

Biodiversity of Costa Rica: IPS Biennial 2008

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When Columbus arrived near Limón, Costa Rica, on 18 September 1502, he must have truly thought this was a very rich discovery even though the indigenous natives numbered perhaps under 30,000 at the time. For much of its history, this country of 50,895 sq. kilometers fell under Spanish rule, while the population has grown to about three million inhabitants. Costa Rica is located in Central America between Nicaragua and Panama between 8 and 11° north of the equator. The country runs east to west and is divided by a backbone of mountains and volcanoes, some quite active today and is part of the Pacific "Rim of Fire." At its narrowest point, the two oceans are separated by a mere 119 km (about 75 miles), and the nation boasts more than a dozen distinct climatic zones.

San Jose, the capital, will be the base (Meliá Cariari Hotel) for the 2008 IPS Biennial (3–10 May 2008) and is located in the rich Central Valley. All trips to habitats and gardens will be day-trips with the longest outing being to Arenal, some three hours from San Jose. The Caribbean coastal plain is much wider than the Pacific coast and generates much of the climatic and fertile conditions of the Central Valley. We have selected a wide spectrum of sites that will take us from coastal elevations into the cloud forests of Braulio Carrillo National Park. There is no summer or winter. The rainy season runs from May to November, and temperatures are elevation dependent with a mean of 72°F (22.2°C) in the Central Valley. Average rainfall is 100 inches (254 cm), but again some cloud forests can generate 25 feet

(7.6 m) of precipitation along the Caribbean facing slopes. Palms seen growing in their natural habitats will include the following genera: *Chamaedorea*, *Geonoma*, *Iriartea* (Fig. 1), *Socratea*, *Calyptrogyne*, *Asterogyne*, *Astrocaryum*, *Euterpe*, *Acrocomia*, *Bactris*, *Synecanthus*, *Hyospathe*, *Welfia* and *Raphia*.

Costa Rica maintains very strong ecological, conservation and educational policies regarding its natural resources. This country constitutes less than 1% of the global land mass yet is home to 5% of all species biodiversity. Nearly 23% of its total land mass is devoted to national parks or reserves or is under private management to check the growth of commercial development. One consequence is that no seed collection can take place in our tour sites. Even though some sites are forested habitat, eco-tourist developmental policies have made these sites visitor-friendly to all ages. Given the lush and wet nature of Costa Rica, many of the sites will have paths from which we shall be able to view the palms and other flora and fauna.

Biennial Itinerary:

Saturday, 3 May: Arrival, Registration, Welcoming Reception.

Sunday, 4 May:

Marco & Gerardo Herrero's Farms: Two adjacent farm/nurseries (20 hectares each) were founded with stock from the Wilson Garden in Las Cruces. The Herrero collection contains over a thousand species, both indigenous to Costa Rica and exotic, from the global

collections of Marco and Gerardo Herrero and Robert Wilson.

INBioparque: This sensory experience combines nature trails with multimedia technology. The 20-acre (8.1 ha) park's development is based upon introduction to the wide spectrum of biodiversity allowing attendees to experience living samples of Costa Rica's native ecosystems: tropical humid forest, tropical dry forest and Central Valley native forest. The introduction covers ecology, conservation and commercial use of the biodiversity and the search for and development of new products, such as medicines, cosmetics, and nutritional and agricultural products. The guest speaker before dinner will be Dr. Gerardo Avalos, Ph.D., on the functional ecology of palms in Costa Rica.

Monday 5 May: Due to conservation and low-impact policies the Biennial attendees will be split into two groups. The venues for the two groups will be reversed during the Monday through Thursday activities. In all cases, IPS members will return to the hotel each night for joint dinners, lectures and festivities.

Group 1: Arenal Hanging Bridges.

Group 2: Rain Forest Aerial Tram and Quebrada González Station in Braulio Carrillo National Park.

[On Wednesday, Group 1 will visit the Rain Forest Aerial Tram and Quebrada González and Group 2 will tour the Arenal Hanging Bridges.]

Arenal Hanging Bridges: The Arenal Hanging Bridges are located in La Fortuna within a 250-hectare (618-acre) reserve of primary forest adjacent to the active Arenal Volcano. This conservancy has 15 bridges from 5 to 100 meters long, a third of them of suspension design along a 3 km rain forest circuit of paved trails. Groups will be limited in size with a naturalist guide pointing out palms and other flora and fauna from ground level, mid-canopy and from above-canopy views of the tropical rain forest (Fig. 2). The highest bridges exceed 45 m (>150 ft) above the forest floor.

Rain Forest Aerial Tram & Quebrada González: The Rain Forest Aerial Tram takes attendees through the rainforest canopy with its hanging garden of plants and animals high in the tops of tropical trees. The canopy is home to two thirds of the rainforest's species and the Aerial Tram site, on the northern border of Braulio Carrillo National Park, possesses one of the richest canopy



1. The distinctive leaf of *Iriartea deltoidea*.

communities in the world. The tram allows close observation of the varied life forms of the otherwise inaccessible canopy while causing minimal impact to the surroundings.

Braulio Carrillo National Park has two ranger stations, the Zurqui sector and the Carrillo (**Quebrada González**). Primary cloud forest and rainforest cover the reserve with its abundant flora and fauna in multiple habitat zones and innumerable rivers. This site is only one of three open for the public and loops 1.5 km (0.9 mile) in the cloud forest.

Tuesday, May 6:

Group 1: Poás Volcano & La Paz Waterfall.

Group 2: Carara National Park.

[On Thursday, Group 1 will visit the Carara National Park and Group 2 will visit the Poás Volcano & La Paz Waterfall.]

Poás Volcano features two high elevation craters: one active and one that has formed into a lake. The massive active crater often has sulfuric smoke rising out of the boiling muddy lake on its bottom. A 20-minute hike separates the two craters passing through high altitude volcanic vegetation that does not support palm species but hosts a wide spectrum of birds and plants native to high ash environments.

The La Paz Waterfall Gardens is located at an altitude ranging of 4300–5000 ft (1311–1524 m), which provides an ideal climate for both cloud and rain forest. Its three kilometers of serpentine paved trails and viewing platforms, allow attendees to experience and photograph the forest and the four majestic waterfalls from a number of view points. This site starts off with several separate conservatories housing hummingbirds, snakes, frogs and butterflies covering 18, 000 square feet (1672 sq. m) and includes a collection of ten species of the most colorful butterflies of Costa Rica.

Carara National Park is relatively small in size (4,700 hectares), but its importance arises from its coastal location within a transition zone between the tropical dry forest to the north and the more humid Pacific rainforest to the south. Carara has flora and fauna from both eco-systems. The the virgin forest that covers most of the park is the ideal environment for such rare wildlife as the Scarlet Macaw (*Ara macao*), the Collared Aracari (*Pteroglossus torquatus*) and three species of monkeys.

Wednesday and Thursday, 7 and 8 May:

For Wednesday and Thursday, the schedule is the reverse of the Monday and Tuesday's schedule respectively. Many of the sites are visitor-limited, and this alternating schedule allows for a higher guide-to-group ratio.

Friday, 9 May:

This will be a free day or for optional events to be booked during the week with the CRT at the hospitality desk (at additional cost). Optional events may include a city tour, canopy traversing or white-water rafting.

Attendees should return to the Melia Hotel for the farewell festivities beginning at 6:00 pm.

Saturday, 10 May:

The Biennial will conclude. Attendees will be taken to the airport to return home and/or the start of the Costa Rican extension tours and the Peruvian Amazon Post-tour.

Biennial attendees will have a number of choices for extending their stay in Costa Rica to experience the country. Three such extension tours will start on 10 May (the departure date for Biennial attendees). These include the Tortuguero National Park along the Caribbean coast, Las Cruces Biological Station (Wilson Gardens) near the Panamanian border and Corcovado National Park on the



2. A view from one of the suspension bridges at the Arenal Hanging Bridges.

Osa Peninsula. These extension tours are coordinated by CRT Destination Marketing & Management Services, lead agency for the 2008 IPS Biennial. See Palms 51(3) Supplement, September 2007, or the IPS website (www.palms.org) for further information. Further details can be secured from Rebeca Murillo of CRT at rmurillo@crtteam.com.

For those who wish to venture into the Amazon, a post-tour to Peru's Tambopata Reserve will also start on 10 May with a flight to Lima, Peru. The palms to be seen are: *Socratea exorrhiza*, *Iriartea deltoidea*, *Euterpe precatoria*, *Astrocaryum murumuru*, *Attalea phalerata*, *Attalea moorei*, *Mauritia flexuosa*, *Bactris concinna*, *Bactris gasipaes*, *Bactris maraja*, *Bactris martiana*, *Desmoncus polyacanthos*, *Chamaedorea angustisecta*, *Geonoma brongniartii*, *Geonoma deversa*, *Geonoma macrostachys* var. *acaulis*, *Oenocarpus bataua*, *Oenocarpus mapora*, *Phytelephas macrocarpa* and more. This tour is being arranged by Inkaterra Reserva Amazonica, the lead agency for the post-tour. See Palms 51(3) Supplement, September 2007, or the IPS website (www.palms.org) for further information.