Random Notes on West African Palms

F. R. Fosberg

The African palm flora does not nearly equal that of tropical America or of the Indonesian region. Hence, I did not expect to see many of these fascinating plants on a short trip to the Ivory Coast and Nigeria on Unesco business.

Through the courtesy of Professor Mangenot, director of the magnificent O.R.S.T.O.M. laboratory at Adiopodoumé, Ivory Coast, and under the guidance of Mr. Aké Assi, outstanding African local botanist, I was able to get into the field and see a very good sample of the vegetational diversity of the southern Ivory Coast and to see the majority of the palm species found in the newly independent République de Côte d'Ivoire. There were many more species than I had expected to see. A few further observations were made later in an all too brief look at Nigeria.

With no attempt at formality I will try to give The Palm Society members some idea of what they might see of their fascinating group of plants on a visit to west tropical Africa.

Most visitors to the Ivory Coast arrive first at Abidjan, the capital, by air. From the plane they already see that palms form a conspicuous part of the vegetation — groves of coconuts along the coast, abundant oil palms, *Elaeis* guineensis, in the broken forest and thickets, as well as around the villages inland. Indeed, if one tree were chosen to characterize the landscape of this part of the Ivory Coast it would be hard to decide between the enormous *Ceiba pentandra*, or *fromager*, and the ubiquitous oil palm. Rough-trunked and stiffly erect, its long pinnate leaves with globular masses of fruits close among their spiny bases, the oil palm is the indication, everywhere, of the presence of man. It is not known, with certainty, even where it is native, but the botanists in the Ivory Coast regard its presence in the forest as a sure indication of a secondary, or at least a disturbed, forest. Along trails its seedlings spring up from seeds dropped or spat out by passing Africans, to whom the oily flesh is a staple food. Some forests are largely made up of oil palms. In addition to furnishing food in the form of pulp, pulp oil, kernel and kernel oil, it provides quantities of palm wine, the quickly fermented sweet sap. Its leaves are useful for thatch and matting, and its trunk and leaf midribs for construction. It is certainly the most useful of plants to the West African, just as the coconut is to the Polynesian.

In savanna areas near the coast to the west of Abidjan are growing commercial plantations of oil palms. To the east, on beach ridges and sand flats along the coast are similar plantations of coconuts.

The fine research station at Adiopodoumé is built in an old oil palm plantation and the large old palms dominate the station grounds and the surrounding secondary forest. Planted here, also, are the familiar *Chrysalidocarpus lutescens* and *Roystonea oleracea*, seen generally in tropical plantings around the world.

A far more spectacular sight to one interested in palms is the swamp association of the coast dominated locally by *Raphia gigantea*. A normal member of



55. Elaeis guineensis in secondary forest north of Dabou, Côte d'Ivoire.

the swamp forest community, probably characteristic of edges and openings, this small tree has become very abundant, forming almost pure stands where the swamp forest has been cleared. The trees are here crowded together, their crowns forming a complete and dense canopy, their dead leaves covering the wet ground, no other plants competing with them in the thicker stands. Their leaves are delicate and feathery and their trunks slender but covered by a thick tangled mass of curved stiff thick sheath fibers. This palm is monoecious and, apparently, monocarpic—at least flowering and fruiting specimens seemed to be dying. The trees produce huge hanging hawserlike inflorescences with female flowers and later clusters of small round fruits close to the axis, male flowers on many slender branchlets.

On coastal and sand ridges near Azu-



56. Raphia gigantea distant in the savanna, Mossou Savanna, Abidjan, Côte de'Ivoire.

retti, as well as in the interior, near Singrobo, at the edge of the savanna country, were seen clumps of another small slender palm. It turned out to be *Phoenix reclinata*, known to me previously as a garden plant, but common and native in West Africa. It is always a satisfaction to see for the first time in its proper habitat a plant long familiar in cultivation.

Several trips were made from Adiopodoumé to the savannas to the west and north, those in the north extending across the continent in a belt between the Sahara and the tropical forest. Here were truly spectacular displays of palms -Borassus aethiopum, not visibly different from the palmyra palm of Asia, B. flabellifer. Borassus exists on the savannas in uncounted thousands. Its fruits are considered edible, but the main importance of this palm to the Africans is as a source of palm wine or bangui. We sampled this and found that it resembles a weak hard cider with a very individual flavor. It is secured by decapitating the tree, one tree yielding about 20 litres of sap per day for one or two months. Bare trunks, like electric light poles, are a common feature anywhere near a village in the Borassus area. Fortunately the seeds germinate easily and young plants are abundant.

An interesting feature of *Borassus aethiopum* is a swelling in the trunk about two-thirds the way up. There is some argument as to the origin of this, some local botanists suggesting that it results from a season of unusually abundant moisture some years ago. However, its occurrence at about the same height on trees of apparently different ages, as well as the presence of a similar feature, even more exaggerated, in certain other palms, e.g. *Colpothrinax* of Cuba, suggests that it may more likely be a genetic character.

In the rain forests there seem to be no palm trees except the oil palm. However, the unwary visitor may be un-



57. Young trees of *Borassus aethiopum* with petioles and sheaths still persistent, savanna near Singrobo, Côte d'Ivoire.



58. Immature stems of *Raphia gigantea* in swamp east of the Agnéby River showing fibrous sheaths.

pleasantly reminded that the family is not absent if he blunders into a rattan vine. Although these are not abundant, five species belonging to three genera of these climbing palms occur in the Ivory Coast. Usually only one or two



59. Fruiting specimen of *Raphia gigantea* in swamp east of Agnéby River near its mouth west of Adiopodoumé, Côte d'Ivoire.

are found at one place, but in the Yapo Forest all five grow together. They are: Calamus deerratus, Ancistrophyllum opacum, Ancistrophyllum secundiflorum, Eremospatha Hookeri, Eremospatha macrocarpa. Why these are dif-



60. Borassus aethiopum in savanna east of Bandama River, Côte d'Ivoire.

ferent genera is not immediately obvious. All are climbers with viciously spiny leaves and leaf sheaths. At Agnéby, in a swamp, one of these, the *Calamus*, was collected in fruit. The fruits occur in panicles and are ovoid and covered with stiff overlapping scales like a fish.

After this all-too-short introduction to the flora and vegetation of the Ivory Coast, I was able to make a short but interesting visit to Nigeria. From the plane approaching Lagos, the principal city, much of the forest appears to be dominated by oil palms. These were seen in abundance along the road to Ibadan, but no other palms were noticed in this forested area. I thought that probably this would be the last of the palms for the trip, as I was going north into drier country.

However, during the flight from Ibadan north-eastward to Jos it was easy to pick out the pale green rosettes of *Borassus* crowns in the savanna and open forest. Here these palms seemed to occur mostly near streams, in and at the edges of the gallery forest, and not nearly so generally in the open savanna.

The interesting town of Jos is situated on a large plateau at about 4000 feet elevation. This plateau is mainly grassy, but is studded with small abrupt hills of granite, looking like randomly dropped heaps of great granite boulders. On these is a fascinating flora of plants with curious adaptations to a severe dry season - a bizarre assemblage of cactoid euphorbias, small baobabs, aloes, a geophytic fern, and many more. Here locally, I again found Phoenix reclinata. Its vermilion spathes are especially handsome. It grows in bits of soil in crevices between the boulders, along with a wild seedy banana, scarcely expected in this unfavorable niche.

At Kaduna, northwest of Jos, people were carrying great bottles of palm wine on their heads. I assumed it was from *Borassus*, but my guide assured me that it was from another palm which grew a few miles out in the country. It may have been the doum palm, but unfortunately time to investigate was lacking.

At Kano, ancient terminus of caravan routes across the Sahara, and now the air-lane cross-roads of West Africa, occasional date palms, *Phoenix dactylifera*, protrude up among the mud houses of the Old City. And in the open country just outside with huge baobab trees, my last African palm of the trip was a doum palm, *Hyphaene* sp., a fantastically branched tree. Again, time was lacking for a close examination. Even a fleeting look at it, before taking my plane for Europe seemed to add a climax to a very satisfactory palm journey.



61. Phoenix reclinata in granite hills west of Mongu, plateau south of Jos, Nigeria.

1960]

[Vol. 4



62. Sabal Palmetto in form of a serpent, Ronald Ranch, Daytona Beach, Florida. Photograph by W. H. Hodge.

The Serpent Palm

The palm in Figure 62 is not an obscure species but a venerable cabbage tree (*Sabal Palmetto*) in an unaccustomed form. This odd plant is an inhabitant of the Ronald Ranch, consisting of some fifty acres of citrus and jungle-like hammock on the outskirts of Daytona Beach. Because it is coiled about the base of a huge old

hickory and then vertically raises its head like an outsize boa, the owner William Ronald long ago dubbed it, aptly enough, the "serpent palm."

Walter Hodge and I paid a courtesy call on this curious vegetable last spring. We ogled it, felt it, admired it and measured it. The length of the stem is 44 feet, and adding the crown of foliage the overall length is 50 feet. Dr. Hodge made several time or bulb exposures from different angles, for obviously the massive hickory in the center obstructs some part of the palm from any viewpoint.

This serpent palm may be two centuries old, or even older. Evidently it was blown down when still relatively young, and in its effort to reach the light was forced into its circular form by heavy vegetation growing and dying in a gradually changing pattern—and only rising when dying plants finally permitted enough light to enter.

Wild palmettoes often have been forced by similar contingencies into strange and weird shapes. Indeed in this same Ronald hammock there are several that would seem notable if not so far outdone by our so-called serpent palm. Of all the curious forms to be found, it hardly seems likely that this last is anywhere duplicated.

DENT SMITH

Thrinax rex - A Regal Palm of Jamaica

RICHARD A. HOWARD

The genus Thrinax was established by the Swedish botanist Olaf Swartz in his Nova Genera and Species Plantarum, Prodromus (57. 1788)* with a Jamaican species, T. parviflora, the first species described. The generic name was derived from the Greek word for fan. During the next century many species were added to the genus and it was considered homogeneous until Charles Sargent, in 1899, distinguished differences in the fruits and separated certain species as the genus Coccothrinax. Coccothrinax fruits have a grooved or fissured endosperm to contrast with the smooth endosperm of species in Thrinax. Currently, ten species are recognized in Thrinax, all occurring in the Greater Antilles. Two species have ranges extending into the Florida Keys and southern peninsula Florida. The genus has not been encountered in the Lesser Antilles south of Anguilla and records of the genus in Central America, outside of cultivation, are subject to question. Several species are widely cultivated and the country of origin may not be known.

Within the Greater Antilles the island of Jamaica has the greatest representation including the three endemic species. Thrinax rex. T. tessellata and T. Harrisiana. It is of interest to note that these three occupy isolated ranges in the eastern, central and western mountain ranges of the island. All species occur on areas of broken limestone rocks which are deeply pitted and often eroded into irregularly sharp-surfaced boulders. So hard is the limestone that a boulder often rings when struck. Its many sharp points lend it the name "dog tooth" limestone in many areas. The Thrinax species which grow on these boulders germinate from seeds de-

1960]

^{*}L. H. Bailey in his monograph of *Thrinax* (*Gentes Herbarum* 4:128-149. 1938) did not recognize this reference, attributing the genus authorship instead to Linnaeus filius (*Gen. Pl.* ed. Schreber 2:772. 1791).