

Conservation of Cuban palms

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Cuban native flora is rich in palms: 15 genera, two subgenera, 81 species, six hybridogenous species and nine infraspecific taxa are known from the various ecosystems of the country, bearing 87% of species endemism. Nowadays, integrated conservation actions are developed by botanic gardens of the country in order to halt threats that are facing several Cuban endemic species of palms.

Under the auspices of the National and Las Tunas Botanic Gardens, and with the financial support of a grant from Fauna and Flora International and Global Trees Campaign, a program of expeditions to natural areas was prepared in order to verify the conservation status information from field survey work and to implement priority conservation activities for globally threatened palms of Cuba.

The selected species were: *Coccothrinax pauciramosa*, *Coccothrinax crinita*, *Colpothrinax wrightii*, *Copernicia brittonorum*, *Copernicia fallaensis*, *Roystonea lenis* and *Roystonea stellata*.

Between September 2004 and September 2005, a total of seven field expeditions were made to the following places:

Eastern Cuba: Sierra de Nipe, Holguín; eastern Guantánamo

Central Cuba: south-east of Ciénaga de Zapata; north of Ciego de Ávila

Western Cuba: Las Pozas and Sabanalamar, Pinar del Río

Activities undertaken included a field survey to check current conservation status and the conservation needs of palm species, and provision of training and public education with the hosting of two workshops highlighting conservation good practice and sustainable use for local inhabitants who depend on palm resources for their livelihood.

The main results obtained were the following:

The genus *Coccothrinax* is widespread all over the mainland of Cuba and Isle of Youth (formerly Isle of Pines), in coastal limestone and serpentine thickets, pine forests, seasonally flooded forests, savannas, and rarely in semideciduous forests. Is by far the richest palm genus in Cuba, of the 49 known species in West Indies (Uhl & Dransfield 1987), about 39 are present in Cuba (Moya & Leiva 2000).

In order to check the current conservation status of *Coccothrinax pauciramosa* an expedition was undertaken in Sierra de Nipe, Holguín. The populations of this palm are highly affected by dryness and fires on the southern slope of the mountain, besides human activities (mainly plantations of *Pinus cubensis*). Up to the highest part of the tableland, populations of *C. pauciramosa* are more abundant and tend to proliferate inside the *Pinus* plantations. A part of the population of *C. pauciramosa* is included in the protected area of Casimba, as an *in situ* conservation measurement. Nevertheless, the category of Critically Endangered (CR) is maintained. In the northern slope of the Nipe mountain, more robust individuals can be observed. They were interpreted by Borhidi & Muñiz as a new species *Coccothrinax nipensis*, but we consider it as being conspecific to *C. pauciramosa*.

Roystonea is a genus that embraces 10 species, and five are found in Cuba, of which four are endemic of the easternmost regions of Cuba, in Guantánamo province (Zona 1996).

We were looking for *R. lenis*, categorized as vulnerable (V), and for *R. stellata*, considered as extinct (E). We observed a healthy population of *R. lenis* in Guajacal, Imías in the margins of the stream of the same name, growing together coffee plantations or in secondary vegetation, where countrymen allow its growth as a part of the shadow trees that protect the coffee plants. Thousands of fruits do germinate giving place to hundreds of seedlings and juveniles, as well as adults, through out the forests and fertile valleys that surround La Farola road; it is therefore considered vulnerable. We also observed good specimens of *R. violacea* (Endangered) in the margins of the Maya river to La Mula. Near Los Quemados farm, we encountered specimens of *R. maisiana* (Vulnerable) and perhaps of *R. lenis* together with the commonest *R. regia*. But there was no trace of *R. stellata* which remains extinct. Although *R. lenis* does not seem to have serious threats, it remains vulnerable. As a result of the workshop celebrated, the community of land owners and the conservation authorities in Guantánamo, gained experience about how to differentiate the *Roystonea* species, and all promised to continue searching for the mythic *Roystonea stellata*.

Copernicia is the second largest palm genus in Cuba, with 24 species and hybrids, all endemic. The main centre of diversification is central eastern Cuba, although several species are restricted to western Cuba (Leiva 2006). These palms are particularly abundant and diverse in xeromorphic thickets on serpentine soil and in semideciduous forests on seasonally flooded, heavy clay soils of the subcoastal plains in central Cuba.

Copernicia brittonorum is a critically endangered palm historically known from central and western Cuba, in coastal lowland forests and in open wetlands, from collections of 1930-1940, in Cienfuegos and Sabanalamar. Despite thorough searches, no specimens were found in Sabanalamar, and only one in Cienfuegos, in north-east Ciénaga de Zapata.

Copernicia fallaensis is one of the most beautiful palms, and only known from a few botanic gardens in the world, is critically endangered (CR) and is in need of urgent protection. The unsustainable use of their leaves for thatching and roofing, and of its fruits for raising animals by people of its very narrow natural area, explain the dramatic decline of this magnificent palm. In order to localize and observe the natural population of this palm, an expedition to the type locality was undertaken. We visited the environs of Falla and Morón, and in farms nearby Coralia, where the biggest population ever known was localized: 85 adults and countless juveniles and seedlings of the palm. The continuous harvest of the leaves make the trees thinner and fruitless. Others not harvested have huge trunks of about 68 cm of circumference. Conversations with the owners of the farms and authorities of the place were held in order to alert them about the necessity of conservation actions to avoid the continuous decline of this important economic resource. The botanic garden of Las Tunas continues monitoring this problem and producing plants *ex situ* to reinforce the natural population.

Coccothrinax crinita ssp. *Crinita* is a very beautiful, scarce and narrowly distributed endemic palm in the Critically Endangered category. It was formerly used for hat making, pillows, brushes, brooms, timber, etc. Now, it is critically threatened by the continuous and unsustainable use by local people of Bahía Honda. The provincial (Pinar del Río) authority of Flora and Fauna took the responsibility for the *in situ* conservation of this palm, coordinating with the National Botanic Garden the collection of seeds and producing plants for the restitution of the palm in natural areas. New counting of specimens resulted in 1056 censused plants, a significant increase on the number formerly considered. Materials for the direct work in the field were supplied to them, with the support of the FF-GTC grant.

Colpothrinax wrightii, the well-known Pinar del Río belly palm, belongs to a single-species genus in Cuba; it is present in lowland siliceous soil (white sand soil) savannahs and pine forests of Pinar del Río and Isla de la Juventud, and is suffering from excessive exploitation of its trunk wood for multiple uses - leaves for thatching and fruits for feeding pigs. The result is the dramatically fast reduction of its population, due to the damage caused to trees, although the vast area in which this jewel of Cuban flora appears could make the reduction look negligible. In the protected area Sabanalamar, and thanks to the implemented measures of management for conservation, a healthy, vigorous population of *C. wrightii* can be now observed, with normal growth and fruiting, as well as abundant juveniles and seedlings. This situation is being monitored by the technicians of the place, in coordination with the Pinar del Río Botanic Garden where *ex situ* germination of seeds is being performed to reinforce the natural population. The category of Endangered is maintained.

During the workshop held at Sabanalamar, the diagnosis of *Copernicia brittonorum* was given, diagnostic characters were explained in order to allow the members of the protected area to find the palm by themselves. After that, the staff of the protected area of Sabanalamar found the palm in Guanahacabibes, which is a Biosphere reserve in the extreme west of Pinar del Río province that guarantees *in situ* conservation of the species. New efforts are needed to search again and collect seeds of this very scarce critically endangered palm in order to grow it in botanic gardens for restitution (integrated conservation) activities.

References

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