

A new species of *Sonerila* (Melastomataceae) from the Western Ghats of Kerala, India

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Abstract

A new species of *Sonerila* Roxburgh (Melastomataceae) *Sonerila balasubramaniamii* sp. nov. is described and illustrated. *S. balasubramaniamii* occurs in the Nelliampathy hills, in the Western Ghats of the Palakkad District, Kerala state, India. It is morphologically compared to its most closely related *Sonerila rotundifolia* Bedd. and *Sonerila wallichii* Benn.

Keywords: *Sonerila balasubramaniamii*, new species, Nelliampathy hills, Palakkad district, Kerala, India

INTRODUCTION

Sonerila Roxburgh belongs to the family Melastomataceae, is an Asiatic genus distributed in subtropical and temperate regions, with ca. 175 species of herbs and undershrubs. This genus is characterized by the presence of trimerous flowers (Lundin and Nordenstam, 2009). The genus occurs with ca. 44 species from India and Sri Lanka and it is well represented in Southern India. It is the only genus with trimerous flowers (except for the monotypic *Stussenia* Hansen and *Lithobium* Bong.) and the stamens are in one or rarely in two whorls.

During the field visit to Nelliampathy hills, a part of the Western Ghats of Palakkad District, Kerala, India, the authors came across an interesting species of the genus *Sonerila* that belongs to the family Melastomataceae. On critical study with the help of relevant literatures and the consultation of herbarium specimens available in Botanical Survey of India, Southern Circle (Madras Herbarium), Coimbatore, this species differs from the previously known species (Hooker, 1897; Gamble and Fischer, 1957; Nair and Henry, 1983; Giri and Nayar, 1985; Ravikumar, 1999; Lundin and Nordenstam, 2009; Murugesan and Balasubramaniam, 2011). Hence this species is described as new species. This species is apparently most similar to *Sonerila rotundifolia* Bedd. and *Sonerila wallichii* Benn. It is named, described and illustrated, in order to facilitate further collection and for easy identification. The specimens have been deposited in the Herbarium of Salim Ali Centre for Ornithology and Natural History (SACONH), Coimbatore district, Tamil Nadu, India.

Type: India, Kerala, Palakkad District, Location: Nelliampathy hills, (ca. 900 m above msl.), date and year of collection: 28-7-2012. Collector: M. Murugesan, Specimen Number: 182 (Holotype 182A, SACONH; Isotype 182B-E, SACONH). (Fig. 1).

This species is closely allied to *Sonerila rotundifolia* Bedd. and *Sonerila wallichii* Benn. but differs with *Sonerila rotundifolia* Bedd. and *Sonerila wallichii* Benn. by the presence of large tubers, 2-4 cm across, orbicular, ovate, or rarely deltoid leaves, 4-15 x 4-12 cm, primary nerves 3-5, rarely 6 pairs from the base, petiole up to 20 cm long, sparsely hairy at base, somewhat dense towards apex especially at the vicinity of leaf base, inflorescence scorpioid racemes, rarely dichotomously branched or subumbellate, scape 2-5 per plant, up to 30 cm long, with 8-20 (22) flowers per scape, elongate anthers and campanulate, glabrous capsules.

The major differences between these three species are given in table 1.

DESCRIPTION OF THE TYPE SPECIMEN

Small, scapigerous, tuberous, acaulescent, succulent annual herb growing up to 35 cm high with numerous wiry lateral roots; tubers irregular shaped, small to large, 2-4 cm across. Leaves directly arise from the root, petiolate, succulent, 3-4, rarely 5 per plant, orbicular, ovate, orbicular-ovate or rarely deltoid, 5-15 x 4-12 cm, purple tinged, deeply cordate base with overlapping margins, minutely serrate, crenulate or rarely denticulate at margin with single apical seta on each serrature, obtusely acute at apex with the central nerve, thin coriaceous; primary nerves 3-5, rarely 6 pairs from the base, others above, numerous, puberulous and distantly brownish hairy on the abaxial surface, especially on the nerves and the vicinity of leaf base; hairs 2-3 mm long; primary nerves prominent on both surfaces; lateral nerves many, obscure on adaxial surface, prominent on abaxial surface; petiole 5-20 cm long, 3-5-ribbed, reddish or purplish, sparsely brownish hairy. Inflorescence of scorpioid racemes, sometimes subdichotomously branched scorpioid racemes, rarely subumbellate; scapes 2-5, arise from the root, 7-25 cm long, succulent, 8-20-(22) flowered, purplish, hyaline at margins when dry, winged at the margins; peduncle purplish, succulent, up to 30 cm long, sparsely hairy at base and glabrous towards apex. Flowers showy,

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purplish ca. 2.5 cm across, bracteolate; pedicel 0.8-1.8 cm long, purplish; bracteoles lanceolate or linear, rarely filiform, 1-2 mm long, acute at apex. Calyx-tube campanulate, 3-6 x 2-4 mm; teeth 3, small, ovate or triangular-ovate, 0.5-1.5 mm long, acute at apex. Petals 3, pink, broadly oblong or obovate, elliptic or rarely rounded with a short claw, 0.6-1.5 x 0.8-1.6 cm, mid-vein prominent, with rounded or obtuse apex with a small mucronate tip; lateral nerves somewhat obscure. Stamens 3; filaments simple, 5.5-7.2 x 0.5-1 mm, slightly broad at base, narrowed towards apex, attached at the middle of the anther; anthers yellow, elongate, lanceolate, rarely oblong or ovate-lanceolate, 5.5-6.5 x 1-1.5 mm, rostrate, broad at base, narrowed towards apex, obtuse, with an apical pore; connective without appendages. Ovary inferior, globose or subglobose; ovule numerous; style simple, 0.85-1.5 cm long, filiform; stigma small, capitate. Capsule campanulate, obovoid, or rarely subglobose, 2.5-5 x 3-4.5 mm, obscurely 3-ribbed or

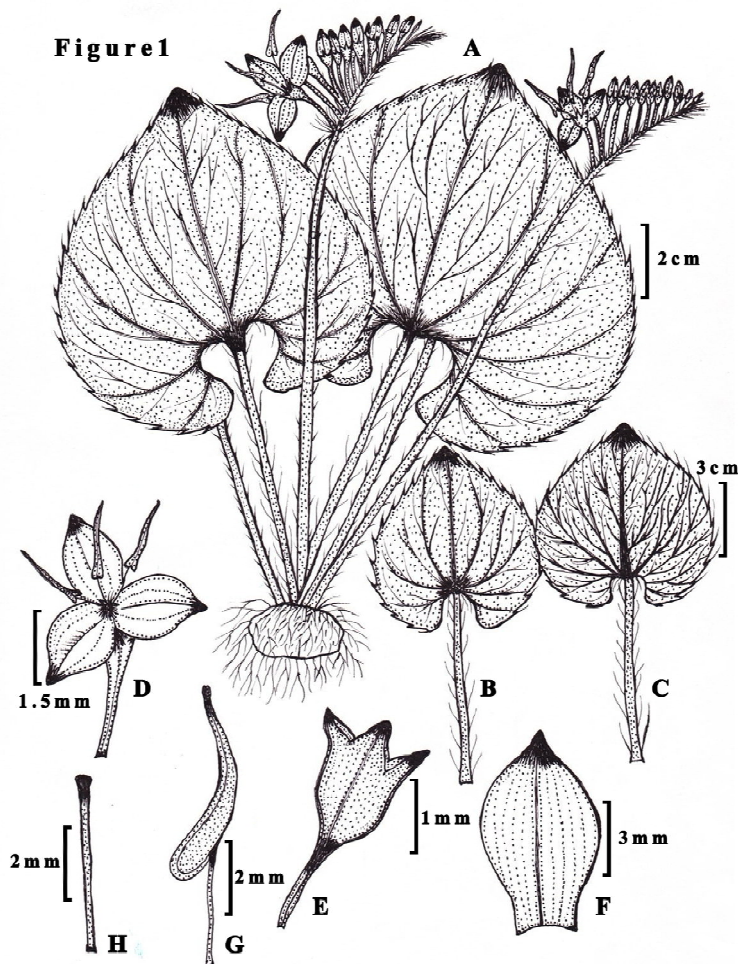
angled, glabrous, enclosed with persistent calyx-tube; seeds numerous, 0.5-1.2 x 0.2-0.5, minute and tuberculate.

Ecology: Rare, found on moist rocks in open grasslands and along rock crevices between 900-1200 ms above msl.

Flowering and Fruiting: June-August.

Remarks: The species occurs only during the South-west monsoon (June-August). Since the plants are so ephemeral and easily mistook for other species of *Sonerila*, they are easily overlooked by plant explorers. The species is also morphologically larger than its closely allied populations of the species in the area.

Etymology: The specific epithet of the new taxon is named in honour of Dr. V. Balasubramaniam, considering his significant contribution to the field of Angiosperm Taxonomy, who is also the teacher of the senior author.



Sonerila balasubramaniamii sp. nov. A-Habit; B-Leaf adaxial surface; C-Leaf abaxial surface; D-Flower; E-Calyx-tube; F-Petal; G-Stamen; H-Style & Stigma

Table 1. Major differences between *Sonerila balasubramaniamii* sp. nov. and its closely allied species *Sonerila rotundifolia* and *Sonerila wallichii*

Sl. No.	<i>Sonerila rotundifolia</i> Bedd.	<i>Sonerila wallichii</i> Benn.	<i>Sonerila balasubramaniamii</i> sp. nov.
	Plants non-succulent	Plants non-succulent	Whole plants succulent
1	Tubers small	Tubers small	Tubers large
2	Leaves orbicular, thin, small, 1-6 cm long	Leaves ovate, large, 2-12 cm long	Leaves orbicular, thick, ovate, or rarely deltoid, large, 4-15 cm long
3	Primary nerves of the leaves 2-3 pairs	Primary nerves of the leaves 2-3 pairs	Primary nerves of the leaves 3-5 pairs, rarely 6 pairs
4	Petiole up to 5 cm long, glabrous	Petiole up to 7 cm long, almost glabrous	Petiole up to 20 cm long, sparsely hairy at base, somewhat dense towards apex especially at the vicinity of leaf base
5	Inflorescence scorpioid racemes	Inflorescence subumbellate	Inflorescence scorpioid racemes, sometimes dichotomously branched or rarely subumbellate
6	Peduncle 5-12 cm long, glabrous	Peduncle 5-17 cm long, glabrous	Peduncle 10-35 cm long, sparsely hairy at base, glabrous towards apex
7	Scape 1-3 per plant, less than 12 cm long	Scape 1-3 per plant, less than 20 cm long	Scape 2-5 per plant, up to 30 cm long
8	Flowers less than 5 per scape	Flowers 3-17 per scape	Flowers 8-20 (22) per scape
9	Anthers not elongate	Anthers not elongate	Anthers elongate
10	Capsule hemispheric, hairy or glabrous	Capsule subcampanulate, hairy or glabrous, crowned by a prominent white margin	Capsules campanulate, glabrous, not crowned by white margin

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REFERENCES

- Gamble, J.S. and Fischer, C.E.C. 1915-1936. *The Flora of the Presidency of Madras: Melastomataceae* Part 1-11. (Part 1-7 by Gamble and 8-11 by Fischer). Adlard & Sons Ltd., London: 488-505.
- Giri, G.S. and Nayar, M.P. 1985. A new species of *Sonerila* Roxb. (Melastomataceae) from southern India. *Bull. Bot. Surv. India*. 27(1-4): 86-89.
- Hooker, J.D. (Ed.), 1897. *The Flora of British India: Melastomataceae - II*. Reeve and Co., London: 512-565.
- Lundin, R. and Nordenstam, B. 2009. Two New Species of *Sonerila* (Melastomataceae) from South India. *Novon*. 19 (1): 76-79.
- Murugesan, M. and Balasubramaniam, V. 2011. A new species of *Sonerila* (Melastomataceae) from the Western Ghats-India. *Tabrobanica*. 3(2): 93-95, 1 pl.
- Nair, N.C. and Henry, A.N. 1983. *Flora of Tamil Nadu, India: Melastomataceae - I: Analysis* vol. 1: Botanical Survey of India, Coimbatore: 159-165.
- Ravikumar, K. 1999. Novelties from High Wavy Mountains, Southern Western Ghats, Theni District, Tamil Nadu, India. *Rheedea*. 9: 55-75.