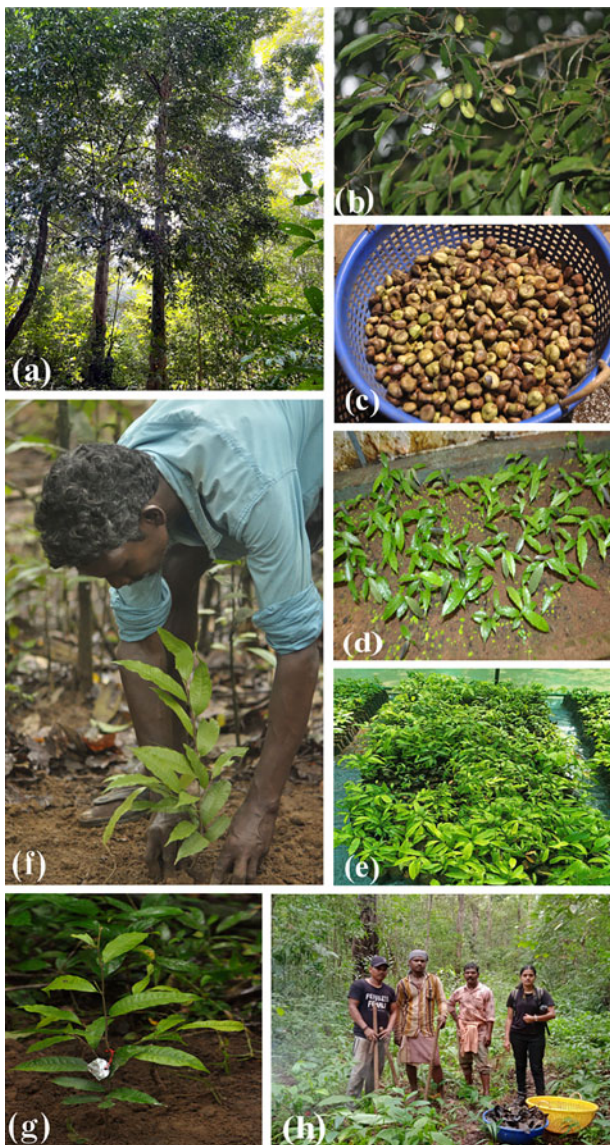


<sup>3</sup>*Monumento Natural da Serra das Torres, Mimoso do Sul, Brazil*

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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




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

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 *Ocyrceros 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.

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