

subsequently undertook field surveys, during 1 October–20 December 2021, in various parts of Madhya Pradesh to locate the species. We found *F. cupulata* in 15 locations in Panchmarhi Biosphere Reserve and the Tamia region of Hoshangabad and Chhindwara districts, respectively, but despite several surveys we could not locate the species in the Orchha forest division.

We recorded a total of 585 mature individuals in a total surveyed area of 1,500 km², and estimated area of occupancy and extent of occurrence to be 64 km² and 409 km², respectively. Based on these findings, we recommend that *F. cupulata* should be categorized as Endangered on the IUCN Red List based on criteria B1b(iii)c(iv)+2bc (iii); C2b. The species' restricted distribution range and small population size, and existing threats, warrant immediate conservation action. As the species was not under ex situ conservation in any botanical garden, we collected planting material (stem cuttings and saplings) of the species from Panchmarhi and introduced it to the botanical garden of the Council of Scientific and Industrial Research–National Botanical Research Institute, Lucknow. Plantlets raised in the botanical garden will provide propagation and research material for future studies of this species.

This is communication number CSIR-NBRI_MS/2022/03/01 of the Council of Scientific and Industrial Research–National Botanical Research Institute.

AMBER SRIVASTAVA (orcid.org/0000-0003-3018-5176),
DIBYENDU ADHIKARI (orcid.org/0000-0002-5057-0541) and
VIJAY V. WAGH (orcid.org/0000-0002-6890-8862,
vijay.wagh@nbri.res.in) Council of Scientific and
Industrial Research–National Botanical Research Institute,
Lucknow, Uttar Pradesh, 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/).

Status of the Endangered *Canarium kipella* and its lack of regeneration in ex situ cultivation

Canarium kipella (Burseraceae) is a tree endemic to West Java, Indonesia. According to herbarium specimens collected in 1899 and 1904, the tree occurs only in Pelabuhan Ratu and Mount Salak, respectively. Currently, it is known only from two mature individuals planted at the Bogor Botanic Gardens 106 and 62 years ago. The two collections came from seedlings collected from Mount Salak in 1916 and 1960. As a result of threats from habitat conversion into human settlements and agricultural fields, the species is categorized as Endangered on the IUCN Red List.

In 2018, I. Robiansyah and S.U. Rakhmawati surveyed Mount Salak but despite intensive exploration they were unable to locate the species. During 23–26 March 2022 we surveyed the second known location of the species, in Pelabuhan Ratu. We searched for the tree using line



The fruits of *Canarium kipella*: (a) fruiting in ex situ cultivation, (b) young and ripe fruits, (c) cross-section showing seed with three locules, two with undeveloped ovules and one with a fully-developed kernel. Photos: Enggal Primananda.

transects, with three surveyors, in the two protected areas in Pelabuhan Ratu (Tangkuban Perahu and Sukawayana Nature Reserves) and one unprotected area next to Gunung Halimun Salak National Park, covering an area from lowland to submontane forest over altitudes of 0–900 m. We were unable, however, to locate the species. Given this information, it seems that the species should be recategorized as Critically Endangered.

The two mature trees of *C. kipella* in Bogor Botanic Gardens produce flowers and seeds but these do not germinate. Germination tests conducted with 200 seeds have been unsuccessful. Examination of an additional 200 seeds revealed that only 2.5% contain a fully-developed kernel. Further research on reproduction biology is needed to support the propagation and conservation of this tree species. We are planning to propagate the tree using shoot cuttings as an alternative solution to produce new individuals for ex situ collections and reintroduction and restoration in the species' natural habitat.

ENGGAL PRIMANANDA (orcid.org/0000-0002-1197-3815, enggal.primananda@brin.go.id), DIPTA SUMERU RINANDIO (orcid.org/0000-0001-8938-9574), AULIA HASAN WIDJAYA (orcid.org/0000-0002-5737-448X) and IYAN ROBIANSYAH (orcid.org/0000-0002-0503-458X) Research Center for Plant Conservation, Botanic Gardens and Forestry, National Research and Innovation Agency, Bogor, Indonesia

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/).

Taruka *Hippocamelus antisensis* continues to recover near La Paz, Bolivia

During a motorcycle ride on 5 March 2022, at 7.15, one of us (CEAC) sighted a deer, and was able to film it using a mobile phone. This allowed us to identify the individual as a male taruka *Hippocamelus antisensis*. The deer seemed to be alone, and fled after being filmed.

The taruka, which occurs above altitudes of 2,000 m in Argentina, Bolivia, Chile and Peru, is categorized as Vulnerable on the IUCN Red List. The species was believed to have gone extinct in La Paz valley by the end of 1980s, but was resighted as close as 8.5 km from the southern border of La Paz city c. 15 years ago (Rechberger et al., 2014, *Oryx*, 48, 445–450). In 2016, a lone male was sighted on a golf course c. 3.5 km from the city (E. Galdo, pers. comm.). Our new observation of the species was only c. 250 m from a recently urbanized area near the highly populated neighbourhood of Achumani, on the north-west border of the city at c. 3,800 m, and as far as we are aware is the most recent confirmed sighting of a taruka in the vicinity of La Paz city.

Although we have not rigorously monitored the advance of this population, the fact that a species formerly believed

extinct within La Paz valley has been sighted so close to the city suggests that the species is recovering locally. In many places the taruka's principal habitat is not well protected; e.g. in northern Chile (Mata et al., 2019, *Oryx*, 53, 752–756). As the protected areas in La Paz are relatively small, we believe the population in La Paz valley may be recovering as a result of the absence of conflicts with people and the almost complete absence of sport hunting. The taruka is a charismatic species, and we therefore intend to approach La Paz city authorities to secure their support in using the taruka as a flagship species for local biodiversity conservation and education programmes.

LUIS F. PACHECO (orcid.org/0000-0001-8844-9942, luisfpacheco@gmail.com) Colección Boliviana de Fauna, Instituto de Ecología, Carrera de Biología, Universidad Mayor de San Andrés, La Paz, Bolivia. FABIOLA A. SUÁREZ-GUZMÁN Independent researcher, La Paz, Bolivia. CRISTIAN E. ALCOREZA-CATACORA Independent researcher, La Paz, Bolivia

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/).

Partnership for conserving the Sub-Himalayan grasslands of India

The Sub-Himalayan tall grasslands support a host of wildlife, but are now found only in protected areas. These grassland ecosystems are declining as a result of conversion to woodland. These successional dynamics are governed by a number of drivers, including grassland burning in the dry season, meandering of rivers, erosion and silt deposition, soil hydrological processes, grazing regimes, invasive alien plant species and climate change.

Manas National Park in Assam, north-east India is one of the largest grassland protected areas in India. The Manas landscape underwent civil unrest during 1989–2003, interrupting the grassland management system previously in place. This absence of grassland management resulted in significant habitat degradation, potentially affecting several grassland specialist species, including the pygmy hog *Porcula salvania*, hispid hare *Caprolagus hispidus* and Bengal florican *Houbaropsis bengalensis*.

To address this critical issue, the National Park management and NGOs began working together in 2017, and a partnership to conserve the critical grassland habitats of Manas National Park was formally launched in November 2021. The conservation partners are jointly carrying out interventions using a common framework that includes mapping of invasive alien plants, especially *Chromolaena odorata* (native to the Americas), removal of invasive plant species, engaging the local community in restoration, knowledge dissemination and sharing of restoration experience with conservationists