



A NEW SPECIES OF *Sonerila* (MELASTOMATACEAE) FROM THE WESTERN GHATS OF KERALA, INDIA

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Abstract

A new species, *Sonerila keralensis*, from the Western Ghats of Kerala is described and illustrated. It is allied to *S. rheedei* differing by having a tuberous root stock, three to seven flowers, and petals with sparsely glandular-hairy margins.

Key words: taxonomy, *Sonerila keralensis*, Thirunelli, Melastomataceae, tropical Asia, endemic

Introduction

Members of *Sonerila* Roxb. (Melastomataceae Juss.; Sonerileae Triana) are ephemeral herb characterised by scorpioid cymes, trimerous flowers, and 3-celled inferior ovaries. They are seen commonly during monsoon in rock crevices and on stream banks of montane region. The genus has about 175 species distributed mainly in tropical Asia from India – Sri Lanka to Indo-Pacific (Cellinese, 1977; Lundin & Nordenstam, 2009).

In India, as per the latest assessment, the genus is represented by 48 species and four varieties (Clarke, 1879; Fischer, 1932, 1935, 1938; Nayar, 1969, 1976, 1987; Giri & Nayar, 1984, 1985a–b, 1986 a–c, 1987a–b; Prakash & Mehrotra, 1988; Gopalan & Henry, 1989; Giri *et al.*, 1992; Ravikumar, 1999; Murugan &

Manickam, 2002; Josephine *et al.*, 2003; Lundin & Nordenstam (l.c); Murugesan & Balasubramaniam, 2011; Ratheesh Narayanan *et al.*, 2013; Sunil *et al.*, 2014). Thirty-two species, including 18 endemics and 10 threatened, are known to occur in Western Ghats.

During the systematic inventory of the genus *Sonerila* of Western Ghats, an interesting specimen was collected from Thirunelli, Wayanad District, Kerala, at an altitude ~1000 m. The specimen is similar to *S. rheedei* Wall. ex Wight & Arn. We observed the plant over three consecutive growing seasons (2009–2011) and found that the characters attributed to this population are stable. Hence it is here described and illustrated as a new species.

Taxonomy

Sonerila keralensis Deepthikum. and Pandur.
sp. nov.

(Figs. 1, 2; Table 1)

Type: India, Kerala State, Wayanad District, Thirunelli, ~1000 m elevation, 30 Jun 2009, K.P. Deepthikumary & A.G. Pandurangan 60590 (holotype: TBGT; isotype: MH).

Diagnosis: Allied to *Sonerila rheedei* differing by having a tuberous root stock, an erect, apically branched stem, 3–7 flowers per inflorescence, sparsely glandular-hairy petal margins with a glabrous midrib, non-beaked anthers, and a capsule with a few glandular hairs.

Description: Herbs, erect, to 30 cm high; root stock tuberous; stem thin, cylindrical, green, pubescent, branching at apex. **Leaves** opposite, ovate or ovate-lanceolate, 3–9 × 2.5–4.5 cm, membranous, green, densely glandular hairy on

both surface, acute or rarely rounded basally, minutely serrate marginally, obtuse apically; nerves 4–5 pairs; petioles 1.5–4 cm long, channelled above, glandular hairy.

Inflorescences scorpioid cymes, terminal or axillary, 3–7-flowered; peduncles 4–10 cm long, translucent, pale green, pubescent; pedicels ca. 5 mm long, pink, hairy. **Calyx** tube campanulate, ca. 5.5 mm long; lobes 3, pink, sparsely glandular. **Petals** 3, ovate-acuminate, ca 5×4 mm, rosy pink, sparsely glandular hairy marginally; midrib glabrous. **Stamens** 3; filaments ca. 4 mm long; anthers lanceolate, inflated basally, attenuate apically, not beaked, dehiscence by apical pores. **Ovary** 3-celled; style slender; stigma capitate. **Capsules** 5–10 mm long, cup shaped with a white rim at apex, sparsely glandular hairy.

Flowering and Fruiting: August–October.

Etymology: The specific epithet refers to the Kerala state where this species is found.

Table 1: Comparison of the new species with *Sonerila sahyadrica* and *S. rheedei*

<i>S. keralensis</i> sp. nov.	<i>S. sahyadrica</i>	<i>S. rheedei</i>
Root stock tuberous with erect stem up to 25 cm, branched apically	Root stock tuberous with short stem up to 2 cm long, branched apically	Root stock not tuberous with procumbent stem, unbranched apically
3–7 flowers per inflorescence	5–10 flowers per inflorescence	5–16 flowers per inflorescence
Petals sparsely glandular-hairy marginally; midrib glabrous	Petals glandular-hairy marginally; midrib glandular-hairy	Petals glandular-hairy marginally; midrib glandular-hairy only dorsally
Anthers not beaked	Anthers not beaked	Anthers long-beaked
Capsule 5–10 mm long, sparsely glandular-hairy	Capsule 2.5–4 mm long, glandular hairy	Capsule 2–3.5 mm long, glandular-hairy

Habitat and Ecology: *Sonerila keralensis* grows in moist rock crevices in the spray zone of waterfalls and along stream banks in semi-evergreen and evergreen forests at an altitude of 150 m to 1000 m in association with *Begonia crenata* Dryand., *Biophytum candolleianum* Wight, *Impatiens scapiflora* B. Heyne ex Roxb., *I. diversifolia* B. Heyne ex Wight & Arn., *I. goughii* Wight., *I. minor* (DC.) Bennet, etc.

Distribution: India: Western Ghats located within the boundary of Wayanad, Idukki, and Thrissur districts, Kerala State.

Conservation status: The species was collected by several workers from different parts of Western Ghats from 150–1000 m above sea level and identified as *Sonerila rheedei*. The extent of occurrence, by taking into account all known locations, comes to 20,000km², the habitable sites within this range determining population size. Therefore, at present the species can be treated as vulnerable under the IUCN guidelines (IUCN 2001, 2010).

Specimens examined: Kerala State, Wayanad Dist., Thirunelli, ~1000 m. 30 Jun 2009, K.P. Deepthikumary & A.G. Pandurangan 60590

(type material, MH, TBGT); Idukki Dist., Walara, 16 Sep 1992, A.E. Shanavaskhan 12824 (TBGT); Thrissur Dist., Athirappilly, ~150 m, 14 Sep 1996, A.G. Pandurangan & G. Rajkumar 30788 and A.G. Pandurangan & G. Rajkumar 30789 (TBGT).

Remarks: Giri & Nayar (1984) studied members of the *Sonerila rheedei* complex and proposed *S. sahyadrica* G.S. Giri & M.P. Nayar based on its tuberous root stock and short stems. Our new species also has a tuberous root stock but with long stem. *Sonerila rheedei* does not have a tuberous root stock. The differences between these species are summarized above (Table 1).

The species name “*rheedii*” was proposed by Wallich in 1831 (no. 4096) but his name was not validly published. The name was subsequently validated by Wight & Arnott as *S. rheedei* honoring H.A. Rheedee tot Draakestein (1637–1691) (Wight & Arn., Prodr. 1: 321. 1834) and this is the correct orthography as per Art. 60.7 of the *International Code for Nomenclature* (McNeill *et al.* 2012). Subsequent Indian botanists, unfortunately, retained “*S. rheedii*” without referring the original publication. Therefore, the correct name of the taxon is: *Sonerila rheedei* Wall. ex Wight & Arn.

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PLATE 1

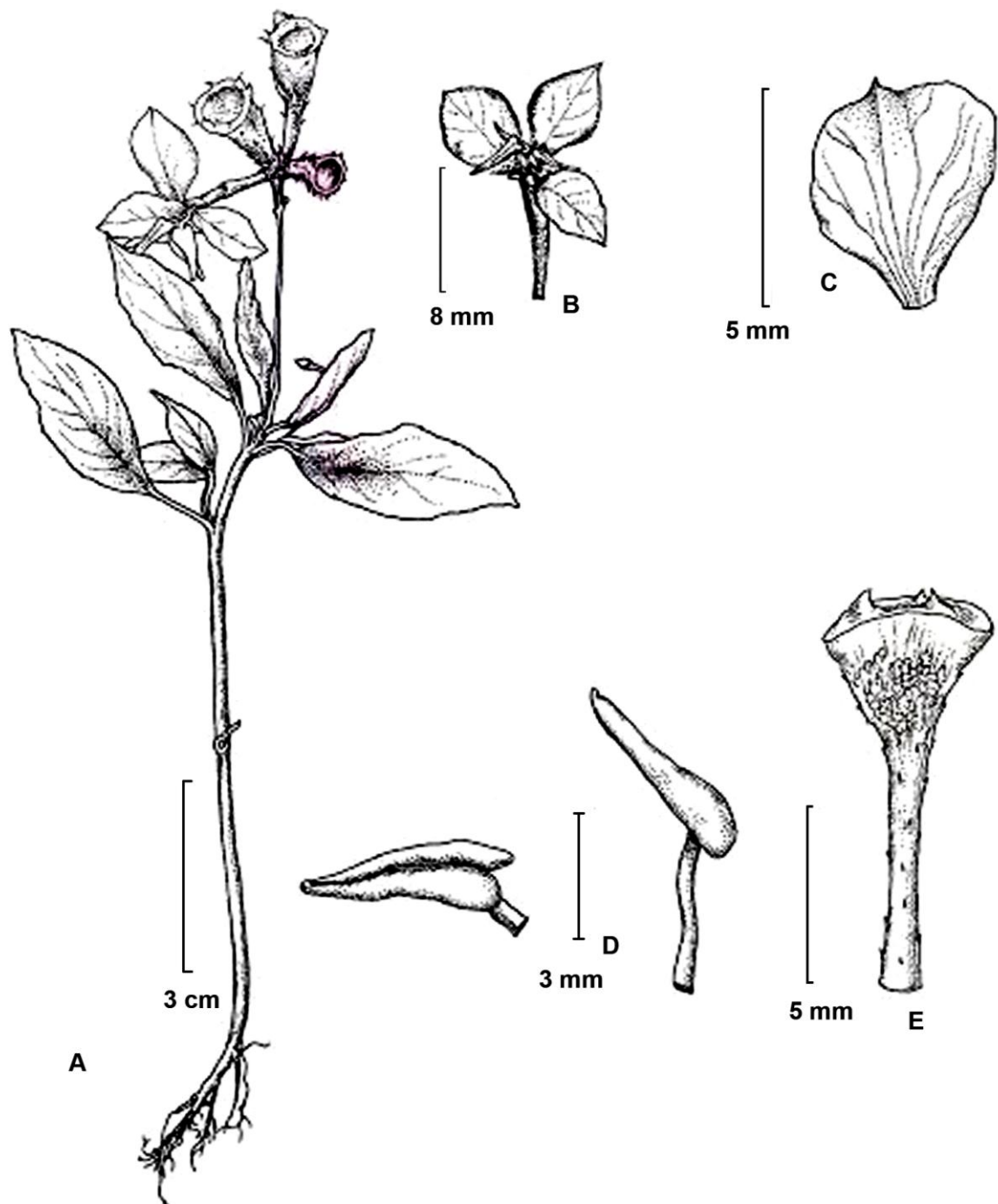


Figure 1: *Sonerila keralensis* sp. nov. A, habit; B, flower; C, petal; D, stamens; E, capsule.

PLATE 2

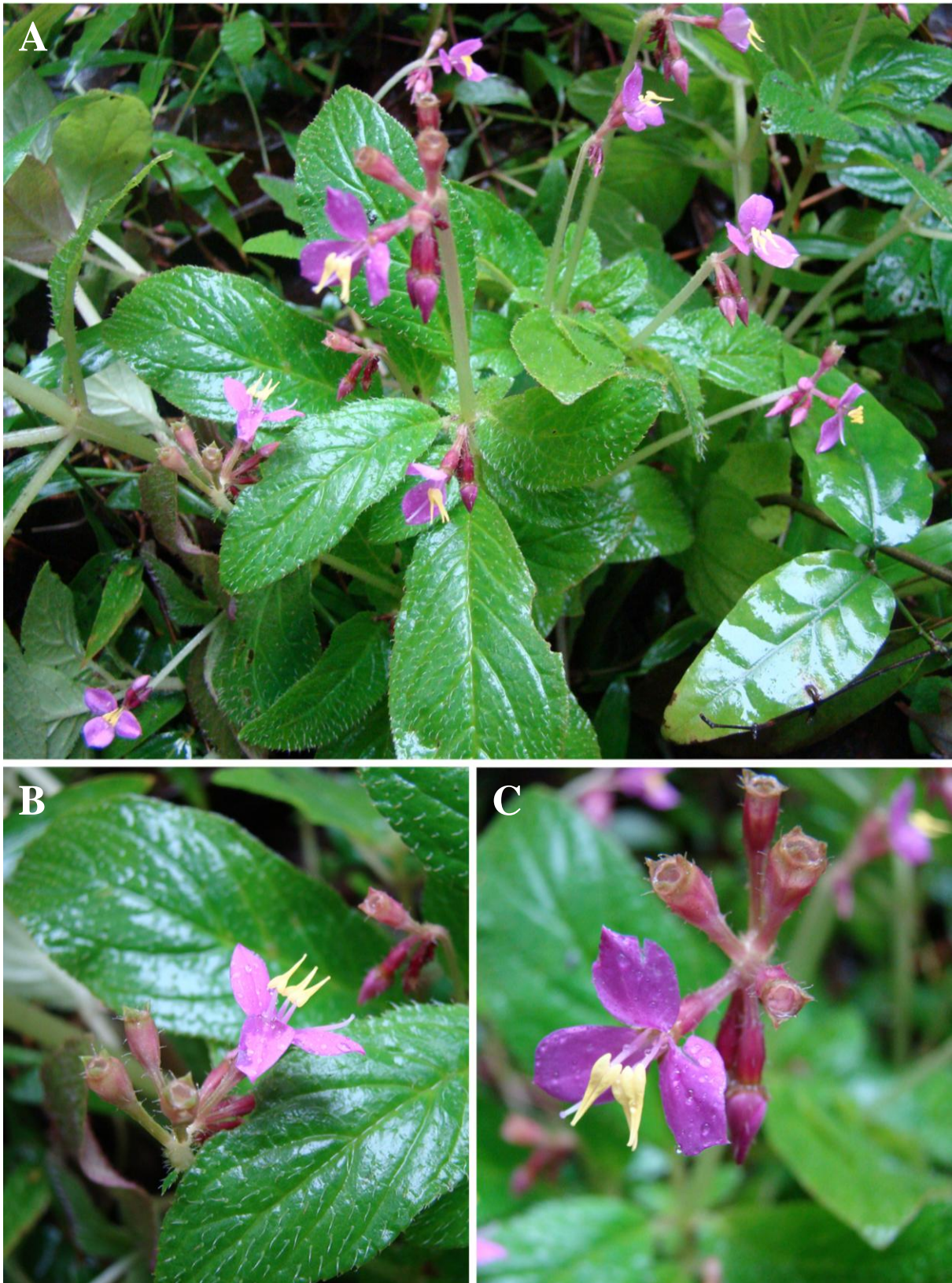


Figure 2: *Sonerila keralensis* sp. nov. A, View of habit; B, detail of a flower; C, Inflorescence showing two buds, a flower and four capsules.