

# *Magnolia dixonii* (subject. *Talauma*, *Magnoliaceae*) rediscovered at the Reserva Tesoro Escondido in the Biogeographic Chocó of Ecuador

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## *Magnolia Dixonii* (subject. *Talauma*, *Magnoliaceae*)

*Magnolia dixonii* has been rediscovered by botanists and conservationists in November 2017 at the Tesoro Escondido Reserve, a private reserve, part the Ecuadorian NGO Fundación Jocotoco, conserving 2000 ha of primary rainforest in the highly threatened Ecuadorian Chocó, protecting critically endangered species such as the Ecuadorian brown-headed spider monkey (*Ateles fusciceps fusciceps*). *Magnolia dixonii* had not been seen in the half a century since its discovery at Hoja Blanca-Gualpi, Esmeraldas Province, northwestern Ecuador.

Six species of *Magnolia* Linnaeus (1753: 535) sect. *Talauma* Jussieu (1789: 281) occur in the Ecuadorian biogeographic Chocó, the Pacific coastal region west of the Andes (Vázquez-García *et al.* 2016).



## The Tesoro Escondido Reserve and the Ecuadorian Chocó

The Tesoro Escondido Reserve is located in the province Esmeraldas, within the Ecuadorian Chocó, part of the Tumbes-Chocó Magdalena biodiversity hotspot. This is a highly diverse yet understudied area, highly threatened by habitat loss. The main threats are deforestation by timber and oil palm companies and expansion of the agricultural frontier by local farmers. Only 2% of the original forest cover of coastal Ecuador remains.

The Tesoro Escondido Reserve, part of the Ecuadorian conservation NGO Fundación Jocotoco, works in an interdisciplinary way, carrying out scientific research involving local people (parabiologists), developing sustainable projects in local communities and delivering weekly environmental education.

workshops



The Tumbes Chocó Magdalena biodiversity hotspot (above left) and the Tesoro Escondido Reserve (above right). Yadira Giler, expert local parabiologist and her family's house, close to the reserve, with other researchers and students.



## The rediscovery of *Magnolia dixonii*

A *Magnolia* Propagation Workshop organized by Botanic Gardens Conservation International and the Quito Botanical Garden, instructed by Eduardo Calderón at the Quito Botanical Garden (November 2017) led to Citlalli Morelos-Juárez, director of the Tesoro Escondido Reserve, showing at the workshop a picture of a globose and smooth *Magnolia* fruit that could not be determined at the workshop. One of the authors of this paper suspected that the fruit belonged to the elusive *M. dixonii*. Shortly after the workshop, an expedition was launched, involving a 7 hour trip from Quito towards the northwest including a crossing of the Río Canandé on a car ferry confirming in the field the rediscovery of this critically endangered species.



Five trees and no saplings were observed in the area on the first visit. A solitary adult tree in a cow paddock was found producing over one hundred mature fruits that could function as a source of seeds. A total of 180 seedlings have been planted for ecological forest restoration in key connectivity sites as well as in seven local schools; 150 of these seedlings came from seeds collected from adult trees, and 30 were found already as seedlings in various locations both in primary forest and pastures near the parental trees.

Seeds were planted in soil from primary forest in partial shade. It took an average of 47 days for the seeds to germinate under these conditions. Two bird species, *Myiarchus tuberculifer* (Tyrannidae) and *Tytira semifacita* (Cotingidae), have been observed feeding on the fruits, consuming the red sarcotesta surrounding the seeds. The wood of *M. dixonii* is heavy and has been selectively extracted from several areas; the heavy weight of its wood generates questions about its reported use for building canoes.

Plans for demographic studies including georeferencing seed production, predation and dispersal are underway.

