



RESEARCH ARTICLE

Notes on the taxonomic status and re-lectotypification of *Litsea iteodaphne* (Lauraceae)

Tapas Chakrabarty¹, Anand Kumar^{2*} & Partha Pratim Ghoshal²

¹4, Botanical Garden Lane, Howrah – 711 103, West Bengal, India

²Central National Herbarium, Botanical Survey of India, Botanic Garden, Howrah – 711 103, West Bengal, India

*Email: anand_kum234@rediffmail.com



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Abstract

Litsea iteodaphne (Nees) Hook.f., known endemic to Sri Lanka, is now synonymized with *L. saligna* (Nees) N.P. Balakr. of northeast India and Bangladesh, and thus revealing a curious disjunct distribution. The name *Tetranthera iteodaphne* Nees, the basionym of *L. iteodaphne* has been relectotypified.

Keywords

Litsea; new synonym; typification; disjunct distribution

Introduction

The genus *Litsea* Lam. comprises more than 300 species native to tropical Asia, the Pacific, Australia, and North and Central America (1). Kostermans (2) recorded 11 species in Sri Lanka, while Gangopadhyay *et al.* (3) listed 44 species in India. Ara *et al.* (4) enumerated 12 species in Bangladesh. While revising the genus *Litsea* in the Indo-Burmese region, it is found that *Tetranthera iteodaphne* Nees, the basionym of *Litsea iteodaphne* (Nees) Hook.f. was originally described from Sri Lanka based on a collection with female flowers and fruits by an unknown collector and locality during 1836. As per the circumscription established by Kostermans (2), this Ceylonese endemic species is characterized by its short stature (shrubs or trees, up to 3.5 m high), glabrescent branches (except very young shoots), linear-lanceolate leaves, gradually drawn out into long, sharp acumen, tapered at the base, with incised midrib on the upper surface and 15–30 pairs of lateral nerves, pedunculate axillary inflorescences (umbels) and ellipsoid fruits (c. 1 cm long) on about 0.5 cm long pedicels. Surprisingly, these characters fully match with the features of *Litsea saligna* (Nees) N.P. Balakr, a species of northeast India and Bangladesh origin. It was based on the description of *Tetranthera saligna* Nees, from Sylhet in Bangladesh, collected by F. de Silva with male flowers. On critical examination of the types of both the names and the available specimens of *L. iteodaphne* and *L. saligna*, we conclude here that the two species are conspecific (Table 1). Hence, the former species is synonymized with the latter species. In addition, this report also reveals a curious disjunct distribution between Sri Lanka and northeast India to Bangladesh, indicating a possible earlier wider distribution but now extinct in the intermediate areas.

Table 1. Comparison between *Litsea iteodaphne* and *L. saligna*.

Character	<i>L. iteodaphne</i>	<i>L. saligna</i>
Habit	Shrubs or trees, 1.5–3.5 m high	Shrubs or trees 3–3.5 m high
Indumentum	Almost entirely glabrous (except very young shoots)	Almost entirely glabrous (except very young shoots)
Phyllotaxy	Alternate	Alternate
Leaf		
a. Shape and size	Linear to linear-lanceolate or sometimes oblong-lanceolate, (6–) 8–27 × 1–3 cm	Linear, linear-lanceolate to lanceolate-oblong, 7–25 × 0.6–3 cm
b. Base	Acute to subacute or cuneate at base, sometimes decurrent into petioles	Acute to cuneate or often cuneate-attenuate at base and decurrent into petioles
c. Apex	Apiculate to caudate-acuminate (acumen 1–3 cm long)	Apiculate to caudate-acuminate (acumen 1–3 cm long)
d. Texture	Coriaceous	Thinly coriaceous
e. Midrib	Incised above, raised beneath	Incised above, raised beneath
f. Lateral nerves (pairs)	(10–) 12–30	12–35
g. Minor venation	Inconspicuous	Inconspicuous
h. Undersurface	Mostly glaucous	Usually glaucous or glaucescent
Petioles (length)	5–10 (–15) mm, channelled above	4–10 mm, channelled above
Male umbels	Not seen	Axillary, 5–6-flowered, pedunculate (peduncle 5–15 mm long)
Female umbels	Axillary, 5-flowered, pedunculate (peduncle 3–7 mm long)	Axillary, 5-flowered, pedunculate (peduncle 5–15 mm long)
Fruits	Oblong-ellipsoid to obovoid-ellipsoid, 9–10 × 5–7 mm; cupule 2–3 mm high, 4–7 mm in diameter; fruiting pedicels 3–6 mm long	Oblong-ellipsoid, 8–10 × 5–6 mm; cupule ca 2 mm high, ca 5 mm in diameter; fruiting pedicels 3–5 mm long

Materials and Methods

The present investigation is a part of our ongoing studies on the family Lauraceae since the year 2000, and it is based on the study of herbarium specimens and literature (as cited). The following herbaria were consulted for the examination of specimens, including digital images: AS-SAM, BR, BSIS, CAL, E, G, GH, GZU, K, L, NY, and P (5). We also consulted ARUN and MH, but no relevant specimens were available for these herbaria.

Taxonomic Treatment

Litsea saligna

(Nees) N.P. Balakr., J. Bombay Nat. Hist. Soc. 63: 329. 1967. –*Tetranthera saligna* Nees in Wall., Pl. Asiat. Rar. 2: 67. 1831. –*Litsea angustifolia* Hook. f., Fl. Brit. India 5: 169. 1886, non Blume 1826, nom. illeg. superfl.

Type

(lectotype designated by Singh [6]): Bangladesh, Sylhet, s.d., *F. de Silva s.n.* in Wallich, Numer. List No. 2537 (GZU000254549, digital image!, Fig. 1; isolectotypes BM000951034, digital image!, CAL0000073546!, G00390143, K000357512, K001116380, fragm. NY00355962, digital images!).

= *Tetranthera iteodaphne* Nees, Syst. Laur. 542. 1836. –*Litsea iteodaphne* (Nees) Hook.f., Fl. Brit. India 5: 173. 1886. –*Malapoenna iteodaphne* (Nees) Kuntze, Revis. Gen. Pl. 2: 572. 1891. –*Cylicodaphne thwaitesii* Meisn. var. *angustata* Meisn. in DC., Prodr. 15(1): 208. 1864, nom. superfl., **syn. nov.**

Type

(lectotype designated here): Sri Lanka, without precise

locality [Ceylani montosa], 1836, no collector 853 (GZU000254065, digital image!, Fig. 2).

Shrubs (often bushy) or trees, 1.5–3.5 m high, almost entirely glabrous; branchlets flattened and striated towards tips, terete towards the base, 1–5 mm thick. *Leaves* alternate, linear, linear-lanceolate to oblong-lanceolate, (6–) 8–27 × 0.7–3 cm, acute at apex, cuneate-attenuate at the base, sometimes decurrent into petioles, apiculate to caudate-acuminate (acumen 1–3 cm long) at apex, thinly coriaceous, usually glaucous or glaucescent on lower surface; midrib incised on the upper surface, raised on lower surface; lateral nerves slender, ascending, (10–) 12–35 pairs, obscure on the upper surface, faint to prominent on lower surface; tertiary nerves and nerves not conspicuous; petioles 4–10 (–15) mm long, channelled above. *Umbels* axillary, solitary or 2–5-together, the males 5–6-flowered, the females 5-flowered, pedunculate (male peduncles 5–15 mm long, female peduncles 3–15 mm long); involucral bracts suborbicular, 2–3.5 mm across. *Male flowers*: pedicels 1–2 mm long; calyx tube inconspicuous; tepals 6, ovate-oblong, c. 1.5 × 0.7 mm; stamens 6 or 9, in 2 or 3 series, 1.5–2 mm long; anthers oblong, 4-locular, c. 1 mm long; filaments pilose. *Female flowers*: pedicels 0.5–1 mm long; calyx tube funnel-shaped, c. 0.5 mm long; tepals 6, narrowly ovate, c. 1.2 × 0.4 mm; staminodes small; ovary ovoid-oblong, c. 1.5 mm long; style broadened towards stigma, c. 1.5 mm long; stigma peltate. *Fruits* oblong-ellipsoid to obovoid-ellipsoid, 8–10 × 5–8 mm; cupule 2–3 × 4–7 mm high; fruiting pedicels 3–6 mm long, stout.

Flowering & fruiting

January–September (Sri Lanka: January–August; North-east India and Bangladesh: January–September).



Fig. 1. Lectotype of *Tetranthera saligna* Nees. Available at: <https://gzu.jacq.org/GZU000254549>.



HERBARIUM C.G.D. NEES VON ESENBECCK

Christian Gottfried Daniel NEES von ESENBECCK wurde 1776 bei Erbach (Odenwald) geboren, studierte in Jena und promovierte 1800 in Gießen zum Dr. med. Ab 1802 in Sickershausen am Main tätig, wurde er 1818 als Professor für Botanik an die Universität Erlangen, 1820 an die Universität Bonn berufen. Seit 1830 lehrte er an der Universität Breslau, wo er 1851 als Folge seiner „widerträglicher Aufführung“ als Beamter aller seiner Ämter „entsetzt“ und ohne Pension entlassen wurde. Aus diesem Grunde wurden sein etwa 80.000 Bogen umfassendes Herbarium und seine Bibliothek noch zu seinen Lebzeiten aufgeteilt. Material von Nees wird in den Herbarien CGE, E, G, GE, L, PC, PR, S, STR, W, TAES, UPS und WRSL aufbewahrt.

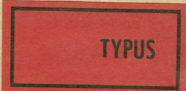
Teile der Familien Acanthaceae, Bombacaceae, Lauraceae, Piperaceae, Solanaceae und Sterculiaceae (incl. Byttneriaceae) gelangten als Geschenk des Freiherrn von Zschock an die Universität Graz, wo sie 1927 dem Herbarium GZU einverleibt wurden.

Weitere Angaben: Stafleu F.A. & Cowan R.S.: Taxonomic literature III: 705-712 (1981).

Inst. for Plant Sciences Graz (Austria)
Herbarium GZU



DigiBota ID 124763



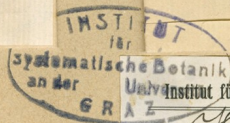
1836
853

853

Tetranthera iteodaphne
Nees

(Ceylon 1836)

Tetranthera iteodaphne
Ceyloni montosa



Institut für systematische Botanik an der Universität Graz
Hb. Nees ab Es.

Cylindrodaphne Thwaitesii Mein.

2498

Fig. 2. Lectotype of *Tetranthera iteodaphne* Nees. Available at: <https://gzu.jacq.org/GZU000254065>.

Habitat

It is frequent in evergreen forests between 200–2000 m asl in Sri Lanka; rare in northeast India on rocky watercourses or riverbanks, up to 900 m asl; common on the Chittagong hill tracts in Bangladesh up to 1000 m asl.

Distribution

Sri Lanka, northeast India, and Bangladesh.

Specimens examined

BANGLADESH. Rangamati Dist.: Burkul, 3 April 1876, *J.L. Lister s.n.* (CAL herb. acc. no. 387443). Sitapahar, 1876, *J.L. Lister s.n.* (CAL herb. acc. nos. 387444, 387446, 387448). Mogaserah Hills, 35 miles from Chittagong, September 1885, *Badul Khan (King's collector)* 147 (CAL). Kodala hills, 30 miles from Chittagong, April 1887, *Badul Khan (King's collector)* 422 (CAL); *ibid.*, March 1886, *Badul Khan (King's collector)* 480 (CAL – 5 sheets). Kasalong, 1876, *J.L. Lister* 15 (CAL – 4 sheets). Ruikheong, 2 March 1879, *J.S. Gamble* 6778 C (CAL). Sylhet Dist.: Chattuck, 12 January 1886, *C.B. Clarke* 42696 (CAL). INDIA. Assam. Cachar dist., Barak reserve, opposite Alni, 19 Nov. 1914, *U.N. Kanjilal* 4731 (ASSAM, CAL). Manipur, Moupang, On the Manipur to Cachar road, 27 May 1882, *G. Watt* 7199 (BSIS, CAL – 2 sheets, E01092358). Mizoram, Lushai hills, Jeyked, Changsel, 20 Mar. 1890, *J.C. Prazer s.n.* (CAL herb. acc. nos. 387474, 387477, 387478). SRI LANKA. Without locality, s.d., *Wight s.n.* (E01092697). Without locality, March 1846, *Thwaites s.n.* in CP 360 (K000793235). Without locality, s.d., *Thwaites s.n.* in CP 360 (P01990578, P01990579, P0199580, P0199581, P02003111, P02003113). Without locality, s.d., *no collector s.n.* in CP 360 (BR0000005115136, CAL herb. acc. no. 387765). Without locality, s.d., *Thwaites s.n.* (CAL herb. acc. nos. 387703, 387704). Without locality and date, *no collector* in CP 10 (GH00041771). Galle Dist.: Masbeliya valley, 28 May 1969, *Kostermans* 23656 S (P01990583). Enselwatte estate, above Deniaya, June 1969, *Kostermans* 23694 (P01990584). Kandy Dist.: 75 mile NW of double cutting junction, Maskeliya, 19 April 1972, *M. Jayasuriya, M.D. Dassanayake & S. Balasubramanium* MJ 743 (L.1789584, L.1789588, P01990565). Dolosbage, Horogolle, 7 April 1976, *L.H. Cramer* 4634 (CAL). The upper part of Moray estate, 18 August 1974, *Kostermans* 25412 (L.1789586, L.1789587, P01990576). Road Laxapana - Maskeliya near Double cutting, 12 May 1971, *Kostermans* 24089 (P01990577). Nuwara Eliya dist.: Peak wilderness, 23 June 1976, *S. Waas* 1697 (L.1789574). Rathnapura Dist.: Sinharaja forest, Weddagale entrance, 3 February 1979, *Kostermans* 27303 (L.1789590).

Notes

The lectotype of *Tetranthera iteodaphne* designated by Kostermans (2, p. 199) based on a collection by Thwaites (in CP 360 –K000793235, digital image!) is not the original material of the name because it was collected in March

1846. The protologue cited the locality as: “In Ceylani insulae montosis.” We located a specimen collected from Sri Lanka by an unknown collector in 1836 bearing the locality: ‘Ceylani montosa’ at Nees’s own herbarium (GZU000254065). Hence, this specimen is designated here as the new lectotype of the name following Art. 9.11 of Shenzhen Code (7).

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Authors' contributions

All authors have equally contributed to the planning of the research and preparation of the manuscript.

Compliance with ethical standards

Conflict of interest: The authors declared that they have no conflict of interest.

Ethical issues: None.

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