

New records of the genus *Psychotria* (Rubiaceae) from Thailand

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ABSTRACT

Four species of *Psychotria* are newly recorded from Thailand: *P. bonii*, *P. griffithii*, *P. langbianensis* and *P. pachyphylla*. Descriptions and list of synonyms are provided and a lectotype for *P. bonii* is designated.

KEYWORDS: lectotypification, Psychotrieae, revision, taxonomy, Gentianales.

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INTRODUCTION

The genus *Psychotria* L. is characterized by its sheathing and caducous interpetiolar stipules, conspicuous colleters at lower part of adaxial surface of stipules, short and straight corolla tube, valvate petals in bud, drupaceous fruits with two pyrenes, hemispherical in cross-section seeds, a flattened to furrowed ventral seed surface and a ribbed to rounded dorsal seed surface, presence of an ethanol soluble pigment in the seed coat and ruminant endosperm (Robbrecht, 1989; Nepokroeff *et al.*, 1999; Sohmer & Davis, 2007). The genus is one of the most diverse genera of Rubiaceae and consists of approximately 2,000 species (Davis *et al.*, 2001) distributed throughout the tropics. In Thailand, 38 species were recorded by Craib (1934) and 12 species listed by Pooma & Suddee (2014). Recently, during extensive field and herbarium surveys for the taxonomic revision of *Psychotria* in Thailand, we found four species that are new records for Thailand. Moreover, lectotypification of one name is required. All cited specimens have been seen by the first author.

TAXONOMIC TREATMENT

1. *Psychotria bonii* Pit. in Lecomte, Fl. Indo-Chine 3: 347. 1924. Type: Vietnam, Tonkin, Khien Khe, Dong Ham mount, 14 May 1883, *Bon 2137*

(lectotype P [P00601775!] designated here; isolecotype P [P00604047!]). Fig. 1.

Erect shrubs, 0.3–0.8 m tall; branches glabrous, longitudinal ridges absent. *Stipules* interpetiolar, caducous, ovate, 0.5–0.8 by 0.5–0.9 cm, bilobed, lobes lanceolate, apex acute, margin serrate with scabrous-ciliate, outer surface glabrous, inner surface with dense colleters interspaced with hairs at base. *Leaves* narrowly ovate, elliptic or elliptic-ovate, (2.5–)5.5–18.3 by 2.5–6.3 cm, apex attenuate, acuminate or acute, base cuneate, margin undulate, chartaceous, glabrous on both surfaces or rarely puberulous on lower surface; domatia absent; midrib depressed above and distinctly prominent below; lateral veins (9–)10–13 pairs, brochidodromous with collector vein along leaf length; petioles (0.8–)1.2–2.2 cm long, glabrous. *Inflorescences* terminal or pseudo-axillary, a lax panicle-like thyrses, trichotomous; peduncle 3–5 cm long, glabrous or sparsely puberulous at node; primary inflorescence branches 2, opposite, sparsely pubescent; flowers in inflorescence unit (2–)3, lax. *Bracts* persistent, cup-like, 0.7–1.1 by 1–1.5 mm, apex truncate, margin villous-ciliate, upper surface puberulous at base, lower surface sparsely puberulous. *Leaf-like bracts* absent or rarely present, elliptic-oblong, 1.4–2.1 by 0.5–0.8 mm, apex acuminate, glabrous on both surfaces. *Flowers* sessile or sub-sessile; floral bud apex rounded

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without corolla protrusion; pedicels absent or 0.2–0.5 mm long, glabrous; floral bracts persistent, scale-like, 0.3–0.5 by 0.3–0.4 mm. *Calyx* tubular, tube 0.4–0.5 mm long, glabrous on both sides; lobes 4, triangular, 0.3–0.5 by 0.6–0.8 mm, apex acute, margin entire with scabrous-ciliate near apex, glabrous on both sides. *Corolla* white, short salverform, tube 2.2–5.3 mm long, glabrous outside, villous at throat inside; lobes 4, elliptic to elliptic-ovate, 0.9–1 by 1–1.1 mm, apex acute, reflex, margin entire. *Stamens* 4; filaments 0.3–0.4 mm long, glabrous; anthers basifixed, elliptic-oblong, 0.8–0.9 by 0.3–0.4 mm, apex acute, glabrous, anther basal protrusion absent. *Ovary* inferior, 2-locular, glabrous; style 1.1–1.2 mm long, glabrous; stigma 2-lobed, lobes rounded, puberulent. *Infructescences* elongated, 1–2.5 mm long, glabrous. *Fruits* drupaceous, ellipsoid, slightly bilobed at apex, glabrous, calyx persistent; pyrenes 2, hemiellipsoid, 5.4–7 by 4–5.1 mm, dorsal surface convex, longitudinal ridges and grooves absent, ventral surface concave, longitudinal ridges absent, longitudinal groove 1. *Seeds* hemiellipsoid, 5.4–7 by 4–5.1 mm, dorsal surface convex without longitudinal ridges, ventral surface concave without longitudinal ridges; endosperm ruminant.

Thailand.— NORTH-EASTERN: Phetchabun [Nam Nao NP, Huai Ya Khuea, 10 Aug. 2015, *Srisuk* 958 (KKU); *ibid.*, 24 July 2016, *Srisuk* 1001 (KKU); *ibid.*, 11 Mar. 2017, *Srisuk* 1018 (KKU)]; Loei [Phu Luang WS, from Ban Na Luang to northern ridge, alt. ca 1,000 m, 3 Dec. 1965, *Tagawa et al. T-1053* (AAU, E, K (2 sheets)); Phu Luang WS, trail to Khok Huai Tae, Ban Na Noi, alt. 900–1,100 m, 19 Dec. 2001, *Chamchumroon V.C.1216* (BKF)]; Bueng Kan

[Phu Wua WS, natural trail from headquarter, alt. 200 m, 27 Aug. 2001, *Pooma et al. 2793* (BKF, L); Phu Wua WS, Hui Phai Waterfalls, 21 Oct. 2015, *Srisuk* 972 (KKU)].

Distribution.— Vietnam.

Ecology.— Shaded areas or along streams in hill evergreen forest.

Phenology.— Flowering March–June, fruiting May–September.

Vernacular.— Kha nang song phu (คนางสองพู).

Notes.— This species was previously only known from montane evergreen forest in Tonkin (Bavi and Dong-ham mountains), northern Vietnam. However, after collecting in the same type of habitat in the North-Eastern Thailand, some specimens were found with flowers and fruits and identified with the key to species of *Psychotria* in Indochina (Pitard, 1924) as well as compared with specimens in P and it is clearly the same species because of its ellipsoid fruit and seeds surfaces without ridges. Thus, the distribution of this species is extended to the North-Eastern Thailand.

Morphologically, *P. bonii* is similar to *P. lanceolaria* Ridl. because of its glabrous stems and lower surface of leaves and presence of brochidodromous with collector vein along leaf length, but *P. bonii* is distinguished by its shorter calyx lobes and corolla tube, 0.3–0.5 mm and 2.2–5.3 mm long, respectively (1–1.2 mm and 3.7–3.9 mm long in *P. lanceolaria*), triangular calyx lobes (lanceolate in *P. lanceolaria*) and ellipsoid, slightly bilobed fruits (ovoid to ellipsoid and entire in *P. lanceolaria*).



Figure 1. *Psychotria bonii* Pit.: A. inflorescence; B. immature fruits. Photos by T. Srisuk.

Psychotria bonii was described by Pitard (1924) but only localities and collectors were referred in the protologue as “Tonkin: Mt. Bavi (Balansa); Khien-khé, au mt Dong-ham (Bon)”. Several specimens related to the protologue collected from Tonkin by Balansa (Mt Bavi: *Balansa 2730* [P00604049, P00604052]) and Bon (‘Kien-khé, au mt Dong-ham’: *Bon 2137* [P00601775, P00604047], *Bon 2380* [P00604054, P00604055], *Bon 2521* [P00604050, P00604051], *Bon 2943* [P00604048, P05024992]) were found in P. These specimens were collected between 1883 and 1888, well before *P. bonii* was described by Pitard (1924), and these specimens could be considered as the original material for this name in conformity with ICN Art. 9.4(a) (Turland *et al.*, 2018). The specimen *Bon 2137* with barcode no. P00601775 is the most complete and well preserved, therefore, selected here as lectotype of the name. Thus, the other duplicate, barcode no. P00604047, is an isolectotype in conformity with ICN Art. 8.1, Art. 9.3 and Rec. 9A.1. (Turland *et al.*, 2018).

2. *Psychotria griffithii* Hook.f., Fl. Brit. India 3: 171. 1880; Ridl., Fl. Malay Penins. 2: 137. 1923.—*Uragoga malaccensis* Kuntze, Revis. Gen. Pl. 2: 956. 1891.— Type: Malaysia, Malacca, *Griffith s.n.* [Kew distrib. no. 3044] (lectotype K [K000777141!] designated by Turner (2019)).

Erect shrubs, 0.5–1 m tall; branches glabrous, longitudinal ridges present. *Stipules* interpetiolar, caducous, ovate-lanceolate, 5.8–1.2 by 5–6.9 mm, apex acuminate, margin entire, outer surface glabrous, inner surface with dense collectors interspaced with hairs at base. *Leaves* elliptic, elliptic-obovate or elliptic-oblong, (7.5–)10.3–23.2 by 6.5–7.8 cm, apex acuminate, base cuneate, margin entire, recurved, coriaceous, upper surface glabrous, turning pale greenish-brown when dried, lower surface glabrous, turning bright greyish-brown, greenish-brown or reddish-brown when dried; domatia foveolate; midrib conspicuously grooved above when dried and distinctly prominent below; lateral veins 8–13 pairs, eucamp-todromous without collector vein; petioles 1.5–2.7 cm long, glabrous. *Inflorescences* terminal, a lax panicle-like or verticillate-like thyse, trichotomous or rarely pentatomous; peduncle 3–13.4 cm long, sparsely to densely tomentose; primary inflorescence branches 2–3, sub-opposite, opposite or verticillate-

like, tomentose; flowers in inflorescence unit 1(–3), lax. *Bracts* caducous, ovate to lobed-lanceolate, 1.8–3.7 by 2–3.1 mm, apex acute to acuminate, margin dentate or dentate with pilose-ciliate, upper surface densely pilose, lower surface glabrous. *Leaf-like bracts* absent. *Flowers* sub-sessile to pedicellate; floral bud apex rounded with corolla protrusion; pedicels 0.9–1.2 mm, sparsely tomentose; floral bracts persistent, scale-like, 0.7–1.1 by 0.9–1.5 mm. *Calyx* tubular, tube 0.6–1.2 mm long, glabrous on both sides; lobes 4–5, triangular, 0.2–0.5 by 0.5–1.2 mm, apex acute to acuminate, margin entire, glabrous on both sides. *Corolla* white, short salverform, tube 1.5–1.7 mm long, glabrous outside, villous at throat inside; lobes 4, ovate or elliptic-ovate, 1.4–1.5 by 1–1.3 mm, apex acute, reflex, margin entire, glabrous on both sides. *Stamens* 4–5; filaments 0.8–1 mm long, glabrous; anthers dorsifixed, elliptic-oblong, 1.3–1.4 by 0.5–0.7 mm, apex acute, glabrous, anther basal protrusion absent. *Ovary* inferior, 2-locular, glabrous; style 2–2.3 mm long, glabrous; stigma 2-lobed, lobes linear, puberulous. *Infructescences* elongated, 1.2–2 mm long, glabrous to sparsely puberulous. *Fruits* drupaceous, ellipsoid-globoid to sub-globoid, entire, glabrous, calyx persistent; pyrene 2, hemiellipsoid to hemispheroid, 5.1–7 by 4.2–6.7 mm, dorsal surface convex, longitudinal ridges 2–4 or rarely obscure, ventral surface concave, longitudinal ridge 1; longitudinal grooves 2. *Seeds* hemiellipsoid, hemiovoid or hemispheroid, 4.5–5.5 by 3.8–4.3 mm, dorsal surface convex, longitudinal ridge 1, ventral surface concave, longitudinal ridge 1, longitudinal grooves 2; endosperm ruminant.

Thailand.— PENINSULAR: Ranong [Khlong Nakha WS, alt. 50–100 m, 24 Apr. 1974, *Larsen & Larsen 33325* (AAU, L)].

Distribution.— Malaysia, Singapore, Indonesia.

Ecology.— Shaded areas in hill evergreen forest.

Phenology.— Flowering March–June, fruiting May–September.

Vernacular.— Phut khao (พุดเขา).

Notes.— This species was previously recorded from lowland dipterocarp and hill evergreen forests in Malaysia, Singapore and Indonesia (Hooker, 1880; Ridley, 1923). However, after investigation of herbarium specimens in several herbaria (AAU,

K, L), the specimen *Larsen & Larsen 33325*, collected from Ranong Province, Peninsular Thailand was found in **AAU** and **L**, and compared with specimens in **K**, as well as relevant literature (Hooker, 1880; Ridley, 1923). It was found to be the same species because of its thick coriaceous leaves, presence of foveolate domatia and verticillate-like inflorescences, lax inflorescence unit and tomentose peduncles and pedicels; it is also found in the same habitat, in hill evergreen forest. Therefore, this species is newly recorded for Thailand.

Psychotria griffithii is morphologically somewhat similar to *P. connata* Wall. because of its thick coriaceous leaves, presence of foveolate domatia and verticillate-like inflorescences. However, *P. griffithii* is distinguished by its longer petioles, 1.5–2.7 cm long (0.6–1.2 cm long in *P. connata*), lax inflorescence unit (dense in *P. connata*), tomentose peduncles and pedicels (glabrous in *P. connata*), as well as shorter corolla tube, 1.5–1.7 mm long (2.4–2.6 mm long in *P. connata*).

3. *Psychotria langbianensis* Wernham, J. Nat. Hist. Soc. Siam 4: 137. 1921; Hô, Càyco Viêtnam 3(1): 243: 1993. Type: Vietnam, South Annam, Langbian province, Dalat, alt. 1,524 m, Apr. & May 1918, *Kloss s.n.* (holotype **BM** [BM000945374!]).

Erect shrubs, 1–1.5 m tall; branches densely pilose, longitudinal ridges absent. *Stipules* interpetiolar, caducous, ovate, 0.6–1.3 by 0.3–1 cm, bilobed, lobes lanceolate, apex acuminate, margin pilose-ciliate, outer surface densely pilose, inner surface pilose near apex and with dense colleters interspaced with hairs at base. *Leaves* elliptic or elliptic-ovate, (5.7–)7.7–15.7 by (1.2–)2.8–5.3 cm, apex acuminate, base cuneate or attenuate, margin pilose-ciliate, recurved, chartaceous, upper surface mostly glabrous and sparsely pilose at margin and base, turning pale greyish-brown to blackish-brown when dried, lower surface densely pilose, especially at midrib and veins; domatia absent; midrib depressed above and distinctly prominent below; lateral veins 9–12 pairs; brochidodromous with collector vein near apex and eucamptodromous vein near base; petioles 0.5–2.2 cm long, densely pilose. *Inflorescences* terminal, a lax panicle-like thyrses, trichotomous; peduncle up to 1.5 cm long, densely pilose; primary inflorescence branches 2, opposite, densely pilose; flowers in inflorescence unit 2–3, lax. *Bracts* caducous,

lanceolate, 2–3.2 by 1–2.1 mm, apex acuminate, margin lobed with pilose-ciliate, upper surface pilose, lower surface densely pilose. *Leaf-like bracts* absent. *Flowers* sub-sessile to pedicellate; floral bud apex rounded without corolla protrusion; pedicels 0.5–2.5 mm long, densely pilose; floral bracts caducous, lanceolate to lanceolate-oblong, 1.5–2 by 1–1.5 mm, apex acuminate, margin pilose-ciliate, upper surface glabrous and sparsely pilose at base, lower surface pilose. *Calyx* tubular, tube 0.9–1.1 mm long, densely pilose outside, glabrous inside; lobes 5, lanceolate, 0.8–1.5 by 0.7–1.2 mm, apex acuminate, margin pilose-ciliate, densely pilose outside, glabrous inside. *Corolla* white, short salverform, tube 2.9–3 mm long, sparsely to densely pilose outside, densely villous at throat inside; lobes 5, ovate-lanceolate, 2–2.5 by 1.3–1.5 mm, apex acute, reflex, margin entire, upper surface glabrous, lower surface sparsely scabrous. *Stamens* 5; filaments 1.2–1.5 mm long, scabrous; anthers sub-dorsifixed, elliptic-oblong, 1.4–1.5 by 0.6–0.7 mm, apex rounded, scabrous, anther basal protrusion absent. *Ovary* inferior, 2-locular, glabrous; style 4.2–4.6 mm long, tomentose; stigma 2-lobed, lobes rounded, puberulous. *Infructescences* sessile to sub-sessile, 0.5–2.5 mm long, densely pilose. *Fruits* drupaceous, ellipsoid to ellipsoid-ovoid, entire, sparsely pilose, calyx persistent; pyrenes 2, hemiellipsoid to hemiovoid, 4.4–6.7 by 3.1–5 mm, dorsal surface convex, longitudinal ridges 4–5, longitudinal grooves 3–4, ventral surface flatten to sub-concave, longitudinal ridge 1, longitudinal grooves 2. *Seeds* hemiovoid to hemiellipsoid, 4.9–5.2 by 2.8–3.2 mm, dorsal surface convex, longitudinal ridges 3, longitudinal grooves 4, ventral surface flatten to sub-concave, longitudinal ridge 1, longitudinal grooves 2; endosperm ruminant.

Thailand.— PENINSULAR: Yala [Bang Lang NP, alt. 150–350 m, 17 July 1993, *Puff & Sridith 930717-1/4* (**AAU, PSU**)].

Distribution.— Vietnam.

Ecology.— Shaded or open areas in hill evergreen forest.

Phenology.— Flowering April–May, fruiting May–August.

Vernacular.— Kram hin khao (ครามหินเขา).

Notes.— *Psychotria langbianensis* was previously only recorded from Vietnam (South

Annam). However, recently after investigation of herbarium specimens in several herbaria (**AAU**, **BM**, **PSU**), the specimen, *Puff & Sridith 930717-1/4*, collected from Yala, Peninsular Thailand was found in **AAU** and **PSU** and compared with specimens in **AAU** and **BM** as well as relevant literature (Wernham in Baker *et al.*, 1921). It was found that it is the same species because of its glabrous on upper leaf surface with sparsely pilose at margin and base and sparsely to densely pilose on the outer surface of corolla tube. Thus, the distribution of this species is extended to Peninsular Thailand in hill evergreen forest — the same type of habitat as previously recorded in Vietnam.

Morphologically, *Psychotria langbianensis* resembles *P. cambodiana* Pierre ex Pit. because of its hairy stems and leaves, bilobed stipules and lack panicle-like thyse, but *P. langbianensis* is distinguished by its upper leaf surface that is glabrous with sparsely pilose at margin and base (pilose all over the upper leaf surface in *P. cambodiana*), longer corolla tube, 2.9–3 mm long (2–2.3 mm long in *P. cambodiana*), sparsely to densely pilose on the outer surface of corolla tube (glabrous in *P. cambodiana*).

Wernham (in Baker *et al.*, 1921) described *P. langbianensis* without designation of type of the name but based on specimens collected by Kloss from south Annam. He noted locality of original materials in protologue that “Dalat, 5,000 ft., white shrub.” After extensive investigation of herbarium specimens from various herbaria. Only a single specimen that matched the protologue was found in **BM**, the place where Wernham was working and Kloss collections were deposited. This specimen no. *Kloss s.n.* [BM000945374] with labeled “Dalat, 5,000 ft., Langbian Province, South Annam., White Shrub., April & May 1918, C. Boden Kloss” is accepted here as holotype in conformity with Art 9.1 (Note 1) and Rec. 9A.1 (Turland *et al.*, 2018), even though holotype was not directly designated by author in the protologue.

Additional specimens examined.— VIETNAM: Central Vietnam [Annam, Langbian, April–May 1918, *Kloss s.n.* (**BM**); Lam Dong, Lang Bian Mountain, 14 July 1984, *Tirvengadam & Tam 1575* (**AAU**); Lam Dong, Lac Duong, municipalite Da Chay, vicinities Klong Lanh village, 31 km to NE from Dalat city, alt. 1,850–1,950 m, 15 Mar. 1997, *Averyanov et al. VH 2664* (**AAU**); *ibid.*, 15 Mar.

1997, *Averyanov et al. VH 2670* (**AAU**); Lam Dong, Lac Duong, municipalite Da Chay, 35 km to NE from Dalat city, alt. 1,500 m, 26 Mar. 1997, *Averyanov et al. VH 3227* (**AAU**); Lam Dong, Bao Loc, camp de Bola, 16 July 1984, *Tirvengadam & Tam 1623* (**AAU**)].

4. *Psychotria pachyphylla* (King & Gamble) Ridl., Fl. Malay Penins. 2: 129. 1923.— *P. sarmentosa* Blume var. *pachyphylla* King & Gamble, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74(2): 6. 1906. Type: Malaysia, Penang, July 1890, *Curtis 2215* (lectotype **K** [K000777164!] designated by Turner & Kumar (2018)).

Climber; branches glabrous, longitudinal ridges absent. *Stipules* interpetiolar, caducous, ovate, 3.5–5.1 by 4.2–5.5 mm, apex acuminate, margin entire, outer surface glabrous, inner surface pilose near apex and with dense colleters interspaced with hairs at base. *Leaves* elliptic to elliptic-ovate, 7.5–12.9 by 4.3–6.9 cm, apex acute or acuminate, base cuneate, margin entire, recurved, coriaceous, upper surface glabrous, turning greyish-brown or blackish-brown when dried, lower surface glabrous, turning bright grayish-brown or reddish-brown when dried; domatia absent; midrib depressed above and distinctly prominent below or grooved above when dried and prominent below; lateral veins 8–9 pairs; brochidromous with collector vein near apex and eucampodromous vein near base; petioles 1–1.7 cm long, glabrous. *Inflorescences* terminal, a lax panicle-like thyse, trichotomous; peduncle up to 3.9 mm long, glabrous; primary inflorescence branches 2, opposite, glabrous or sparsely puberulous; flowers in inflorescence unit (1–)2–3, lax. *Bracts* caducous, lanceolate to ovate-lanceolate, 2–2.5 by 0.5–1.2 mm, apex attenuate, acute to acuminate, margin puberulous-ciliate, upper surface glabrous, lower surface sparsely puberulous, *Leaf-like bracts* absent. *Flowers* sub-sessile to pedicellate; floral bud apex rounded without corolla protrusions; floral bracts persistent, lanceolate, 0.4–0.6 by 0.5–0.7 mm, apex acute to acuminate, margin entire or lobed with puberulous-ciliate, upper surface glabrous, lower surface sparsely puberulous; pedicels 0.7–1.2 mm long, sparsely puberulous, elongate when fruiting. *Calyx* tubular, tube 0.4–0.5 mm long, glabrous to sparsely puberulous outside, glabrous inside; lobes 5–6, triangular, 0.4–0.6 by 0.5–0.7 mm, apex acute,

margin puberulous-ciliate, outer surface sparsely puberulous, inner surface glabrous. *Corolla* short salverform, tube 2.4–2.6 mm long, sparsely puberulous outside, villous at throat inside; lobes 5–6, lanceolate to ovate-lanceolate, 1.5–1.7 by 1–1.3 mm, apex acute, reflex, margin puberulous-ciliate, upper surface papillose, lower surface sparsely puberulous. *Stamens* erect, 5–6; filaments 0.7–1 mm long, glabrous; anthers dorsifixed, oblong, 0.9–1 by 0.2–0.3 mm, glabrous to sparsely puberulous at apex, apex rounded, anther basal protrusion 0.1–0.2 mm long. *Ovary* inferior, 2-locular, sparsely puberulous; style 3.5–4 mm long, densely puberulous; stigma 2-lobed, lobes obovate-oblong, sparsely puberulous. *Infructescences* elongated, 1.4–4.8 mm long, sparsely to densely puberulous. *Fruits* drupaceous, ellipsoid, entire, glabrous, calyx persistent; pyrene 2, hemiellipsoid to hemispheroid, 3.1–4.8 by 3.1–4.2 mm, dorsal surface convex, longitudinal ridges 4, longitudinal grooves 5, ventral surface flatten, longitudinal grooves 2, shallowly. *Seeds* hemiellipsoid to hemispheroid, 2.8–3 by 2.5–3.1 mm, dorsal surface convex, longitudinal ridges 4, longitudinal grooves 5, ventral surface flatten, longitudinal grooves 2, endosperm ruminant.

Thailand.—PENINSULAR: Narathiwat [Unknown place, 19 Apr. 1972, *Sangkachand et al.* 1094 (E, K, L, P); Waeng, Nihom Waeng, alt. 300–500 m, 4 Mar. 1974, *Larsen & Larsen* 32922 (AAU, K (2 sheets), L, P (2 sheets))].

Distribution.— Nicobar Islands, Malaysia, Singapore, Indonesia.

Ecology.— Shaded or open areas in swamp forest or riparian evergreen forest.

Phenology.— Flowering March–June, fruiting May–September.

Vernacular.— Duk kai yan (ตูกไถ่ย่าน).

Notes.— *Psychotria pachyphylla* was previously known from Nicobar Islands, Malaysia, Singapore and Indonesia (Ridley, 1923; Turner & Kumar, 2018), but after investigation of herbarium specimens in several herbaria (AAU, E, K, L, P), it was found that some specimens collected from Narathiwat Province, Peninsular Thailand are the same species because of the climbing habit, coriaceous and elliptic to elliptic ovate leaves and depressed or grooved midribs on the upper leaf surface when dried; in

addition, this species was found in shaded or open area in swamp forest or riparian evergreen forest. Thus, the distribution of this species is now extended to Peninsular Thailand.

Morphologically, *P. pachyphylla* resembles *P. serpens* L. because of its climber habit, coriaceous and elliptic to elliptic ovate leaves, lax panicle-like thyrses and whitish fruit when ripening. However, *P. pachyphylla* is distinguished from *P. serpens* by its depressed or grooved midribs at upper leaf surface when dried (raised in *P. serpens*), sessile to sub-sessile peduncle with up to 3.9 mm long (1.5–6.8 cm long in *P. serpens*), sparsely puberulous at lower surface of bracts (glabrous in *P. serpens*) and anther basal protrusion present with 0.1–0.2 mm long (absent in *P. serpens*).

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