Cinnamomum ovalifolium (Lauraceae) – a new record for India with notes on its lectotypification

A. J. Robi^{1™}, V. P. Thomas², V. K. Sreenivas³, P. S. Udayan⁴ and P. Sujanapal⁵

ISSN (Print): 0976-5069 ISSN (Online): 2455-376X

सिन्नामोमम ओवालिफोलियम (लोरेसी) – भारत के लिए एक नवीन अभिलेख एवं इसके लेक्टोटाइपिफिकेशन पर टिप्पणी

ए. जे. रोबी, वी. पी. थॉमस, वी. के. श्रीनिवास, पी. एस. उदायन एवं पी. सुजानापाल

सारांश

सिन्नामोमम ओवालिफोलियम राइट, श्रीलंका में पाये जाने वाली एक पादप जाति है जिसे भारत से प्रथम बार अभिलेखित किया गया है। इसे केरल राज्य में दक्षिणी पश्चिमी घाट में तिरूवनंतपुरम जिले में अगस्तयमाला जैवआरक्षित क्षेत्र से संग्रहित किया गया है। प्रस्तुत शोध पत्र में इस जाति की वर्गिकी, पारिस्थितिकी के विस्तृत वर्णन एवं सहज निर्धारण के लिए रेखांकन उपलब्ध करवाया गया है।

ABSTRACT

Cinnamomum ovalifolium Wight, a Sri Lankan plant has been recorded for the first time from India. It was collected from the Kerala part of Agasthyamala Biosphere Reserve of Thiruvananthapuram district, southern Western Ghats. A detailed account on taxonomy, ecology and illustration of the species has been provided for the easy identification.

Keywords: Cinnamomum, Kerala, Lauraceae, Lectotype, New record

INTRODUCTION

The genus *Cinnamomum* Schaeff. is one of the largest genera of the family Lauraceae, with approximately 350 species distributed from South East Asia to Australia and the New World (Rohwer 1993; Werff 2009). It is estimated to be approximately 46 species in India and about 23 species in southern India (Kostermans 1983; Baruah & Nath 2005; Gangopadhyay 2008).

During the taxonomic revision of the genus *Cinnamomum* in south India, an interesting specimen was collected from the shola forests (grasslands are interspersed with isolated, compact and sharply defined stunted evergreen trees - southern wet temperate forests (Champion & Seth 1968) of Agasthyamala, Kerala. After critical study of the literature and images of specimens deposited at K (K000778609, K000778610, K000778611, K000778612 & K000778613) and PDA (PDA00000292), it

Received: 20.5.2018 Accepted: 14.9.2018 Date of Publication: 31.12.2018

was concluded that the specimen represents *C. ovalifolium* Wight, a species endemic to Ceylon (=Sri Lanka) and hither to unrecorded for India. Hence a detailed account of the species is presented here with colour photographs for easy identification.

Cinnamomum ovalifolium Wight, Icon. Pl. Ind. Orient. 1: t. 125, text No. 7. 1839; Meisn. in DC., Prodr. 15(1): 22. 1864; Trimen, Cat. Pl. Ceylon 75. 1885; Hook.f., Fl. Brit. India 5: 133. 1886; Trimen, Handb. Fl. Ceylon 3: 442. 1895; Kosterm. in Dassan., Rev. Handb. Fl. Ceylon 9: 118, f. 5. 1995. Fig. 1



Fig 1: *Cinnamomum ovalifolium* Wight; a. Habit; b. Young twig; c. Leaves-adaxial view; d. Leaves-abaxial view; e. Inflorescence-close view; f. Mature twig with inflorescence; g. Flowers-enlarged view.

Lectotype (designated here): Ceylon, *s.d.*, Colonel Walker *s.n.* (K, barcode K000778609 [digital image!] **Fig. 2**



Fig 2: Digital image of proposed lectotype housed at K (K000778609).

Small tree, c. 4 m tall. Branchlets subterete to 4-angular, greenish-yellow, silvery pubescent. Terminal buds ovate to acute, silvery pubescent. Leaves opposite-decussate or sub-opposite, petiolate; petioles 5-9 mm long, flat or slightly channeled above, stout, glabrescent; lamina 4-6 × 1-4 cm, ovate to elliptic, obtuse or acute at apex, rounded at base, stiffly coriaceous, glabrous, smooth and glossy above, glaucous and glabrous below; young leaves slightly gray pubescent; midrib thick, raised below, faint above, glabrous on both surfaces; secondary veins 2, 4 mm away from base, impressed above, raised beneath, reaching near the tip of lamina, tertiary veins scalariform and finely reticulate, obscure above or slightly distinct below. Inflorescences axillary and pseudo-terminal, simple panicle, 2-4 cm long; slender, lax, few-flowered; branchlets 6 mm long, glabrous; peduncle slender, glabrous or densely silvery-sericeous. Flowers few, c. 6 mm long, greenish-yellow, minutely sericeous to glabrous; pedicels c. 2 mm long, slightly angular, densely silvery-sericeous;

www.nelumbo-bsi.org

perianth tube c. 1.5 mm long, funnel-shaped, densely silvery-sericeous; perianth lobes 3-4 mm long, ovate, acute at apex, thick, slightly concave, pubescent inside, margin ciliate, gland-dotted, tri-nerved, membranous. Stamens 9 in 3 whorls of 3 each, 1–2 mm long; those of outer whorl introrse; anthers ovate, obtuse at apex, 4-locular, fleshy, longer than filaments; filaments thin, narrow, pilose, eglandular; middle whorl almost same as the outer; those of inner whorl extrorse; anthers 2–2.5 mm long, ovate-oblong, 4-locular, tip truncate; filaments with 2-glands attached at the base; stipitate, ovate, pilose; staminodes 3, 1-1.5 mm long, sagittate, short-stipitate, acuminate at apex, sparsely pilose; ovary c. 3 mm long, ellipsoid, glabrous; style c. 1 mm long, stout, slightly curved, glabrous; stigma lobed, peltate, creamy.

Phenology: Flowering observed during May.

Distribution and Habitat: Sri Lanka and India. In India, it is restricted to Kerala part of Agasthyamala Biosphere Reserve, Thiruvananthapuram district. The plants growing in southern wet temperate forests above 1400 m and is rarely found in the wet montane forests as stunted trees.

Notes on lectotypification: Cinnamomum ovalifolium was described by Wight (1839) based on the Walker's collection from Ceylon. In the protologue, author mentioned about the collection locality as "Hab: Woods, Ceylon" and collector details as "specimens communicated by Colonel Walker". During the study, we have traced out the Walker's homogenous collection from Kew herbaria (K000778609) and also found its Icon's published by the author (Icon. Pl. Ind. Orient. 1: t. 125). Even though, there is no detail about the date of collection or even number in the traced Walker's collection, the collection locality and collector details are matching and the specimens perfectly fit with the protologue. Apart from this, we have also traced one more specimen from MH (MH00007699) collected from Ceylon on March 1836, but the collector's name is missing in the sheet, so not selected as type. Hence, the specimen kept in K, with barcode K000778609 is considered more suitable for lectotypification and designated here as the lectotype according to the Art. 9.3 and 9.12 of the Shenzhen Code (Turland & al. 2018).

While searching for the original specimens, we found that, Thwaites reduced the name *C. ovalifolium* as a variety of *C. zeylanicum* in his *Enumeratio Plantarum Zeylaniae* (1864) and also mentioned his additional collections from

Sri Lanka (CP 263, 317, 628). We have traced the multiple sheets of Thwaites heterogenous collections from K (263-K000778610, 317- K000778611, 628- K000778613), PDA (263-PDA00000292), CAL (263-CAL0000021486) and MH (263-MH00091338). Later, Kostermans (1995) neglected the varietal rank of the taxon proposed by Thwaites (1864) and considered as *C. ovalifoilum* in his *Revised Handbook of Flora of Ceylon*. But he wrongly cited the type details as "Type: *s. coll. C. P. 263* (PDA)". Since, all these collections are made by Thwaites after Wight's publication (1839) and hence not considered as type.

Specimen examined: INDIA, Kerala, Thiruvananthapuram dist., Agasthyamala Biosphere Reserve, 20 May 2016, *A.J. Robi 23352* (KFRI).

ACKNOWLEDGEMENTS

The authors are thankful to the personnel of the following herbaria: K, PDA, CAL and MH for permitting to access their digital images to do this research; Dr. N. Sasidharan, KFRI, Peechi for his help and Dr. A.K. Pradeep, Calicut University for searching type; Department of Science & Technology (DST), Govt. of India, New Delhi for the financial support. The authors are thankful to Dr. K.N. Gandhi, Senior Nomenclatural Registrar, Harvard University and Dr. K.M. Prabhukumar, Senior Scientist, CMPR, Kottakkal for their comments on typification; Dr. K.A. Sujana, BSI, SRC, for her help. AJR is grateful to the Principal, BAM College, Thuruthicad, for the support and facilities; the facilities provided by the Forest Department, Govt. of Kerala during field works are thankfully acknowledged.

REFERENCES

CHAMPION, H.G. AND S.K. SETH 1968. Classification of Forest Types of India. pp. 404. Natraj Publishers, Dehra Dun. BARUAH, A. AND S.C. NATH 2005. A systematic census on the *Cinnamomum* Schaeffer (Lauraceae) members growing in North-East India. *J. Econ. Taxon. Bot* 29 (2): 294–327.

GANGOPADHYAY, M. 2008. Nine new taxa and a new combination in Lauraceae from India and Myanmar. *Bangladesh J. Pl. Taxon* 15 (2): 89–106. https://doi.org/10.3329/bjpt.v15i2.1739

KOSTERMANS, A.J.G.H. 1983. The South Indian Species of *Cinnamomum* Schaeffer (Lauraceae). *Bull. Bot. Surv. India* 25: 90–133.

Nelumbo Nelumbo Nelumbo

- KOSTERMANS, A.J.G.H. 1995. Lauraceae. *In*: DASSANAYAKE M.D., F.R. FOSBERG & W. D. CLAYTON (Eds.). *A Revised Handbook to the Flora of Ceylon*. 9: 118, f. 5. Amerind Publishing Co. Pvt. Ltd. New Delhi.
- NOLTIE, H.J. 2005. *The Botany of Robert Wight*. Regnum Veg. 145, pp. 301. A.R.G. Gantner Verlag, Ruggell, Liechtenstein.
- ROHWER, J.G. 1993. Lauraceae. *In:* K. KUBITZKI, J. G. ROHWER, V. BITTRICH (Eds.) *The Families and Genera of Vascular Plants.* 2: 388. Springer, Heidelberg. p. 366–391. https://doi.org/10.1007/978-3-662-02899-5_46
- THWAITES, G.H.K. 1864. *Enumeration Plantarum Zeylaniae*: An enumeration of Ceylon plants, with descriptions of the new and little known genera and species, observation on their habitat, uses, native names etc. London, Dulau & Co. p. 252.
- TURLAND, N.J., J.H. WIERSEMA, F.R. BARRIE, W. GREUTER, D.L. HAWKSWORTH, P. S. HERENDEEN, S. KNAPP, W.-H. KUSBER, D.-Z. LI, K. MARHOLD, T.W. MAY, J. MCNEILL, A.M. MONRO, J. PRADO, M.J. PRICE AND G.F. SMITH 2018. International Code of Nomenclature foralgae, fungi, and plants (Shenzhen Code) adopted by the Nineteenth International Botanical Congress Shenzhen, China, July 2017. [Regnum Vegetabile 159]. Koeltz Botanical Books, Glashütten. https://doi.org/10.12705/Code.2018
- WERFF, H. VAN DER 2009. Eight new species of Lauraceae from Ecuador, Peru, and Panama. *Novon* 19(4): 534–548. https://doi.org/10.3417/2008066
- WIGHT, R. 1839. Icones Plantarum Indiae Orientalis vol. 1. 1: t. 125, tt No. 7. J.B. Pharoah, Madras.

www.nelumbo-bsi.org Nelumbo | 113