

# The Vallarta Botanical Garden's Advancements in Conserving the Diversity of Native Mexican Oaks and Magnolias<sup>1</sup>

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Mexico is both an oak (*Quercus*) biodiversity hotspot (over 160 described species) and the western hemisphere's leader in magnolia (*Magnolia*) diversity (36 described species). In the face of myriad threats to these groups, including climate change, habitat loss/fragmentation, overharvesting, and plant pests/pathogens, the imperative to preserve the genetic diversity of these trees has become a high priority of the Vallarta Botanical Garden (VBG). In collaboration with researchers from the University of Guadalajara, the VBG has several new initiatives underway to acquire diverse and well-documented plant materials from these taxa. Their goals are the enhancement of the *ex-situ* collections of the VBG and to continue to research and monitor *in-situ* populations. Because *Quercus* and *Magnolia* seeds are recalcitrant, *ex-situ* collection is currently the most viable strategy to safeguard the genetic diversity of these trees beyond their native distribution, which in the tropics is often limited to very small and vulnerable stretches of forest.

The VBG is also trialing and documenting successful horticultural practices to launch satellite community collections in both rural and urban landscapes. These efforts seek to multiply the overall potential *ex-situ* collection holdings and to engage local communities in the importance of protecting their forests and the valuable resources they harbor. While the United States is rich in botanical gardens with strong conservation programs, their southern neighbor boasts a greater floristic biodiversity (roughly 26,000 species of vascular plants in Mexico compared to approximately 17,000 in the United States) over a much more concentrated landmass (about 1/5 the size), and has few gardens with active conservation programs beyond their grounds. United States gardens with missions to conserve threatened tree species regardless of geopolitical boundaries have incredible opportunities to collaborate with counterparts south of the border to realize their objectives. Since many conservation programs in Mexican gardens are in their formative stages, there are also ample opportunities for advising these institutions' strategies for the best chance of success.

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