

*Principes*, 39(3), 1995, pp. 130-136

## Searching for Palms in Eastern Panama

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In many ways, Panama is a crossroads, in terms of travel, biogeography, and culture. For oceanic navigation, the Panama Canal offers a crucial link between the Atlantic Ocean with the Pacific. The United States has maintained a strong political and military presence in Panama for many years because of the importance of the Canal to the U.S. It is also the primary reason for the present activity and wealth of the cosmopolitan cities of Panama City and Colon.

On land, Panama is the southern-most portion of the Central American bridge between North and South America, the crossroads of the Americas. Here the plant and animal life of two continents has blended and diversified in an incredible display. In *The Botany and Natural History of Panama* (1985), D'Arcy and Correa estimate as many as 10,000 species of plants and 900 species of birds in Panama. They do not take the opportunity to estimate the number of insect species but do note a study that reported over 700 species of beetle trapped at a single site. In travel publications, journalists gush over the lush wilderness of the Darien Gap in eastern Panama, the only break in the Pan American Highway.

Culturally, Panama struggles to bridge another gap, one between a modern technological community and the Amerindians who have a traditional tie to nature. Native populations in parts of western Panama live in poverty unable to make a smooth transition to a modern world while slowly losing their traditions. However, others seem to hold onto many of their traditions while exploiting opportunities in the cities. Kuna Indians from the San Blas Territory and the Darien Province can easily be found in Panama City, men working in a variety of situations or women selling colorful molas (a native sewing craft) at tourist destinations. Yet the Kuna seem to maintain many old traditions and are credited with conserving the forests of the San Blas Territory where many Kuna live.

To the casual visitor, Panama offers luxurious

hotels, drinkable tap water, a good road system, and a wide array of local crafts as souvenirs. Ecotours are available from a number of local tour companies for the adventurous. Just a few miles outside of Panama City in the forests of Soberania National Park, one can see parrots, toucans, and monkeys. Nearby, Summit Park offers a small zoo of native animals and a display of tropical plants, many of which were brought to Panama by David Fairchild and other plant explorers in the early part of this century.

Recently, five members of the International Palm Society (IPS) visited Panama to offer assistance to Summit Garden and to spend a little time in the tropical wilderness. Paul Craft, of the Palm Beach Chapter of the IPS, organized the details of airline, hotel, and automobile reservations. Chuck Hubbuch, of the Dade Chapter of IPS and of Fairchild Tropical Garden, provided travel experience based on a previous trip and attempted to renew contacts at Summit Garden. Unfortunately, all efforts to reach previous contacts at Summit proved fruitless. When Paul and Chuck met Palm Beach Chapter members Dale Holton, Larry Dietrich, and Chris Wheeler at the airport in Miami on the long-awaited day of departure, we still did not know what to expect at Summit, but had high expectations of the planned expedition into the Darien Province. Larry proved to be the most adept at Spanish, by far, and was appointed our official translator.

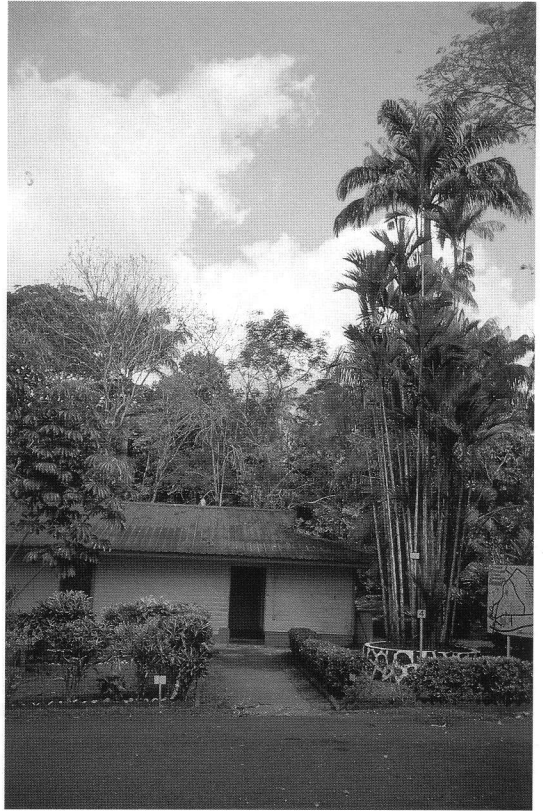
On the morning after arrival in Panama City, the five of us headed for Summit Garden in a subcompact car. This was our first little travel glitch. The four-wheel drive vehicle we reserved from a major international car rental company would be promised to us repeatedly over the next four days but would never arrive. The next problem was actually finding Summit Garden using the rental company's simplistic map of the city. We toured the worst parts of the city, searched for non-existent road signs, and tried to adapt to the heavy traffic. For Paul, it was reminiscent of Los

Angeles without the freeways. One of the highlights of the grand tour was seeing a large number of *Bentinckia nicobarica* used as street trees. The one road to Summit that Chuck knew was blocked by construction. We finally learned that we could get into the road to Summit only by making a U-turn on a busy four-lane highway or by driving across the Canal via the Bridge of the Americas and back again. We never did find an easier route.

The new director at Summit Park, Carlos Sucre Graell, was very cordial and walked with us through part of the Garden asking many questions about the plants. When we asked about the botanical garden manager, we learned that a new person was also in that position, a young biologist named Claudia Rumi Shibuta. Apparently, this is why earlier correspondence remained unanswered. At this time, Claudia and Chuck have continued correspondence, investigating ways for their institutions to work together.

The director gave us passes for the Garden, showed us a short orientation film about Summit Park, and told us to do anything we could to help the plant collection. Over the next few days, we explored the grounds and Chuck discussed future cooperative projects between Summit and Fairchild with Claudia. Currently, Summit has few plant records and functions more as a park than as a botanical garden. Its main focus seems to be providing the public with the opportunity to see the native animals of Panama, including monkeys, birds, and large cats. Large groups of school children toured the Garden every day. There are also playgrounds and open areas where families get together for picnics and baseball. A small nursery produces plants from the Garden's seeds to sell to the public. While this is all valuable to the people of Panama, it seems to leave the plants in the background, particularly the native plants.

We spent one and a half days photographing, identifying, labelling, and mapping the unlabelled or incorrectly identified palms. An interesting palm collection across the street is not considered part of Summit Garden. Some Palm Society members may know this area across the road where the *Pelagodoxa henryana* grows. Particularly impressive displays at the Garden were a large *Cyrtostachys renda*, the red sealing wax palm, at the entrance (Fig. 1) and a *Corypha umbraculifera*, the talipot palm, in full bloom near the entrance (Fig. 2). In all, we identified approximately forty cultivated palm species. Certainly,



1. Administration Building at Summit, note the tall *Cyrtostachys renda* on the right.

the climate is such that many palms that do not grow well in Florida could thrive here.

In addition to the cultivated palms in the collection, we observed plants of *Areca triandra*, *Bentinckia nicobarica*, *Licuala spinosa*, and *Livistona saribus* which volunteered in adjacent forests. Also, we saw native *Astrocaryum standleyanum*, *Elaeis oleifera*, a *Desmoncus* species, and *Oenocarpus mapora* in the forest.

The palms and other plants are well maintained in Summit Park. We hope that continuing support by Fairchild Tropical Garden and the Palm Society will lead to a brighter future for Summit as a scientific palm collection. We agreed that Summit has a tremendous potential to showcase the diversity of plants native to Panama, to teach the public to appreciate the importance of conserving their natural habitats, and to serve as a center for conservation and research.

On our last day at Summit, we ran into Gary Outenreath of Moody Gardens in Galveston, Texas



2. a and b. A large *Corypha umbraculifera* flowering just inside the entrance of Summit Garden.

and a small group of his colleagues. They had taken a boat to a remote area of the Darien and were still nearly breathless with excitement over the diversity of plants and animals, especially birds. We began to get excited about our upcoming trip.

During our final few days in Panama, after Chris returned to Florida, four of us finally located a four-wheel drive vehicle and headed eastward toward South America on the Pan-American Highway (Fig. 3). We had high expectations. People who had visited Panama ten or twelve years ago had warned Paul to be careful in the Darien because it was a wild and dangerous area with miles of dense forest. We were told by locals that we would see great forests once we reached the Darien Province. So, as we drove along the highway, eagerly anticipating signs of the forest.

When the Pan-American Highway pavement ended, we continued along over and around ruts, pot holes, and washed out bridges. We saw *Sabal mauritiiiformis* (Fig. 5) and *Scheelea rostrata* standing in pastures behind barbed wire fences.

*Bactris* formed colonies along streambanks. Giant soft-wooded, baobob-like quipo trees, *Cavanillesia platanifolia*, were silhouetted against the sky, standing alone where there were once tall forests. Fires had burned off forest remnants or scrub vegetation in the effort to produce and improve pastures and croplands. By this time, the only vehicles we passed were the occasional bus and tractor trailer rigs that were weighed down by two or three massive logs, the largest that any of us had ever seen.

Just before reaching the Darien, we stopped to photograph a billboard shaped and painted like a giant Stihl chainsaw (Fig. 4). It stood on a hillside blackened by a recent fire and lumber was stacked on the road below. Little did we realize how prophetic this sight would be.

We found a hotel in the town of Metetí and stopped for the night. It offered thin mattresses, cold showers, robust roaches, and a simple, but nice, restaurant. These would have been high quality accommodations in a remote, rain forest set-



3. A typical landscape along the Pan-American Highway in eastern Panama Province.

ting. Unfortunately, there was still no rain forest, only farmland, and we soon lost our tolerance for the simple offerings of the hotel. The hotel proprietor told us that we would soon run into rain forest on the Highway and suggested a nearby side road as a quick afternoon trip. We found little of interest at the end of this site. It was a highly disturbed section of saltwater estuary with some secondary forest and many lianas. We returned to the hotel and sat in the restaurant beside the cock fighting ring, where we were offered chicken. Paul (Fig. 6) wondered aloud if it was the loser of the last bout.

The next day, we were woken early by the hotel's raucous pet blue-and-gold macaws. Shortly thereafter, we began our drive toward the town of Yaviza at the end of the Pan-American Highway hoping to find rain forest. Three hours later, in the middle of Yaviza, about forty miles from the Colombia border, we arrived at the end of the highway. Frustrated and disappointed, we found only a few patches of disturbed forest along dirt logging roads that wandered off the highway. While we saw few animals, we did find a respectable variety of plant life, *Socratea*, *Oenocarpus*, *Bactris*, and *Welfia* were relatively common palms

here, along with a scattering of heliconias, aroids, ferns, and a variety of vines and trees. We also found a few cycads in the understory. These plants, which superficially resemble palms, are becoming quite rare throughout the Americas as a result of deforestation.

Seedlings of some plants grew in large numbers immediately below their parent's crown indicating that the animals that naturally disperse the seeds were already gone. We expect that these last small patches of trees will be burned as soon as the useful timber is removed. Soon, these interesting plants and the few remaining animals will be gone. Some may be the last of their kind. We had learned the hard way that the lush forests of the Darien Gap are now inaccessible by road. Later, we were told that 180,000 acres of rain forest are being cleared in Panama each year. To see healthy forests in the Darien, one must leave the Highway and take a boat down the Pacific coast or fly to a remote site in the heart of the Darien.

It was too late to arrange for a plane or boat excursion. But, being incorrigible plant enthusiasts, we stopped to examine whatever trees we could find growing in fence rows or front yards as we drove back toward Panama City. *Cecropia*,





4. Eight foot tall chainsaw advertisement on a scorched hillside along the Pan-American Highway.

*Tabebuia*, *Pseudobombax*, *Erythrina*, *Triplaris*, *Muntingia*, *Bauhinia*, and *Cassia* were among the tree genera that caught our attention. Since we made good time on the return drive, we turned up a road toward Carti Suitupo that Chuck knew from a previous trip. Here we finally were able to immerse ourselves in the lush, living green of a rain forest.

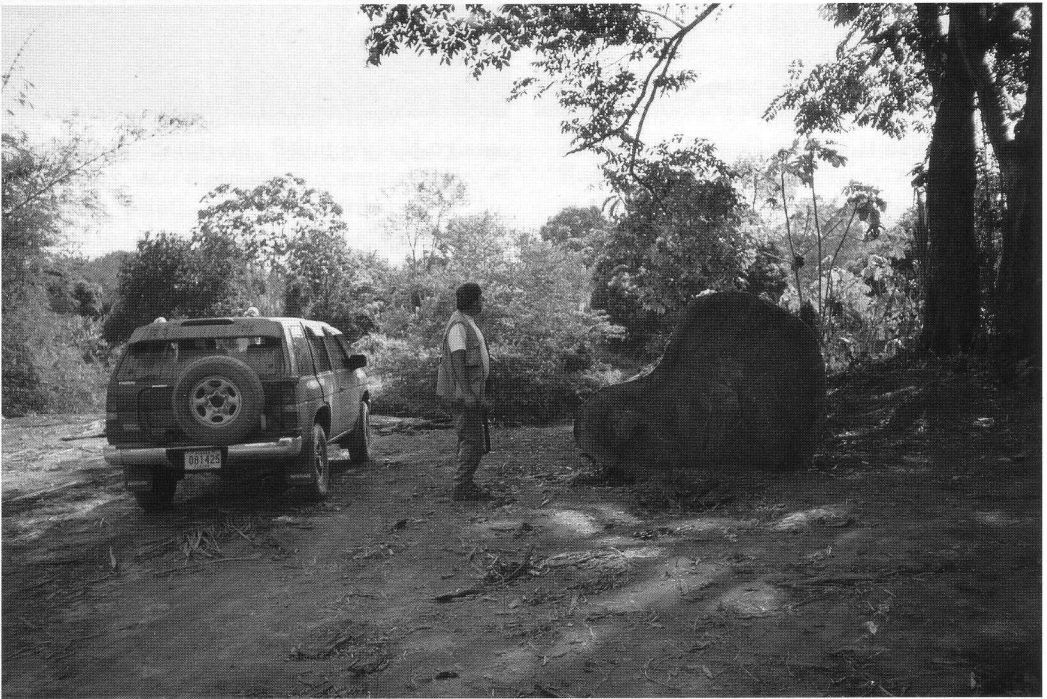
Once in the San Blas Territory (Fig. 7), we could simply walk off the road edge, down the ravine slope, and into the humid forest where we found *Asterogyne martiana*, *Astrocaryum confertum*, *Astrocaryum standleyanum*, *Attalea allenii*, *Bactris coloniata*, *Socratea exorrhiza* (Fig. 8), *Synechanthus warscewiczianus*, *Welfia georgii*, *Wettinia hirsuta*, and assorted *Geonoma* and *Chamaedorea* species. Heliconia plants grew to twenty feet in height and hung massive red inflorescences over our heads. Epiphytic mosses, liverworts, aroids, orchids, and bromeliads grew everywhere on tree trunks, branches, and even

on large leaves. Massive lianas hung from the trees. Birds sang, insects called, and hummingbirds buzzed around us. It was exactly how some members of our group had imagined the rain forest. For Chuck, it was a relief, like returning home after a hectic day. Each step we took offered exciting new discoveries. It is difficult to explain the excitement that a plant enthusiast feels in an almost overwhelming setting such as this. The diverse, luxuriant vegetation was the perfect therapy for the depression that had befallen each of us earlier in the week in the dusty Darien.

In his book, *The Cloudforest*, Peter Matthiessen writes, "One also learns quickly not to lay one's hand or lean casually on tree limbs, which are often spined and sometimes ant-ridden." Although Matthiessen was writing about Brazil, it was certainly true that this "Garden of Eden" also contained a few hazards. Thorny tree ferns pointedly reminded us to pay attention to our surroundings. But the most memorable event was when we ran into the hollow-thorned acacia tree which housed a colony of stinging ants. We all quickly discovered that these ants are quite aggressive and venomous. For Chuck, their stings were much worse than a related ant that he previously experienced in dry forests of southern Mexico. We later read in Dan Janzen's *The Natural History of Costa Rica* that these rain forest ants are particularly notorious for their ferocity. For those who are concerned about such matters, we did not see a single snake.

Leaving the most beautiful and interesting site of our trip, we returned to Panama City in preparation to fly home again. As expected by all, it had been a very interesting trip. Just as it is more exciting to see an unusual animal in the wild than in a cage, we found it very exciting to see palms and other plants in their natural environment. We gained new insights about their growth and cultural needs. We saw them in beautiful settings unmatched by any man-made landscape. But, our overwhelming feeling was a sense of loss as we experienced first-hand the deforestation about which we have read so much.

Returning to that earlier metaphor, these are not problems for the future, we are at the crossroads right now. Panama's human population, like that of the rest of the world, is growing in numbers and sophistication. They require room to grow and demand a better standard of living. Unfortunately, the deforestation which follows the population growth results in losses of valuable natural



5. *Sabal mauritiformis* were left standing when this area was cleared for pasture in eastern Panama Province. 6. Paul Craft standing next to a large log on the banks of the Rio Tuira in the Darien Province.



7. Lush vegetation of the San Blas Territory.



8. A stand of *Socratea exorrhiza* in San Blas Territory, Panama.

resources, cultural traditions, and biological diversity, in Panama just as it has in the United States and elsewhere. It seems to us that the answers lie in education and finding economic alternatives to deforestation. Of course, suggesting such general answers can be much easier than achieving solutions.

These two botanical gardens, Fairchild Tropical Garden and the Garden of Summit Park, hope to develop solutions. Maybe together, and with institutions such as the International Palm Society, we can work to insure that Panamanians and their visitors will see wild palms in their natural habitats in the coming decades.

The palm collection at Summit Gardens includes:

*Aiphanes aculeata*  
*Areca triandra*  
*Astrocaryum* sp. (probably the native *A. standleyanum*)  
*Bactris gasipaes*  
*Bentinckia nicobarica*  
*Borassus aethiopum*  
*Borassus flabellifer*  
*Caryota mitis*

*Cocos nucifera*  
*Corypha umbraculifera*  
*Cyrtostachys renda*  
*Drymophloeus beguinii*  
*Elaeis oleifera* (native)  
*Euterpe oleracea*  
*Heterospatha* sp. (probably *H. elata*)  
*Hyphaene* sp.  
*Latania loddigesii*  
*Latania* sp.  
*Licuala grandis*  
*Licuala spinosa*  
*Livistona chinensis*  
*Livistona decipiens*  
*Livistona saribus*  
*Livistona rotundifolia*  
*Oenocarpus mapora* (native)  
*Pigafetta filaris*  
*Pinanga coronata*  
*Ptychosperma elegans*  
*Ptychosperma macarthurii*  
*Roystonea oleracea*  
*Sabal causiarum*  
*Sabal minor*  
*Scheelea* sp. (probably the native *S. rostrata*)  
*Syagrus romanzoffiana*  
*Thrinax radiata*  
*Veitchia merrillii*