Sumatran Whips

by Terrence Walters, Executive Director

After four years of developing numerous collaborative programs through emails, letters, and faxes with the world-famous Bogor Botanic Garden in Indonesia, I was able to visit this magnificent garden and meet the individuals with whom I had been corresponding in August of 2000. I also conducted an expedition with the garden's staff to the Indonesian island of Sumatra. The primary objective of the expedition was to obtain wild, thoroughly documented population samples of as many rattan palm species as possible.

Rattans are slender palms that climb onto other plants, often by hooks on long whip-like structures called cirri and flagella. Rattans are usually armed with dangerous spines on their primary stem and leaves. Well over 650 rattan species, represented by 13 genera, occur in the Old World tropics. They are, however, poorly represented in preserved or living collections because the plants are difficult to handle. They are also not grown under cultivation because of their aggressive climbing habit, fierce armature, great length, and unwieldy and intractable nature. Consequently, little is know about rattan cultivation, and most canes used in manufacturing are obtained from the wild.

*One of those unfriendly rattans (*Daemonorops *sp.) directly in our walking path. At least this plant had mature fruits to collect.*

Joko Witono organized and led the Sumatran expedition. Two other Bogor staff, Samsu Sujahman and Enday Sudarso, joined us on the one-month trip to collect herbarium specimens and seeds of rattans. On August 2, the four of us began our adventure by taking the ferry from populous Java to wild Sumatra.

Twenty-three palm genera are native to Sumatra. During the expedition, which was spent mainly within two National Parks—Bukit Tigapuluh and Kerinci Seblat—we found representatives of 21 of the 23 genera. As our time was limited and political conditions in the north were unsettled, our field work concentrated on 10 localities in five southern Sumatran provinces, just south of the equator.

Sadly, the majority of National Park sites we visited contained only secondary forests; the once magnificent primary rainforests of Indonesia had been removed decades ago for rubber plantations. However, rattans appear to grow extremely well and reproduce prolifically in secondary forests. In fact, at some localities, most of the understory species were rattans.

Terrence (front left) and Samsu (front right) with three local park guides enjoying a much needed break after climbing for three hours through a dense rattan forest in Sumatra.

It was not until we started climbing the steep mountains thick with an understory of rattan canes that I truly appreciated why no one bothers with rattans. During the first few days, my hands became torn and bloody as I grabbed onto the closest plant, which always seemed to be an armored rattan, to keep from falling down the steep wet clay paths. I soon learned to look before I grabbed.

When we saw through binoculars what looked like mature fruits on the higher reaches of a rattan cane, the process of pulling the vine down out of the thick forest canopy began. It would often take two or three of us a half hour or more to pull the 20–30-m-long vine free of other vegetation. After each tug, we had to remove the dense spines from a new section of the stem so that we could pull on the vine again. When we finally were able to reach the fruits, we usually found that the seeds were not yet mature. Nevertheless, after so much work, we proceeded with the hour-long task of making multiple herbarium specimens, each specimen including part of the stem, leaves, and reproductive parts (e.g., flowers, fruits). If the fruits were mature, we would also collect 100 or more of them.

Many of the species we collected had 5–10-m-long whips (i.e., flagella) coming off of the main stem. These whips were covered with recurved barbs which tear at your clothes and skin if you move just slightly in the wrong direction. I soon learned to sense when these whips grabbed me as I walked. Immediately, I would back up to release the recurved barbs and detach the whip.

At the end of the expedition, which was a great success thanks to the commitment, hard work, and unending energy of Joko, Samsu, and Enday, we returned to Bogor to clean the seeds, place the herbarium specimens in dryers, and then divide the collection between our institutions. We collected 89 seed accessions representing 13 palm genera. Of these, 20 were accessions of rattans. One full set of herbarium specimens was deposited at the herbarium at Bogor, and a duplicate set was sent to the Kew Herbarium in London for name verification.

MBC recently designated a large tract of land in the southwestern corner of our 120-acre property for the development of a scientific and educational rattan collection. The South Florida Chapter of the International Palm Society contributed funds to MBC to purchase and plant large trees that will ultimately provide support for the rattans. In three to five years, young vines produced by the Sumatran seeds will be transplanted to this area, where they will scale their arboreal supports, reaching for the Miami sky.