

LITSEA ANAMALAYANA (LAURACEAE), A NEW SPECIES FROM NELLIYAMPATHY HILLS, INDIA

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The new species *Litsea anamalayana* Robi & Udayan, from Kerala, India, is described and illustrated. A detailed description is given, together with information on its distribution and ecology. Photographs of the new species are provided, as well as a comparison with the morphologically similar *L. glabrata* (Wall. ex Nees) Hook.f.

Keywords. Kerala, Lauraceae, *Litsea*, Palakkad, southern Western Ghats.

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Introduction

Litsea Lam. (Lauraceae) comprises about 400 species of dioecious trees and shrubs that inhabit mostly tropical Asia, with a few species found in the Pacific islands, Australia, and North and Central America (van der Werff, 2001). As many as 46 taxa are recognised from India, and these are mainly distributed in the Western Ghats and eastern Himalayas (Hooker, 1886; Robi, 2014; Robi *et al.*, 2015).

While revising the Lauraceae of South India, a species of *Litsea* was collected from the evergreen forests of Nelliampathy in the district of Palakkad, Kerala. A detailed literature search (Hooker, 1886; Ganesan, 2011; Robi *et al.*, 2015, 2017; Udayan & Robi, 2017; Robi & Udayan, 2021) was carried out and specimens from CALI, KFRI, MH and RHT (herbarium codes follow Thiers *et al.*, continuously updated) were examined using a binocular microscope and compared with specimens and literature of *Litsea* species recorded from South India. This confirmed that the specimen belongs to *Litsea* and showed that it morphologically resembles *Litsea glabrata* (Wall. ex Nees) Hook.f. but differs significantly from it. Therefore, it is described here as a species new to science. A detailed description, comparison with *Litsea glabrata*, and images of the new species are provided to facilitate its identification.

Species description

***Litsea anamalayana* Robi & Udayan, sp. nov.**

The new species is similar to *Litsea glabrata* (Wall. ex Nees) Hook.f., from which it differs by its pubescent branchlets and petioles (versus glabrous); linear-oblong leaves

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(versus elliptic-oblong); narrowly attenuate base (versus acute to cuneate); acuminate apex (versus acute to attenuate); revolute margin (versus flat); 11–14 pairs of lateral veins (versus 9–12 pairs); 3–7 cm long, pubescent brachyblasts (reduced branchlets) (versus 5–12 cm long, glabrescent); 7 flowers in an umbel (versus 6); peduncle of umbels 8 mm long (versus 5 mm long); involucre bracts 6 (versus 4); c.1.5 mm long, ellipsoid ovary (versus c.1 mm long, subglobose); c.3.5 mm long style (versus c.2 mm long); lobed stigma (versus discoid); ellipsoid fruits (versus ovoid); puberulous perianth (versus glabrous); and 7 mm long, pubescent, angular fruiting pedicels (versus 10 mm long, terete, glabrous). – Type: India, Kerala, Palakkad district, Nelliampathy hills, ± 1000 m elevation, 26 xii 2019 (flowers), A.J. Robi BAM01001 (holotype MHI; isotypes BAM!, KFR!). **Figure.**

Small trees, 5–10 m tall; bark brown, lenticellate, inner bark pale yellow; branchlets pubescent, subterete, thick, lenticellate. Leaves simple, alternate, exstipulate; petiole 1.5–2 cm long, thick, pubescent, convex below, flat above; lamina 11–21 × 3–4 cm, linear-oblong, lanceolate, base narrowly attenuate, apex acuminate (acumen 1.5 cm long), margin revolute, glabrous adaxially and puberulous abaxially, smooth above, pale-glaucous below, coriaceous; midrib flat above, prominent beneath, pubescent on both sides; lateral veins 11–14 pairs, pinnate, arcuate, prominent abaxially, inconspicuous adaxially, looped towards the margin; intercostae scalariform-reticulate, prominent below. Inflorescences umbel-bearing reduced branchlets (brachyblasts) giving the appearance of a raceme of umbels, in axils of leaves or lateral, brachyblast 3–7 cm long, pubescent bearing 4–8 umbels; peduncle of umbels c.8 mm long, slender, straight, puberulous; involucre bracts 6, 7 × 5 mm, suborbicular, or broadly ovate, concave, densely adpressed hairy outside, glabrous and glossy inside, coriaceous and caducous. Flowers 7 in each umbel, creamy white, c.6 mm long; pedicels c.3 mm long, silky-pubescent, subterete; tepals 6, 3 × 2 mm, ovate or elliptic, acute or obtuse at apex, equal, membranaceous, gland-dotted, glabrous on both sides, creamy white. Male flowers: not seen. Female flowers: staminodes 12, those of the outer rows linear, falcate, 2–3 mm long glabrous, apex obtuse; inner rows subulate, 1–1.5 mm long, glabrous, 2-glandular; elliptic, c.0.7 mm long glands. Ovary c.1.5 mm long, ellipsoid, glabrous; style c.3.5 mm long, straight and bend at apex, creamy white, glabrous; stigma lobed, papillose, creamy white. Fruit a berry, ellipsoid, c.1.5 cm long, obtuse at apex, glabrous, greenish, white specked, seated on the enlarged cup-shaped perianth tube, 1 cm deep, thin, puberulous, margin entire; fruiting pedicels 7 mm long, angular, stout, pubescent.

Distribution and habitat. So far known only from Nelliampathy hills, Palakkad district of Kerala, India, growing on a hill top in evergreen forests about 1000 m in altitude in association with *Antidesma montanum* Blume, *Cryptocarya anamalayana* Gamble, *Phoebe lanceolata* (Nees) Nees and *Syzygium laetum* (Buch.-Ham.) Gandhi.

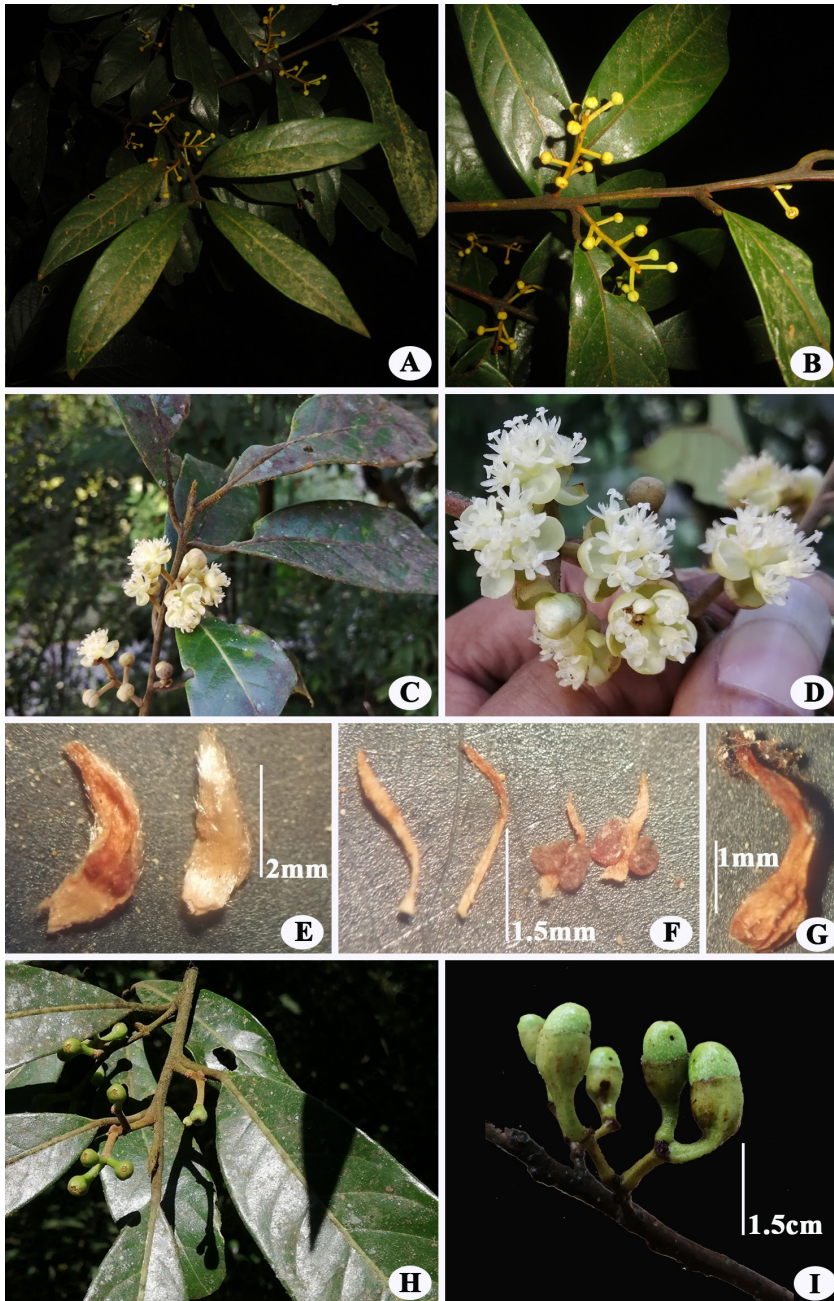


Figure. *Litsea anamalayana* Robi & Udayan, sp. nov. A, Flowering twig; B, twig with unopened umbels; C, brachyblast with opened umbels; D, female flowers (close-up); E, tepals; F, outer eglandular staminodes and inner glandular staminodes; G, gynoecium; H, early stage of fruit setting; I, mature fruits. Photographs: A. J. Robi.

Phenology. Flowering and fruiting, September to May.

Etymology. The specific epithet of the new taxon is after the type locality that includes the Anamalai hills phytogeographical zone.

Proposed IUCN conservation category. So far this species is known from a single locality. Nelliampathy hills were once covered by continuous dense evergreen forests and were home to several Western Ghats endemic species. Today, evergreen forest in Nelliampathy hills is now restricted to pockets of vegetation and under severe threat owing to tourism and plantation-related activities. The extent of occurrence of the species is estimated to be less than 100 km², and the area of occupancy less than 10 km². A single population consisting of 10 individuals was observed in the area. According to IUCN criteria (IUCN, 2012; IUCN Standards and Petitions Subcommittee, 2019), *Litsea anamalayana* is assessed as Critically Endangered (CR).

Additional specimens examined. INDIA. Kerala: Palakkad district, Nelliampathy hills, ± 1000 m elevation, 30 xii 2017 (flowers), Anoop P.B. & A.J. Robi 15528 (MBGH!); *ibid.*, 17 ix 2015 (flower bud), A.J. Robi 25702 (KFR!); *ibid.*, 16 iv 2019 (fruits), A.J. Robi BAM00950 (BAM!).

The [Table](#) summarises the character differences between between *Litsea anamalayana* and *L. glabrata*.

Table. Diagnostic character differences between *Litsea anamalayana* and *L. glabrata*

Character	<i>Litsea anamalayana</i>	<i>Litsea glabrata</i>
Habit	Small trees, 5–10 m tall	Trees, 10–20 m tall
Branchlets	Pubescent	Glabrous
Petiole	Pubescent	Glabrous
Leaves	11–21 × 3–4 cm, linear-oblong, base narrowly attenuate, apex acuminate, pale-glaucous below, margin revolute	10–18 × 3–6 cm, elliptic-oblong, lanceolate, base acute to cuneate, apex acute to attenuate, pale-glaucous or yellow below, margin flat
Lateral veins	11–14 pairs, inconspicuous adaxially; intercostae scalariform-reticulate abaxially	9–12 pairs, obscure adaxially, intercostae faintly reticulate abaxially
Brachyblasts	3–7 cm long, pubescent; 7 flowers in an umbel	5–12 cm long, glabrescent; 6 flowers in an umbel
Peduncle of umbels	c.8 mm long, puberulous	c.5 mm long, silky-pubescent
Involucral bracts	6	4
Ovary	Ellipsoid, c.1.5 mm long; style c.3.5 mm long, stigma lobed	Subglobose, c.1 mm long; style c.2 mm long, stigma discoid
Fruit	Ellipsoid, perianth cup puberulous; fruiting pedicels c.7 mm long, angular, pubescent	Ovoid, perianth cup glabrous; fruiting pedicels c.10 mm long, terete, glabrous

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