Using pedigree management to establish ex situ conservation collections of endangered plant species in Padre Julio Marrero Botanic Garden, Ecuador

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Tropical regions have high rates of biodiversity and endemism, but botanic gardens in these areas do not typically hold conservation collections of their native species. If endangered species are held in conservation collections at botanic gardens in their native ranges, they likely lack a long-term management plan that integrates the identification of breeding pairs. The Padre Julio Marrero Botanic Garden (PJMBG), based in Santo Domingo, Ecuador, is located in the Choco biogeographic region of North-West Ecuador, which is a biodiversity hotspot with less than 4% of forest remaining. Through a collaborative project, PJMBG is establishing conservation collections of six endangered species endemic to North-West Ecuador. The majority of these collections represent the only living collection of these species. We are developing management plans for three of our focal species, *Magnolia canandeana*, *Magnolia dixonii* and *Dracontium croatii,* that use a pedigree management approach based on genetic data. Maternally tracked seeds and seedlings were collected during an expedition in March of 2024 to establish founder collections of these three species. We plan to build capacity at other botanic gardens in the region to create a metacollection for each species. Furthermore, we have hosted a two-day symposium open to the public that detailed (1) the role of botanic gardens as conservation institutions, (2) the utility of the pedigree management approach for conservation collections, (3) synergistic projects conducted in situ to support ex situ conservation, and (4) a workshop on the use of the pedigree module in BGCI's PlantSearch Database.