



ISSN NO. 2320-5407

Journal homepage: <http://www.journalijar.com>

INTERNATIONAL JOURNAL
OF ADVANCED RESEARCH

RESEARCH ARTICLE

Cinnamomum mohananii sp. nov. (Lauraceae) - A new species from Southern Western Ghats of the Peninsular India

R.Jagadeesan¹, A.Gangaprasad¹ and Sam P Mathew²

1. Department of Botany, University of Kerala, Karyavattom P.O., Thiruvananthapuram district, Kerala, India.
2. Jawaharlal Nehru Tropical Botanic Garden and Research Institute, Palode, Karimankode P.O Thiruvananthapuram district, Kerala-695562, India.

Manuscript Info

Manuscript History:

Received: 25 July 2014
Final Accepted: 26 August 2014
Published Online: September 2014

Key words:

Cinnamomum, New species, Southern Western Ghats, Sacred grooves, Kerala.

*Corresponding Author

A.Gangaprasad

Abstract

Cinnamomum mohananii A.Gangaprasad, S.P.Mathew and R.Jagadeesan is described and illustrated as a new species from Southern Western Ghats of the Peninsular India. The new taxon is allied to *Cinnamomum filipedicillatum* Kosterm. and *C. riparium* Gamble.

Copy Right, IJAR, 2014,. All rights reserved

Introduction

Cinnamomum Schaeffer belonging to the family Lauraceae, consists of about 250 species having the geographical distribution from South to Southeast Asia and Australia (Koestermans, 1995). According to Kew herbarium website, there are 317 accepted taxa belonging to the genus *Cinnamomum* Schaeffer (accessed on 12/08/2014). The genus is rather well represented in India with 41 species (Gangopadhyay, 2008; Remya *et al.*, 2014). During the studies on the endemic flora of the Southern Western Ghats, the authors have come across some interesting specimens procured from the southern part of the Kerala State belonging to the genus *Cinnamomum*. On critical taxonomic studies and a perusal of literature revealed that the taxon is new to science (Kostermans, 1964, 1969, 1983, 1986, 1995; Manilal & Shylaja, 1986; Mohanan & Henry, 1991; Nayar *et al.*, 2006; Baruah & Nath, 2007; Gangopadhyay, 2008; Geethakumary *et al.*, 2007, 2012; Santhosh *et al.*, 2011, Santhosh & Jabbar, 2014). The new taxon is allied to *Cinnamomum filipedicillatum* Kosterm. and *C. riparium* Gamble and it is described in detail along with relevant illustrations. A brief comparative description between the new taxon and its allied taxa also furnished.

Cinnamomum mohananii A.Gangaprasad, S.P.Mathew *et* R.Jagadeesan

Type: India, Kerala, Alappuzha district, Kanjoorkavu, 20 m, 06-08-14, Jagadeesan R 7415 (Holotype CAL; Isotype TBGT, KUBH)

Cinnamomu mohananii A.Gangaprasad, S.P.Mathew *et* R.Jagadeesan is allied to *C. filipedicillatum* Kosterm. and *C. riparium* Gamble. The significant diagnostic characters for distinguishing the new taxon from its allied species are puberulous petiole, dichasial cyme and apparent difference in length of the pedicel and fruit (table 1).

Description

Erect shrub or small tree, 4m height, young stem, petioles and inflorescence minutely pubescent. Leaves opposite, sub-coriaceous or membranous, 2-9 x 1-4 cm, ovate – lanceolate – elliptic, acuminate at apex, obtuse – cuneate at base, glaucous or not beneath, glabrous; basal nerves 3 – 5, arising 2 – 4 mm above from the base, reticulation clear in the lower surface, faint on the upper surface; petioles 2 – 6 mm long, puberulous. Cymes axillary or arising 2 – 6 mm above the immediate leaf axils, shorter than the leaves, accrescent after anthesis, 4 – 10 flowered, slender bracts 1 – 2mm, ovate – lanceolate, grey pubescent; pedicels up to 4 cm long, pubescent; perianth lobes 6, outer 3, 2.5 – 3.5 mm long, elliptic, ovate – lanceolate, valvate, pubescent; inner perianth lobes 3, 1.5 – 1.75 mm ovate – obovate, glabrescent. Stamens in 3 rows of 3 each, outer 2 series with introrse and inner row with extrorse anthers having glands at the base; staminodes 3, stipitate; Ovary sessile, glabrous, style simple, stigma capitate or obscurely 3-lobed. Berries 8 – 10 x 6 – 7 mm, oblong ovoid, seated on the enlarged perianth lobes, deep purple turning black on drying.

Flowering: April-August

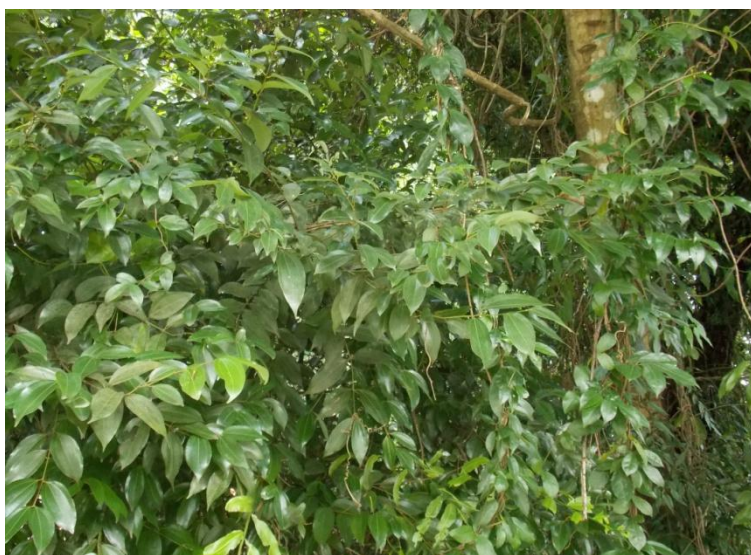
Habitat: Evergreen tree let found growing in sacred groves at an altitude of c. 20m.

Etimology: The species is named after Dr. C.N.Mohanani, Former Head Environmental Science Division, Centre for Earth Science Studies, Thiruvananthapuram, who initiated the floristic study on the sacred groves of Kerala and its biodiversity conservation potential.

Table 1: Comparison of *Cinnamomum mohananii* with its allied species.

Characters	<i>C.filipedicillatum</i>	<i>C.riparium</i>	<i>C. mohananii</i>
Habit	Straggling shrub	Small tree	Shrub or small tree
Leaf	Sub-coriaceous, elliptic – ovate or lanceolate	Coriaceous, linear - lanceolate	Sub-coriaceous, lanceolate or elliptic - ovate
Petiole	6 – 15 mm, glabrous	10 mm, glabrous	2 – 6 mm, puberulous
Inflorescence	Axillary panicles, 6 – 8 flowers, flowers glabrous	Axillary sub-umbellate corymbs, 3 – 7 flowered, flowers pubescent	Axillary or internodal dichasial cymes, 4 – 10 flowers, flowers pubescent
Pedicel	6 – 20 mm long	7 – 15 mm long	3 – 5 mm long
Perianth lobes	2.5 mm long, glabrous	5 mm long, pubescent	2.5 – 3.5 mm long
Filaments	Glabrous	Pubescent	Pubescent
Berry	14 mm long	15 mm long	10 mm long

1.



2.



Figure 1: 1. Habit, 2. Flowering twig

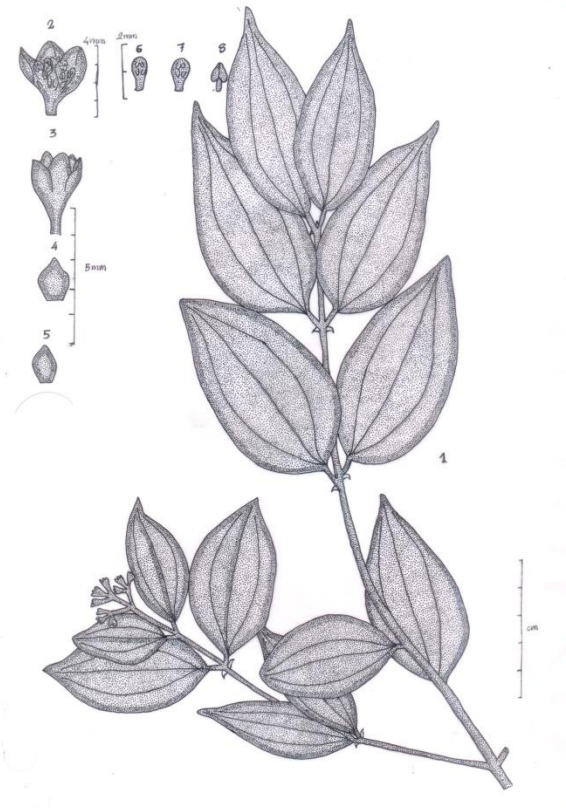


Figure 2: *Cinnamomum mohananii* A.Gangaprasad, S.P.Mathew and R.Jagadeesan sp. nov. 1.Flowering twig, 2. Flower L.S, 3. Flower bud, 4 & 5. Perianth lobes. 6 & 7. Stamens, 8. Staminodes

Acknowledgements

A. Gangaprasad and R. Jagadeesan record their thanks to Dr. P.M Radhamony, Head of the Department of Botany, University of Kerala, for providing necessary facilities. S. P. Mathew expresses his sincere thanks to Dr. P.G Latha, Director, JNTBGRI for encouragements. We are indebted to the traditional Hindu families and temple authorities in preserving the rich biodiversity of the sacred groves of Kerala intact for generations. Authors are also thankful to Dr C. Murugan, Senior Scientist, Botanical Survey of India, Port Blair for providing relevant data on *Cinnamomum* species from the BSI. Authors are also record their gratitude to Mrs. Divya Babu, JNTBGRI for line drawing.

Reference

- Baruah, A. and Nath, S.C. (2007):** *Cinnamomum champokianum* sp. nov.(Lauraceae) from Assam, Northeastern India. Nordic J. Bot. 25: 281-285.
- Gangopadhyay, M. (2008):** Nine new taxa and a new combination in Lauraceae from India and Myanmar. Bangladesh J. Pl. Taxon. 15: 89-106.
- Geethakumary, M.P., Santhosh Kumar, E.S., Pandurangan A.G. and Shaju, T. (2007):** *Cinnamomum dubium* Nees (Lauraceae) – a new record for India. Indian J. For. 30(1): 73-74.
- Geethakumary M.P., Pandurangan, A.G., and Santhosh Kumar, E.S (2012):** *Cinnamomum litseaefolium* (Lauraceae) – A new distributional record for India. Rheedea 22(2): 127-130.
- Kostermans, A.J.G.H. (1964):** Bibliographia Lauracearum p.p. 245-375, Ministry of National Research, Bogor.
- Kostermans, A.J.G.H. (1969):** Revision of Lauraceae II. Reinwardtia 7: 454-455.
- Kostermans, A.J.G.H. (1983):** The South Indian species of *Cinnamomum* Schaeffer (Lauraceae). Bull. Bot. Surv. India 25: 90-133.
- Kostermans, A.J.G.H. (1986):** A monograph of the genus *Cinnamomum* Schaeffer (Lauraceae)- Part I. Ginkgoana 6: 1-196.
- Kostermans, A.J.G.H. (1995):** *Cinnamomum* (In Dassanayake, M.D. and Fosberg, F.R.) A Revised Handbook to the Flora of Ceylon, Amerind Publishing Co., New Delhi, 9: 12-129.
- Manilal. K.S. and Shylaja, M. (1986):** A new species of *Cinnamomum* Schaeffer (Lauraceae) from Malabar. Bull. Bot. Surv. India 28 (1-4): 111-113.
- Mohanam, M. and Henry, A.N. (1991):** *Cinnamomum chemungianum* (Lauraceae)- a new species from Kerala, southern India. J. Bombay Nat. Hist. Soc. 88(1):97-99.
- Nayar, T.S., Beegam, R., Mohanam, N. and Rajkumar, G. (2006):** Flowering Plants of Kerala. Tropical Botanic Garden and Research Institute, Palode, Thiruvananthapuram.
- Remya Krishnan R.V.1, E.S. Santhosh Kumar, Radhamany P.M., Valsaladevi G. and Jagadeesan R.(2014):***Cinnamomum mathewianum* sp. nov. (Lauraceae) : A new species from Kerala, India. International Journal of Advanced Research, 2 (7) : 29-32.
- Santhosh Kumar, E.S., Geethakumary, M.P. and Pandurangan, A.G. (2011):** *Cinnamomum alexei* Kosterm. (Lauraceae) - A new record for India. Bangladesh J. Pl. Taxon.18(2): 199-201.
- Santhosh Kumar, E.S. and Abdul Jabbar, M. (2014):** Taxonomic status of *Cinnamomum alexei* (Lauraceae). J. Sci. Res. 6(2): 395-397.