

Griffinia ornata: (a) a clonal clump with flowering individual, and (b) detail of inflorescence. Photos: J.A. Gomes.

conservation of the known populations, with active involvement of both regional and local public authorities, and civil society.

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iNaturalist record of the threatened aroid *Philodendron spiritus-sancti*

Philodendron spiritus-sancti is an aroid (family Araceae) endemic to the Atlantic Forest of the central mountainous region of Espírito Santo state, Brazil. The species is known for its unusual leaf shape and is highly coveted by horticulturists and private collectors for its ornamental value. It is rare



Philodendron spiritus-sancti in the wild. Photo: Vagner Faller.

in nature and is categorized as Endangered nationally and Critically Endangered in Espírito Santo but has not yet been evaluated for the IUCN Red List. Until 2023 only three natural populations were known, with a very restricted distribution that may be partly a result of overexploitation.

Following the recent global increase in the purchase of houseplants to create so-called urban jungles, the species began to gain more prominence in newspaper articles and social media. This attention resulted in a new observation recorded on iNaturalist (inaturalist.org), by author RdS, south of the known records of the species. In February 2024, we confirmed this record in Monumento Natural da Serra das Torres, a protected area of forest with mountainous and rugged terrain.

The newly discovered population of *P. spiritus-sancti* is 128 km from the previously known records. We recorded at least 50 well developed individuals and many seedlings. The most impressive groups of individual plants are rupicolous, growing on a rocky wall. They dominate the wall and grow directly on the rocks, with associated rupicolous species such as *Philodendron edmundoi*, *Griffinia concinna*, *Begonia* spp. and bromeliads. The population has plants with both narrow and broad leaves growing together in a morphological gradient, resembling the species in the central mountainous region. *Philodendron spiritus-sancti* was previously considered a hemiepiphyte of the high forest canopy.

Our finding expands the known distribution of the species, demonstrates that it has more than one growth habit, and illustrates the potential of iNaturalist and citizen science as sources of data for improving knowledge of threatened species. This new record of *P. spiritus-sancti* also highlights the crucial role of protected areas for conservation.

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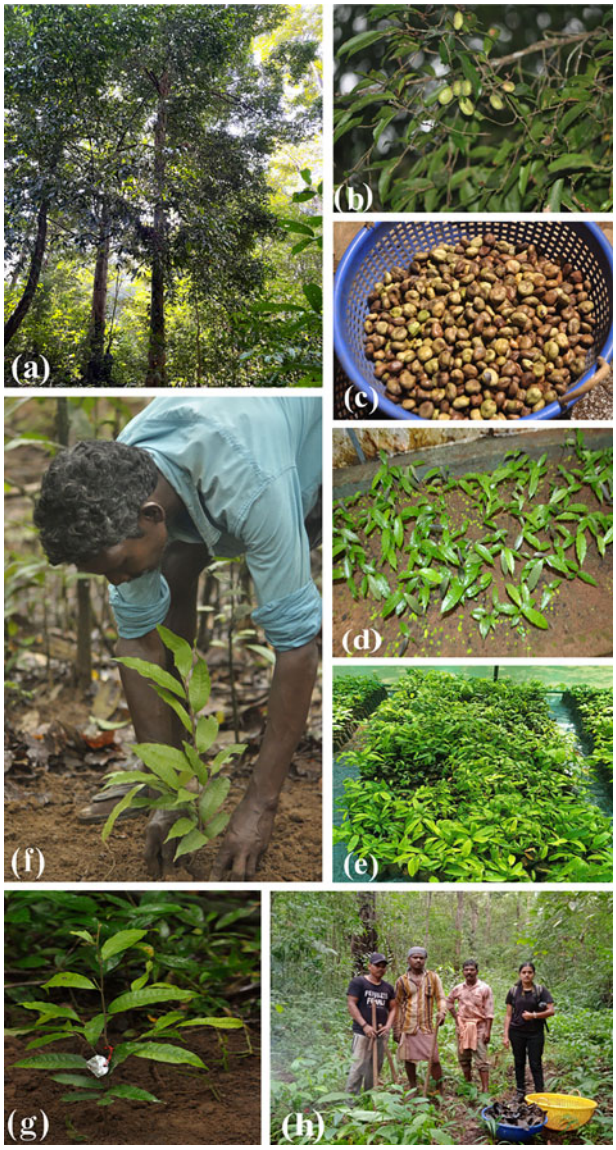
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[3]*Monumento Natural da Serra das Torres, Mimoso do Sul, Brazil*

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Conservation through restoration: the Endangered tree *Atuna travancorica* in the southern Western Ghats, Kerala, India

Conservation of threatened plants through restoration aims to re-establish or rehabilitate a species to a level at which it is no longer in danger of extinction. The tree *Atuna travancorica* (Bedd.) Kosterm. (family Chrysobalanaceae), known locally as Kallankaimaram, grows to 25 m in height and is endemic to the evergreen forests of the southern Western Ghats of Kerala and Tamil Nadu, India, at c. 400 m altitude. The fruits are consumed by mammals such as the palm civet *Paradoxurus hermaphroditus*, giant squirrel *Ratufa indica* and the Endangered lion-tailed macaque *Macaca silenus*, and birds such as the Vulnerable Malabar grey hornbill *Ocyceros griseus*. The tree flowers irregularly and has poor fruit set, seed predation is high and there are additional ecological constraints such as low population size, small extent of occurrence and poor natural regeneration. Because of its long dormancy period and poor seed germination, the species, which is categorized as Endangered on the IUCN Red List, is a challenge to cultivate.



Atuna travancorica: (a) habit, (b) fruiting branch, (c) harvested fruits, (d) germinated seedlings, (e) planting stock, (f–h) planting activities. Photos: S. Praveena.

We therefore developed protocols for seed propagation and seedling cultivation, including standardization of the optimum period for fruit harvest. Mature fruits were collected from Vazhachal forest in Thrissur District, Kerala, and seed germination experiments were conducted at the Campus nursery of the Kerala Forest Research Institute, Peechi. The seedlings produced as the result of the propagation and multiplication study were maintained in polythene bags, to be used as planting stock for restoration.

We were able to overcome dormancy by soaking seeds in a 1% hydrogen peroxide solution for 24 h. Nearly 1,000 seedlings were subsequently produced, 500 of which were transplanted in five forest locations (Vazhachal Forest, Sholayar, Kulathupuzha and Thamarassery Ranges, and Chimmony Wildlife Sanctuary) during the north-east monsoon months of October–November 2023. Monitoring of seedling survival is in progress.

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Rediscovery of *Swertia wattii*, a micro-endemic species of India, after 138 years

The genus *Swertia* L. is represented by nearly 168 species occurring mainly in temperate and alpine regions. In India, the genus is represented by 36 species, mainly distributed in the Himalayan region, and with few a species occurring in the Western Ghats. Nine species are endemic to India and have been recorded in only a few locations or have a restricted range.

Swertia wattii C.B. Clarke is a micro-endemic species reported from only a single locality. It was described by C.B. Clarke in 1889 on the basis of collections in October 1885 from Jakpho hill (also known as Mount

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