



World Magnolia Adventures

Magnolia vallartensis: Population decline intensified

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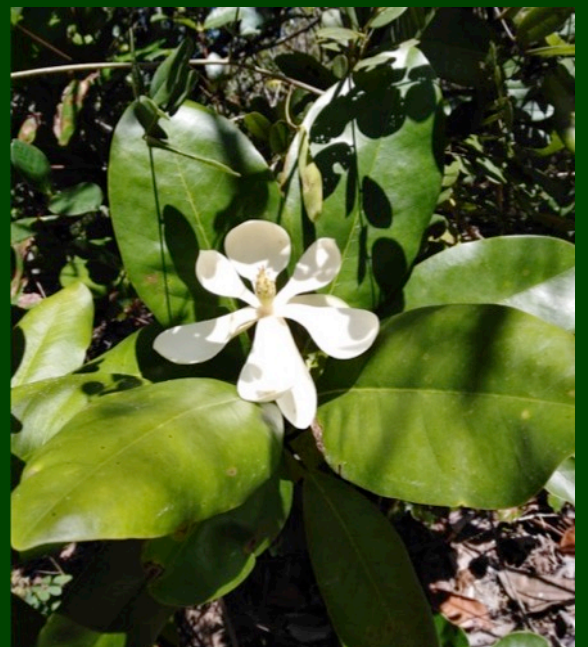
Critically Endangered

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Magnolia vallartensis is an endemic species confined to Puerto Vallarta and Cabo Corrientes in Jalisco, Mexico, growing at elevations of 100 to 1000 m a.s.l. It is a tree 15 m tall with a 20 cm dbh; its flowers, ca. 12 cm in diameter, are creamy white and the fruit has 14 to 19 carpels. It was officially declared the emblematic tree of Puerto Vallarta.

On February 16 and 17, 2019, two locations were visited where populations of this magnolia are found. Individuals were observed growing in an ecotone of riparian cloud forest and pine-oak forest. The first site visited was Palo María, where the presence of 80 mature individuals has been recorded, in turn, the second site, La Provincia has 20 mature individuals. There is no natural regeneration in any of the two visited sites, and forest fires and the expansion of the urban and agricultural frontiers has this species under a serious threat.

Urgent in-situ conservation action is needed, through purchasing land to establish a state park or sanctuary for this relict and critically endangered species.



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During the visits made, 10 individuals were sampled in order to collect fruits and subsequently extract their seeds (300) for viability and germination experiments. With 1% tetrazolium tests it was found that the viability of the seeds for this species was 50%, however only 12% germinated when the red sarcotesta was removed. Intense mice foraging and lack of automatic irrigation left only three surviving individuals.

A newly discovered character of taxonomic relevance was the whitish colour of its seeds after removal of the red sarcotesta. In contrast, those of its geographic neighbour *M. pacifica* had pale brown (beige) seeds. A second distinctive character is that the leaves of juveniles are gigantic (resembling species of sect. *Talauma*). Genetic and chemical evidence in floral fragrances also support the distinction between these two species.

Currently, an ex-situ Magnolia collection at University of Guadalajara-CUCBA includes 5 juveniles (3 years old) and 3 seedlings (8 months old) and ca. 30 seeds recently sown for germination in a more secure greenhouse.

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