

Psychotria gopalanii (Rubiaceae): A new species from Eastern Ghats, India

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Abstract

Psychotria gopalanii Samb., a new species is described and illustrated from Erode Forest Division in the Eastern Ghats of Tamil Nadu.

Keywords: Eastern Ghats, New Species, *Psychotria*, Rubiaceae

Introduction

Rubiaceae are the fourth largest angiosperm family consisting of *c.* 13,183 species in 611 genera, of which *Psychotria* L. is the largest genus in the family (*c.* 1834 spp.) and is the third largest genus of angiosperms (Davis *et al.*, 2009). In India, Rubiaceae are the fifth largest family comprising 4 subfamilies, 28 tribes, 113 genera with 616 species (Deb, 2001), and *Psychotria* is reported to have 44 species (Murugan & Gopalan, 2007). With the addition of *P. henryana* from Kanyakumari (Murugan & Gopalan, 2007) and *P. vasudevae* from Andaman and Nicobar Islands (Murugan & Arisdason, 2016), the total number of species now becomes 46 in the country. Pullaiah *et al.* (2007) recorded six species from Eastern Ghats of India. *Psychotria* is reported to have 17 species and 2 varieties in Tamil Nadu (Swaminathan, 1987), of which *P. sohmeri* M. Kiehn and *P. octosulcata* Talbot are distributed in Eastern Ghats of the state.

While studying the floristic account of the Erode Forest Division in the Eastern Ghats of Tamil Nadu, the author collected an interesting specimen of *Psychotria*. On critical examination of herbarium specimens at MH and perusal of relevant literature, it was found to be an undescribed species. Hence, the same is described here with illustrations and colour photographs for easy recognition identification in field.

***Psychotria gopalanii* Samb., sp. nov. Figs. 1, 2**

Diagnosis: *Psychotria gopalanii* closely related to *P. sohmeri* M. Kiehn, but differing in the lenticellate bark, ligulate, bifurcate and keeled stipules, bracteolate flowers, smooth margins of calyx teeth, strongly recurved corolla lobes and smooth stigma.

Type: INDIA, Tamil Nadu, Erode District, Anthiyur R.F., Bolly, 11°41'26.99" N, 77°30'7.78" E, 1386 m, 2.7.2015, S. Sambooranam 686 (Holotype, CAL; Isotypes MH).

Shrub, *c.* 3 m high. Stems terete; branchlets lenticellate; internodes 1.5–2 cm long. Leaves simple, opposite-decussate, obovate-oblongate or elliptic-oblong, 1.5–11 × 0.8–6.5 cm, attenuate at base, entire at margins, acute-acuminate at apex, subcoriaceous, glabrous, dark green, shiny above, pale green beneath; lateral veins 8–12 pairs; midrib prominent, infossous above, raised beneath, intramarginally looped; domatia glabrous; stipules broadly ovate, *c.* 1.5 cm long, keeled, caducous, midrib rufous-hairy inside, base ligulate inside; ligules 4-lobed, densely rufous-hairy, lobes acuminate at apex, persistent; petioles *c.* 1.5 cm long, canaliculate above, rounded beneath. Inflorescences terminal, paniculate racemose cymes, 8–13 cm long; peduncles *c.* 4.5 cm long, minutely grooved; flowering branches spirally arranged, stout, to 1 cm. Flowers 6–7 mm long; bracteoles linear, minute, caducous; pedicels 1–2 mm long. Calyx tube 1–1.3 mm long; lobes 5, minute, glabrous. Corolla tube 3–4 mm long, narrow, glabrous outside, with a rim of white villous-hairy above the middle inside; lobes 5, lanceolate, *c.* 2.5 mm long, thick, recurved at apex. Stamens 5, exserted; filaments 1.5–2 mm long, erect, adnate to corolla throat; anthers oblong, 0.5–1 mm long, dorsifixed. Ovary bilocular; ovule 1 in each locule; style *c.* 3 mm long, dilated towards apex, included; stigma bifid, ovate or tongue-shaped, smooth. Fruits globose, *c.* 1 cm, 10-ribbed, apex with persistent calyx lobes; testa thin; pyrenes plano-convex; albumin ruminant.

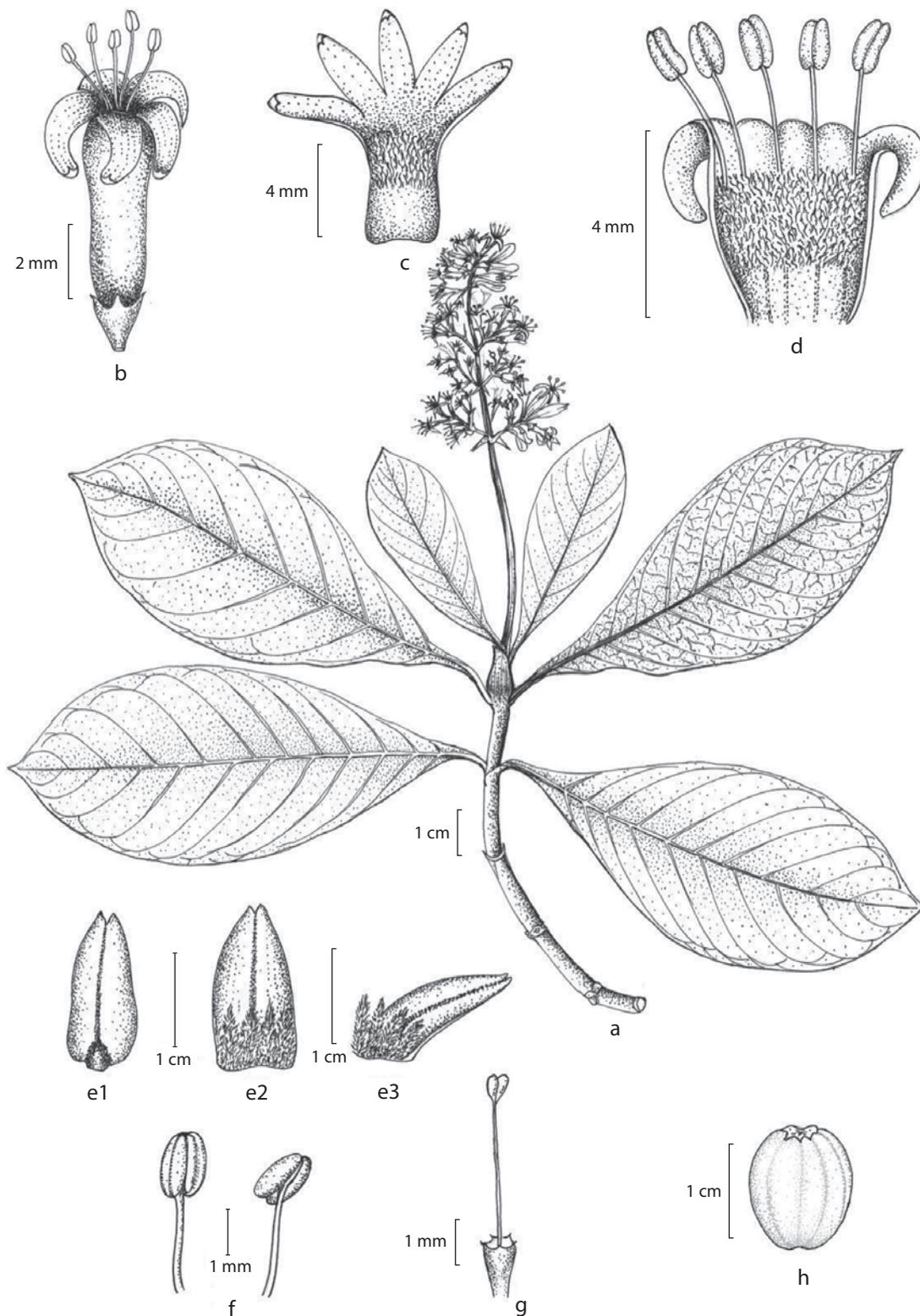


Fig. 1. *Psychotria gopalanii* Samb.: a. Flowering-twig; b. Flower; c. Corolla; d. Corolla with stamens split-open; e1–3. Stipule dorsal, ventral and lateral views; f. Stamens; g. Pistil; h. Fruit.



Fig. 2. *Psychotria gopalanii* Samb.: a. Habit; b. Flowering-twig; c. Inflorescence (a portion (top view) enlarged); d. Fruiting-twig.

Flowering & Fruiting: March–September.

Habitat: Along the streams in the gorges of *Phoenix* savannah, at 1386 m elevation.

Distribution: India: Tamil Nadu (Erode district).
Endemic.

Etymology: The new species is named in honour of Dr. R. Gopalan, former Scientist, Botanical Survey

of India (BSI), Southern Regional Centre (SRC), Coimbatore, for his contribution to the Indian plant taxonomy.

Conservation Status: This species is currently known only from type locality. Further botanical explorations are needed to evaluate the status of the species as per the guidelines of IUCN Categories and Criteria.

Table. Comparison of morphological characters between *Psychotria sohmeri* and *P. gopalanii*

Characters	<i>Psychotria sohmeri</i>	<i>P. gopalanii</i> , sp. nov.
Branchlets (texture)	Smooth	Lenticellate
Leaves	5–17 × 2.5–7 cm	1.5–11 × 0.8–6.5 cm
Lateral veins	10–20 on each side	8–12 on each side
Stipules	Ovate-oblong, 0.6–2 × 0.4–1 cm, villous beneath at base, ligule absent, ciliate or puberulous at margins, emarginate at apex	Broadly ovate, keeled, 1–1.5 × 0.4–0.7 cm, glabrous at margins, ligulate inside, ligule 4-lobed, lobes and midrib densely rufous-hairy, acute when young and bifurcate at maturity
Inflorescence	Paniculate cymes, 5–9 × 1–2 cm	Paniculate racemose cymes, 8–13 × 1.5–3.5 cm
Bracteoles	Absent	Linear, minute, glabrous
Calyx teeth	Puberulous at margins	Glabrous at margins
Corolla lobes	Slightly incurved Rim of villous hairs at throat	Strongly recurved Rim of villous hairs below the throat
Stigma	Papillose	Smooth

Note: *Psychotria gopalanii* Samb. is morphologically closely allied to *P. sohmeri* M. Kiehn, but differs in many other characters as shown in the Table.

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