



**ACTINODAPHNE SHENDURUNII (LAURACEAE): A NEW SPECIES FROM SOUTHERN WESTERN GHATS, INDIA**

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**ABSTRACT:** *Actinodaphne shendurunii* Robi & Udayan a new species of *Actinodaphne* Nees from Kollam district in Kerala, India is described and illustrated. The new species resembles *Actinodaphne pruinosa* Nees by slender branchlets, narrow, long acuminate leaves; but differs from it in the undulate margined, glossy leaves, fascicled inflorescence, thick, pubescent and divided perianth cup, ovoid fruits.

**Keywords:** *Actinodaphne*, India, Kerala, Lauraceae, Shenduruni, Southern Western Ghats.

## INTRODUCTION

The genus *Actinodaphne* Nees [2] was established by C. G. D. Nees von Esenbeck in 1831 based on *A. pruinosa* Nees from Peninsular Malaysia. Since then, a total of 150 taxa have been published by various authors [1]. Eight species and one variety are recorded from Kerala [3], but Nayar *et al.* (2006) reported 11 spp. and one variety. In course of revision of the family Lauraceae from South India, the authors encountered an interesting *Actinodaphne* from Kallar of Shenduruni Wildlife Sanctuary, Kerala, which resembled that of *Actinodaphne pruinosa* Nees by the habit and leaves, the latter is a Malesian taxa. However, critical studies of the plant material revealed that the species is different from *A. pruinosa*, especially in its undulate margined leaves, fascicled inflorescence, ovoid fruits, divided, thick and pubescent perianth cup. A detailed description and illustration are provided here to facilitate its identification in the field.

*Actinodaphne shendurunii* Robi & Udayan *sp. nov.* (Fig. 1&2)

**Type:**—INDIA. Kerala: Kollam District, Kallar, ± 850 m, 21<sup>st</sup> January 2010, A. J. Robi & P.S. Udayan CMPR 06547 (Female flower & fruit ) (Holotype: CAL; Isotypes: MH, Herbarium of the Centre for Medicinal Plants Research, Kottakkal (CMPR), CALI, KFRI).

Shrub to small tree, 8 m height, evergreen, bark brown, branchlets terete, slender, stems covered with appressed hairs when young and remaining as patches on older parts: terminal buds scales 1 mm long, ovate, acuminate, densely appressed pubescent. Leaves in whorls of 3–5, elliptic lanceolate, 5.5–14.3×1.4–3.2 cm, base acute or attenuate, tip acuminate (acumen 2 cm long), coriaceous, dark greenish, areolate, smooth, glossy, glabrous, slightly glaucous below, densely pubescent abaxially, glabrous adaxially, margin entire and wavy; midvein penninerved, less prominent and flat above, more prominent and rounded beneath, secondary veins 5–8 pairs, oblique, distant, faint above, raised and slender beneath, looped at margins, midrib and secondary veins densely pubescent abaxially (when young); tertiary nerves closely parallel, faint above, prominent beneath; minor nervules obscure above, slightly prominent beneath, reticulate; petiole 7–12 mm long, brown, slender, canaliculate adaxially, convex abaxially, with the same indumentum as the branchlets ; Inflorescences laterally or axillary fascicles, involucre bracts rufous-tomentose, deciduous and scarred, number of flowers is 5; pedicel upto 5 mm, appressed pubescent. Male flowers are not seen.

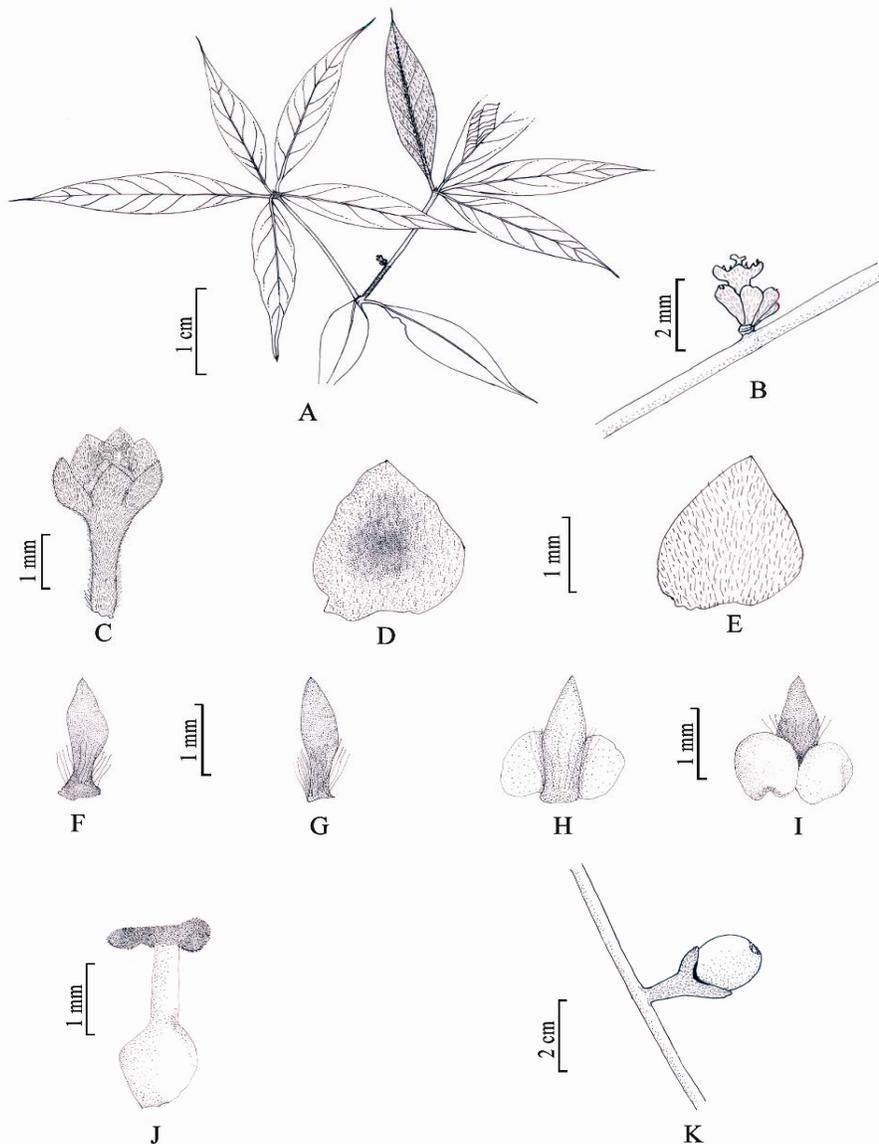


Fig. 1. *Actinodaphne shendurunii* Robi & Udayan sp. nov. (A) habit; (B) inflorescence; (C) single flower; (D) & (E) abaxial and adaxial views of perianth lobes; (F) & (G) first and second staminodes; (H) & (I) abaxial and adaxial views of third staminode with two glands; (J) pistil; (K) fruit with twig.

Female flowers greenish yellow, ca 4×2 mm, fulvous-pubescent; tepals 3 + 3, greenish yellow, thin, hyaline along margins, pubescent on both sides; outer ovate, ca 3×2 mm, acute; inner ovate lanceolate, ca 2.5×2 mm, acute. Stamines 9 in three whorls, free; outer whorl three, ca 1.6×1 mm, narrow, villous, head, flat, broad, elliptic, acute, eglandular; middle whorl almost same as the outer whorl; inner whorl with three staminodes, ca 1.6 mm long, 2 glanded, narrow, acute, villous at base; glands 1 mm, sessile, orbicular. Pistil ellipsoid, ca 2.6 mm long, glabrous; style 1.5 mm, glabrous, rather thick, straight with small white peltate stigma. Fruits ovoid, obtuse, 10×7 mm, glabrous, greenish, smooth, surface speckled with white dots, tip of fruit scarred, number of fruits developed is one; pedicels 5 mm long, rusty pubescent; cupule, thick, divided, glabrous within and, rusty-pubescent outside.



Fig. 2. *Actinodaphne shendurunii* Robi & Udayan sp. nov. a) twig with flowers, b) abaxial view of leaves, c) abaxial surface of leaf showing pubescence, d) inflorescence & single flower enlarged, e) infructescence, f) single fruit enlarged.

**Diagnosis**

The new species is closely similar to *A. pruinosa* Nees in having slender branchlets, narrow and long acuminate leaves and greenish yellow flowers. But differs from it in the 3–5 leaves in a whorl, undulate margin, lateral nerves looped along margins, pubescent petiole, fascicled inflorescence, rather thick, rusty-pubescent and divided perianth cup and ovoid fruits. A more detailed morphological comparison of these two species is given in Table 1

**Phenology:**—Flowering starts from November and peak time is January. Fruit matured during February–March.

**Table 1. Diagnostic morphological characters of *Actinodaphne shendurunii* and related species**

Characters	<i>A. pruinosa</i>	<i>A. shendurunii</i>
Petiole	7-13 mm long, glabrous	7–12 mm long, pubescent
Leaves	elliptic-lanceolate, 7–12×3–5 cm, 4–6 in a whorl, glabrous, hardly shining, margin distinct	elliptic-lanceolate, 5.5–14.3×1.4–3.2 cm, 3–5 in a whorl, villous abaxially, shining, margin wavy
Lateral nerves	8–10 pairs, reticulation obscure	5–8 pairs, reticulation prominent
Female flowers	tawny-pubescent cymes, branched, umbellules of 3-5 flowers	fulvous-pubescent fascicles, un-branched, flowers 5
Perianth lobes	ovate, ca.2 mm long, obtuse, glabrous inside, margin reflexed	ovate, ca.3 mm long, acute, pubescent inside, margin entire, gland dotted
Style	curved, slender	Straight, thick
Perianth cup	margin wavy, glabrous	margin divided, rusty pubescent
Fruit	globose, 7 mm diam.	ovoid, 7 mm diam.

**Distribution & Ecology:**—So far known only from the Kallar, Kollam district, Southern Western Ghats, Kerala, India. The new species grows in wet evergreen forests at  $\pm$  850 m, associated with *Humboldtia decurrens* Bedd. ex Oliver, *Drypetes malabarica* (Bedd.) Airy Shaw, *Cinnamomum filipedicellatum* Kosterm, *Symplocos macrophylla* Wall. ex A. DC ssp. *rosea* (Bedd.) Nooteb. and *Cryptocarya anamalayana* Gamble

**Conservation status:**—The new taxa is seen in undisturbed evergreen forests of Kallar valley on the way to Pandimotta hill top belongs to Agasthyamala Biosphere Reserve. A total of 50 individuals were scattered along this hill ranges.

**Etymology:** The specific epithet of the new taxon is based on the type locality Shenduruni Wildlife Sanctuary.

**Additional specimens examined:** INDIA. Kerala: Kollam District, Kallar,  $\pm$  850 m, 12<sup>th</sup> January 1993, N. Sasidharan KFRI 10115 (fruits); *ibid* 15<sup>th</sup> May 1993, N. Sasidharan KFRI 10465.

**Notes:** The specimens of *Actinodaphne shendurunii* from Kallar, Shenduruni Wildlife Sanctuary was deposited in KFRI herbarium have been determined as *Actinodaphne salicina* Meisner, which is confined to Nilgiris.

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