

bad, gas tankers were unable to reach this region of Paraguay, leaving every service station dry. To get a fill-up, we had to go to Brazil, crossing a border defined by a rutted dirt lane in Paraguay abruptly changing into a smooth two-lane asphalted road with gleaming white concrete curbs in Brazil. It was more like passing through a time barrier than an international border.

Our journey continued from Ypé Yhú to Capitão Bado, encountering the challenging sandy roads along the top of the Sierra de Amambay at an elevation of about 420 meters. After driving for little more than 40 kilometers, things really began to get interesting. The region opened up

into grandiose, uninhabited, nearly treeless and shrubless plains—a natural *campos*, with deep sandy soils, and no visible surface water. There is marvelous and most interesting flora in this area rich in ankle-to knee-high *Allagoptera campestris*, native grasses, sedges, and flowering trees. Camouflaged among the grass and other small, interesting plant life was hidden yet another unique species of *Butia* new to science, again Lilliputian in size, resembling its other grasslike relatives.

I came away from the expedition with some questions answered, but new questions yet to tackle. I learned that small does not mean unimportant or inconsequential

in botany, and certainly not in my current research. The *Butia* species continue to cluster together in all of my computer analyses, but the most fascinating thing is the sequence in which they group. Analysis after analysis indicates that the entire genus may have originated from Lilliputian, grass-like ancestors that are closely related to all of my Brazilian/Paraguayan Lilliputian palm acquaintances: *Butia campicola*, *Butia leptospatha*, and the three other newly discovered species in that genus. In a real sense these small, hard-to-see species have been key in understanding *Butia* and understanding where and how the genus may have originated. ■

The Amazing Tree Dioons of Honduras

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The “tree Dioons” represent a unique and intriguing assemblage of three related New World cycad species. Their nickname comes from their resemblance to a stereotypical palm tree—well-developed trunks, impressive proportions, and long arching leaves.

The largest is *Dioon spinulosum*, native to southeastern Mexico. It is the tallest of the New World cycads and the second tallest cycad species in the world, with some specimens soaring to more than 50 feet.

The second tree Dion is *D. rzedowskii*, which grows in the same general area of Mexico but in a dramatically different habitat. Specimens have been reported to grow to 16 feet in habitat.

I recently had the exciting opportunity to get up close and personal with the third tree Dion, *D. mejiae*, during MBC’s 2003 Honduran Cycad Expedition.

Dioon mejiae is the only Central American representative of an otherwise Mexican genus. A native of Honduras, it was described in 1950 from an immature cultivated plant. Its formal description—and all subsequent published reports on this species—states that *D. mejiae* occurs in a single dry, rocky canyon near Olanchito, Honduras; that its trunk grows to only three feet; and that it is rare in habitat. One of the primary

Author Jody Haynes is dwarfed by a 36-foot *Dioon mejiae* in the wilds of Honduras. The photo was captured by colleague, Mark Bonta, with a digital camera purchased through a generous grant from the Central Florida Palm & Cycad Society.

goals of our expedition was to prove that the published information on *D. mejiae* is grossly inaccurate—and we succeeded in doing so beyond our wildest expectations.

During the 30-day expedition, my colleague, Dr. Mark Bonta, and I visited more than 20 populations of *D. mejiae* in the provinces of Olanchito and Yoro in eastern Honduras. Our first surprise was the sheer number of plants in the wild. We conservatively estimated over 600,000 wild plants—including two “super-populations” containing more than 100,000 plants each. Our discovery makes *D. mejiae* the most numerous of any cycad species growing in the wild—though none-the-less worthy of diligent preservation. Our second surprise was encountering spectacularly large specimens—many reaching at least 36 feet tall!

Estimating their age took some interesting extrapolation. Prior to this expedition, MBC had a total of 39 plants of *D. mejiae* in the Grounds Cycad Collection, representing only two accessions—one collected as seed in 1976 and the other donated to MBC as small plants in 1993. The largest of the



plants from the older accession currently has about two feet of exposed trunk. Doing the math yields a growth rate of approximately seven feet per century under careful cultivation. Conversely, plants in doorway gardens in Juticalpa, Honduras, grow at a rate of only 2.3 feet per century.

Using the latter growth rate to estimate age for plants growing in habitat, the awesome tree Dioons growing at Teocintalito, Honduras, might have been young seedlings in 600 A.D., just about the time the Roman Empire was coming to a close.

Standing in the shadows of this ancient giant was a truly amazing experience. And isn’t it great to know that it will only take about 450 years for these plants to reach that height here at MBC! ■