic to elliptic, oblanceolate, or obovate, 7–22 × 1.8–9.5 cm, at apex acute to usually acuminate, at base acute, drying papyraceous to membranaceous, adaxially sparsely villous to glabrous except usually densely hirtellous or villous on costa, abaxially glabrous to hirtellous on costa or throughout; secondary veins 9 to 14 pairs, usually looping to interconnect at least in apical part of blade, without domatia or with deep cavities in abaxial axils, adaxially venation plane, abaxially costa prominent, secondary veins prominulous, and remaining venation plane to thickened; margins plane, ciliate; *petioles* 6–25 mm long; *stipules* usually persisting on apical 1 to 3 nodes, united around stem shortly or for up to 1/2, ligulate to obovate or ovate, 12–24 mm long, glabrous to densely hirtellous, lobed for 1/4–1/2 of its length, lobes lanceolate to narrowly triangular, acute to

acuminate, ciliolate. *Inflorescences* terminal, paniculate, hirtellous; peduncle 1–12 cm long; branched portion pyramidal, 2–8 × 2.5–8 cm, secondary axes 4 or 6 per node, in unequal pairs; bracts narrowly triangular, 0.5–2 mm long. *Flowers* sessile or subsessile in umbelliform cymules of 3 to 9, often each individual flower subtended by a ring or tuft of hirsute pubescence; hypanthium turbinate to cylindrical, ca. 0.8 mm long, glabrous; *calyx limb* 0.5–0.8 mm long, denticulate, glabrous; *corolla* funnelform, white to yellow, externally glabrous, internally hirtellous to pilose at stamen insertion, tube ca. 2 mm long, lobes 5, 1–1.5 mm long, abaxially smooth; anthers in long-styled form ca. 1.2 mm long and exserted, anthers in short-styled form ca. 0.8 mm long and included or partially exserted; stigmas in long-styled form ca. 1.2 mm long and well exserted on styles ca. 3.5 mm long, in short-styled form ca. 0.8 mm long and included or with tips situated in corolla throat. *Infructescence* similar to inflorescence. *Fruit* ellipsoid to subglobose, 4–4.5 × 4–4.5 mm, glabrous, red; pyrenes 2, dorsally with 4 to 5 rounded ridges, ventrally plane.

Habitat, distribution, and phenology. Wet forests at lake edges and seasonally inundated forest in Amazonian lowlands at 200–250 m, and in wet forests at ca. 600 m in Esmeraldas; northwestern Ecuador to northern Amazonian Peru and western Brazil; collected in flower in February, March, April, June, and July, in fruit in July and September.

This new species has been confused previously with *Psychotria villosa* (e.g., Taylor, 1997), but *P. villosa* can be separated by its calyptrate stipules and leaves 1.5–5 cm wide. The species epithet refers to the similarity between these species. This new species is also similar to *P. romolerouxiana* C. M. Taylor; *P. romolerouxiana* can be distinguished by its well-developed foveolate domatia in the abaxial vein axils, its usually shorter stipules, 6.5–14 mm long, and its longer corolla tubes, ca. 2.5 mm long. This new species is also similar to *P. mapirensis* Standley of central Peru through Bolivia; *P. mapirensis* can be separated by its larger inflorescences, 25 × 25–30 cm, and its longer calyx limbs, 1–1.5 mm long.

Plants of *Psychotria paravillosa* collected in Ecuador are generally glabrous on the stems, stipules, and leaves (except for the principal veins and margins), whereas the collection from Brazil and most of the collections from Peru are moderately to densely hirtellous throughout the vegetative organs. However, no other difference is evident between these populations, and some Peruvian plants (e.g., *Gentry & Revilla 16541*) are glabrous similarly to those from Ecuador. Similar variation in pubescence is found in a number of other species of *Psychotria* subg. *Psychotria* (e.g., Hamilton, 1989); consequently, these plants are all considered conspecific here.

Paratypes. BRAZIL. **Acre:** Manoel Urbano, Rio Purus, downstream from mouth of Rio Chandless, *D. C. Daly, R. Callejas, D. P. Gomes Silva, R. Saraiva, E. C. Oliveira & A. J. B. Santo 1154* (MO, NY). ECUADOR. **Esmeraldas:** San Lorenzo, parroquia Alto Tambo, sector El Cristal, *C. Quelal, G. Tipaz & A. Grijalva 304* (MO). **Orellana:** Laguna de Yuturi, 00°36′S, 76°01′W, *J. Jaramillo & E. Grijalva 11302* (MO, NY); Parque Nac. Yasuní, carr. y oleoducto de Maxus en construcción km 32, al S del Río Tiputini, *M. Aulestia 1679* (MO). **Pastaza:** Río Curaray, alrededores de Laguna Garzayacu, *D. Neill & W. Palacios 6736* (MO); NE of Destacamento Curaray, *L. Holm-Nielsen, J. Jaramillo & F. Coello 22060* (AAU). **Sucumbíos:** Tarapoa, *X. Cornejo 7441* (GUAY, MO); Pañacocha, *P. Delprete 6508* (MO); Sacha lodge, 3 km NW of village Añangu near Napo River, *J. L. Clark, L. Demattia & T. Miller 1047* (MO). PERU. **Amazonas:** Río Cenepa, 10–12 km S of Huampami, *B. Berlin 73* (MO); ridge above Cikan Ece Creek, *B. Berlin 1622* (MO); Quebrada Sasa, *R. Kayap 372* (MO); Río Cenepa, Isla de Chigkan, *R. Kayap 768* (MO); Río Cenepa region, Quebrada Wampushik entsa, *R. Kayap 938* (MO); Quebrada Cunup, *R. Kayap 1285* (MO); al lado de Huampami, *R. Kayap 1489* (MO); Bagua, Imaza, comunidad Aguaruna de Yamayakat, Río Marañón, *N. Jaramillo, M. Jaramillo & D. Chamit 1353* (MO), *E. Rodríguez 242* (MO), *E. Rodríguez, J. Rodríguez & E. Chavez-Agkuash 857* (MO), *891* (MO); Condorcanqui, El Cenepa, Río Cenepa, comunidad de Mamayaque, *R. Vásquez, R. Rojas, A. Peña & E. Chávez 22183* (MO), *R. Vásquez, R. Rojas, A. Peña, E. Chávez & E. Quiaco 22325* (MO), *R. Vásquez, R. Rojas & A. Peña 22688* (MO); comunidad de San Antonio, *R. Vásquez, A. Peña, E. Chávez & E. Quiaco 24051* (MO); comunidad el Tutino, *R. Vásquez, D. Ampam, E. Quiaco, A. Ampam & C. Dupis 24407* (MO). **Loreto:** near Base Araguana, upper Río Mazán ca. due N of Santa María de Nanay, *A. Gentry & J. Revilla 16541* (MO). **San Martín:** Rioja, *F. Woytkowski 6095* (MO).

Psychotria puyoana C. M. Taylor, sp. nov. TYPE: Ecuador. Pastaza: E edge of Puyo, 25 Sep. 1974, *J. Hudson 819* (holotype, MO-5873156; isotype, MO-5873157). Figure 4D–F.

Haec species a congeneris aequatorialibus foliis subsessilibus oblanceolatis obovatisve basi rotundatis cordulatisve, inflorescentiae axibus secundariis ad nodos quattuor in paria inaequalia dispositis atque floribus ebracteatis sed pubescentia pilosula hirtellave subtentis distinguitur.

Shrub to 2 m tall; stems densely puberulous to tomentellous. *Leaves* oblanceolate to obovate, 15–23 × 5.5–11 cm, at apex acute to acuminate, at base rounded to cordulate, drying papyraceous, adaxially glabrous, abaxially glabrous on lamina and densely puberulous to strigillose on veins; secondary veins 13 to 18 pairs, looping to interconnect, in abaxial axils without domatia, adaxially venation plane, abaxially costa prominent, secondary veins prominulous, and remaining venation plane to thickened; margins plane, entire; *petioles* 0–3 mm long; *stipules* interpetiolar,

caducous, ovate, ca. 18 mm long, glabrous, obtuse, weakly 2-costate near base. *Inflorescences* terminal, paniculate, densely puberulous to strigillose; peduncle 2–4 cm long; branched portion pyramidal, 4–10 × 4–7 cm, secondary axes 4 per node in unequal pairs; bracts subtending secondary axes triangular to broadly triangular, 1–2 mm long. *Flowers* sessile in glomerules of 3 to 7, each subtended by a ring or tuft of pilosulous or hirtellous pubescence; hypanthium turbinate, ca. 0.8 mm long, glabrous; *calyx limb* ca. 1 mm long, glabrous, subtruncate; *corolla* tubular, cream to white, externally glabrous, internally densely pilosulous at stamen insertion, tube 2–2.5 mm long, lobes 2.5–3 mm long, abaxially smooth or with a small thickening on upper middle portion; anthers 1.2–1.5 mm long, in short-styled form well exserted, in long-styled form partially exserted; stigmas in long-styled form ca. 0.8 mm long and partially exserted, in short-styled form ca. 1 mm long and included. *Infructescences* similar to inflorescences. *Fruits* ellipsoid, ca. 6 × 5 mm, glabrous, red; pyrenes 2, dorsally with 4 to 5 low rounded to flattened ridges, ventrally plane.

Habitat, distribution, and phenology. In wet forest at 900–1200 m, known only from eastern Ecuador; collected in flower in January, March, September, and November, in fruit in September.

This new species can be recognized by the combination of its subsessile, oblanceolate to obovate leaves that are rounded to cordulate at the base, its secondary inflorescence axes that are borne 4 per node in unequal pairs, its short petioles, 2–6 mm long, and its flowers that are subtended by pilosulous or hirtellous pubescence but ebracteate. This species appears to at least sometimes have a "trash bucket" habit, with the subsessile to sessile leaves accumulating detritus around stem at their bases (e.g., *Asplund 19593*). The epithet refers to the type locality, near Puyo, Ecuador. The flowers appear to be distylous but with the stigmas and anthers of the long-styled form situated at the same height (e.g., *Palacios 3799*), an unusual arrangement that may be an artifact of drying. This new species is similar to *Psychotria romolerouxiana* of Amazonian Ecuador and Peru; *P. romolerouxiana* can be separated by its leaves that are acute to obtuse at the base and abaxially have well-developed foveolate domatia in the vein axils, its shorter bilobed stipules, 6–14 mm long, and its shorter calyx limb, ca. 0.5 mm long.

Paratypes. ECUADOR. **Morona-Santiago:** N of Macas, *E. Asplund 19758* (S). **Napo:** vía Hollín–Loreto, a 3 km después del Río Hollín, 00°52′S, 77°43′W, *W. Palacios 3799* (MO). **Pastaza:** Mera, near Mangayacu, *E. Asplund 19593* (S); Río Puyo near village of Puyo, *F. Fagerlind & G. Wibom 1226* (S).

Psychotria ucumariana C. M. Taylor, sp. nov. TYPE: Colombia. Risaralda: mpio. Pereira, Parque Regional Ucumarí, Cordillera Central, 4°45′N, 75°35′W, 1600 m, 5–7 Aug. 1995, *C. Múrcia 400* (holotype, MO-5059711). Figure 1A–D.

Haec species a congeneris colombianis floribus in glomerulos capitulave subglobosa hemisphaericave dispositis, limbo calycino sat (ca. 1.5 mm) longo atque stipulis ovatis usque ellipticis 10–18 mm longis distinguitur; etiam sylvas premontanas montanasque habitat.

Shrub or small tree to 4 m tall; stems densely puberulous. *Leaves* elliptic to obovate, 15–35.5 × 6.5–15 cm, at apex acute to shortly acuminate, at base cuneate to acute, drying papyraceous, adaxially glabrous, abaxially glabrous to puberulous on lamina and densely puberulous to hirtellous on costa and secondary veins; secondary veins 12 to 22 pairs, looping to interconnect, in abaxial axils without domatia or sometimes with dense tufts of short trichomes, adaxially venation plane, abaxially costa prominent, secondary veins prominulous, and tertiary venation plane to thickened; margins plane, entire; *petioles* 1–2 cm long; *stipules* interpetiolar although apparently overlapping on sides, caducous, ovate to elliptic, 10–18 mm long, densely puberulous to hirtellous, obtuse to rounded or shallowly emarginate, entire. *Inflorescences* terminal often becoming displaced to a pseudoaxillary position by subsequent stem growth, paniculate, densely hirtellous; peduncle 7–10.5 cm long; branched portion pyramidal, 7–9 × 7–13 cm, secondary axes paired or rarely 4 with one pair markedly shorter (to 2 cm long) and strongly reflexed, secondary and tertiary axes spreading at 90° or more, terminating in globose to hemispherical glomerules or capitula; bracts ovate to broadly triangular, 2–3 mm long. *Flowers* distylous, sessile; hypanthium cupuliform, ca. 1 mm long, densely tomentellous or puberulous; *calyx limb* ca. 1.5 mm long, densely hirtellous or pilosulous to puberulous, dentate; *corolla* funnelform, white, externally strigillose to glabrescent, internally densely pilosulous at stamen insertion, tube ca. 2.5 mm long, lobes 5, ca. 2 mm long, abaxially with a rounded projection 0.3–0.5 mm long on upper middle portion; anthers in long-styled form ca. 1 mm long and partially to fully exserted, in short-styled form ca. 1.1 mm long and well exserted; stigmas in long-styled form ca. 0.5 mm long and well exserted on styles ca. 4 mm long, in short-styled form ca. 1.5 mm long and included, situated in upper part of corolla tube. *Infructescences* similar to inflorescences. *Fruits* ellipsoid, ca. 6 × 4 mm, glabrescent, color not noted; pyrenes 2, dorsally with 4 to 5 low rounded ridges, ventrally plane.

Habitat, distribution, and phenology. Wet premontane and montane forest at 1600–2300 m, western Colombia to northern Ecuador; collected in flower in February, August, and November, in fruit in April and August.

This new species is distinguished by its combination of inflorescences with the flowers in subglobose to hemispherical glomerules or heads, relatively long calyx limbs, ca. 1.5 mm long, ovate to elliptic stipules 10–18 mm long, and a habitat in premontane and montane forests. This new species is similar in aspect to *Psychotria rimbachii*, but that latter species has the secondary inflorescence axes usually borne 4 per node and ascending, whereas this new species has secondary inflorescence axes that are paired and spreading to usually reflexed or sometimes reflexed at base then curving back and ascending. *Psychotria rimbachii* is also sometimes found at lower elevations (800–2000 m) than this new species.

Paratypes. COLOMBIA. **Caldas:** Manizales, Monteleón, Cordillera Central, *M. de Fraume*, [no initial] *Alvarez* & [no initial] *Gallejo 426* (FAUC, MO); Termales el Otoño, [no initial] *Orozco*, [no initial] *Vargas* & [no initial] *Serrano 8* (FAUC, MO). **Norte de Santander:** Chitagá, E of Río Valegrá, S of Quebrada Valegrá, Con. [sic] Chucarima, Cordillera Oriental, *F. R. Fosberg 19125* (NY). **Risaralda:** Pereira, Parque Regional Ucumarí, Cordillera Central, 4°45′N, 75°35′W, *C. Múrcia 445* (MO), *C. C. Múrcia UMK 595* (MO). **Valle del Cauca:** El Silencio, Hacienda Himalaya, W of Yumbo, Cordillera Occidental, 3°38′N, 76°33′W, *A. Gentry, R. Ruiz, S. Sarria & C. Galvis 65388* (MO). ECUADOR. **Carchi:** valle de Maldonado, Km 71 on road Tulcán–Maldonado, 00°54′N, 78°06′W, *L. Holm-Nielsen, S. Jeppesen, B. Løjtnant & B. Øllgaard 5981* (AAU).

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