

A NEW COMBINATION AND A NEW SPECIES IN *COMBRETUM* (COMBRETACEAE) FROM INDIA

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ABSTRACT

Quisqualis malabarica Bedd. is transferred to *Combretum* and a new combination, viz., ***Combretum malabaricum*** (Bedd.) Sujana, Ratheesh, & Anil, is proposed. ***Combretum recurvatum*** Sujana, Ratheesh, & Anil, a new species allied to *Combretum malabaricum* (Bedd.) Sujana, Ratheesh, & Anil, is described from South Western Ghats of Kerala with illustration and photographs.

RESUMEN

Quisqualis malabarica Bedd. se transfiere a *Combretum* y se propone una nueva combinación, ***Combretum malabaricum*** (Bedd.) Sujana, Ratheesh, & Anil. ***Combretum recurvatum*** Sujana, Ratheesh, & Anil, se describe una nueva especie emparentada con *Combretum malabaricum* (Bedd.) Sujana, Ratheesh, & Anil, del suroeste de Ghats de Kerala con una ilustración y fotografías.

INTRODUCTION

The genus *Quisqualis* L. (Combretaceae) comprises ca. 16 species of lianas from the Old World tropics (Exell & Stace 1966). Recent research, however, has shown that the supposed differences with *Combretum* Loebl. cannot be maintained on the basis of molecular evidence (Jongkind 1991; Stace 2007; Maurin et al. 2010). *Quisqualis* dates from 1762, *Combretum* from 1758, and the latter name therefore has priority. Gangopadhyay and Chakrabarty (1997) recognized two species of *Quisqualis* from India, viz., *Q. indica* L. and *Q. malabarica* Bedd. The latter is here transferred to *Combretum* and a new combination, viz., *Combretum malabaricum* (Bedd.) Sujana, Ratheesh, & Anil is proposed. Both species have been recorded for Kerala (Nayar et al. 2006; Sasidharan 2011).

During botanical exploration as part of a project on “Investigation of rare, endemic and threatened woody climbing plants of the Western Ghats,” one of us (Sujana) collected specimens with recurved petals from the Aralam Wildlife Sanctuary in 2008 which did not match with any known species of *Combretum* or *Quisqualis* and is therefore described as a new species here. The species, although morphologically similar to the *Combretum malabaricum* (Bedd.) Sujana, Ratheesh, & Anil, comb. nov., differs from it in some characters; these data are given in Table 1.

TAXONOMY

Combretum malabaricum (Bedd.) Sujana, Ratheesh, & Anil, comb. nov. (**Fig. 1**). *Quisqualis malabarica* Bedd., Icon. Pl. Ind. Or. 1:33, t. 155. 1874. TYPE: INDIA. KERALA: Carcoor ghat Wayanad, elev. ca. 450 m, Beddome s.n. (LECTOTYPE: MH - Acc. No. 20405; ISOLECTOTYPE: BM).

Combretum recurvatum Sujana, Ratheesh, & Anil, sp. nov. (**Figs. 2, 3**). TYPE: INDIA. KERALA. Kannur district: Aralam Wildlife Sanctuary, ca. 800 m, 28 Feb 2008, Sujana 0509 (HOLOTYPE: CAL; ISOTYPES: CALI).

A liana, 15–20 m tall. Stems 15–25 cm in diameter; bark light brown with vertical striations, spines 1.5–2.5 cm long, at the base of the branchlets; young branchlets puberulous, purplish, terete. Leaves opposite, ovate to oblong, symmetric, 4–15 × 4–7 cm, membranous, glabrous above, lead-coloured when dry, brown beneath, domatia as tufts of brown hairs in the axils of the secondary nerves, base rounded, margins entire to undulate

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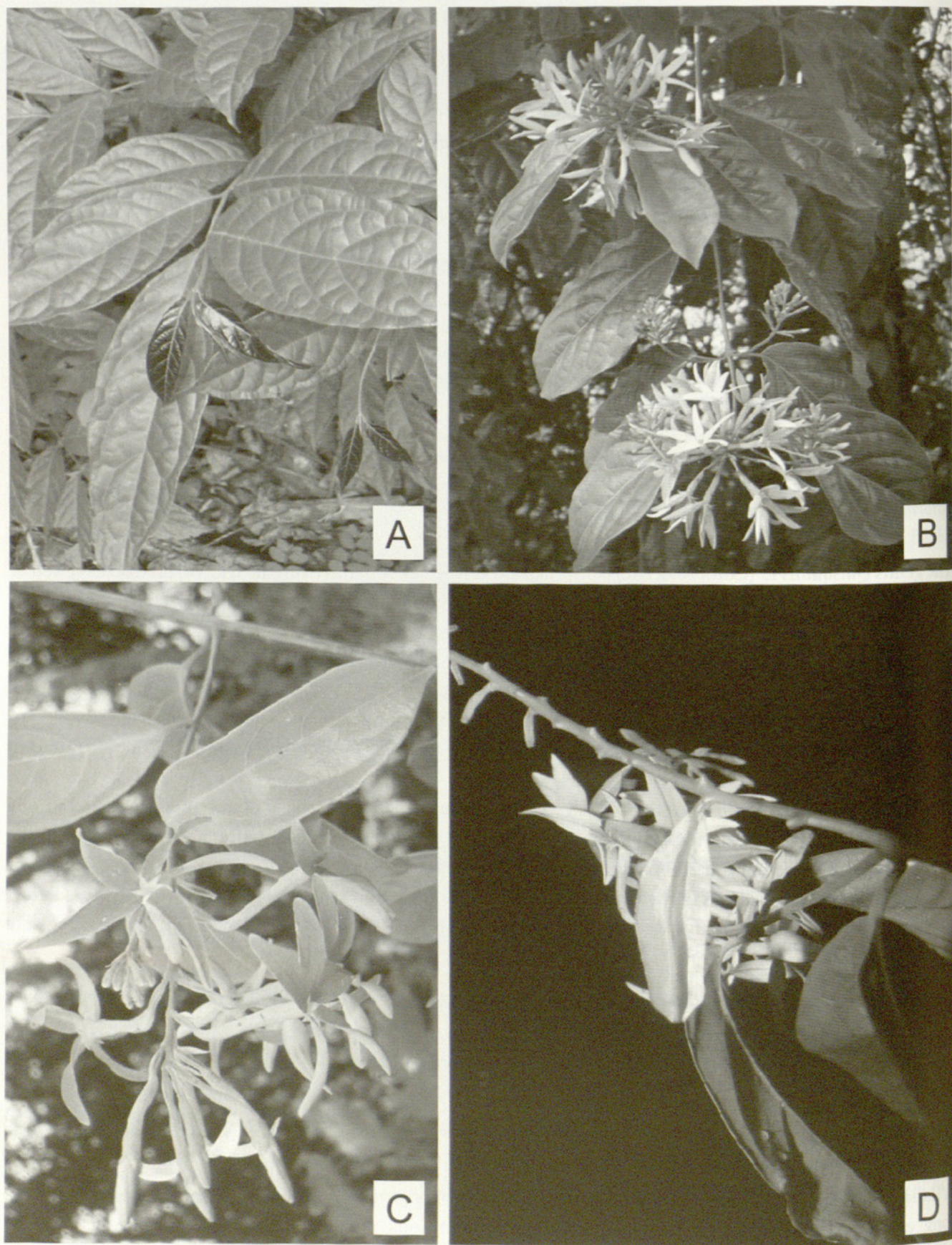


FIG. 1. *Combretum malabaricum* (Bedd.) Sujana, Ratheesh, & Anil. A. Habit, B. Inflorescence, C. Flowers—close up, D. Fruit.

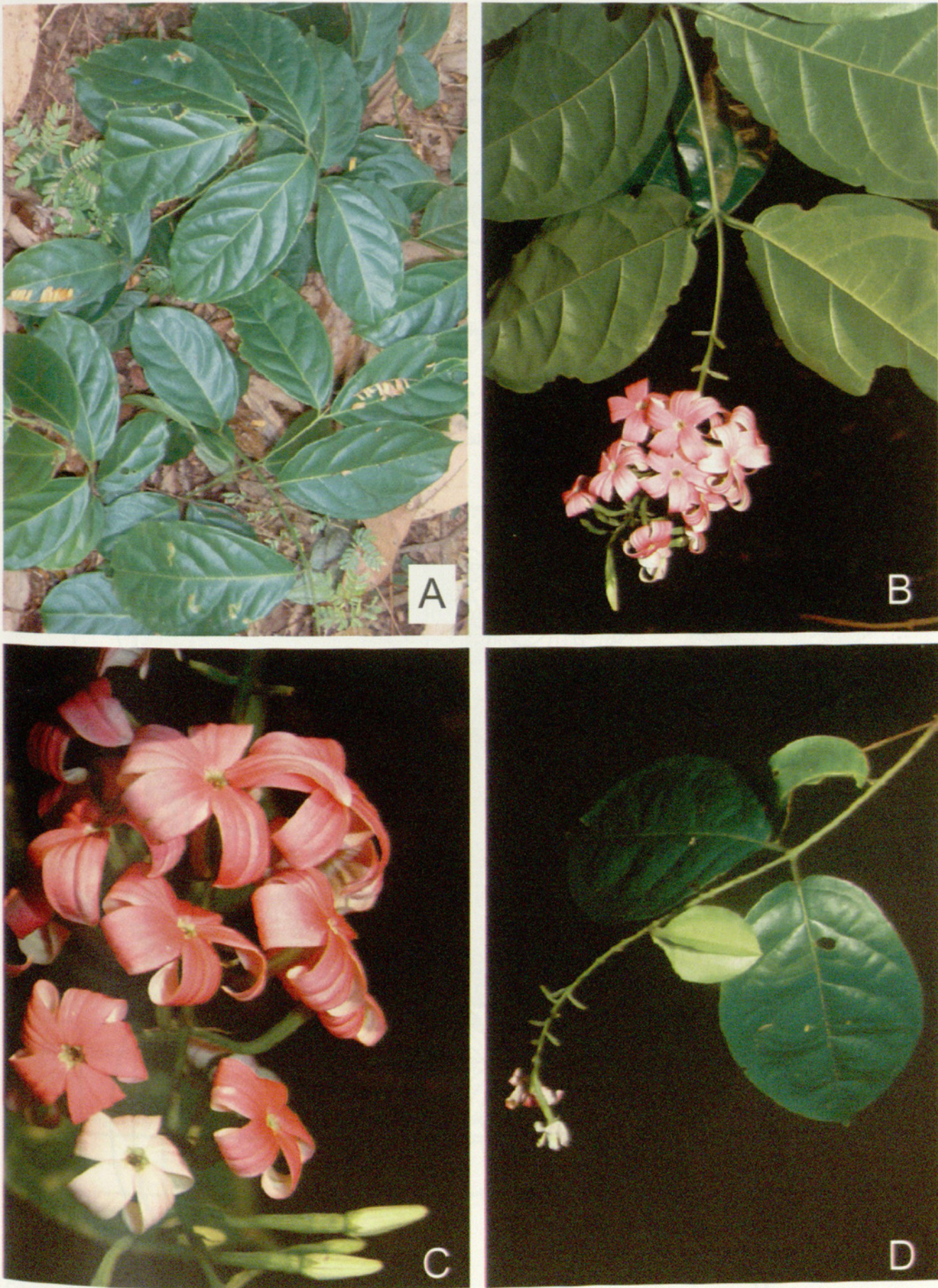


Fig. 2. *Combretum recurvatum* Sujana, Ratheesh, & Anil. A. Habit, B. Inflorescence, C. Flowers – close up, D. Fruit.

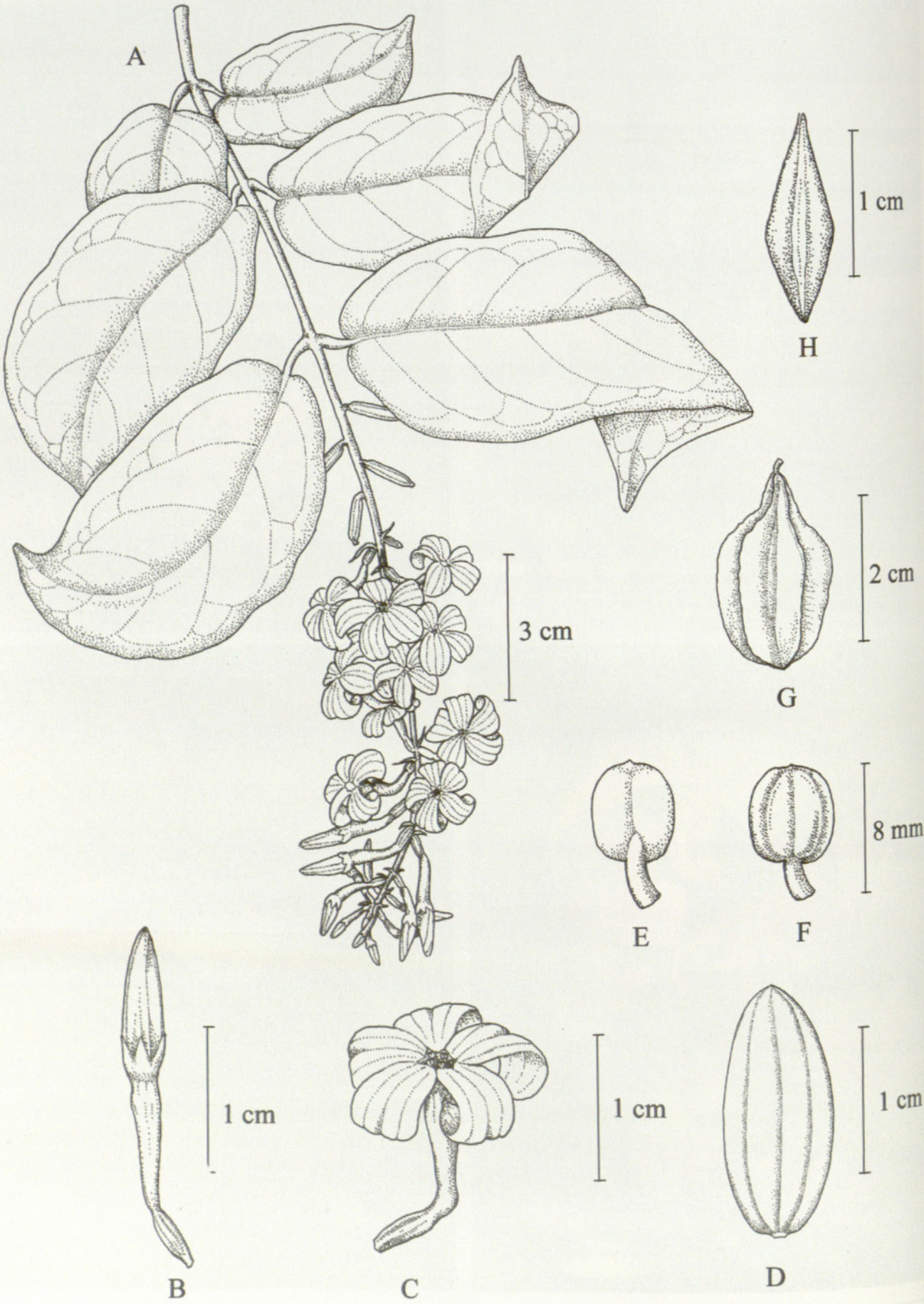


FIG. 3. *Combretum recurvatum* Sujana, Ratheesh, & Anil. A. Flowering twig, B. Mature bud, C. Flower, D. Petal, E. Stamen-ventral view, F. Stamen-dorsal view, G. Fruit, H. Seed.

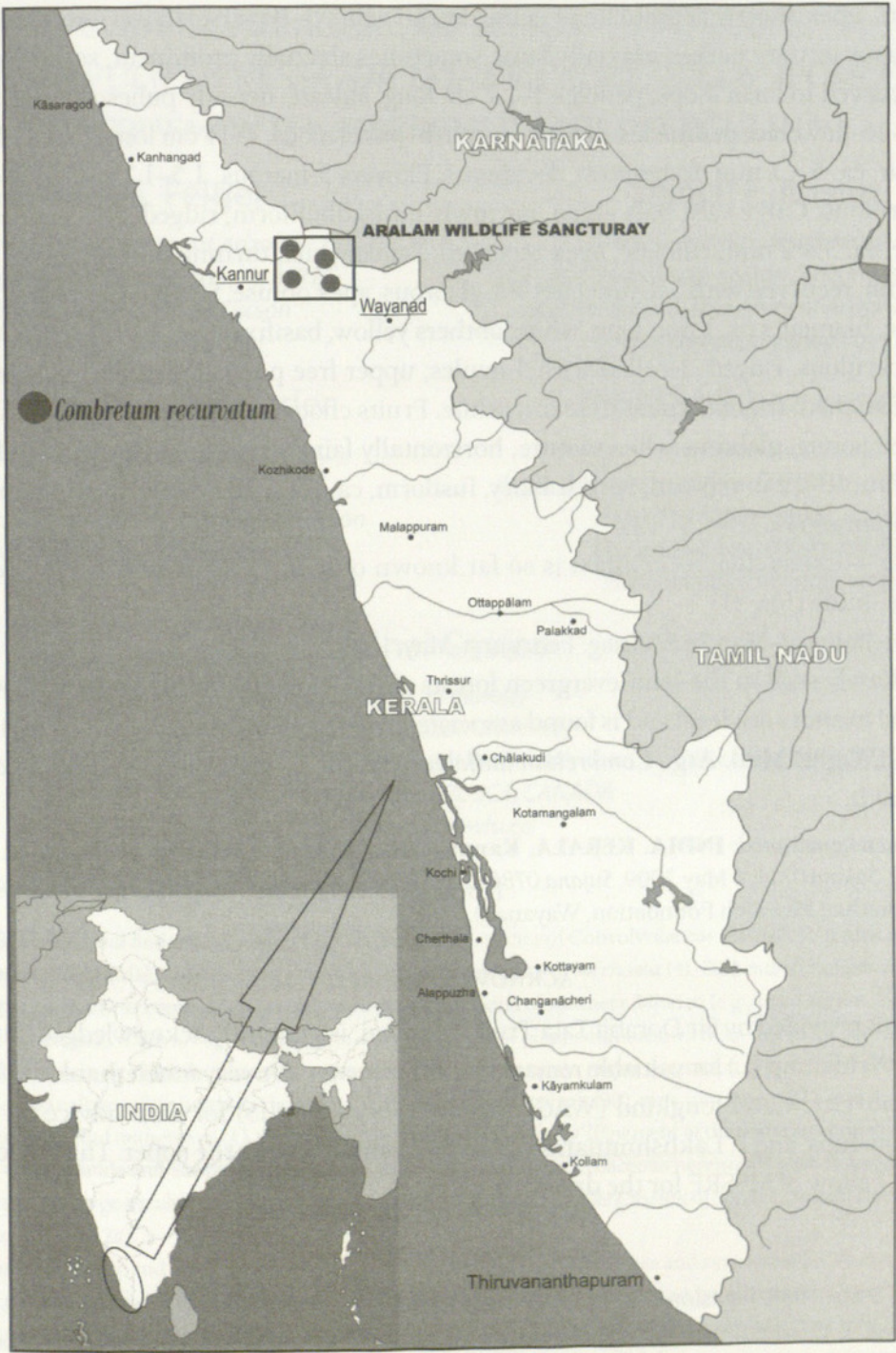


Fig. 4. Distribution of *Combretum recurvatum* in Aralam Wildlife Sanctuary.

TABLE 1. The distinguishing features between *Combretum recurvatum* and *C. malabaricum*.

Characters	<i>C. recurvatum</i>	<i>C. malabaricum</i>
Inflorescence	18–26 flowered	8–16 flowered
Peduncle	7–11 cm long, purple	3.6 – 4.4 cm long, green
Flower size	1.5–1.7 × 1.5–1.6 cm	2.4–2.5 × 2–2.2 cm
Pedicels	0–1 mm	6.3 mm
Calyx teeth	3 mm long, apex recurved	1.7 mm long, apex straight
Petals	13–14 × 6.8–7 mm, recurved, ovate or oblong, apex obtuse, veins 3, distinct	8–12 × 2–3 mm, straight, linear lanceolate, apex acute, veins indistinct
Stamens	Apex protruded	Apex notched
Fruits	Widely ellipsoid or ovoid, 2–2.3 × 1.8–2.2 cm	Ellipsoid, 2.4–2.5 × 1.3–1.5 cm

with tawny hairs, apex shortly acuminate or acute, lateral veins 5–8 pairs, slender, adaxially faint, abaxially prominent, arcuate, tertiary nerves adaxially faint, sometimes abaxially prominent, scalariform, marginal ultimate veins recurved to form loops; petioles 1–1.2 cm long, sulcate, densely pubescent. Inflorescence terminal, spicate, 18–26-flowered; peduncles slender, purplish, puberulous, 7–11 cm long; bracteoles linear-lanceolate or triangular, ca. 5×1 mm, tomentose, deciduous. Flowers 5-merous, $1.5\text{--}1.7 \times 1.5\text{--}1.6$ cm; pedicels 0–1 mm long, puberulous. Calyx tube pale green, narrowly infundibuliform, ridged, 0.9–1 cm long, puberulous; teeth triangular, ca. 3×2 mm, ciliolate, apex recurved. Petals white, turning pink with age, ovate or oblong, $13\text{--}14 \times 6.8\text{--}7$ mm, recurved with 3 distinct nerves, glabrous, apex obtuse. Stamens $5 + 5$, inserted in the throat of the calyx tube; filaments ca. 1 mm long, white; anthers yellow, basifixed, ca. 1×0.7 mm. Ovary $4\text{--}5 \times 1\text{--}1.2$ mm, tawny puberulous, ridged, 1-celled with 3 ovules; upper free portion of style 1–2 mm long, yellowish white, slender, flattened; stigma capitate, creamy white. Fruits chocolate brown, chartaceous, $2\text{--}2.3 \times 1.8\text{--}2.2$ cm, villous when young, glabrous when mature, horizontally faintly striate, widely ellipsoid; stalk ca. 1 mm long, wings 5, thin, 10–12 mm broad. Seed solitary, fusiform, ca. 1.3×0.5 cm. Funicle ca. 6 mm long, curved; testa brown, membranous.

Distribution.—*Combretum recurvatum* is so far known only from Aralam Wildlife Sanctuary, Kannur district of Kerala, India (Fig. 4).

Flowering.—January–March; **Fruiting.** February–May.

Habitat.—Rarely seen in the semi-evergreen forests of the Aralam Wildlife Sanctuary, Kerala (Fig. 3), at an altitude of 800 m above sea level and is found associated with *Anamirta cocculus* (L.) Wight & Arn., *Baccaurea courtallensis* (Wight) Müll.-Arg., *Combretum latifolium* Blume, *C. razianum* K.G. Bhat, *Sterculia foetida* L., and *Vateria indica* L.

Additional specimens examined: **INDIA. KERALA. Kannur district:** Aralam Wildlife Sanctuary, alt. 800 m above sea level, 26 Mar 2009, *Sujana* 0714; 6 May 2009, *Sujana* 0786; 2 April 2010, *Sujana* 0833 and 6 Apr 2011, *Sujana* 0913 (Herbarium of M.S. Swaminathan Research Foundation, Wayanad).

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