

Species

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First record of *Stenocarpus sinuatus* (Lindley) Endl. in Tamil Nadu

Muthu Karthick Nagarajan^{1*}

ABSTRACT

Stenocarpus sinuatus (Lindl.) Endl., a species native to eastern Australia, has been reported for the first time in Tamil Nadu. The species was spotted growing as an ornamental and shade tree in a tea estate in Megamalai of Theni district.

Keywords: *Stenocarpus*, Firewheel tree, Megamalai, Tea estate

1. INTRODUCTION

The family Proteaceae Juss. is represented by 75 accepted genera globally (POWO, 2026). Most of the species in this family are trees or shrubs and rarely herbs. The family's species richness is higher in Australia and South Africa (Hooker, 1885). In India, Proteaceae is represented by 17 species and eight genera (Mabberley, 2018) and in Tamil Nadu by 15 species (Narasimhan, 2021). Proteaceae members are found growing in medium to high altitudes (<1500 m asl) of the state. *Helicia* Lour. is the only indigenous genera of Proteaceae found in Tamil Nadu (Gamble, 1956); the remaining species of the family have been introduced primarily for ornamental and shade purposes, especially in the higher altitudes of the Western Ghats (Karuppusamy et al., 2022). The family is restricted to the Nilgiris, Dindigul, Tirunelveli, Kanniyakumari, and Theni districts with *Grevillea robusta* A.cunn. ex R.Br., being the only exception, which has a wider distribution owing to cultivation.

The genus *Stenocarpus* R.Br. is represented by 23 species worldwide (POWO, 2026), with five heterotypic synonyms, and in Tamil Nadu, there are at present two species. Hitherto, *Stenocarpus salignus* R.Br. was the sole species in the genus known in the state, which was known from Theni and Nilgiris districts (Nair, 1983). The author has recorded another species, *Stenocarpus sinuatus* (Lindl.) Endl. from the hills of Theni (Fig.1).

2. TAXONOMIC TREATMENT

Stenocarpus sinuatus (Lindley) Endl. Gen. Pl., Suppl. 4(2): 88 (1848); *Agnostus sinuatus* Lindl. in Gard. Chron. 37: 615 (1846); *Stenocarpus cunninghamii* Hook. in Bot. Mag. 72: t. 4263 (1846).

Botanical description

Trees that grow up to 25 to 30 m tall; young branchlets ferruginous-tomentose, mature branches glabrous. Leaves coriaceous, alternate, distichous, highly variable from simple young leaves to deeply pinnate-lobed mature leaves in the same tree; former leaves are half the size of the latter. Lamina glabrous, 18-25 cm long and 3-6 cm wide, obovate, oblong-lanceolate to elliptic, apex obtuse; discolourous with dark

green adaxial and paler abaxial surface; petiole up to 2.5 cm long, terete; acute to attenuate base. Midrib and lateral nerves are clearly pronounced in the abaxial surface. Conflorescence subterminal or terminal, peduncles simple or multiple, pubescent, up to 8 cm long. Flowers scarlet to reddish-orange, 8-16, forming umbels in uniflorescence, 2.5-3.5 cm long, pedicels 1.2 cm, and radiate in 1 row from the tip of the peduncle. Tepals 4 cm long with puberulent adaxial and glabrous abaxial surfaces bearing sessile stamens. Hypogynus gland 3 mm long, flat, encircles the gynophore. Ovary stalked, ferruginous-pubescent, 3 mm long; ovules 10-12; style 2-2.5 cm long. Fruit a follicle, pale brown, cylindrical, 6-10 cm long; seeds 4-6, 2.5 cm long, along with the terminal wing (Fig.1).

Etymology

In the Genus epithet, *Stenos* refers to narrow, and *carpus* means fruit. Thus, *Stenocarpus* epithet refers to a narrow, streamlined fruit. Specific epithet *sinuatus* refers to the wavy margin of the leaves. It is called the Firewheel tree in English, as the reddish orange flowers radiating from a center, resembles the spokes of a wheel.

Specimen examined

Tamil Nadu, Theni district, Megamalai, Woodbriar Estate near High Wavys, 24-09-2023. N. Muthu Karthick. 1800 (CET).

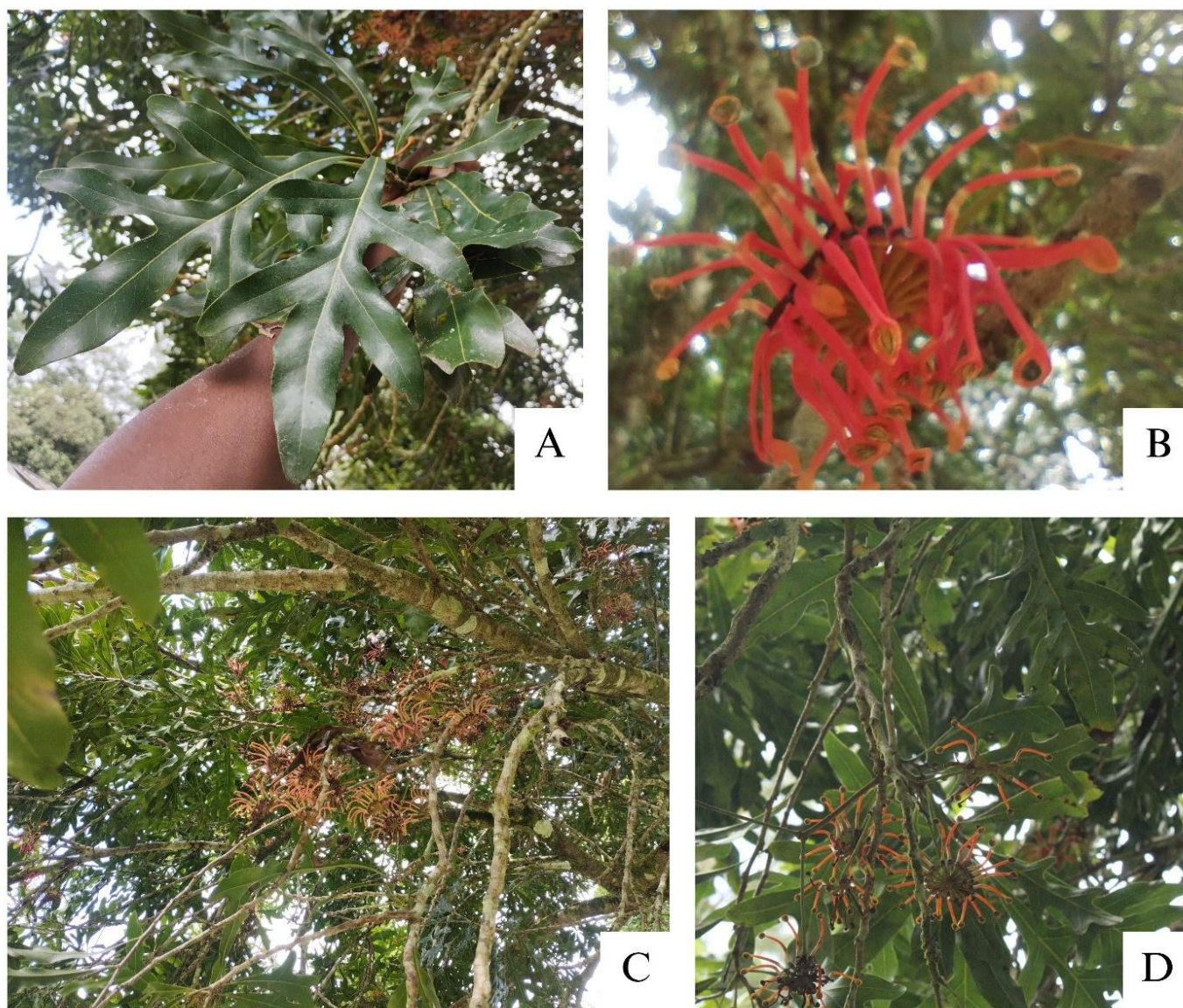


Figure 1. Field images of *Stenocarpus sinuatus* (Lindl.) Endl. A. Mature leaf B. Inflorescence C&D. Flowering branches

Flowering & Fruiting

Throughout the year

Distribution

The native range is Southeast New Guinea to Eastern Australia; endemic to Australasia and cultivated in India

Habitat and Ecology

Stenocarpus sinuatus is a tree that grows primarily in the seasonally dry tropical biome (POWO, 2026). The tree was found planted as an ornamental shade tree within a Tea estate on a well-drained gentle slope. Early planters might have brought the sapling for aesthetic purposes. There are no signs of regeneration from the seeds that have fallen nearby. In its native range, the tree is found distributed in the altitudinal range of 700 -1200 m asl in the warm upland rain forest biome. The closely related *Stenocarpus salignus* R.Br. is also found to be cultivated in the hills of Tamil Nadu (Nair, 1983).

3. CONCLUSION

This study implies the importance of studying both indigenous and introduced plants in the human-modified landscapes, like the tea and coffee estates. These agroecosystems support biodiversity, when managed sustainably. These landscapes could also help preserve remnant forest patches and rare species thriving in microhabitats. Exploratory studies in the estates can help document and preserve the existing species diversity. Conservation outside the protected areas could thus be achieved in plantation areas.

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Author contributions

This manuscript has been read and approved by the author. The authors believes that this manuscript represents honest work done by him.

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Conflict of Interest

The author 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 Conservation Biology Division, Care Earth Trust, Chennai – 600 061, India; the author observed the identity and distribution of *Stenocarpus sinuatus* (Lindl.) Endl. in Theni district, Tamilnadu. The ethical guidelines for plants & plant materials are followed in the study for species observation, identification & experimentation. The plant material was deposited in Herbarium (voucher no. CET-1800) of Care Earth Trust, Chennai.

Data and materials availability

Data that support the findings of this study are embedded within the manuscript.

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