

# Species

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## Species

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# *Sonerila kanniyakumariana*: A Narrow Endemic Species from the Kalakad–Mundanthurai Tiger Reserve, Tamil Nadu, India

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## ABSTRACT

*Sonerila kanniyakumariana* is a rare and narrowly endemic species confined to Tamil Nadu, India. The species was originally described by R. Gopalan and A.N. Henry in 1989 based on specimens collected from Upper Kodayar and Muthukuzhivayal in Kanniyakumari District. Following its first documentation, the species remained known from only a few reports within its type localities. The recent extensive field surveys have been resulted in the recollection of the species from Upper Kodayar, Tirunelveli District, extending our understanding of its current distribution and perseverance in their wild habitat. The current study provides efficient information on its taxonomy, phenology, habitat, ecology, geographical distribution, and preservation status, together with a distribution map and photographic documentation.

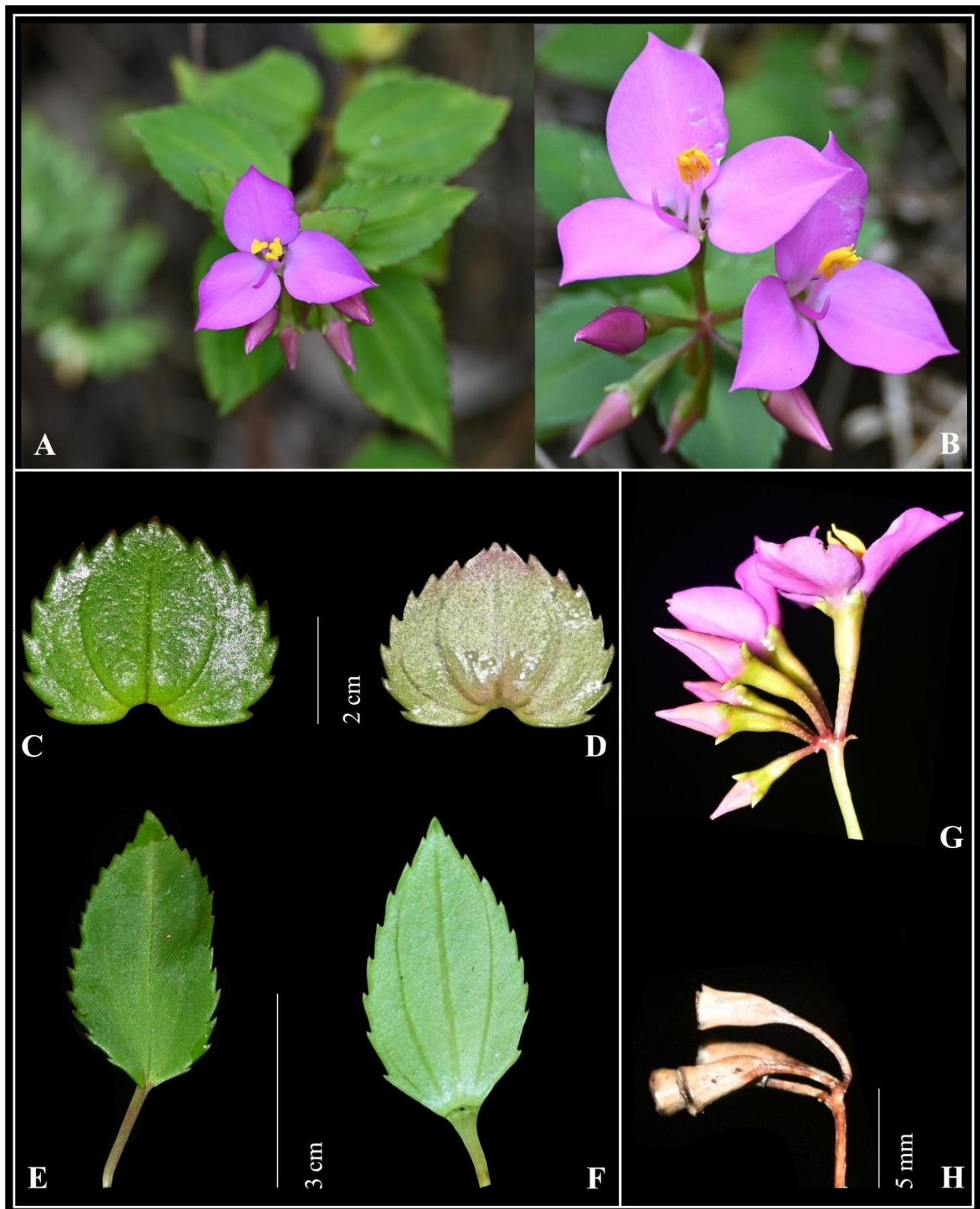
**Keywords:** Kalakad–Mundanthurai Tiger Reserve, *Sonerila*, Strict endemic, Tirunelveli.

## 1. INTRODUCTION

*Sonerila* Roxb., is a complex genus of the family Melastomataceae, distributed in South China to Tropical Asia, represented by about 208 species (Cellinese, 1997; POWO, 2026). In India, *Sonerila* represents the most species-rich genus of the tribe Sonerileae, with 62 currently recognized species, of which 52 are endemic to the country. The Western Ghats constitute a major center of endemism and diversification for *Sonerila*, supporting approximately 53 species, of which 50 are restricted to this biodiversity hotspot (Resmi & Nampy, 2021). Within Tamil Nadu, the genus is represented by 30 species and one infraspecific taxon (Narasimhan and Irwin, 2021).

As part of efforts to document and conserve Rare, Endangered and Threatened (RET) species, a botanical exploration was conducted in Upper Kodayar within the Kalakad Mundanthurai Tiger Reserve, Tirunelveli District, in February 2026. This survey resulted in the collection of some interesting plant specimens of the genus *Sonerila* belonging to the family Melastomataceae. A Careful examination of floral characters, along with critical analysis of relevant literature (Gopalan & Henry, 2000; Nayar et al., 2014; Singh et al., 2015; Giri, 2020; Narasimhan & Irwin, 2021; Manickam

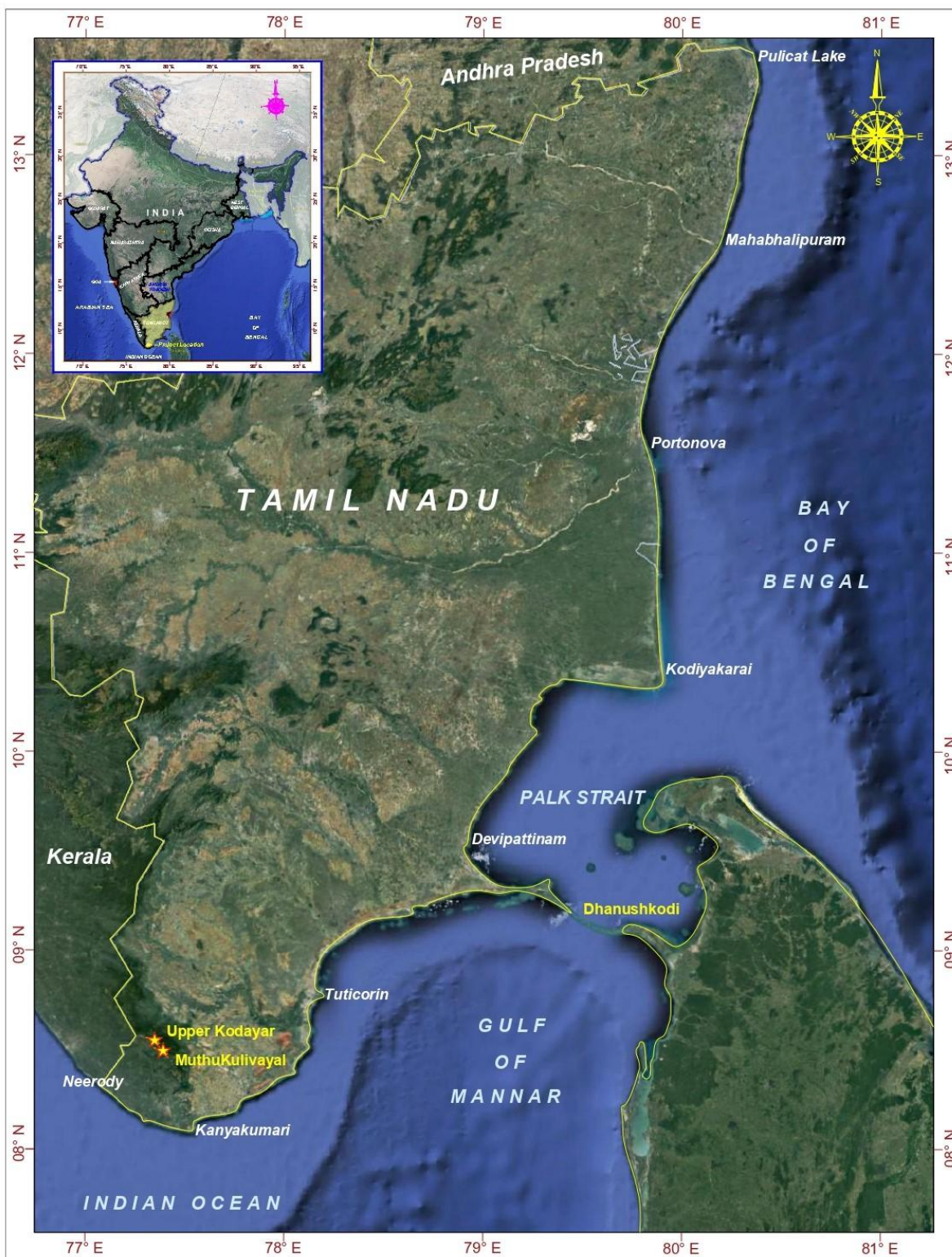
et al., 2022) and matching with the voucher specimens (CAL & MH), confirmed that the collected specimen is identified as *Sonerila kanniyakumariana*. A detailed description of the species, including colour photographs, phenology, and a distribution map in addition to conservation status are presented here.



**Figure 1.** *Sonerila kanniyakumariana*: A. Habit; B. Flower close-up view; C & E. Leaves adaxial surface; D & F. Leaves abaxial surface; G. Inflorescence; H. Fruit.

## 2. TAXONOMIC TREATMENT

*Sonerila kanniyakumariana* Gopalan & A.N. Henry, J. Bombay Nat. Hist. Soc. 86(1): 82. 1989; Gopalan & A.N. Henry, Endemic Pl. India: 367. 2000; T.S. Nayar et al., Fl. Pl. Western Ghats, Dicot 1: 634. 2014; P. Singh et al., Endem. Vasc. Pl. India: 204. 2015; G.S. Giri in AA. Mao & S.S. Dash, Fl. Pl. India Annot. Checkl. Dicot 1: 555. 2020; D. Naras. & S.J. Irwin, Fl. Tamil Nadu: 631. 2021; Manickam et al., Fl. Tirunelveli Hills 2: 412, f. 587. 2022 (Fig.1 & Fig.2).



**Figure 2.** Distribution map of *Sonerila kanniyakumariana*

**Type: - Holotype:**

INDIA. Tamil Nadu: Kanniyakumari District, Upper Kodayar, 1300 m, 20.3.1984, R. Gopalan & A.N. Henry 77180 (CAL!). **Isotypes:** Tamil Nadu, Kanniyakumari District, Upper Kodayar, 1300 m, 20.3.1984, R. Gopalan & A.N. Henry 77180, Acc. No. 139866–139874 (MH!). **Paratypes:** Tamil Nadu, Kanniyakumari District, Left flank saddle no.1, near dam Upper Kodayar, 1300 m, 16.2.1983, R. Gopalan & A.N. Henry 77001, Acc. No. 139875–139883 (MH!).

Perennial herb, 20–70 cm high, succulent. Stems erect sometimes, decumbent, terete, unbranched, rooting at lower nodes, glabrous. Leaves simple, opposite, upper sessile, lower petiolate, ovate-deltoid,  $2-5 \times 2-4$  cm, cordate or subcordate at base, serrate at margins, acute at apex, 3–5-veined, glabrous, pink-purple on abaxial surface, pale greenish on adaxial surface; petioles 3–6 mm long; internodes 2–4 cm long. Inflorescence in scorpioid racemes, terminal, 3–6-flowered, pinkish; peduncles 4–8 mm long. Flowers 3-merous. Calyx tube 5–8 mm long, funnel-shaped, glabrous; calyx 3-lobed; lobes triangular-ovate,  $2.8-3.2 \times 2-2.2$  mm, acute at apex, glabrous. Petals 3, ovate-orbicular, 1.3–1.5 cm across, apiculate at apex, glabrous, pinkish. Stamens 3. Filaments thick, 4.5–5 mm long, glabrous. Anthers lanceolate,  $5.5-6 \times 1.7-2$  mm, cordate at base, acuminate at apex, beaked, yellowish. Ovary campanulate; stigma capitate, glabrous; style slender, 10–12 mm long, glabrous. Capsules funnel-shaped,  $8-10 \times 4-5$  mm, glabrous; seeds tuberculate, c. 1 mm long, papillose, brownish.

**Flowering and Fruiting:**

January–June.

**Habitat and Ecology:**

Rocky slopes and roadsides, 1000–1800 m. Associated with *Anaphalis* sp., *Hedyotis ramarowii* (Gamble) R.S. Rao & Hemadri, *Helichrysum hookerianum* Wight & Arn. ex DC. and *Sonerila brunonis* Wight & Arn.

**Distribution:**

Kanniyakumari and Tirunelveli District. Narrow Endemic to Tamil Nadu.

**Conservation Status: Endangered (EN)** – (Gopalan and Henry, 2000); (Narasimhan and Irwin, 2021).

**Additional specimens examined:**

INDIA. Tamil Nadu: **Kanniyakumari District**, Vanamutti, 1800 m, 22.3.1981, A.N. Henry 70395 (MH); **Tirunelveli District**, Sangamuthirai, way to Pothigaimalai, 1500 m, 05.2.1989, R. Gopalan 88731; Kallar to Sangamuthirai, 1400 m, 23.2.1990, R. Gopalan 91657; Poonkulam, 1150 m, 24.4.1990, R. Gopalan 93253; Panitharai, 1500 m, 28.1.1991, R. Gopalan 94699 (MH); Upper Kodayar,  $8^{\circ}31'35.0''\text{N}$ ,  $77^{\circ}21'23.0''\text{E}$ ,  $\pm 1289$  m, 04.2.2026, Packiaraj & al. 510 (SNC-MH) Saraswathi Narayanan College(SNC), Meenakshi Herbarium(MH), Madurai).

**Conservation Measures:**

*Sonerila kanniyakumariana* is a narrowly endemic taxon at present identified only from a few restricted populations in the Kanniyakumari and Tirunelveli districts of Tamil Nadu. Its restricted extent of occurrence (EOO), limited area of occupancy (AOO), and small inhabitant's size provide the species vulnerable to habitat disturbance and stochastic environmental events. In observation of its narrow distributional range and prospective pressure to its habitat, in need of attention conservation way, together with in-situ habitation protection, periodic population assessments and comprehensive floristic surveys to document additional subpopulations, are vital for the long-term perseverance in its native habitat.

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### Author contributions

All authors have contributed equally to manuscript.

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### Conflict of Interest

The authors declare that they have no conflicts of interest, competing financial interest or personal relationship that could have influenced the work reported in this paper.

### Informed consent

Not applicable.

### Ethical approval & declaration

In this article, as per the plant regulations followed in the Department of Botany, Saraswathi Narayanan College (Autonomous) Perungudi, Madurai – 625 022, Tamil Nadu, India & Botanical Survey of India, Southern Regional Centre, Coimbatore – 641003, Tamil Nadu, India; the authors observed a Narrow Endemic Species (*Sonerila kanniyakumariana*) from the Kalakad–Mundanthurai Tiger Reserve, Tamil Nadu, India. The ethical guidelines for plants & plant materials are followed in the study for species observation, identification & experimentation.

### Data and materials availability

All data associated with this study are present in the paper.

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