

# Conservation news

## Rediscovery of *Brachystelma attenuatum* after 188 years

The genus *Brachystelma* includes more than 100 species, occurring mainly in tropical and subtropical regions of Africa, Asia and Australia. In India the genus is represented by c. 40 species, primarily distributed in the Western Ghats, with only four species reported from northern India. Of these, only two species, *B. parviflorum* (Wight) Hook f. and *B. attenuatum* (Wight) Hook f. are reported from the Indian Western Himalayas. Both these species were reported from a single locality by Robert Wight in 1835 and were believed to be extinct (Venu & Prasad, 2015, *Current Science*, 109, 680–682; Pullaiah et al., 2019, *Monograph on Brachystelma and Ceropegia in India*, CRC Press, Boca Raton, USA).

The rediscovery of *B. parviflorum* in 2021 (Srivastava & Chauhan, 2021, *Oryx*, 55, 329) attracted our attention, and NC surveyed extensively for the species in various regions of Hamirpur and adjoining areas during March–August 2021. While studying the collected specimens, we noticed that specimens from Thana Darogan and Jhandwin village resembled *B. parviflorum* in the vegetative state but had different flower characteristics. With the commencement of the flowering season, we revisited the localities on 26 March 2022 and were able to identify the plants as *B. attenuatum*. *Brachystelma attenuatum* is characterized by larger flowers than *B. parviflorum*, with long and narrow corolla lobes.

This species was described by Robert Wight under the genus *Eriopetalum* Wight in 1835 on the basis of J.F. Royle's collection from Doongie (Dungi, Hamirpur, Himachal Pradesh). The two localities where we recollected the species are 4–10 km from this type locality. Along with



Flowers of *Brachystelma attenuatum* Hook. f. Photo: Amber Srivastava.

this, one more locality was discovered on 3 April 2022 in Jodhan village, Sarkaghat, in Mandi district of Himachal Pradesh. During regular field surveys we observed that the species appears to be declining as a result of local exploitation for its edible tubers. We estimate that the species has an area of occupancy and extent of occurrence of 8.2 and 91.3 km<sup>2</sup>, respectively, which suggests it should be categorized as Critically Endangered on the basis of IUCN Red List criteria B1ab(iv,v)+2ab(iv,v). The rediscovery within a short period of two species presumed extinct indicates the need for further botanical exploration of this region of the Himalayas.

AMBER SRIVASTAVA ([orcid.org/0000-0003-3018-5176](https://orcid.org/0000-0003-3018-5176))  
Botanical Survey of India, Dehradun, India; current address:  
Council of Scientific and Industrial Research–National  
Botanical Research Institute, Lucknow, India.

NISHANT CHAUHAN ([orcid.org/0000-0002-9430-8158](https://orcid.org/0000-0002-9430-8158),  
[nishant287037@gmail.com](mailto:nishant287037@gmail.com)) Department of Geography,  
Himachal Pradesh University, Shimla, India

This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/).

## Conservation of *Garcinia gamblei*, a rare tree endemic to the Western Ghats, India

*Garcinia gamblei* P.S. Shameer, T.Sabu & N.Mohanan is an evergreen dioecious tree species of the family Clusiaceae, endemic to the southern Western Ghats of Kerala, India. It was described in 2017 as distinct from *Garcinia pushpangadniana* because of its horizontal branches, sessile pale green flowers, staminodes either arranged in loose bundles or in five phalanges, five loculed ovary and stigmatic lobes, vertically grooved fruits with depressed apex and oblongoid seeds. Of the 37 *Garcinia* species in India, seven are endemic to the Western Ghats biodiversity hotspot. Two of these species are categorized as Critically Endangered, two as Endangered and one as Vulnerable on the IUCN Red List.

As *G. gamblei* is categorized as Data Deficient, we conducted five field surveys in the Ponmudi hills, the only known locality of the species, in Thiruvananthapuram, Kerala, during June 2021–March 2022. Of the 31 trees we located within an area of < 1 km<sup>2</sup>, with girths of 20–150 cm at breast height, we found only three female and two male flowering trees, in the shola forest, an endemic, threatened ecosystem, at altitudes of 964–1,097 m. The trees produce a small number of flowers (range 3–300; male:female ratio 1:10) during November–February and fruits (each with 1–3 seeds) from June to September. We did not find any seedlings of the species.

Our field surveys and information obtained from local people suggest the potential threats to *G. gamblei* are:



(a) Female and (b) male flowers of *Garcinia gamblei*. Photos: Abinlal Kavungullachalil.

(1) the low number of reproductively active trees in the population, (2) the rarity of seedlings, indicating low recruitment, (3) strong winds during the monsoon season damaging the large branches of mature trees, (4) an increasing number of tourists and occasional forest fires, and (5) high seed predation.

Measures are required to prevent the extinction of this rare tree species. Our preliminary studies indicate the seeds have high moisture content and delayed germination. At Jawaharlal Nehru Tropical Botanic Garden and Research Institute research is being carried out on propagation protocols (both sexual and asexual), population structure and ex situ conservation of *G. gamblei*. We are planning to collect seeds of *G. gamblei* for ex situ propagation and potential translocation of the species to the Botanical Garden and its natural habitat.

ABINLAL KAVUNGULLACHALIL, ANURAG DHYANI ([orcid.org/0000-0003-0852-6237](https://orcid.org/0000-0003-0852-6237), [anuragdhyani@gmail.com](mailto:anuragdhyani@gmail.com)), SURESH SIVANKUNJU, SHAREEF SAINUDEEN MUHAMMED and SANTHOSH KUMAR ETTICKAL SUKUMARAN Jawaharlal Nehru Tropical Botanic Garden and Research Institute, Thiruvananthapuram, Kerala, India

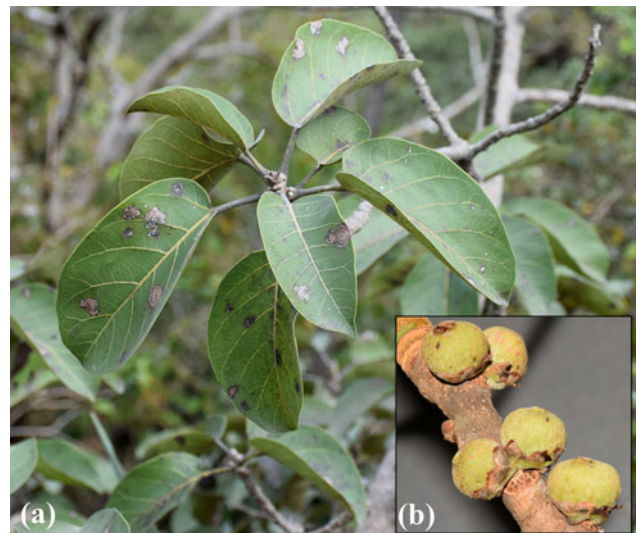
This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/).

### Conservation assessment of *Ficus cupulata*: a narrow range endemic species of Central India

*Ficus cupulata* Haines is a rare, endemic tree species of Central India. It was first described by Haines in 1914 based on his collections from Panchmarhi hills of Madhya

Pradesh. It was recollected 86 years, in 2002, later by Khanna & Kumar from Rorighat near Panchmarhi. This species was considered endemic to Madhya Pradesh until Khanna & Kumar also reported it from Orchha forest division in Jhansi, Uttar Pradesh, in 2009. The species is allied to *Ficus benghalensis* L. and *Ficus mollis* Vahl in its growth form, habitat, and morphological appearance, but is distinct from both in having cupulate bracts in the fruits.

*Ficus cupulata* came to our attention when we were working on the traded forest flora of Madhya Pradesh, a project funded by Madhya Pradesh Biodiversity Board, Bhopal (Grant no. MPSBB/AMS (PR)/2020/2100). We



*Ficus cupulata* Haines: (a) habit, (b) fruits. Photos: Amber Srivastava.