

A NEW SPECIES AND NOTES ON TWO SPECIES OF *SONERILA* ROXB.
(MELASTOMATACEAE) FROM SOUTH INDIA

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A B S T R A C T

A new species of *Sonerila* and notes on two species of the genus are described here from South India.

INTRODUCTION

Wight and Arnott (1834) described *Sonerila rheedii* based on the herbarium specimen (Wall. List. No. 4096) and Rheede's illustration in Hort. Mal. 9. t. 65. As a note under the description the authors mentioned "In Dr. Wallich's specimen, which are rather imperfect there is no stem, only 2-3 leaves and one peduncle or scape : in Rheede's figure there is a stout stem as in *S. maculata*, to which it is perhaps too closely allied". The remark tells, perhaps on examination of a single acaulis plant then available to them, Wight and Arnott were of the opinion that Wallich's specimen (Wall. List. No. 4096) was an imperfect plant and as such, considered Rheede's drawing and Wallich specimen were identical. The confusion started with this assumption. Bennett (1844) first recognised the herbarium specimen (Wall. List. No. 4096) as a separate species and thereby described the same as *S. wallichii*. Following the view of Wight and Arnott (1834), some later workers like Triana (1871), C. B. Clarke (1879) and Cogniaux (1891) reduced the species as a synonym under *S. rheedii*. But the herbarium specimen (Wall. List. No. 4096) is specifically distinct and undoubtedly belongs to a different taxon as characterised by its

typical acaulis habit, sparsely hairy leaves with cordate base, palmate venation pattern, long petioles which sometimes become longer than the lamina and the long scapes, whereas in Rheede's illustration, the plant having a distinct stout stem, leaves with typical pinnate venation and short stout petioles. Afterwards many specimens were collected from the type locality and from the related areas in Southern India. Critical examination of old as well as new material reveals that the acaulis nature is quite constant and other characters like long petioles, palmate venation pattern are also quite stable and sufficient enough to designate *S. wallichii* as a good species. The study also supports Stapf (1892).

During study of the material of *S. rheedii*, the authors found two distinct groups of specimens. One group of specimens are characterised by decumbent or creeping habit, larger leaves and larger anthers with a prominent narrow beak. These specimens match well with the description of *S. rheedii* and also with Rheede's drawing (Hort. Mal. 9. t. 65). Though Rheede's drawing shows the stem is straight but study of herbarium specimens reveal that the creeping or decumbent habit are often associated with larger leaves and larger long beaked anthers of *S. rheedii*. The other group of specimens are characterised by very short stem with

bulbous base, smaller leaves and smaller anthers without a beak. Though these specimens come closer to *S. rheedii*, they are sufficiently and specifically distinct from it and hence proposed here as a new species.

S. pedunculosa Thw., a species endemic to Ceylon is characterised by more or less creeping habit. Superficially it comes closer to *S. rheedii* Wt. & Arn. But *S. rheedii* can be easily distinguished by pinnately veined leaves and long beaked anthers, whereas in *S. pedunculosa* Thw. the leaves with 2-3 pairs of veins arising from the base of leaves and one pair arising higher up from the midrib and the anthers without a prominent beak. Moreover, as studied by Nayar (1969), the capsules of *S. pedunculosa* are short and indistinctly ribbed with thin pericarp, the valves are not membranous as seen in *S. rheedii* Wt. & Arn. Stapf (1892) and recently Lundin (1983) also remarked that *S. pedunculosa* Thw. is strictly endemic to Ceylon. Thus it is concluded here that the material previously reported as *S. pedunculosa* Thw. by Yoganarasimhan *et al.* (1976) from South India actually belongs to *S. rheedii* and that *S. pedunculosa* Thw. does not occur in India.

The new species is described here with illustrations. A line drawing of *S. rheedii* Wt. & Arn. and *S. wallichii* Benn. and a key is also appended herewith to distinguish the taxa discussed above.

1. *Sonerila sahyadrica* Giri et Nayar

Affinis *S. rheedii* sed ramis brevibus, 0.5-2.0 cm longis, adbasin bulbosibus, foliis et petiolisque brevioribus, antheris haud attenuatis, capsulis sparse glanduloso-hirsutibus vel glabris differt.

Small herbs, stem very short, 0.5-2.0 cm long, unbranched, puberulous, bulbous at base. Leaves simple, usually fascicled, rarely alternate or opposite, ovate, (1.0-) 2.0-4.0(-6.5) × (0.8-) 1.5-2.0(-3.0) cm, acute to subrounded at base, acute at apex, margin finely serrate, teeth ciliate, 5-7 pairs of

nerves, all arising from the midrib, both surfaces usually densely hairy, hairs soft, whitish; membranous, sometimes purple pigmented, rarely with minute greenish white dots, dull green on drying; petioles (2-) 5-10(-22) mm long, puberulous. Inflorescence terminal or pseudoterminal scorpioid raceme, peduncles unbranched, fleshy, 1.5-6.5 cm long, puberulous, pinkish, 3-10 flowered, rarely solitary, bracts 0.5-1.0 mm long, linear. Flowers pedicellate, pedicels 3-4 mm long, sparsely glandular hairy. Calyx-tube campanulate, 2.5-3.5 mm long, sparsely glandular hairy, lobes 3, triangular, 0.5-0.75 × 0.75 mm, sparsely glandular hairy at margin. Petals 3, elliptic or elliptic-oblong, 5.0-6.0 × 2.0-2.5 mm, sparsely hairy at margin and on midrib dorsally, pink, mauve or rarely white with pinkish tinge. Stamens 3, filaments 2-3 mm long, anthers triangular or ovate-oblong, 2.0-3.0 mm long without a narrow beak, pore 2, apical. Style 6-7 mm long, glabrous; stigma capitate. Capsules cup-shaped, widened above and with a whitish rim at apex, 2.5-4.0 × 3.0-4.5 mm, sparsely covered with glandular hairs particularly when young, indistinctly ribbed. Seeds many, small, cuneate, 0.5 mm long, minutely tuberculate on dorsal side.

Type : Pamba to Anathode, Quilon Dist., Kerala, 1050 m, 30.9.1976, *Vivekananthan* 48344 (Holotype, CAL).

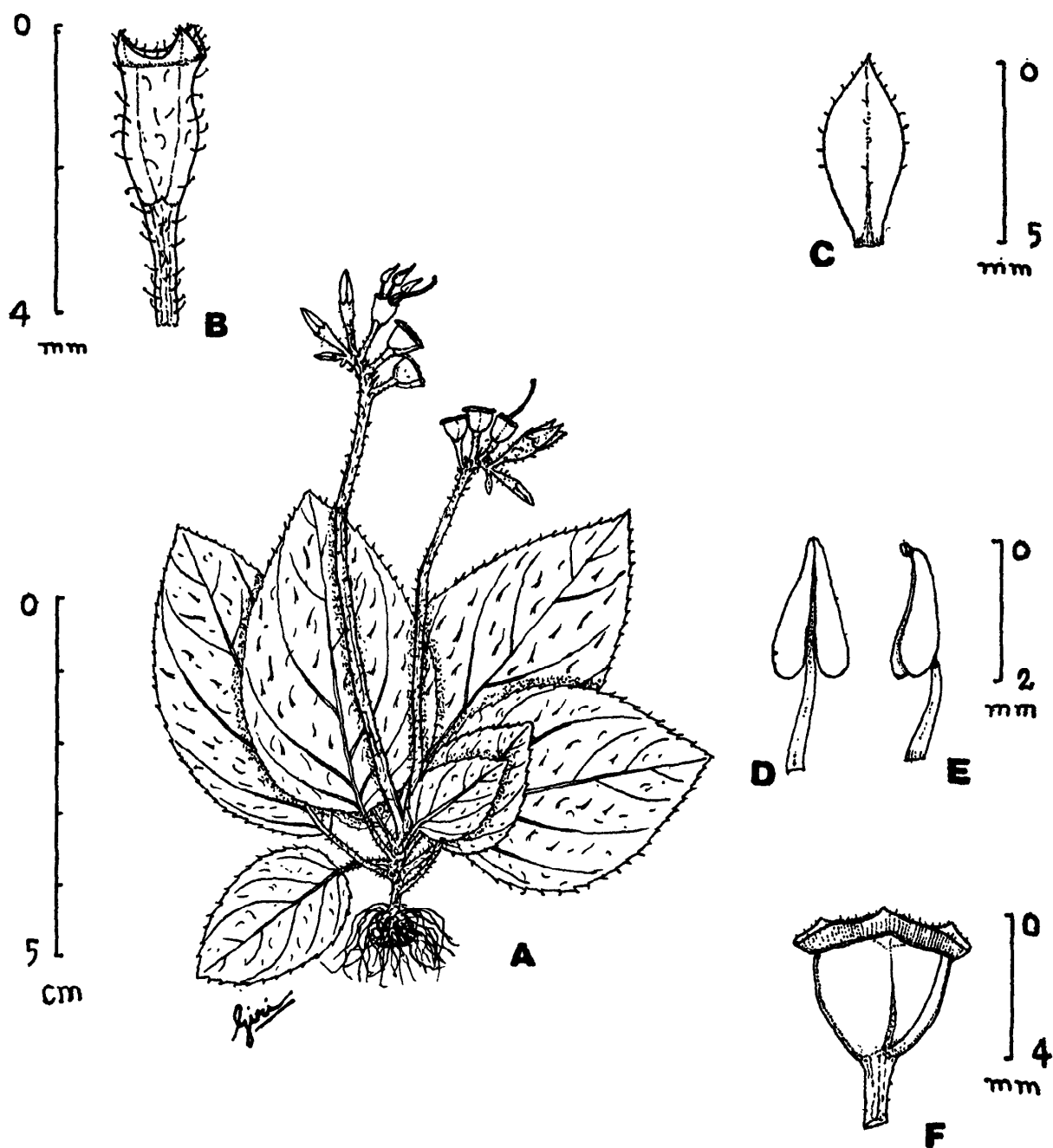
Fls. & Frts. : Simultaneously from Aug. to Nov.

Ecology : Grows in marshy slopes or under shades or in moist grasslands and has been collected within an altitude ranging from 200-1700 m.

Distribution : INDIA : Endemic to Western Ghats.

Notes : The species is closely allied to *S. rheedii*, but can be easily distinguished as keyed below.

Specimens examined other than type : Kallar, Trivandrum Dist., Kerala, ± 200 m, 22.11.1979, *Mohanan* 69241 & *Ibid*, *Mohan-*



Sonerila sahyadrica Giri & Nayar

Fig. 1 : A-F : A. Habit. B. Calyx. C. Petal. D & E. Stamen (dorsal & lateral view). F. Capsule.

an 65171 ; Below Moozhia, Quilon Dist., Kerala, 1000 m, 3.9.1977, *Nair* 50868 & *Ibid*, *Nair* 50870 ; Moozhia, Quilon Dist., Kerala, 1700 m, 3.9.1977, *Nair* 50872 ; Mukkadavoo, Travancore, 24.8.1917, *Rama Rao* 1415 & *Ibid*, *Rama Rao* 1416 ; Kada-makkal R.F., Sambaje, Coorg Dist., Karna-taka, 300 m, 30.10.1981, *Srinivasan* 68085 ; Attapadi Hills, South Malabar, 2800 ft. (850 m), 28.10.1910, *Fischer* 2263 ; Ponmudi Estate, Trivandrum Dist., Kerala, 950 m, 14.9.1977, *Nair* 51086 & *Ibid*, *Nair* 51087 ; between Pallode & Kulatupuzha, Nov. 1901 *Sine Coll.* (MH 21435, 21436) ; Ponmudi,

Trivandrum Dist., Kerala, $\pm$ 400 m, 4.12. 1977, Mohanan 52800; Mysore road, below goodaloor, Karnataka, 9.1883, *Sine Coll.* (MH 21423); Tellicherry...., Nov. 1910, *Meebold* 12117.

2. *Sonerila rheedii* Wight & Arnott, Fl. Penin.

Ind. Orient. 321. 1834; Stapf. in Ann. Bot. 6:307.1892; Cooke, Fl. Bomb. 1: 502.1903; Gamble, Fl. Madras, pt. 3: 500.1919 (Rep. ed. 1:352, 353.1957); Nayar in Journ. Ind. Bot. Soc. 48(3-4):324.1969; Vivekananthan, K. in Nair & Henry, Fl. Tamil Nadu: Analysis 1:164.1983. *S. wallichii* sensu Clarke in Hook. f. Fl. Brit. Ind. 2:538.1879, (p.p.), non Benn. 1844. *S. pedunculosa* sensu Yoganarasimhan *et al.* in Curr. Sci. 45(14):527.1976, non Thw. 1859.

Type: Rheed, Hort. Mal. 9.t.65.

Fls.: June to Sept., *Frts.*: Aug.-Nov.

Ecology: Grows in shady moist places or on rocky walls in marshy slopes and has been collected within an altitude range of 150-1000 m.

Distribution: INDIA: Endemic to Western Ghats.

Specimens examined other than type:

On the way to Chandanathode, Cannanore Dist., Kerala, $\pm$ 800 m, 14.8.1979, *Ramachandran* 63949; Chandanathode, way to Monantoddy, Cannanore Dist., Kerala, 900 m, 24.6.1965, *Ellis* 25103; Panathur, Cannanore Dist., Kerala, 500 m, 10.10.1979, *Ansari* 64857; Kalliasseri, Cannanore Dist., Kerala, 150 m, 20.7.1981, *Ansari* 70955; Neriangan-galam to Velara forest, Kottayam Dist., Kerala, 525 m, 20.8.1965, *Sebastine* 25082; Below Moozhiar, Quilon Dist., Kerala, 1000 m, 3.9.1977, *Nair* 50866; Kulathupuzha, Quilon Dist., Kerala, 250 m, 9.8.1978, *Mohanan* 58422 & *Ibid*, *Mohanan* 58423; Devala, Wynaad, Sept. 1900, *Barber* 2039; Begur R.F., Cannanore Dist., Kerala, $\pm$ 825 m, 23.11.1977, *Ramachandran* 52316; Kuttikanam, Peermade, Kottayam Dist., Kerala,

1100 m, 21.9.1964, *Vivekananthan* 20307; Kutiyadi Irrigation Project, Kalicut Dist., Kerala, 190 m, 25.6.1965, *Naithani* 25616; Quilon, Wight s.n. (MH 21441); Rock Wood Estate, Kerala, 1893, *Sine Coll.* s.n. (MH 21442); Begamandla, Coorg, 3000 ft ($\pm$ 900 m), 15 Sept. 1934, *Barber* 920.

3. *S. wallichii* Benn. Pl. Jav. Rar. 215.1844; Triana in Trans. Linn. Soc. 28(1):77. 1871; C. B. Clarke in Hook. f. Fl. Brit. Ind. 2:538.1879 (p.p.); Cogniaux in DC. Monogr. Phanerog. 7:512.1891 (p.p.); Stapf. in Ann. Bot. 6:308.1892; Gamble, Fl. Madras, pt. 3:500.1919 (Rep. Ed. 1: 352, 353.1957); C.E.C. Fischer in Rec. Bot. Surv. Ind. 9(1):82.1921; Ramam. in Saldanha & Nicolson, Fl. Hassan Dist. 287.t.54(A).1976; Vivekananthan, K. in Nair & Henry, Fl. Tamil Nadu: Analysis 1:164.1983. *Sonerila acaulis* Bedd. in Trans. Linn. Soc. 25:216.1866. *Casseberia wallichii* (Benn.) O. Kuntze in Revis Gen. Plant. 1:246.1891.

Type: Wall. List. No. 4096 (K).

Fls. & Frts.: Simultaneously from June to Nov.

Ecology: Grows in moist shades in the Hills and has been collected in altitude ranging between 750-1800 m.

Distribution: Endemic to Peninsular India: Tamil Nadu, Kerala, Karnataka.

Specimens examined: Kavarkal, Attakatti, Coimbatore, 1450 m, 22.7.1978, *Chandrabose* 57262; Anamallays, 5000 to 6000 ft. (1500-1800 m), *Beddome* s.n. (MH 21427); Anamallays. 1864, *Beddome* s.n. (MH 21420); on the way to Konnoth, Chandanathode, Cannanore Dist., Kerala, *Ramachandran* 63945; Cadamaney, Mysore, 14 Sept. 1909, *Barber* 6122; Bramagiri, Coorg, Karnataka, 14.9.1934, *Barnes* 912; 10 km from Mercara Bhagmandala Road, Kodagu Dist., Karnataka, 22 Aug. 1978, *Ramesh KFP* 2287; Aruvampara R.F., Palghat Dist., Kerala, 750 m, 10.10.1979, *Nair* 64484.

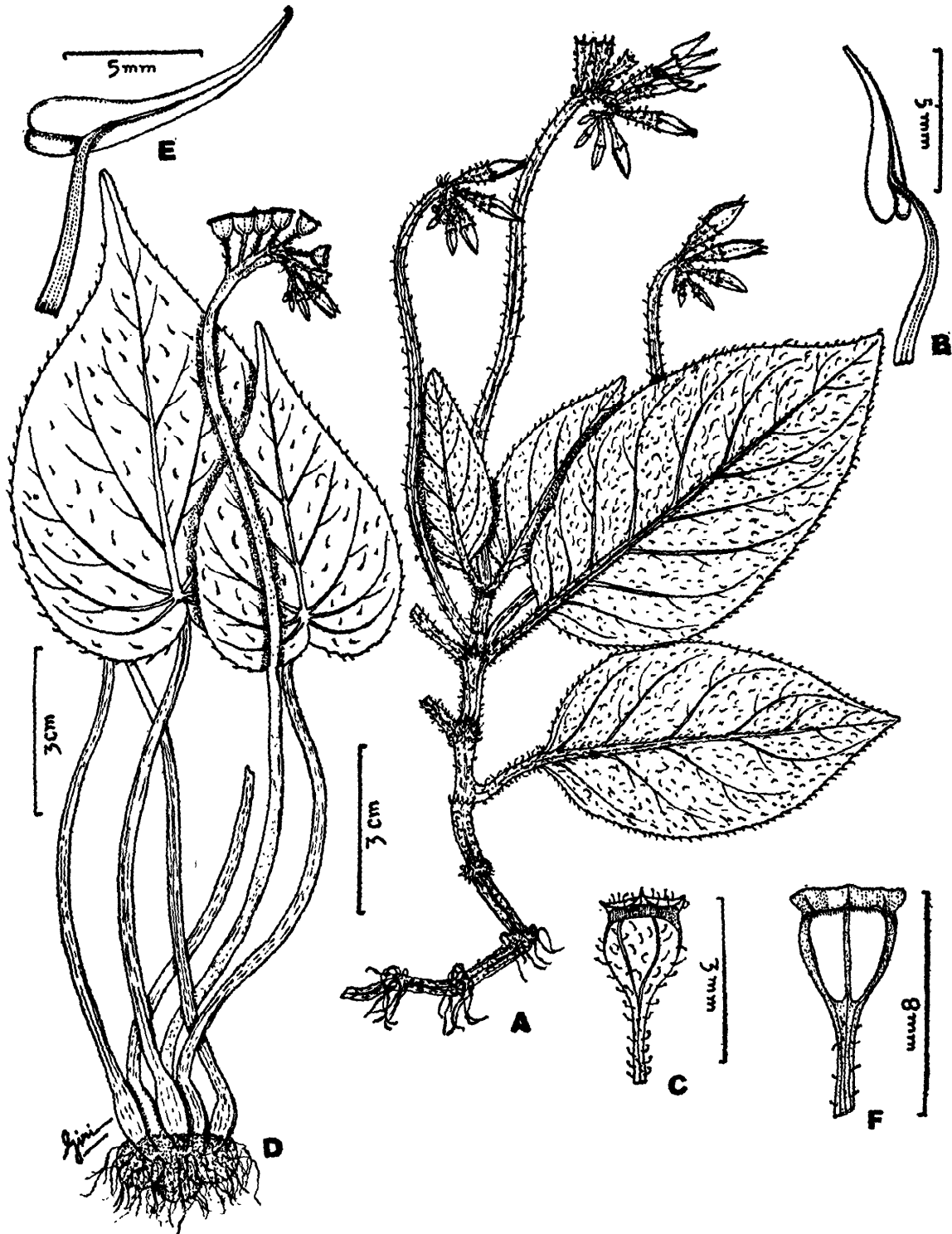


Fig. 2 : A-C. *Sonerila rheedii* Wt. & Arn. A. Habit. B. Stamen. C. Capsule.

Fig. 2 : D-F. *Sonerila wallichii* Benn. D. Habit. E. Stamen F. Capsule.

S. wallichii Ben., *S. rheedii* Wt. & Arn. and *S. sahyadrica* Giri & Nayar can be distinguished as follows :

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| <p>1. Plant acaulis; leaves radical; petioles 3-10 cm long, glabrous; peduncles 3-20 cm long, glabrous; petals glabrous ..</p> <p>1. Plant with a distinct stem; leaves opposite, sub-opposite or fascicled; petioles 0.5-4 cm long, puberulous; peduncles 1.5-10 cm long, puberulous; petals glandular hairy at margin and on midrib dorsally :</p> | <p>3. <i>S. wallichii</i></p> | <p>2. Stem decumbent or creeping, rooting at nodes, leaves opposite to subopposite; petioles 1-4 cm long; filaments 3.5-5.0 mm long; anthers 4.5-6.0 mm long with a long narrow beak ..</p> <p>2. Stem erect, very short, up to 2 cm long, bulbous at base; leaves fascicled; petioles 0.5-1.0 cm long; filaments 2-3 mm long; anthers 2-3 mm long without a narrow beak ..</p> | <p>2. <i>S. rheedii</i></p> <p>1. <i>S. sahyadrica</i></p> |
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Comparative Study of Morphological Characters of the four Species of *Sonerila*

<i>S. wallichii</i> Benn.	<i>S. rheedii</i> Wt. & Arn.	<i>S. sahyadrica</i> sp. nov.	<i>S. pedunculosa</i> Thw.
1. Plant acaulis.	1. Stem distinct, decumbent or creeping up to 20 cm long, rooting at nodes.	1. Stem very short, erect, up to 2 cm long, bulbous at base.	1. Stem decumbent or creeping.
2. Leaves radical, (3.5-) 6.0-10.0 (-17.0) × (2.2-) 3.5-5.5 (-10.5) cm, base deeply cordate, sparsely hairy above, glabrous beneath, palmately veined.	2. Leaves opposite to subopposite (2.5-) 6.0-9.0 (-13.0) × (1.8-) 3.0-4.0 (-8.0) cm, base subrounded to subcordate, both surfaces puberulous, pinnately veined.	2. Leaves nearly fascicled, (1.0-) 2.0-4.0 (-6.5) × (0.8-) 1.5-2.0 (-3.0) cm, base acute to subrounded, both surfaces puberulous, pinnately veined.	2. Leaves opposite to subopposite, 2.0-5.0 × 2.0-4.0 cm, base subrounded, both surfaces puberulous, neraly palmately veined.
3. Petioles 3-10 cm long, glabrous.	3. Petioles 1-4 cm long, puberulous.	3. Petioles 5-10 mm long, puberulous.	3. Petioles 1-3 cm long, puberulous.
4. Peduncles, 3-20 cm long, glabrous.	4. Peduncles 4-10 cm long, puberulous.	4. Peduncles 1.5-6.5 cm long, puberulous.	4. Peduncles 3-7 cm long, puberulous.
5. Pedicels glabrous.	5. Pedicels sparsely glandular hairy.	5. Pedicels sparsely glandular hairy.	5. Pedicels sparsely glandular hairy.
6. Petals 5-8 mm long, glabrous.	6. Petals 5-8 mm long, sparsely glandular hairy at margin and on midrib dorsally.	6. Petals 5-6 mm long, sparsely glandular hairy at margin and on midrib dorsally.	6. Petals 4-5 mm long, sparsely glandular hairy at margin and on midrib dorsally.
7. Filaments 3.5-5.0 mm long.	7. Filaments 3.5-5.0 mm long.	7. Filaments 2-3 mm long.	7. Filaments 2-4 mm long.
8. Anthers with a long narrow beak, 4-6 mm long.	8. Anthers with a long narrow beak, 4.5-6.0 mm long.	8. Anthers without a narrow beak, 2-3 mm long.	8. Anthers without a narrow beak, 2-3 mm long.
9. Capsules 3.0-5.5 mm long, glabrous.	9. Capsules 2.0-3.5 mm long, glandular hairy.	9. Capsules 2.5-4.0 mm long, very sparsely glandular hairy or glabrous.	9. Capsules 2.0-4.5 mm long, glandular hairy.
10. Endemic to Western Ghats,	10. Endemic to Western Ghats,	10. Endemic to Western Ghats,	10. Endemic to Ceylon,

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