
Notes on *Psychotria* Subgenus *Heteropsychotria* (Rubiaceae: Psychotrieae) in Mexico and Northern Central America

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ABSTRACT. Expanded descriptions, comments on geographic ranges and infraspecific variation, and complete synonymy are presented for *Psychotria minarum*, *P. galeottiana*, and *P. phanaerandra* (Standley & Steyermark) Lorence, a new combination made here that is based on *Palicourea phanaerandra* Standley & Steyermark. The new species *Psychotria juarezana* C. M. Taylor & Lorence from southern Mexico is also described.

Psychotria L. is a pantropical genus of about 1,500 species of herbs, shrubs, and small trees. It is represented by three subgenera in the Neotropics. All subtropical species are assignable to subgenus *Psychotria* or subgenus *Heteropsychotria* Steyermark, except *P. microdon* (DC.) Urban. This species was included in subgenus *Psychotria* by Steyermark (1974) and other authors, but is better placed in subgenus *Tetrameræ* (Hiern) E. Petit (Hamilton, 1989). Subgenus *Tetrameræ* comprises species found in the Palaetropics, plus this one. It is characterized by leaves that dry pale green, pyrenes with the abaxial ("dorsal") surface smooth except for a median keel, persisting marcescent stipules, and lateral branches in opposite pairs (Hamilton, 1989; Verdcourt, 1976). In contrast, subgenus *Heteropsychotria* is characterized by leaves that dry dark green to brown or gray, pyrenes with three or more ribs on the abaxial surface, stipules that may be persistent or deciduous but are not marcescent, and lateral branches that are usually not opposite. *Psychotria microdon* is found in the Antilles and adjacent continental lowlands, and probably represents an example of long-distance dispersal. Members of subgenus *Tetrameræ* characteristically have bacterial nodules in their leaves (Verdcourt, 1976), a feature not found in the neotropical members of *Psychotria* (including *P. microdon*).

The two other subgenera found in the Neotropics encompass at least 500 species. These have been

studied in the framework of regional floras but have not been treated comprehensively. The species of subgenus *Psychotria* have recently been treated in-depth for Mexico and Central America (Hamilton, 1989). This is the area of highest diversity for this subgenus, with about 60 species. Subgenus *Heteropsychotria* includes approximately twice as many species in this same area, and many more in South America.

Cephaelis Sw. was studied by Steyermark (1972), who concluded that it comprised an assemblage of species that in many cases were more closely related to various members of *Psychotria* than to other members of *Cephaelis*. He therefore combined *Cephaelis* with *Psychotria* subg. *Heteropsychotria*, making the appropriate combinations for the floras of the Guayana Highlands (Steyermark, 1972) and Venezuela (Steyermark, 1974). Combinations remain to be made for many species that are not found in Venezuela (e.g., Taylor et al., 1991).

A modern infrageneric classification of *Psychotria* subg. *Heteropsychotria* (including *Cephaelis*) was also begun by Steyermark in his South American studies (1972), but was not extended to the Mesoamerican species. Unfortunately, Steyermark's system did not include explicit diagnoses of his groups, but was intended instead "to show apparent relationships between the taxa presented." The flora of northern Mesoamerica includes many of the species Steyermark classified, as well as endemic relatives of these species, so his classification can be extended in general to the region. However, the flora of northern Mesoamerica is not simply a northward extension of the South American flora, but does have its own identity as a phytogeographic province (Takh-tajan, 1986); the existing infrageneric classification for subgenus *Heteropsychotria* is inadequate to allow us to classify the species treated here.

We present here expanded descriptions, comments on geographic range and infraspecific vari-

ation, and complete synonymy for several poorly known species of *Psychotria*, and describe and illustrate one new species, *P. juarezana* C. M. Taylor & Lorence. Lists of additional specimens of *P. phanaerandra* and *P. galeottiana* examined are available from the authors.

NOTES ON PREVIOUSLY DESCRIBED SPECIES

Psychotria minarum Standley & Steyerl., Publ. Field Mus. Nat. Hist., Bot. Ser. 23: 253. 1947. TYPE: Guatemala. El Progreso: between Calera and summit of Volcán Siglo, 2,000–3,300 m, 2 Jan. 1942, *J. A. Steyerl.* 43106 (holotype, F; isotype, US).

Psychotria lilacina Standley & Steyerl., Publ. Field Mus. Nat. Hist., Bot. Ser. 23: 252. 1947. Syn. nov. TYPE: Guatemala. Huehuetenango: Cerro Huitz, between Mimanhuitz and Yulhuitz, S of Los Cuchumatanes, 1,500–2,600 m, 14 July 1942, *J. A. Steyerl.* 48564 (holotype, F).

Glabrous to puberulent shrubs to 1.5 m tall, stems becoming terete. *Leaf* blades elliptic, 2–6.5 × 0.7–2.7 cm, acute to acuminate at apex with tip to 2 cm long, acute to obtuse at base, chartaceous, pale abaxially; secondary veins 5–6 pairs, arching, without domatia, sometimes with 1 intersecondary vein perpendicular to costa, midrib and secondary veins smooth adaxially, prominulous abaxially; margins flat; petioles 2–6 mm long; stipules persistent, with truncate circumferential sheath to 0.5 mm long, with 2 lobes on each side, these narrowly triangular, ca. 0.5 mm long, acute. *Inflorescences* terminal, panicle rounded, 3–6-flowered, 1–2 cm long and wide including corollas, erect to deflexed; peduncles ca. 1 cm long; primary branches 1–2 pairs, axis and primary branches simple; pedicels 0–3 mm long; bracts narrowly triangular, acute, 0.5–3 mm long, those subtending primary branches 1–3 mm long, those subtending flowers 0.5–1 mm long; *flowers* with hypanthium obconic, 0.8–1.2 mm long; calyx limb green, glabrous, 1–3.5 mm long, divided partially to completely, lobes 5, triangular to ligulate, acute; corolla funnellform, white tinged with lilac or purple, glabrous, tube 6–8 mm long, ca. 1 mm wide at base, ca. 2 mm wide at apex, lobes 5, triangular, 2–3 mm long, 0.5–1 mm wide, acute; stamens 5, attached in upper part of corolla, anthers 1–1.5 mm long, included or partially exerted; style surrounded at base by annular disk ca. 0.5 mm high, glabrous, ca. 8 mm long, with stigma ca. 0.5 mm long. *Infructescences* similar to inflorescences, becoming purple; fruit ellipsoid, 4.5–5 mm long, ca. 4.5 mm wide, becoming black; pyrenes 2, ca. 4 mm long, planoconvex with ca. 5 rounded ridges on back.

Distribution and ecology. Southern Mexico to Guatemala and adjacent El Salvador, in wet highland forest and cloud forest at 2,000–3,300 m, frequently on windswept ridges.

Phenology. Collected in flower April–May, in fruit August–November.

These plants are low shrubs or subshrubs that are infrequently collected. Very few mature flowers and fruits have been seen; whether this species is distylous cannot be determined from the material available. The type specimens of these epithets clearly represent the same taxon. The type collection of *Psychotria minarum* has mature infructescences and fruits, while that of *P. lilacina* has only immature flowers on an unexpanded inflorescence. The name *P. minarum* was accompanied by a more complete description and exemplary type specimen, and is selected here.

Additional specimens examined. EL SALVADOR. SANTA ANA: Cerro Montecristo, *W. B. Heed*, 4–6 Feb. 1954 (F); Montecristo, 2,300 m, 23 May 1963, *A. Molina R. & A. R. de Molina* 12673 (F). GUATEMALA. CHIQUIMULA: middle slopes of Montaña Norte to El Jutal, on Cerro Brujo, SE of Concepción de las Minas, 1,700–2,000 m, 2 Nov. 1939, *J. A. Steyerl.* 31007 (F). EL PROGRESO: hills N of Finca Piramonte, between Finca Piramonte and summit of Volcán Santa Luisa, 2,400–3,333 m, 5 Feb. 1942, *J. A. Steyerl.* 43492 (F). HUEHUETENANGO: Cerro Cananá, between Nucapuxla and Cananá, Sierra de los Cuchumatanes, 2,500–2,800 m, 18 July 1942, *J. A. Steyerl.* 49107 (F). ZACAPA: summit of Sierra de las Minas, vicinity of Finca Planados, 2,500 m, 14 Oct. 1939, *J. A. Steyerl.* 29961 (F). MEXICO. CHIAPAS: municipio Tenejapa, barrio Banabil, paraje de Matsab, 8,800 ft., 26 Aug. 1966, *D. E. Breedlove* 15332 (F). OAXACA: municipio San Miguel Chimalapa, cima del cerro Salomon, al NO de Benito Juárez, ca. 44 km al N de San Pedro Tapanatepec, 16°46'15"N, 94°11'45"W, 1,770 m, 11 Apr. 1986, *M. Ishiki* 1510 (MO).

Psychotria phanaerandra (Standley & Steyerl.) Lorence, comb. nov. Basionym: *Palicourea phanaerandra* Standley & Steyerl., Publ. Field Mus. Nat. Hist., Bot. Ser. 23: 252. 1947. TYPE: Guatemala. Izabal: Cerro San Gil, 1,200 m, 26–27 Dec. 1941, *J. A. Steyerl.* 41952 (holotype, F; isotype, US). Lorence & Dwyer (1987: fig. 3a, b).

Psychotria luteotuba Lorence, Bol. Soc. Bot. México 47: 55. 1987. Syn. nov. TYPE: Mexico. Veracruz: municipio Hidalgotitlán, zona de Uxpanapa, Río Soluchil a 5–6 km ESE de Hermanos Cedillo, 100–200 m, 24 Mar. 1982, *D. Lorence et al.* 3910 (holotype, MEXU; isotypes, BM, BR, CHAPA, ENCB, F, MO, UC, XAL).

Glabrous or minutely hirtellous shrubs or small trees to 4 m tall, stems becoming terete. *Leaf* blades elliptic to ovate-elliptic, 4–10(–12.5) × (1.8–)2.4–

4.7 cm, acuminate at apex with tip to 2 cm long, acute to cuneate or attenuate or (rarely) obtuse at base, chartaceous; secondary veins 5–10 pairs, arching, without domatia, with 1(–2) intersecondary veins perpendicular to costa, midrib and secondary veins prominulous on both surfaces; margins slightly revolute; petioles 1.5–10 mm long; stipules persistent, with truncate circumferential sheath 0.4–0.8 mm long, with 2 lobes on each side, these narrowly triangular to acicular, 0.3–0.6 mm long, acute, deciduous. *Inflorescences* terminal, panicle rounded, 15–22-flowered, 25–60 mm long including corollas, 15–35 mm wide, green, erect; peduncle 15–35 mm long; primary branches 2–4 pairs, axis and primary branches simple or branched once; pedicels 0–1.5 mm long; bracts triangular to narrowly so, 0.5–3 mm long, those subtending primary branches 1–3 mm long, those subtending flowers 0.5–1 mm long; *flowers* distylous, with hypanthium obconic, ca. 0.5 mm long; calyx limb green, glabrous, 0.5–0.8 mm long, divided partially to completely, lobes 5, triangular, 0.4–0.6 mm long, ca. 0.2–0.5 mm wide, subequal, acute to obtuse; corollas funnellform, yellow, glabrous or minutely hirtellous externally, internally glabrous except for a ring 1–2 mm wide of sparse pilosulous pubescence just below filament attachment, tube 8–13 mm long, ca. 1 mm wide at base, ca. 2–2.5 mm wide at throat, lobes (4–)5, triangular to somewhat ovate or ligulate, 3–4 mm long, acute to rounded; stamens (4–)5, in long-styled form attached in upper third of corolla tube with filaments 0.5–1 mm long and anthers 2–3 mm long and included, in short-styled form attached at apex of tube with filaments 1–3 mm long and anthers 2–3 mm long and exerted; style surrounded at base by annular disk 0.5–0.8 mm high, glabrous, in long-styled form extending 2–3 mm beyond apex of corolla tube with stigmas ca. 0.5 mm long, in short-styled form 6.5–8 mm long with stigmas ca. 1 mm long. *Infructescences* similar to inflorescences, becoming purple; fruit ovoid, laterally compressed, somewhat didymous, 5–7 mm long, 5–6.5 mm wide, becoming black; pyrenes 2, 4–5 mm long, plano-convex with 3–5 rounded ridges on back.

Distribution and ecology. Southern Mexico to Panama, though markedly less frequently collected in the southern part of its range, in wet lowland evergreen forests and montane wet or cloud forests at 20–2,100 m.

Phenology. Collected in flower March–June and in December, in fruit July–December and in February.

The general appearance and biology of this species are described by Lorence & Dwyer (1987). The

type collection of *Palicourea phanaerandra* has only immature flowers, but clearly represents the same species. The identity of this name was unknown for a long time; Standley & Williams did not include it in the *Flora of Guatemala* (1975).

Selected specimens examined. COSTA RICA. CARTAGO: Valle Escondido, 750 m, 1 Apr. 1966, C. Schnell 807 (F). HEREDIA: Parque Nacional Braulio Carrillo, 600 m, 24 Mar. 1982, I. A. Chacón 55 (CR); Estación Carrillo de la fila al cañon del Río Sucio, 450–700 m, 12 Nov. 1983, I. A. Chacón & G. Herrera 1670 (CR). LIMON: Cantón de Limón, El Progreso 0.5 km al E de Cerro Muchilla, fila Matama, Valle de La Estrella, 9°47'50"N, 83°05'30"W, 850 m, 9 Apr. 1989, G. Herrera 2573 (CR, MO), 5 Apr. 1989, R. Robles & A. Chacón 2658 (CR, MO). HONDURAS. COMAYAGUA: ca. 10 km W of Siguatepeque, 1,800 m, 18 May 1972, D. Burch 6106 (MO). CORTES: along Lake Yojoa ca. 5 km N of Rancho Agua Azul, 630 m, 11 Apr. 1951, L. O. Williams & A. Molina R. 17762 (F). MEXICO. CHIAPAS: municipio Rayón, near Puerto del Viento, 9 mi. N of Pueblo Nuevo Solistahuacan, along road to Tapiula, 6,100 ft., 30 May 1965, D. E. Breedlove 10173 (MO). GUERRERO: Montes de Oca, Pilas-Pasión, 2,100 m, 10-4-1937, G. Hinton 10757 (F). OAXACA: por la vereda a arroyo Plata, 16°52'N, 94°37'W, 400 m, 3 Sep. 1985, H. Hernández G. 1439 (CHAPA, PTBG). TABASCO: municipio Huimanguillo, km 10, Ejido T. Nueva, 20 m, 4 Apr. 1972, Puig 777 (MEXU). VERACRUZ: municipio Catemaco, entre de Bastonal y Arroyo Claro, 14 km al E de Lago Catemaco, 900 m, 10 June 1972, J. H. Beaman 6124 (F, MEXU, MO). PANAMA. COCLE: on ridge W of sawmill above El Copé, 903–1,161 m, 21 June 1978, B. Hammel 3558 (MO).

Psychotria galeottiana (M. Martens) C. M. Taylor & Lorence, *Taxon* 34: 669. 1985. *Palicourea galeottiana* M. Martens, *Bull. Acad. Roy. Soc. Sci. Bruxelles* 11: 136. 1844. *Uragoga galeottiana* (M. Martens) Kuntze, *Revis. Gen. Pl.* 2: 960. 1891. TYPE: Mexico. Oaxaca: without location, *Galeotti* 2606 (lectotype, designated by Taylor & Lorence, 1985, BR; isoelectotypes, K, P). Figure 1.

Palicourea seleri Loes., *Verh. Bot. Vereins Brandenburg* 65: 114. 1923. Syn. nov. SYNTYPES: Guatemala. Huehuetenango: zwischen Trinidad und Rosario, 13 Aug. 1896, C. Seler & E. Seler 3049 (syntype, B destroyed, photos, F, GH, MO, NY, US, fragment, F; isosyntype, GH); Yalambohoch, C. Seler & E. Seler 2676 (syntype, B destroyed).

Psychotria skutchii Standley, *Publ. Field Mus. Nat. Hist., Bot. Ser.* 17: 283. 1937. Syn. nov. TYPE: Guatemala. Huehuetenango: San Juan Ixcay, 8,000 ft. [2,581 m], 22 Aug. 1934, A. Skutch 1074 (holotype, F; isotype, A).

Psychotria pachecoana Standley & Steyerl., *Publ. Field Mus. Nat. Hist., Bot. Ser.* 22: 205. 1940. Syn. nov. TYPE: Guatemala. Baja Verapaz: N of divide N of Santa Rosa, 1,650 m, 30 Mar. 1939, P. C. Standley 69922 (holotype, F).

Psychotria persearum Standley, *Ceiba* 1: 48. 1950. Syn.

nov. TYPE: Honduras. Francisco Morazán: Cerro de Uyuca, 1,800 m, 2 Mar. 1947, *P. C. Standley 4865* (holotype, F; isotype, EAP).

Psychotria uyucana Standley, Ceiba 1: 48. 1950. Syn. nov. TYPE: Honduras. Francisco Morazán: drainage of Río Yeguaré, Mt. Uyuca, 14°N, 87°W, 2,000 m, 29 May 1948, *A. Molina R. 919* (holotype, F; isotype, EAP).

Psychotria orogenes L. O. Williams, Phytologia 28: 231. 1974. Syn. nov. TYPE: Guatemala. Baja Verapaz: Sierra de las Minas, ca. 5 km S of Purulhá, 1,600 m, 2 Jan. 1973, *L. O. Williams et al. 41924* (holotype, F).

Palicourea macrantha auct., non Loes. (Taylor, 1989).

Glabrous or puberulent to densely pilosulous shrubs or small trees to 5 m tall with trichomes to 0.3 mm long and sometimes yellow or yellow-brown, stems becoming terete. *Leaf* blades elliptic to narrowly so, 4–15 × 1.2–4 cm, acute to acuminate at apex with tip 1–2 cm long, acute or cuneate to rounded at base, chartaceous, frequently pale abaxially, without domatia; secondary veins 7–18 pairs, arching, with 1–3 intersecondary veins perpendicular to costa, midrib and secondary veins smooth adaxially, prominent below; margins flat; petioles 2–17 mm long; stipules persistent, with truncate circumferential sheath 1–2(–4) mm long, with 2 lobes on each side, these narrowly triangular, 0.5–4 mm long, acute. *Inflorescences* terminal, panicles pyramidal to rounded, 10–30-flowered, 1.5–9.5 cm long including corollas, 2–11 cm wide, green, erect to deflexed; peduncles 1–4 cm long; primary branches 1–3 pairs, axis and primary branches simple or branched once or twice; pedicels 0–5 mm long; bracts narrowly triangular to linear, 0.5–14 mm long, those subtending primary branches 1–14 mm long, those subtending pedicels 0.5–3 mm long; *flowers* distylous, with hypanthium obconic, ca. 0.8–1 mm long; calyx limb green, puberulent to densely pilosulous with trichomes to 0.3 mm long, 0.3–1.5 mm long, divided nearly completely, lobes 5, triangular, often strongly unequal, acute to obtuse; corolla funnel-form, white sometimes flushed with pink or lavender, externally puberulent to pilosulous with trichomes to 0.2 mm long, internally glabrous except for a ring 2–4.5 mm wide of sparse pubescence near middle of tube, tube 5–10 mm long, ca. 1 mm wide at base, 3–4 mm wide at apex, lobes 5, triangular, 2–3 mm long, 1–2 mm wide, acute; stamens 5, in long-styled form attached in upper third of corolla tube with anthers subsessile, 1.8–2 mm long, and partially exerted, in short-styled form attached at apex of tube with filaments 1–2 mm long and anthers 2–2.5 mm long and partially to wholly exerted; style surrounded at base by annular disk ca. 0.5 mm high, glabrous, in long-styled form extending

1–2 mm beyond apex of the corolla tube with stigmas 0.3–1 mm long, in short-styled form 4–7 mm long with stigmas 1.5–2 mm long. *Infructescences* similar to inflorescences, becoming purple; fruit ellipsoid, somewhat compressed laterally, 3–4 mm long and wide, becoming black; pyrenes 2, 3–3.5 mm long, with ca. 5 rounded ridges on back.

Distribution and ecology. Southern Mexico to Nicaragua, common in Mexico, Guatemala, and Honduras but markedly less frequently collected in the southern portion of its range, in wet forest and cloud forest at 1,400–3,050 m.

Phenology. Collected in flower and fruit throughout the year, but more frequently collected in flower April–June and in fruit August–December.

As circumscribed here, this species varies widely in pubescence. Plants range from completely glabrous to densely pilosulous on all parts, with the pubescence usually golden and spreading. All intermediate pubescence conditions are represented by specimens, including types. The most densely pubescent forms are found from Chiapas to Honduras, but glabrous individuals occur in the same range. Both glabrous and densely pubescent individuals are represented from the same sites, and even in the same collection (*Croat & Hannon 64040*, MO). No other characteristics show correlation with the variation in pubescence, and pubescence is here rejected as a species-level characteristic. The epithets “*galcottiana*,” “*persearum*,” and “*uyucana*” were based on glabrous specimens, “*skutchii*” and “*seleri*” on moderately pubescent specimens with the inflorescences and leaves smaller than average, and “*orogenes*” and “*pachecoana*” on densely pubescent specimens with leaves larger than average.

The reproductive features, notably the inflorescence and corollas, are variable as well, but they likewise show no correlation with variation in other characters. The inflorescences of *Psychotria galcottiana* vary continuously from relatively open with about 15 flowers to relatively contracted with about 50 flowers, throughout the range of the species. The types of several of the epithets listed above, notably “*uyucana*,” show these relatively more contracted inflorescences, but cannot be segregated on this basis. The corolla is usually pentamerous, but some individual flowers may occasionally be tetramerous in the same inflorescence (Fig. 1).

Selected specimens examined. GUATEMALA. ALTA VERAPAZ: 2–3 mi. S of Purulhá on Hwy. 14 to Cobán, 1,500–1,600 m, 21 July 1977, *T. B. Croat 41746* (MO). BAJA VERAPAZ: Chilasco, 4 Aug. 1971, *E. Contreras 10967* (F, MO). CHIMALTENANGO: Santa Elena, 9,000–10,000

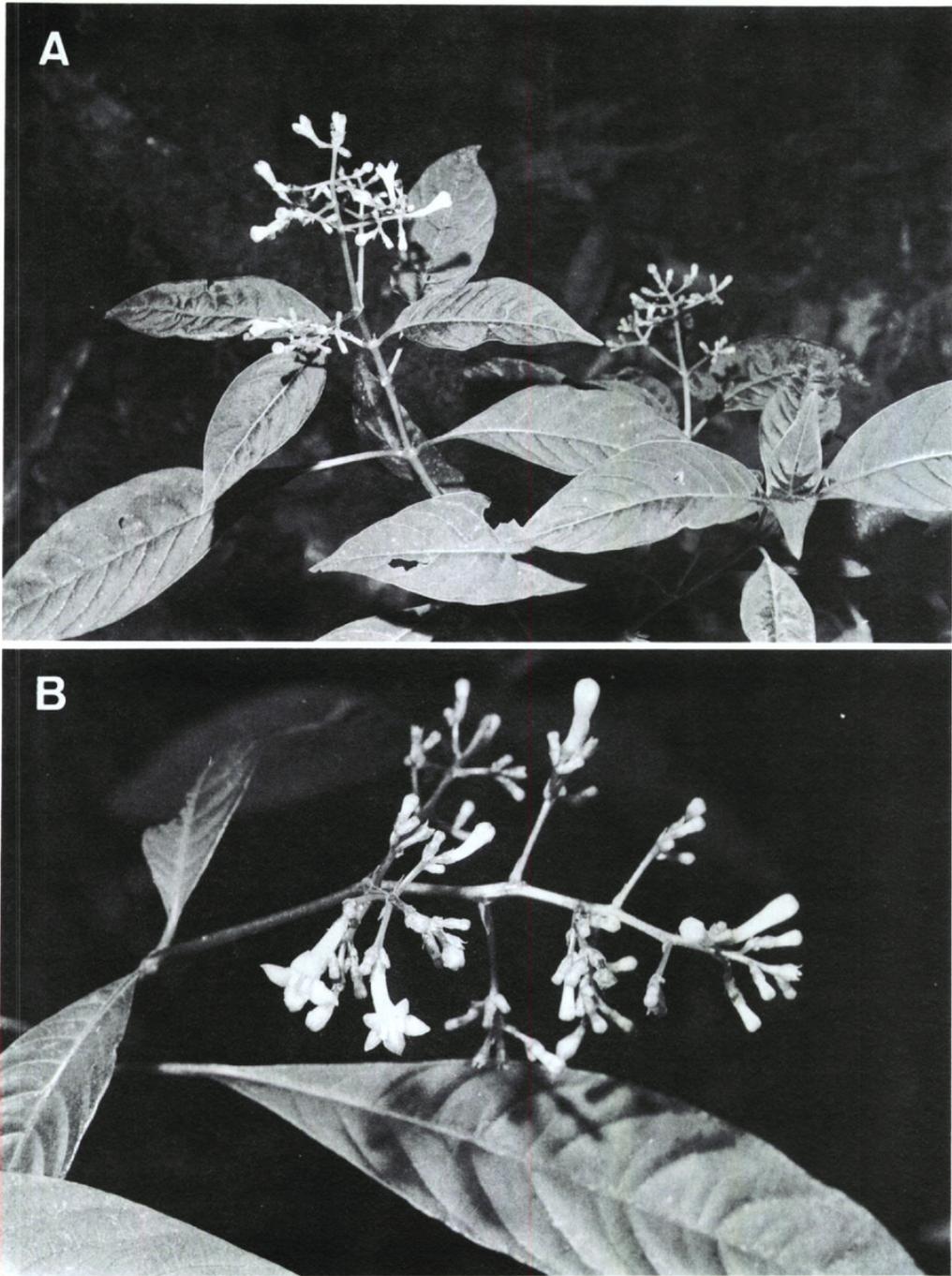


Figure 1. *Psychotria galeottiana* (M. Martens) C. M. Taylor & Lorence. —A. Habit. —B. Detail of inflorescence, showing tetra- and pentamerous corollas of short-styled flowers. Photos taken in the Sierra de Juárez of Oaxaca, Mexico (Lorence 4196).

ft., 18 July 1933, *A. Skutch* 443 (F, US). EL QUICHE: ca. 2 km E of Nebaj, *E. Contreras* 4921 (MO). SAN MARCOS: between Todos Santos and Finca El Porvenir, lower to middle slopes of Volcán Tajumulco, 1,300–3,000 m, 1 Mar. 1940, *J. A. Steyermark* 37021 (F). ZACAPA: ravine bordering Quebrada Alejandrina, summit of Sierra de las Minas, vicinity of Finca Alejandrina, 2,500 m, 13 Oct. 1939, *J. A. Steyermark* 29821 (F). HONDURAS. EL PARAISO: Cerro Monserrat, cerca de Yuscarón, 2,000 m, 6–9 Oct. 1977, *C. Nelson & E. Romero* 4326 (MO). FRANCISCO MORAZAN: Cerro de Uyuca, 6,300 ft., 10 June 1948, *S. F. Glassman* 1532 (EAP, F, NY), 16 June

1948, *S. F. Glassman* 1628 (EAP, F, NY), 17 July 1948, *S. F. Glassman* 1945 (EAP, F, NY), *J. W. Miller*, 1950 (EAP). OCOTEPEQUE: Mt. Merendón, 10 Sep. 1973, *D. Hazlett* 806 (MO). MEXICO. CHIAPAS: municipio Jitotol, ca. 12 km N of Jitotol along a side road to an oil well, 2,000 m, 28 Sep. 1971, *D. E. Breedlove* 19954 (MO), 28 Oct. 1971, *D. E. Breedlove & R. E. Thorne* 21495 (F, MO, NY). GUERRERO: distrito Montes de Oca, Pilas-Pasión, 2,100 m, 10 Apr. 1937, *G. Hinton et al.* 10757 (MO). HIDALGO: municipio Tenango de Doria, arroyo a 5 km por camino al E de Tenango de Doria a El Cirio, 1,700 m, 9 Nov. 1985, *D. H. Lorence & R. Hernández*

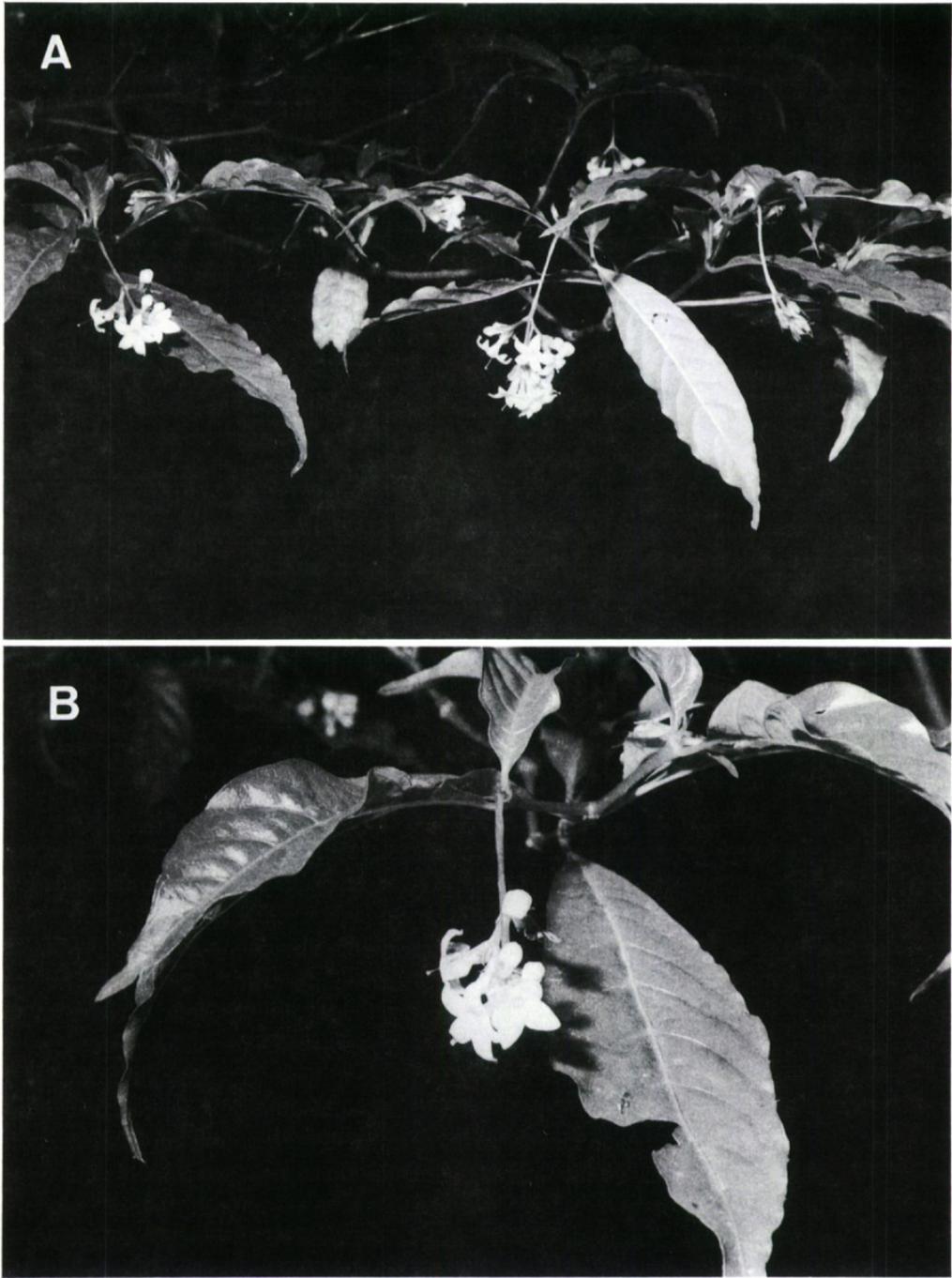


Figure 2. *Psychotria juarezana* C. M. Taylor & Lorence. —A. Habit. —B. Detail of inflorescence showing tetra- and pentamerous corollas of long-styled flowers. Photos taken in the Sierra de Juárez of Oaxaca, Mexico (Lorence 4266).

M. 4921 (MEXU, MO). OAXACA: distrito Ixtlán de Juárez, Sierra de Juárez, ruta 175 Tuxtepec a Oaxaca, 14 km por camino al NE de Cerro Humo Chico y Cerro Pelón, 2,200 m, 28 May 1990, *D. H. Lorence & R. Cedillo T. 4175* (MO). PUEBLA: Cascada Oligui entre Teziutlan y Tlapacoyán, 1,550 m, 2 June 1968, *D. Garcia S. 73* (MO). VERACRUZ: municipio Banderilla, Rancho La Martinica, 5 km al N del pueblo de Banderilla, 19°35'N, 96°57'W, 1,500 m, 6 May 1978, *J. I. Calzada 4387* (F). NICARAGUA. JINOTEGA: Cerro Kilambe, falda E del Pico Piedras Pelona, 13°34'N, 85°50'W, 1,300–1,400 m, 28 Mar. 1981, *P. P. Moreno 7775* (MO). MATAGALPA: W slope and summit of Cerro El Picacho, ca. 13°00'N,

85°55'W, 1,350–1,590 m, 3 June 1983, *W. D. Stevens & P. P. Moreno 22179* (MO). NUEVA SEGOVIA: faldas al S de Cerro Mogotón, 1,600 m, 12 June 1975, *J. Atwood & D. Neill 21* (MO). ZELAYA: Cerro Saslaya, 20 km W of Siuna, 1,100–1,400 m, 5 May 1977, *D. Neill 1845* (MO), 1,400–1,600 m, 4 May 1978, *D. Neill 3855* (MO).

DESCRIPTION OF A NEW SPECIES

Psychotria juarezana C. M. Taylor & Lorence, sp. nov. TYPE: Mexico. Oaxaca: distrito Ixtlán

de Juárez, Sierra de Juárez, ruta 175, Tuxtepec a Oaxaca ca. 4 km al SO de La Esperanza, 1,700 m, 4 Apr. 1983, *D. H. Lorence* 4266 (holotype, MO #3750634; isotype, MEXU). Figure 2.

Species *Psychotriae galeottianae* (M. Martens) C. M. Taylor & Lorence affinis, sed inflorescentia minus deflexa, limbo calycino 1–2.5 mm longo, bracteis majoribus 2–10 mm longis differt.

Glabrous shrubs or small trees to 2 m tall, stems terete. *Leaf* blades elliptic to slightly oblanceolate, 4–11.5 cm long, 1.4–3.8 cm wide, acuminate at apex with tip 1–1.5 mm long, acute at base, chartaceous, pale abaxially; secondary veins 5–10 pairs, arching, without domatia, with 1(–2) intersecondary veins perpendicular to costa, midrib and secondary veins prominulous on both surfaces; margins flat; petioles 2–22 mm long; stipules persistent, with truncate circumferential sheath 1–1.5 mm long, with two lobes on each side, these narrowly triangular, 1.8–4 mm long, acute. *Inflorescences* terminal, panicles pyramidal, 5–15-flowered, 8–25 mm long including corollas, 8–20 mm wide, green, nodding; peduncle 15–27 mm long; primary branches 1–2 pairs, axis and primary branches simple or rarely branched once, each terminating in a cymule of 2–5 flowers; pedicels 0–22 mm long; bracts triangular, acute, 2–10 mm long, those subtending primary branches 7–10 mm long and those subtending flowers 2–7 mm long; *flowers* distylous; hypanthium obconic, ca. 0.8–1 mm long; calyx limb green, glabrous, 1–2.5 mm long, divided partially to completely to base, lobes 5, ligulate, 0.5–1 mm wide, frequently strongly unequal, acute; corolla funnellform, white or sometimes flushed with purple near base, glabrous except for a ring 2–3 mm wide of pilosulous pubescence internally at middle of tube, tube 7–10 mm long, ca. 1 mm wide at base, ca. 4 mm wide at apex, lobes 5, triangular, 3–3.5 mm long, acute; stamens 5, in long-styled form attached in upper third of corolla tube with anthers sessile, 1.8–2 mm long, and partially exerted, in short-styled form attached at apex of tube with filaments ca. 2 mm long and anthers ca. 2 mm long and partially to wholly exerted; style surrounded at base by annular disk ca. 0.8 mm high, glabrous, in long-styled form extending ca. 3 mm beyond apex of corolla tube with stigmas ca. 0.3 mm long, in short-styled form ca. 4–5 mm long with stigmas ca. 1 mm long. *Infructescences* similar to inflorescences, becoming purple; fruit ellipsoid, ca. 5 mm long, ca. 4.5 mm wide, becoming black; pyrenes 2, ca. 4 mm long, planoconvex with ca. 5 ridges on back.

Distribution and ecology. Southern Mexico, in wet montane cloud forests with *Pinus*, *Engelhardtia*, *Magnolia*, *Ardisia*, *Podocarpus*, *Quercus*, and *Weinmannia* at 1,550–3,000 m elevation.

Phenology. Collected in flower in April, June, and August, in fruit September–October.

This new species is similar to *Psychotria galeottiana* and is probably closely related to it. The latter species can be separated by its erect or slightly deflexed pyramidal inflorescences 1.5–9.5 cm long with pedicels 0–5 mm long and linear floral bracts 0.5–3 mm long, calyx lobes 1.5 mm long or shorter though often strongly unequal, and less strongly exerted style and stamens. The specific epithet refers to the type locality.

Paratypes. MEXICO. CHIAPAS: municipio Jitotol, ca. 12 km N of Jitotol along a side road to an oil well, 2,000 m, 28 Sep. 1971, *D. E. Breedlove* 19954 (MO), 28 Oct. 1971, *D. E. Breedlove* & *R. F. Thorne* 21495 (MO). OAXACA: distrito Ixtlán de Juárez, La Esperanza, Km 75 de la carretera Valle Nacional a Ixtlán, 3 Aug. 1981, *R. Cedillo T. et al.* 923 (MEXU, MO); 4 km al SW de la Esperanza, 1,800 m, 4 June 1983, *R. Cedillo T. & R. Torres C.* 2412 (MEXU, MO); municipio de Comaltepec, carretera Valle Nacional–Oaxaca, al NE de Cerro Pelón, 3,000 m, Mar. 1983, *L. Cortés* 138 (MEXU, MO); Sierra de Juárez, along Hwy. 175 between Valle Nacional and Oaxaca, 26 mi. above (W of) Valle Nacional, 1,900 m, 30 June 1977, *T. B. Croat* 39846 (MO), 39850 (MO); distrito Ixtlán de Juárez, Sierra de Juárez, ruta 175 Tuxtepec a Oaxaca, 3 km al SO de la Esperanza, 1,550 m, 17 Apr. 1982, *D. H. Lorence et al.* 4051 (MEXU, MO); distrito Ixtlán de Juárez, Sierra de Juárez, Ruta 175 Tuxtepec a Oaxaca, ca. 4 km al SW de La Esperanza, 1,700 m, 4 Apr. 1983, *D. H. Lorence* 4267 (MEXU, MO).

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