



Original Research Article

A New Species of *Sonerila* Roxb. (Melastomataceae) From Kerala, India**Ratheesh Narayanan MK¹, Nandakumar MK², Parameswaran Prajeesh²,
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Thiruvananthapuram-695 562, Kerala, India**Received for publication:** September 11, 2014; **Accepted:** October 17, 2014.

Abstract: A new species of *Sonerila* Roxburgh (Melastomataceae) collected from high altitude moss covered dripping rocks of evergreen forest in Wayanad district, Kerala, India is described. It differs from *Sonerila wallichii* by its densely hairy leaves, inflorescence with up to 10 flowers, glabrous terete peduncle and pedicel, glabrous deep pink calyx tube without ridges and petals without glandular hairs.

Key Words: India, Kerala, new species, Melastomataceae, *Sonerila*, Wayanad.

Introduction

Members of *Sonerila* Roxb. (Melastomataceae) are ephemeral herb characterized by scorpioid cymes, trimerous flowers, and 3-celled inferior ovaries. The genus is with about 175 species distributed from Sri Lanka and India to the Indo-Pacific (Cellinese, 1997; Lundin & Nordenstam, 2009), and is represented by caulescent and acaulescent species. It is the largest genus in the Sonerileae and is the only trimerous genus (except for the monotypic *Stussenia* Hansen and *Lithobium* Bong.). Clarke (1879) recognized 43 species of *Sonerila*. Out of the 43 species, 8 species were treated as "stemless or almost stemless species" and only 3, viz. *S. wallichii*, *S. scapigera* and *S. rotundifolia* were from Peninsular India. Gamble (1919) also recognized the above 3 acaulescent species among the total 13 species of *Sonerila* in his Flora of the Presidency of Madras. Later several workers (Fischer 1932, 1935, 1938; Nayar 1969, 1976; Giri & Nayar. 1985a, 1985b, 1986a, b, c; 1987a, 1987b; Gopalan & Henry, 1989; Prakash & Mehrotra, 1988; Giri *et al.*, 1992; Ravikumar, 1999; Murugan & Manickam, 2002; Josephine *et al.*, 2003; Lundin & Nordenstam, 2009; Murugesan & Balasubramaniam, 2011; Ratheesh *et al.*, 2013; Sunil *et al.*, 2014; Ratheesh *et al.*, 2014) have described new species of the genus from India and also reported distribution extensions for several taxa (Yoganarasimhan *et al.*, 1976). In India, as

per the latest assessment, the genus is represented by 50 species and four varieties. Thirty four species, including 20 endemics and 10 threatened, are known to occur in the Western Ghats. Lundin (1998) made an extensive study of the Melastomataceae with special emphasis on *Sonerila* of South India.

During the systematic inventory of the genus *Sonerila* of Western Ghats, an interesting specimen was collected from Vythiri hills, Wayanad District, Kerala, at an altitude of ± 1100 m a. s. l. and were found to be quite distinct from the hitherto known scapigerous species and detailed study revealed their novelty. It is described here as a new species.

Sonerila vythiriensis Ratheesh, Nandakumar & Sujana sp. nov. **Figs. 1 & 2.** Type: INDIA, Kerala: Wayanad District, Vythiri hills, moss covered dripping rocks in evergreen forest, ± 1100 m, 28 September, 2012, M. K. Ratheesh Narayanan, M. K. Nandakumar & K. A. Sujana MSSH 2013 (Holotype: CAL; Isotype: MH).

Scapigerous herb, attaining up to 15 cm height, rhizome up to 1 cm diameter, orbicular, white. Leaves radical, 4–5 per plant, petiolate, petiole 3.5–5.5 cm long, adaxially grooved, greenish white, glabrous; lamina green with pink tinge below, leathery, ovate, base cordate, without overlapping

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margins, acuminate at apex, margins serrate, finely toothed, 7–8 x 4–6 cm, densely hairy above, sparsely hairy below on midrib and lateral veins, pinnately veined, main nerves 3 pairs from the base, prominent below, greenish white. Inflorescence unbranched scorpioid cyme, upto 1–2 per plant, 6–10 flowered, peduncle terete, glabrous, 8–15 cm long, light green to white, bract and bracteoles prominent, linear lanceolate. Flowers 3-merous, deep pink, pedicel 0.4–0.5 cm long, shorter than the calyx tube, glabrous, terete, yellowish green; calyx tube ca. 0.6 cm long, urn shaped, deep pink, glabrous, without ridges, lobes 3, ca. 0.1 cm long, broadly triangular, glabrous, greenish; petals broadly oblong to obovate, glabrous, deep pink, 0.6–0.7 x 0.5–0.6 cm, shortly acute to mucronate at apex, midrib prominent; stamens 3, filaments ca. 0.4 cm long, filiform, glabrous, pinkish, anther yellowish, deeply cordate at base, long acuminate and beaked at apex, glabrous; ovary glabrous, style 0.4–0.5 cm long, deep pink, stigma capitate, glabrous. Capsules hemispheric, pedicellate, 0.3–0.4 cm long, enclosed in the persistent calyx tube, glabrous, deep pink. Seeds numerous,

greenish yellow, broadly oblong, minutely tubercled, raphe sub-excurrent.

Inter relationships

Sonerila vythiriensis is a distinct scapigerous species and resembles *S. wallichii* in its general habit, shape of the leaves, deeply cordate, beaked anther and shape of the capsule. The texture of leaf lamina, shape of leaf margin and tip, number of flowers in the inflorescence, structure and texture of peduncle, calyx tube and petals differentiate the new species from the latter. The new species has densely hairy long petioled leaf lamina with 4–5 pairs of lateral nerves and deeply serrate margins, up to 10 flowered inflorescence with terete, glabrous long peduncle, deep pink calyx tube without ridges, broadly oblong glabrous petals and glabrous capsule in contrast to sparsely hairy to glabrous short petioled leaf lamina with dentate margins, up to 20 flowered inflorescence with angular, glandular hairy peduncle, glandular hairy calyx tube with prominent ridges, oblong petals with 2–3 glandular hairs below, and hairy capsule of *Sonerila wallichii*. Diagnostic morphological characters of *Sonerila vythiriensis* and the related species are provided in Table 1.

Table 1: Comparison of characters of *Sonerila vythiriensis* and related species

	<i>Sonerila vythiriensis</i>	<i>Sonerila wallichii</i>
Leaf	Up to 5 per plant, lamina 8–10 nerved, 3 pairs of nerves arising from the base of the leaf and 1–2 pairs from the midrib, densely hairy above, sparsely hairy below on midrib and lateral veins, margins finely toothed	1–3 per plant, lamina 12–14 nerved, 3 pairs of nerves arising from the base of the leaf and 3–4 pairs from the midrib, sparsely hairy to glabrous above, glabrous below, margins dentate
Inflorescence	Scorpioid cymes with about 10 flowers	Scorpioid cyme with about about 20 flowers
Peduncle	Terete, light green to white, glabrous	Quadrangular, white, sparsely glandular hairy
Bract	Prominent, linear lanceolate	Not prominent
Pedicel	Shorter than the calyx tube, terete, glabrous	Longer than the calyx tube, quadrangular, glandular hairy
Calyx tube	Not ridged, glabrous, deep pink	Obscurely ridged, sparsely glandular hairy, yellowish green with pink shades
Petal	6–7 mm long, broadly oblong to obovate, glabrous, deep pink	7–9 mm long, broadly elliptic, 2–3 glandular hairs on the midrib below, light pink
Anther	Long acuminate and beaked	Shortly acuminate and beaked
Capsule	Hemispheric, glabrous	Hemispheric, densely hairy
Seed	Seed minutely tubercled, with sub-excurrent raphe	Seed prominently tubercled, with excurrent raphe

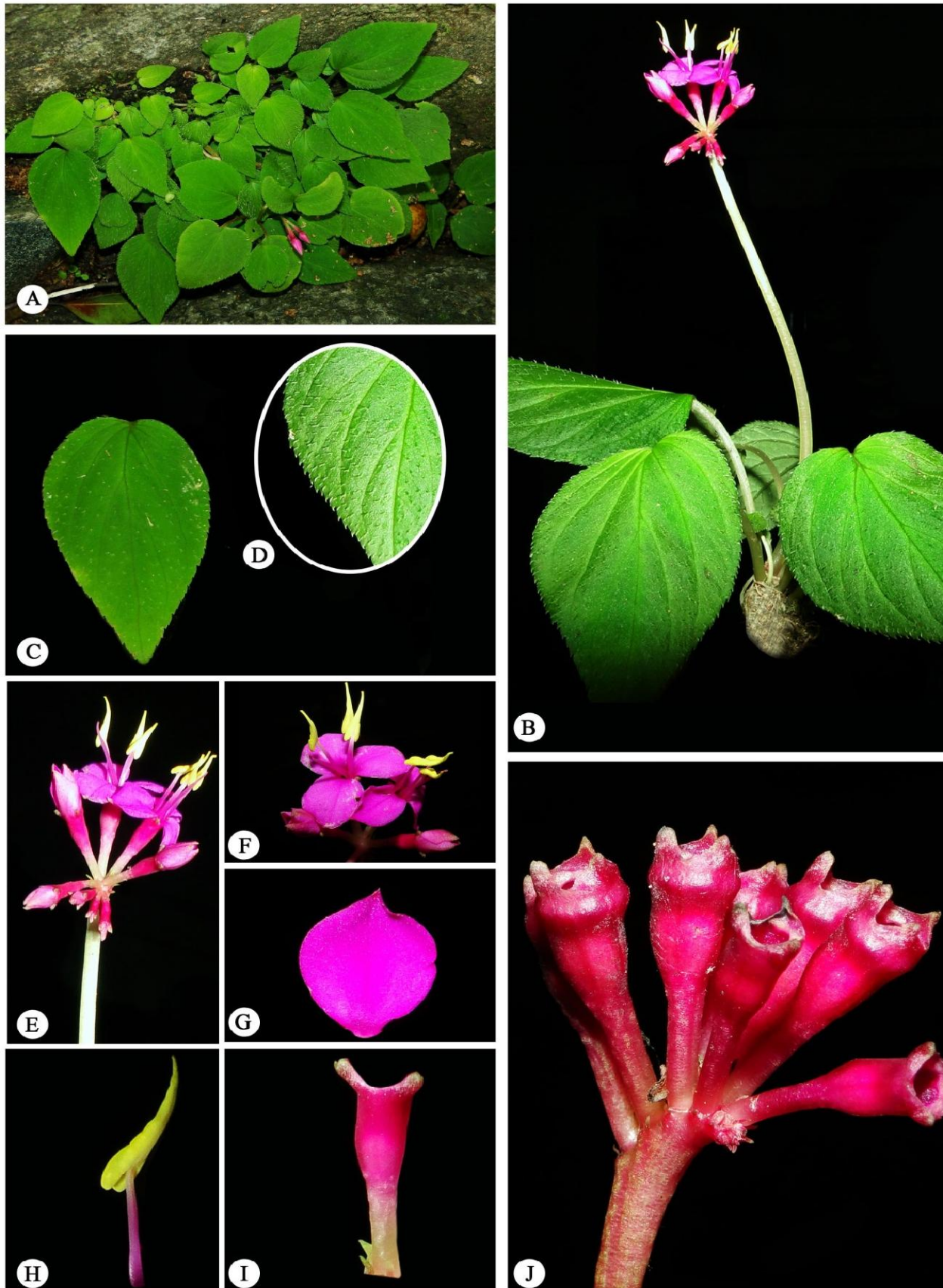


Figure 1: *Sonerila vythiriensis* sp. nov. A. Habitat; B. Habit; C. Leaf; D. Leaf margin; E. Inflorescence; F. Flower; G. Petal; H. Stamen; I. Calyx tube; J. Fruit.

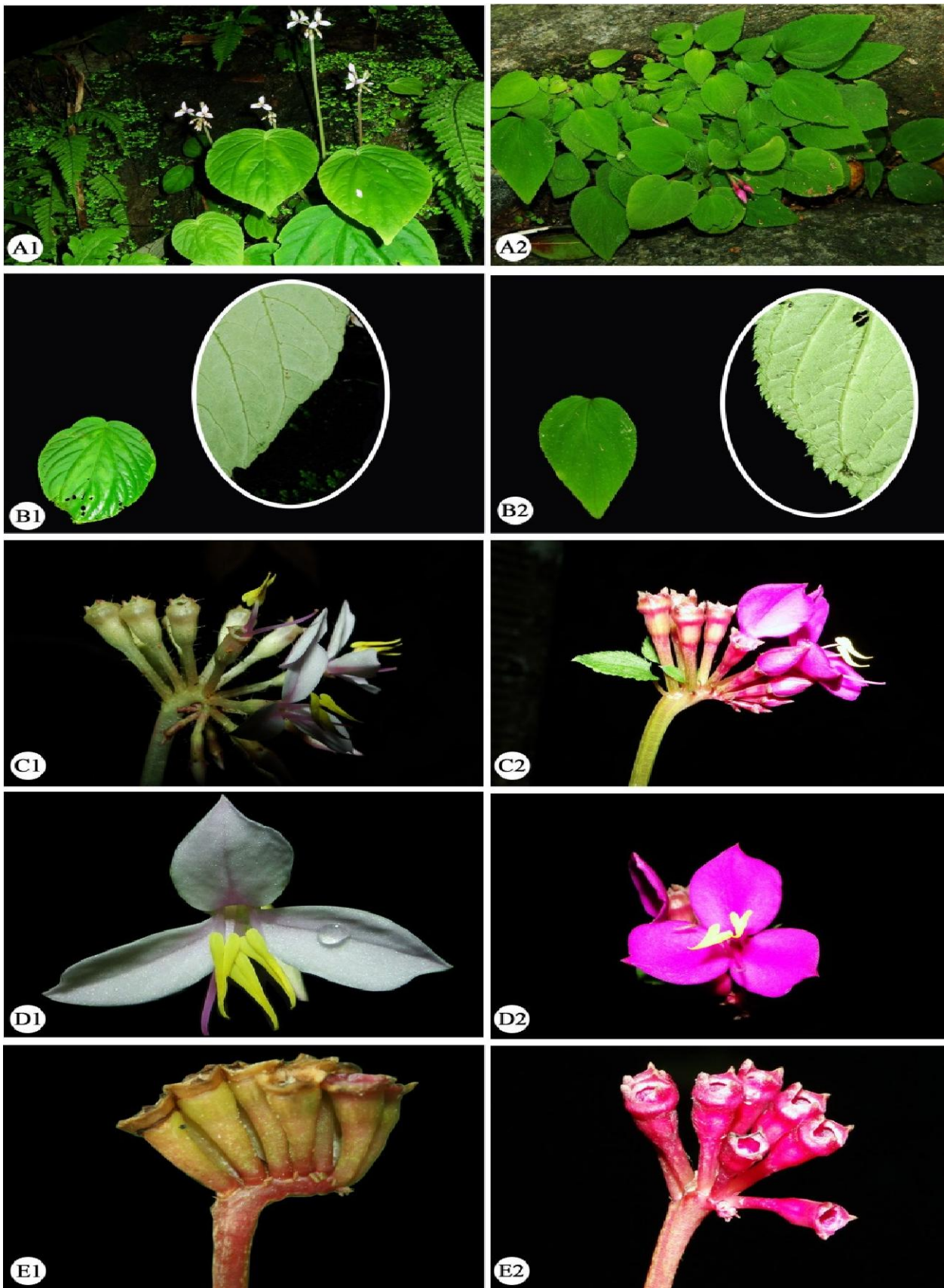


Figure 2: Comparison of *S. wallichii* (A1-Habit, B1-Leaf and margin, C1-Inflorescence and immature fruits, D1-Flower, E1-Fruits) and *Sonerila vythiriensis* sp. nov. (A2-Habit, B2-Leaf and margin, C2-Inflorescence and immature fruits, D2-Flower, E2-Fruits).

Distribution, habitat and ecology:

Sonerila vythiriensis grows on dripping rock crevices in evergreen forests at altitudes of 1000-1100 m a.s.l. It is known only from the evergreen forests of Vythiri-Chembra hill ranges of the Wayanad district, Kerala. Small populations of this species are distributed near the temporary rocky streams in the area. We noticed only two well separated populations, each of not more than 30 plants, one from under rocks and another one from rock crevices. The species appears with the onset of the south-west monsoon (June-July).

Flowering & Fruiting: Flowering from early July with peak in August; fruiting in August-September.

Etymology: The specific epithet is derived from the type locality, Vythiri Ghats, Wayanad district in Kerala State, India.

Additional specimen examined:

INDIA, Kerala: Wayanad District, Vythiri, ±1100 m, 28, August 2014, M.K. Ratheesh Narayanan, M.K. Nandakumar & K. A. Sujana MSSH 2097.

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