

OPEN ACCESS



The Journal of Threatened Taxa is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at www.threatenedtaxa.org. All articles published in JoTT are registered under [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/) unless otherwise mentioned. JoTT allows unrestricted use of articles in any medium, reproduction, and distribution by providing adequate credit to the authors and the source of publication.

Journal of Threatened Taxa

Building evidence for conservation globally

www.threatenedtaxa.org

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

NOTE

REDISCOVERY, EXTENDED DISTRIBUTION AND CONSERVATION ASSESSMENT OF *CINNAMOMUM GOAENSE* (LAURACEAE) IN THE WESTERN GHATS, INDIA

M.P. Geethakumary, S. Deepu & A.G. Pandurangan

26 July 2018 | Vol. 10 | No. 8 | Pages: 12137–12139

10.11609/jott.4013.10.8.12137-12139



For Focus, Scope, Aims, Policies and Guidelines visit <http://threatenedtaxa.org/index.php/JoTT/about/editorialPolicies#custom-0>

For Article Submission Guidelines visit <http://threatenedtaxa.org/index.php/JoTT/about/submissions#onlineSubmissions>

For Policies against Scientific Misconduct visit <http://threatenedtaxa.org/index.php/JoTT/about/editorialPolicies#custom-2>

For reprints contact info@threatenedtaxa.org



REDISCOVERY, EXTENDED DISTRIBUTION AND CONSERVATION ASSESSMENT OF *CINNAMOMUM GOAENSE* (LAURACEAE) IN THE WESTERN GHATS, INDIA

M.P. Geethakumary¹, S. Deepu² & A.G. Pandurangan³

^{1,2,3} Plant Systematics and Evolutionary Science Division, Jawaharlal Nehru Tropical Botanic Garden and Research Institute, Palode, Thiruvananthapuram, Kerala 695562, India
¹geethatbgt@gmail.com, ²deepu_sdas@jntbgri.res.in, ³agpandurangan@gmail.com (corresponding author)

Abbreviation: ‘A’ - Arnold Herbarium; ‘L’ - Leiden Herbarium

The genus *Cinnamomum* Schaeffer includes an old-world group, predominantly distributed in subtropical to tropical Asia, plus a few species in Australia and the western Pacific area, as well as a New World group in Central and South America (Rohde et al. 2017). Rohwer (1993) estimated the total number of species to c. 350, of which 52 New World species have been recently transferred to *Aiouea* Aubl. (Rohde et al. 2017). In India, this genus is represented by 49 species of which 26 occur in the Western Ghats (Geethakumary et al. 2017). During our botanical explorations in the Western Ghats, we collected an interesting specimen of *Cinnamomum* from Idukki District of Kerala. A detailed study of the relevant literature confirmed its identity as *Cinnamomum goaense* Kosterm., described by Kostermans (1985) based on the collections of Fernandes and Stocks. From a thorough literature survey and herbarium consultation, it became apparent that this taxon had not been collected since

1950. Hence our discovery is a recollection of this species after a lapse of 57 years. In the collection by Fernandez (A00041271!, L0035798!) the locality is given as ‘towards old Gund village, E of Goa Border’, and the collection of Stocks is from Canara (L0309076!). Both these places refer not to point localities, but to geographically extensive political areas of the late colonial period, which belongs to “North Kanara” District, representing localities in Uttara Kannada, Karnataka State. Interestingly, the collection of Fernandez is around 100 years after the collection of Stocks as is evident from the fact that the collections of Stocks from this region were mainly during the 1840s (probably during 1847). The present collection forms a new record for Kerala and an extension in the distribution of this species to the southern Western Ghats after the Palghat gap, which is of phytogeographic significance.

A detailed description and other relevant information are provided based on recent collections. The conservation status of this species is also assessed in light of the present collection.

Cinnamomum goaense Kosterm., Bull. Bot. Surv. India 25: 94. 1985 (1983). (Fig. 1)

Type: India, southern India, Bombay Presidency, towards old Gund village, E of Goa border, 13 May 1950, J. Fernandes 1453 (Holotype: -A00041271!, Isotype: -L0035798!).

Trees, 6–9 m high; branchlets slender, angular, sub appressed pilose. Leaves opposite or sub-opposite,



ISSN 0974-7907 (Online)
ISSN 0974-7893 (Print)

OPEN ACCESS



DOI: <http://doi.org/10.11609/jott.4013.10.8.12137-12139>

Editor: P. Lakshminarasimhan, Botanical Survey of India, Pune, India.

Date of publication: 26 July 2018 (online & print)

Manuscript details: Ms # 4013 | Received 15 January 2018 | Final received 07 June 2018 | Finally accepted 30 June 2018

Citation: Geethakumary, M.P., S. Deepu & A.G. Pandurangan (2018). Rediscovery, extended distribution and conservation assessment of *Cinnamomum goaense* (Lauraceae) in the Western Ghats, India. *Journal of Threatened Taxa* 10(8): 12137–12139; <http://doi.org/10.11609/jott.4013.10.8.12137-12139>

Copyright: © Geethakumary et al. 2018. Creative Commons Attribution 4.0 International License. JoTT allows unrestricted use of this article in any medium, reproduction and distribution by providing adequate credit to the authors and the source of publication.

Funding: JNTBGRI Plan Grant and DST-SERB, Government of India (PDF/2016/000371).

Competing interests: The authors declare no competing interests.

Acknowledgements: The authors are grateful to the curators of Leiden (L) and Arnold (A) herbarium for providing access to images of the species, the Kerala Forest Department for giving permission and logistic support to conduct field studies and the Kerala State Council for Science and Technology for financial assistance through JNTBGRI Plan Grants. The second author acknowledges DST-SERB, Government of India for the financial assistance.



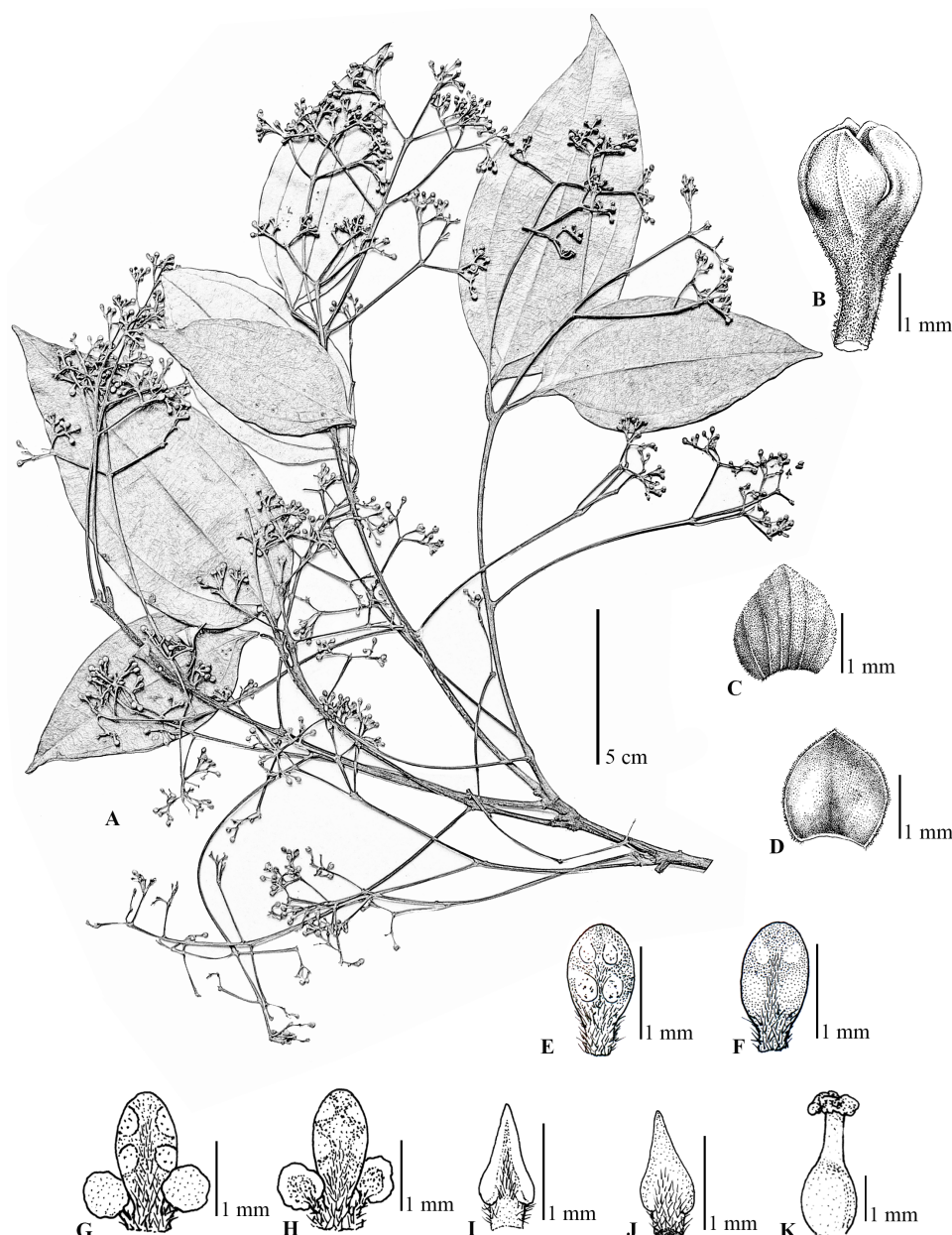


Figure 1. *Cinnamomum goaense* Kosterm.

A - Flowering twig; B - Flower; C-D - Tepal; E-F - Stamens of outer whorl; G-H - Stamens of inner whorl; I-J - Staminode; K - Pistil [from Geethakumary 53695].

sub-ovate or ovate-oblong or ovate-lanceolate, 7–26 × 5.2–7.3 cm, coriaceous, glabrous, paler beneath, acute at base, entire, gradually acuminate at apex, acumen 1–2 cm long; midrib slender, prominent, lateral nerves arising c. 5 mm above base, reaching near apex, tertiary nerves parallel, 3–4 mm apart; petioles slender, c. 1.6 cm long, slightly canaliculated. Panicles axillary or pseudo-terminal, many-flowered, minutely sericeous; main peduncle slender, 8–18 cm long; branchlets 2–6, slender, c. 6 cm long. Flowers pale yellow, 5–8 × c. 5 mm, aggregated near apex of inflorescence branches. Tepals 6

in 2 whorls of 3 each, ovate or ovate-oblong, 2–3 × 2–2.5 mm, sericeous within, apex obtuse to acute. Stamens 9 in 3 whorls of 3 each; all 4-locellate; whorls I and II 1.5–2 mm long, anthers ellipsoid, introrse; filaments c. 0.8 mm long, hirsute; whorl III c. 2 mm long, anthers oblong, extrorse; glands shortly stipitate, flat, c. 0.6 mm long, attached to basal portion of the filaments; staminodes shorter than anthers, c. 1.3 mm long, sagittate, stipes pilose. Ovary ellipsoid, c. 1 mm long, glabrous, style c. 1 mm long, cylindrical; stigma peltate. Fruits ellipsoid, c. 6 × 10 mm; cupule cup-shaped, base conical, with

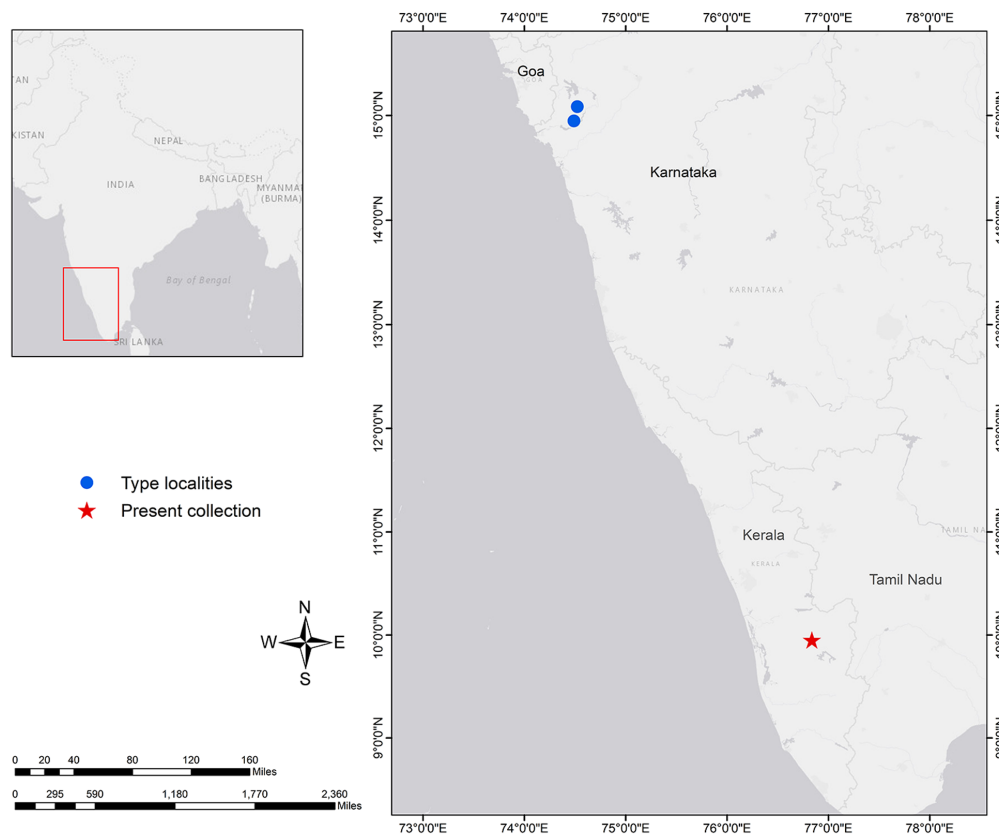


Figure 2. Distribution map of *Cinnamomum goense* Kosterm.

remnants of tepal bases.

Phenology

Flowering and fruiting are probably from March to September.

Specimens examined

53695 (TBGT!), 29.iii.2007, India, Kerala, Idukki District, Thodupuzha, ~600m, coll. Geethakumary; 73655 (TBGT!), 05.v.2012, India, Kerala, Idukki District, Thodupuzha, ~600m, coll. Deepu Sivadas. India, Karnataka, Uttara Kannada District, towards old Gund Village, east of Goa border, 13.v.1950, J. Fernandes 1453 (A00041271!, L0035798!), Canara, s.d., Stocks s.n. (L0309076!).

Conservation status

The species is presently known only from Uttara Kannada, Karnataka and Idukki, Kerala (Fig. 2). The population size of this species at Thodupuzha, Idukki is small with very few reproductively mature individuals. Apart from this, based on herbarium information a population is present at Uttara Kannada District, Karnataka. Even though there are no recent collections from this locality, we cannot rule out the probability of

finding it there. There are less than 25 mature individuals in the subpopulation at Thodupuzha, but we are not sure about the number of mature individuals or the quality of the habitat at Uttara Kannada. Due to its limited distribution knowledge from several botanical studies in the Western Ghats, we assume it is highly restricted and found in a few severely fragmented locations with a plausible threat that could impact the status of the species. We recommend immediate surveys in the type locality to determine its conservation status.

References

- Geethakumary, M.P., S. Deepu & A.G. Pandurangan (2017). A new species of *Cinnamomum* and notes on the status of *C. palghatensis* in Western Ghats, India. *Phytotaxa* 326(4): 252–258; <http://doi.org/10.11646/phytotaxa.326.4.3>
- Kostermans, A.J.G.H. (1985). The south Indian species of *Cinnamomum* Schaeffer (Lauraceae). *Bulletin of the Botanical Survey of India* 25: 90–133.
- Rohde, R., B. Rudolph, K. Ruthe, F.G. Lorea-Hernández, P.L.R. de Moraes, J. Li & J.G. Rohwer (2017). Neither *Phoebe* nor *Cinnamomum* - the tetrasporangiate species of *Aiouea* (Lauraceae). *Taxon* 66(5): 1085–1111; <http://doi.org/10.12705/665.6>
- Rohwer, J.G. (1993). Lauraceae, pp. 366–391. In: Kubitzki, K., J.G. Rohwer & V. Bittrich (eds.). *The Families and Genera of Vascular Plants - Vol. 2*. Springer, Berlin.





OPEN ACCESS



The Journal of Threatened Taxa is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at www.threatenedtaxa.org. All articles published in JoTT are registered under [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/) unless otherwise mentioned. JoTT allows unrestricted use of articles in any medium, reproduction, and distribution by providing adequate credit to the authors and the source of publication.

ISSN 0974-7907 (Online); ISSN 0974-7893 (Print)

July 2018 | Vol. 10 | No. 8 | Pages: 11999–12146

Date of Publication: 26 July 2018 (Online & Print)

DOI: 10.11609/jott.2018.10.8.11999-12146

www.threatenedtaxa.org

Communications

Habitat suitability and threat analysis of Greater One-horned Rhinoceros *Rhinoceros unicornis* Linnaeus, 1758 (Mammalia: Perissodactyla: Rhinocerotidae) in Rautahat District, Nepal

-- Saru Rimal, Hari Adhikari & Shankar Tripathi, Pp. 11999–12007

Camera-trapping survey to assess diversity, distribution and photographic capture rate of terrestrial mammals in the aftermath of the ethno-political conflict in Manas National Park, Assam, India

-- Dipankar Lahkar, M. Firoz Ahmed, Ramie H. Begum, Sunit Kumar Das, Bibhuti Prasad Lahkar, Hiranya K. Sarma & Abishek Harihar, Pp. 12008–12017

In plain sight: Bacular and noseleaf morphology supports distinct specific status of Roundleaf Bats *Hipposideros pomona* Andersen, 1918 and *Hipposideros gentilis* Andersen, 1918 (Chiroptera: Hipposideridae)

-- Bhargavi Srinivasulu & Chelmal Srinivasulu, Pp. 12018–12026

The amphibian diversity of selected agroecosystems in the southern Western Ghats, India

-- M.S. Syamili & P.O. Nameer, Pp. 12027–12034

Taxonomic status and additional description of White's Stalked-eyed Fly *Cyrtodiopsis whitei* (Curran, 1936) (Diptera: Diopsidae) from India with a key to the allied species and note on its habitat

-- Basant Kumar Agarwala, Pp. 12035–12043

Community structure of benthic macroinvertebrate fauna of river Ichamati, India

-- Arnab Basu, Indrani Sarkar, Siddhartha Datta & Sheela Roy, Pp. 12044–12055

Conservation status of Mascarene Amaranth *Aerva congesta* Balf.F. Ex Baker (Eudicots: Caryophyllales: Amaranthaceae): a Critically Endangered endemic herb of the Mascarenes, Indian Ocean

-- Kersley Bruno Pynee, David Harold Lorence & Poojanraj Khurun, Pp. 12056–12063

Vegetative and reproductive phenology of *Aquilaria malaccensis* Lam. (Agarwood) in Cachar District, Assam, India

-- Birkhungur Borogayary, Ashesh Kumar Das & Arun Jyoti Nath, Pp. 12064–12072

Conservation Application

Taking the first steps: Initial mapping of the human-wildlife interaction of the Mauritius Fruit Bat *Pteropus niger* (Mammalia: Chiroptera: Pteropodidae) in Mauritius by conservation organizations

-- Brandon P. Anthony, Vikash Tatayah & Deborah de Chazal, Pp. 12073–12081

Peer Commentary

The term human-wildlife conflict creates more problems than it resolves: better labels should be considered

-- Priya Davidar, Pp. 12082–12085

Short Communications

First photographic evidence of Snow Leopard *Panthera uncia* (Mammalia: Carnivora: Felidae) outside current protected areas network in Nepal Himalaya

-- Rinzin Phunjok Lama, Tashi R. Ghale, Madan K. Suwal, Rishi Ranabhat & Ganga Ram Regmi, Pp. 12086–12090



Small carnivores of Silent Valley National Park, Kerala, India

-- Devika Sanghamithra & P.O. Nameer, Pp. 12091–12097

Status survey and conservation of the House Sparrow *Passer domesticus* (Aves: Passeriformes: Passeridae) through public participation in Kannur, Kerala, India

-- R. Roshnath, C.P. Arjun, J. Ashli, D. Sethu & P. Gokul, Pp. 12098–12102

The ecology and distribution of percoid fish *Dario neela* from Wayanad in the Western Ghats of Kerala, India

-- Dencin Rons Thampy & C.P. Shaji, Pp. 12103–12107

A checklist of the ornamental fishes of Himachal Pradesh, the western Himalaya, India

-- Indu Sharma & Rani Dhanze, Pp. 12108–12116

Odonate diversity of Nalsarovar Bird Sanctuary - a Ramsar site in Gujarat, India

-- Darshana M. Rathod & B.M. Parasharya, Pp. 12117–12122

Root holoparasite *Balanophora polyandra* Griff. (Balanophoraceae) in eastern Himalaya (Sikkim, India): distribution, range, status and threats

-- Prem K. Chhetri, Alexander R. O'Neill & Bijoy Chhetri, Pp. 12123–12129

Notes

Transfer of *Storena gujaratensis* Tikader & Patel, 1975 to the genus *Suffasia* Jocqué, 1991 (Araneae: Zodariidae)

-- Reshma Solanki, Manju Siliwal & Dolly Kumar, Pp. 12130–12132

Intraguild predation of green lacewing larvae (Neuroptera: Chrysopidae) on spider eggs and spiderlings

-- K.K. Srikumar, S. Smitha, B. Suresh Kumar & B. Radhakrishnan, Pp. 12133–12136

Rediscovery, extended distribution and conservation assessment of *Cinnamomum goaense* (Lauraceae) in the Western Ghats, India

-- M.P. Geethakumary, S. Deepu & A.G. Pandurangan, Pp. 12137–12139

***Coltriciella dependens* (Berk. & M.A. Curtis) Murrill, a new addition to wood-rotting fungi of India**

-- Ayangla S. Pongen, Kuno Chuzho, N.S.K. Harsh, M.S. Dkhar & Manoj Kumar, Pp. 12140–12143

Book Review

The need of conservation laws coherent with communities for complete success

-- S. Suresh Ramanan & Lalit Upadhyay, Pp. 12144–12145

Miscellaneous

National Biodiversity Authority