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The status of the Endangered micro-endemic shrub *Abatia microphylla* in its type locality, Pedra do Imperador, Brazil

The shrub *Abatia microphylla* Taub. (family Salicaceae) is known only from the Brazilian Atlantic Forest in Rio de Janeiro state. *Abatia* is characterized by opposite leaves, a rare trait in the family shared only with the phylogenetically unrelated *Pseudoscolopia*, a monospecific African genus.

Online databases indicate that *Abatia microphylla* occurs in its type locality, Campo de Altitude in the Pedra do Imperador region, which is named after Emperor Dom Pedro II (the location is also known as Pedra do Cônego), and in Serra dos Órgãos National Park. However, after revision of the specimens from Serra dos Órgãos National Park we found they were previously misidentified and are actually *Abatia americana*. Thus *Abatia microphylla* is so far known only from Campo de Altitude, at c. 1,400 m elevation. This is also the type locality for other plant species endemic to the Atlantic Forest, such as *Wunderlichia insignis* Baill. Pedra do Imperador is an unprotected area close to urban areas. In two visits, in May 2023 and May 2024, we located only eight and six individuals, respectively, three of the former with flowers, and the latter all sterile. Voucher specimens are deposited in the herbarium of the Federal University of Espírito Santo, Vitória (herbarium code VIES).

The flora of Pedra do Imperador is threatened by anthropogenic impacts, including invasive species (*Pteridium arachnoideum* (Kaulf.) Maxon), horse farms, livestock,

installation of communication towers and irrigation ducts, plastic waste and non-natural fires. We found *A. microphylla* only at the edge of the main trail through Pedra do Imperador. In 2017, when the species was also believed to occur in Serra dos Órgãos National Park, it was categorized as Endangered on the Red List of Brazilian Flora. We plan to revisit Campo de Altitude in May 2025, to search for additional individuals and to reassess the species' conservation status. We hope to raise awareness among Brazilian politicians of the need to promote biodiversity conservation in high elevation areas, where plants are adapted to rocky soils, strong winds and low temperatures.

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Let us not forget the human dimensions of ecosystem restoration

Target 2 of the Kunming–Montreal Global Biodiversity Framework concerns ecosystem restoration. Prior to that, the Bonn Challenge on Forest Landscape Restoration, the AFR100, the New York Declaration on Forests, and the Paris Agreement, amongst others, have all called for the restoration of vast areas of forest.

Restoration is, however, a human endeavour that requires full engagement of people at all levels of decision-making and at all stages of the restoration process. In an April 2024 report supported by WWF, the Society for Ecological Restoration and the International Union of Forest Research Organizations (Mansourian et al., 2024, iufro.org/publications/joint-publications/article/2024/04/24/human-dimensions-of-forest-landscape-restoration), six social scientists and five conservation and forestry practitioners have come together to explore the human dimensions of forest landscape restoration.


Human dimensions of restoration are multi-layered. At their simplest, they are the activities that are necessary in the human system to enable restoration, such as negotiating long-term objectives, resolving conflicts or carrying out multi-stakeholder consultations. But there are also underlying reasons that determine why people restore or destroy forests, and there are many factors that influence why people may or may not support restoration. For example, landlords that live far away from their landholdings may not feel the same attachment to their land and forests as Indigenous rural communities and thus may be more inclined to transform them to other land uses, or confronted with powerful companies that contribute significant



Abatia microphylla, habit and inflorescence detail. Photos:
Álvaro Nepomuceno and Lucas Silva.

tax revenue to governments, rural land users may have little say in how their forests are managed.

This new report explores why consideration of human dimensions is essential in forest landscape restoration and how they could be better integrated into practice and policy-making to improve conservation impact. The report includes relevant guidance and tools from other fields that can contribute to improving the ways in which human aspects are integrated into forest landscape restoration and restoration more generally. It is intended to support practitioners and policymakers in their consideration of human dimensions at all stages of restoration and to strengthen the role of social science in restoration. If we are to meet the global goals on restoration in a way that improves biodiversity, we must better integrate human dimensions.

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Unnoticed, the Hainan hare is disappearing



The Hainan hare *Lepus hainanus* is endemic to Hainan Island, China. It was formerly widely distributed in hilly and lowland areas but has declined and become extirpated in some locations. The total population may not exceed 250–500. It is categorized as Endangered on the IUCN Red List and as Critically Endangered on the Red List of Vertebrates in China.

In surveys in August 2023 and January 2024, supported by the National Natural Science Foundation of China (grant no. 32270480), we observed only one live Hainan hare and a few footprints, and did not find any fresh Hainan

hare faeces. Our survey covered Danzhou, Changjiang, Dongfang and Ledong in the western part of Hainan Island, areas where the hare was formerly most common. Seemingly unnoticed, the Hainan hare is disappearing.

The major threats to the Hainan hare are habitat loss and hunting. More than 90% of its habitat has been lost as a result of conversion for agriculture. Although the hare is listed as Class II on the National Key Protected Species List in China, illegal hunting was once common and may still occur. The habitat of the hare is not being effectively protected, and the few remaining populations depend on nature reserves established for the Endangered Eld's deer *Rucervus eldii*. There has been limited research on the Hainan hare and its status as a species remains uncertain. Although research suggests that the Hainan hare may be the same species as the Burmese hare *Lepus peguensis* (Kong et al., 2014, *Mitochondrial DNA Part A*, 27, 265–269), the island location of the Hainan hare suggests a unique evolutionary history.

Although the establishment of the National Park of Hainan Tropical Rainforest in 2021 is conducive to better protection of local wildlife and plants, the status of the Hainan hare is of concern. Measures need to be taken to prevent the extinction of this species, including a comprehensive survey to assess the species and the status of its habitat, strict law enforcement to eliminate any illegal hunting, enhanced publicity to raise residents' awareness of the species' status, and improvement and management of the species' habitat.

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