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Conservation Status of Haitian Palms

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ABSTRACT

The conservation status of the 13 genera and 21–24 species of palms occurring naturally in Haiti is given. Notes on distribution, uses, and common names are also given. Current conservation efforts are reported.

Résumé

L'état de conservation de 13 genres et 21–24 espèces de palmes qui grandissent naturellement en Haiti est donnée. Des notes sur leur distribution, usages et noms communs sont aussi données. Des efforts actuels de conservation sont fournis.

Rézimé

Stati sou konservasion 13 genus ak 21–24 espès palm ki pousé an Ayiti yo, bay isit. Not sou distribision yo nan peyi-a, sa yo fé avè yo ak non yo bays yo nan chak zone. Efò nou mennen pou proteksion kek palm.

Since its discovery by Columbus in 1492 the natural environment of Haiti has suffered almost complete destruction. Today approximately 2% or less of the original forest cover remains (Davis et al. 1986, Paryski and Woods 1989).

Thirteen genera and between 21 and 24 species of palms occur naturally in Haiti, and up to one quarter of these species may be endemic to the country. Because of environmental destruction many of them are rare, and the endemic species face extinction.

Two national parks exist in Haiti (Judd 1987, Paryski and Woods 1989); Parc National Pic Macaya and Parc National Morne La Visite. Unfortunately few palms occur in these parks. Many of the non-endemic Haitian palms are in cultivation in Fairchild Tropical Garden and elsewhere, but very few of these cultivated palms are of Haitian origin.

In 1988 we began a program aimed at the conservation of the rarer species of palms in Haiti. Here we report on the conservation status of all Haitian palms, as well as on our efforts to conserve the rarer species.

Methods

The following account is based on four field trips to Haiti which took place between November 1988 and December 1989. During these trips we have mapped populations of rarer palms, either on 1:50,000 or 1:100,000 scale maps. We have counted numbers of individuals in rarer populations. We have interviewed local people and collected information on uses and local names, in both French and Creole. We have made herbarium specimens of most species, and studied Haitian specimens in the herbaria in Port-au-Prince (EHH) and New York (NY), and have reviewed the relevant literature. The most recent treatment of the palms of Haiti is that of Barker and Dardeau (1930).

In order to conserve populations of rarer palms we have produced a management plan for palm conservation in Haiti, based on *Attalea crassispatha*. We have begun

to carry out some of the recommendations of the plan, particularly with *A. crassispatha* and *Pseudophoenix lediniana*. These are discussed below.

Acrocomia

This genus is now considered to consist of just two species, one of which, *Acrocomia aculeata* (Jacq.) Lodd. ex Mart., is widely distributed from Mexico to Paraguay. We have only encountered this species once in Haiti, near Beaumont (Fig. 1) on the Massif de la Hotte, but there are records and specimens to indicate that it was once widely distributed, for example on the Ile de la Tortue. Approximately 10 plants exist at the locality near Beaumont, but local people say that the palms were planted. They do not use the palms for anything, except for children who eat the seeds. The common name of this palm in Haiti is spelled "coco guinée" or "corosse" in French, and "koko ginen" or "kawos" in Creole.

Attalea

One species, *Attalea crassispatha* (Mart.) Burret, is endemic to Haiti (Henderson and Aubry 1989). A total of 26 individual trees of this species have now been located. All trees are in the southern peninsula, and most are either near Fond des Negres or Cavaillon (Fig. 2). During 1989 six trees fruited, and in August we collected approximately 500 seeds. These were distributed to two nurseries in Haiti, and the rest were distributed to various Botanical Gardens through Fairchild Tropical Garden in Florida, and to other researchers. Seeds have now germinated both in Haiti and in Florida.

The common name of this palm in Haiti is spelled "côrossié" or "petit coco" in French and "kawosie" or "ti koko" in Creole. Dransfield et al. (1988) list this species as endangered (note that Dransfield et al. list this species under *Orbignya* sp.).

Bactris

A large genus with approximately 80 species occurring throughout the neotropics. One, *Bactris plumeriana* Mart. (Fig. 3), occurs in Haiti, and throughout the Caribbean. We have seen scattered individuals throughout the country in wetter areas. This species is not used for any purpose because of its spines. Its common name in Haiti is spelled "coco macaque" in French and "koko makak" or "ti crocro" in Creole.

Calyptronoma

A genus of three species confined to the Greater Antilles. The genus is still in need of study, despite a relatively recent revision (Wessels Boer 1968). Two species are reported to occur in Hispaniola, *C. dulcis* (Wright ex Griseb.) Bailey and *C. rivalis* (Cook) Bailey. Apparently only *C. rivalis* occurs in Haiti. We have seen one very small population consisting of approximately 30 adult plants near Saut d'Eau (Fig. 4). The young, unexpanded, leaves are used for weaving and the older leaves are used for thatch. This palm occurs in very wet ground, either at the edges of streams or in marshy areas. It is known locally as "palma." Dransfield et al. (1988) list this species as vulnerable.

Coccothrinax

A very poorly known genus with up to 49 described species, 34 of them from Cuba (Uhl and Dransfield 1987). Bailey (1939*b*) reported that 6 species occurred in Haiti; *Coccothrinax argentea* (Lodd. ex Schult.) Sarg. ex Becc., *C. concolor* Burret, *C. ekmanii* Burret, *C. gracilis* Burret, *C. montana* Burret, and *C. spissa* Bailey. A seventh species, *C. scoparia* Becc. also occurs there.

Coccothrinax argentea is very variable and occurs throughout the country in a great variety of habitats, but always on calcareous soil and on mountain slopes. It

1. *Acrocomia aculeata* near Beaumont, Massif de la Hotte. 2. *Attalea crassispatha* near Cavaillon. The holes in the peduncular bracts are made by a woodpecker, *Sphyrapicus varius*. 3. *Bactris plumeriana* near Cavaillon. 4. *Calyptronoma rivalis* near Saut d'Eau.

is very common in parts of the southern peninsula (Fig. 5) up to elevations of 1,100 m where rainfall is near 2,000 mm per year. Conversely it also occurs in very arid areas, for example near Gonaïves, where rainfall is near 600 mm per year. Further study of this species may reveal that several species or sub-species actually exist. The leaves of *C. argentea* are very widely used to weave hats, saddles, and make brooms and other articles. The common name of this palm in Haiti is spelled "gouane, latanier savanne, latanier marron, latanier bourique, palme coyau" in French, and "gwenn, latanye savann, latanye maron, latanye bourik, palm koyo" in Creole.

There are two other distinct species of *Coccothrinax* in Haiti, neither of which we have seen despite searching. *Coccothrinax ekmanii* is reported by Bailey (1947) to occur in extreme southeastern Haiti, near Anse-à-Pitres, where it is called "gouane" (French) or "gwenn" (Creole). It does occur over the border in adjacent areas of the Dominican Republic. *Coccothrinax spissa* is reported by Bailey (1939b) to occur in Haiti.

The two other species listed by Bailey (1947) for Haiti (*Coccothrinax concolor* and *C. gracilis*) are probably synonyms of *C. argentea*. *Coccothrinax* cf. *montana* is reported by Judd (1987) to occur in Parc National Pic Macaya. Roger Sanders (pers. comm.) believes this palm may be *C. scoparia*. Barker and Dardeau (1930) give "latanier balai" as the common name of this species.

Copernicia

This genus contains approximately 25 species, three of which occur in South America, 20 in Cuba, and two are endemic to Hispaniola (Dahlgren and Glassman 1963).

Copernicia berteroana Becc. is quite widespread but occurs in small populations. We have seen it near Port-au-Prince, where the population was recently destroyed. Other small populations occur near Gonaïves. The greatest number of individuals we have seen occur between La Jeune and Pignon in the Dep. du Centre (Fig. 6). *Copernicia berteroana* occurs on flat land, often on saline soils, where rainfall is between 600 and 1,000 mm per year. It is locally known near La Jeune as "dyaré," and the leaves are used for thatching.

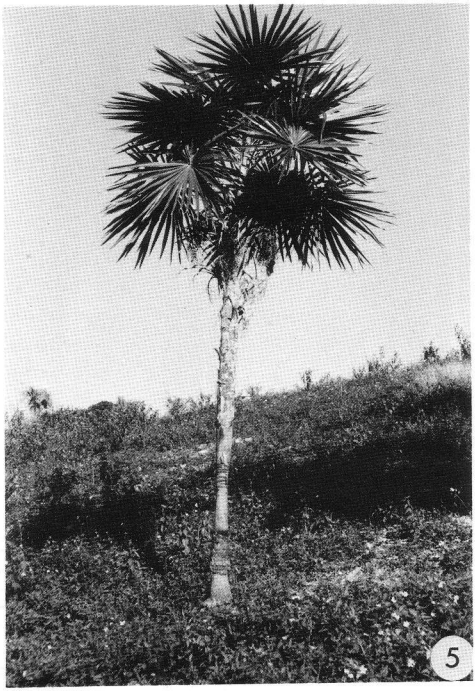
The second species, *Copernicia ekmanii* Burret is endemic to Haiti. It is very different from *C. berteronana* because of its bluish leaves which have a waxy coating. This species is reported to occur on the northern coast of Haiti, between Port-de-Paix and Môle St. Nicolas, on rocky shores near the sea. This region receives between 600 and 1,000 mm of rain per year. We have seen only one plant of this species, near Guinaudée, Dep. du Nord Ouest, and this was apparently cultivated. The palm is locally known as "homme de paille" or "jambe de paille" (French), and "om de pay" or "jamm de pay" (Creole). The leaves are reported to be a very durable and sought after thatch.

Geonoma

Another large neotropical genus, occurring throughout Central and South America. *Geonoma oxycarpa* Mart. has an unusual distribution. It occurs in Central America from Mexico to Colombia, and also in Haiti. We have seen this species only in one tiny locality at 900 m elevation where a few seedlings exist in a shady gully, in the Massif de la Hotte (Fig. 7). Locally it is called "palm." It must have had a much wider distribution in the past, because the type locality is near Port-de-Paix, in the north of the country.

Prestoea

This genus of about 12 species occurs mainly in mountainous areas in Central America and in the Andes of South America as far south as Bolivia. There is one



5. *Coccothrinax argentea* in the southern peninsula. 6. *Copernicia berteroana* near La Jeune. 7. *Geonoma oxycarpa*, Massif de la Hotte. 8. *Prestoea montana*, Massif de la Hotte.

species in the Caribbean, *Prestoea montana* (Graham) Nicholson. It is a cloud forest species, often occurring in great numbers, for example in Puerto Rico (Henderson 1984). In Haiti very few scattered individuals exist in cleared areas, especially in the Massif de la Selle (Fig. 8) and in the Massif de la Hotte, in areas between 1,000 m and 2,000 m elevation and with 2,000 mm rainfall per year. Judd (1987) reported that this species occurs in both national parks in Haiti. It is locally known as "palme à vin" (French), and the leaves are used for thatching.

A second pinnate-leafed palm occurs with *Prestoea montana* near Beaumont in the Massif de la Hotte, and its identity is unknown. Local people call it "chapelet" and insist that it is different from the *Prestoea* ("they are brothers, but they are different").

Pseudophoenix

A Caribbean genus of four species, all of which occur in Hispaniola (Read 1968). In Haiti these palms occur in very arid areas on steep hillsides, often on west-facing slopes.

Pseudophoenix lediniana Read is endemic to Haiti, and occurs in a small area in the Dep. de l'Ouest (Fig. 9). This area, the type locality, contains a small but reproductive population of about 30 trees. During 1989 we collected several hundred seeds from one tree. These seeds were planted in a nursery in Haiti, where many have germinated, and seeds were also sent to Fairchild Tropical Garden where they have also germinated. This palm is known locally as "pal" or "ti palmis maron" (Creole). It is not used to any great extent but obviously has great potential as an ornamental.

Pseudophoenix sargentii H. A. Wendl. ex Sarg. is reported from the island of La Gonave, but we have not seen it.

Pseudophoenix vinifera (Mart.) Becc. is endemic to Hispaniola. It was apparently quite widespread in Haiti, but now only two viable populations remain. One is between Poteau and Passe Reine in the Dep. de l'Artibonite, and the second is near Source Matelas (Fig. 10) in the Dep. de l'Ouest. In other areas we have observed very few juveniles in localities where adults have been cut down. Near Thomazeau it is known as "katié" (Creole), and the leaves are occasionally used for thatching and the fruits eaten. Read (1968) reported that the practice of making wine from this species has died out in Haiti.

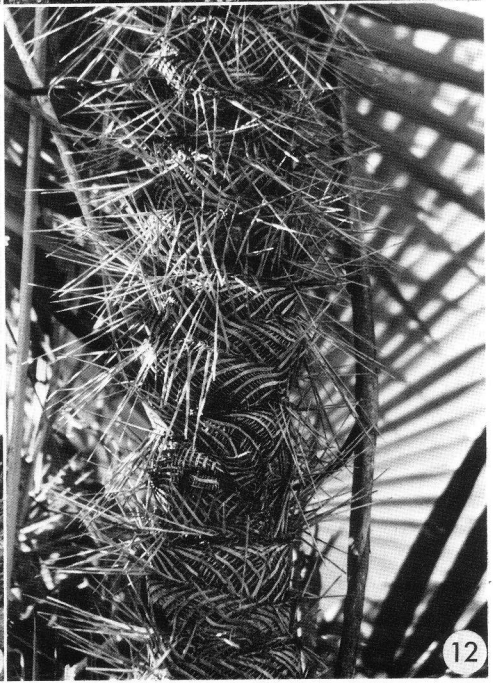
Roystonea

This Caribbean genus is much in need of revision. Bailey (1949) recognized 12 species, but there seem to be fewer. There is a very common species in Haiti which we are calling *Roystonea hispaniolana* Bailey. It is very abundant throughout the country, and seems to be one of the few palms that can regenerate well in disturbed areas. It is universally known as "palmiste" or "palmier royale" (French) or "palmis" (Creole). It is especially abundant on the Central Plateau in the Dep. du Centre. At one time there it was an important source of pig food. It is still an important tree as a source of pollen for honey bees. It is also very commonly used as a grain store. A hole is made through the swollen part of the stem several meters from the ground, and then corn is attached to either end of a stick stuck through the hole. Rodents cannot climb the palm stem to reach the corn.

Sabal

A genus of 15 species occurring throughout the Caribbean and adjacent countries (Zona 1990). Two species are apparently present in Haiti.

Sabal domingensis Becc. is endemic to Hispaniola, and is extremely abundant in the Dep. du Nord Ouest (Fig. 11). It is locally known as "paille" or "latanier chapeau" (French) and "pay" or "latanye



9. *Pseudophoenix lediniana*, Dep. de l'Ouest. 10. *Pseudophoenix vinifera* near Source Matelas. 11. *Sabal domingensis*, Dep. du Nord Ouest. 12. Stem of *Zombia antillarum*, near St. Michel du Sud.

chapo" in Creole. The leaves are heavily used for thatching and making hats, brooms, and saddles. Almost every individual *Sabal* in this region has had its leaves cut and removed. Presumably increasing pressure on the palms will eventually lead to their demise.

The second species, *Sabal causiarum* (Cook) Bailey is common in the southwestern peninsula. It is known as "latanier franc" or "latanier jaune" (French) and "latanye fran" or "latanye jone" (Creole), and again its leaves are widely used. This species also occurs in the Dominican Republic and Puerto Rico. *Sabal haitensis* Becc. is a synonym of *S. causiarum*.

Thrinax

A genus of seven species (Uhl and Dransfield 1987) occurring throughout the Caribbean. Two species are reported to occur in Haiti (Read 1975). *Thrinax morrisii* H. A. Wendl. occurs on the island of Navassa, and *T. radiata* Lodd. ex J. A. & J. H. Schult. on the island of Gonave and near Roseaux. We did not encounter the latter species on a visit to Roseaux, and both species must be considered rare in Haiti. However, the two species are widespread elsewhere in the Caribbean (Read 1975).

Zombia

This monotypic genus is endemic to Hispaniola. There are specimens and references indicating that *Zombia antillarum* (Desc. ex Jackson) Bailey had a much wider distribution formerly (see Bailey 1939*a*). We have only found two very small nonreproductive populations near St. Michel du Sud (Fig. 12). In one locality approximately 10 individuals exist, with fewer in the second locality. This palm is locally called "latanier zombi" or "latanier piquant" (French) and "latanye zombi" or "latanye pikan" in Creole. Leaves are used for weaving. This species is apparently quite common in certain areas of the Dominican Republic, where Zanoni (in Johnson 1986) considers it may be endemic to serpentine soils. This is a very ornamental palm.

Acknowledgments

Dr. Dennis Johnson initiated our study of *Attalea crassispatha*, and our first trip was funded by World Wildlife Fund–U.S. (WWF 3322). Subsequent funding was provided by US Agency for International Development through International Resources Group, Ltd. We are grateful to numerous Haitian people for their unfailing helpfulness in our search for palms. Roger Sanders and Chuck Hubbuch of Fairchild Tropical Garden and Scott Zona of Rancho Santa Ana Botanic Garden reviewed the manuscript, and Fritz Vaval and Louis Verret assisted us in the field.

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(*Continued from p. 133*)

PALM LITERATURE

cepts. On page 191 the author criticizes Harold Moore for taking a long time over the study of some specimens. Yet it is Wessels Boer himself who must be criticized for quick and uncritical work. In his introduction the author writes "la caótica situación de la mayoría de la relevante literatura, hace casi imposible para muchos botánicos el identificar satisfactoriamente las palmas . . . ." I couldn't have put it better myself.

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LETTERS

Dear Dr. Uhl,

As a new member of the International Palm Society, I read with great interest the article by Ruth Kiew in the April 1989 issue of Principes and her references to the Waterfall Gardens in Penang prompts me to update our readership about recent developments at the Waterfall Gardens, with particular reference to the palm collection.

Action has been taken by the staff over the last year to transmigrate the monkey population with the result that many of the Palm specimens have now been able to produce seeds at last, and it is hoped that the monkey over-population will soon be fully under control. The Gardens has also replanted specimens of *Johannesteijsmannia altifrons* and *J. perakensis*, and a program for propagating other Malaysian palms is underway. On joint trips with the staff of the Gardens, we have found *J. perakensis* and also possibly *J. lanceolata*—in areas not previously recorded.

There is obviously more scope for field research and surveys in Malaysia. To develop a greater national interest in the indigenous flora, there is a practical need for reliable field references to *live* plant specimens, and it would be particularly useful to have photographic information about the endangered plants listed by Kiew & Dransfield, and others.

On page 73 of the same April issue, I notice that *J. magnifica* is being offered for sale in Florida. This highlights Ruth Kiew's lament that certain overseas collectors appear to have commercialized on one of the most important endangered species in Malaysia, whereas in the country itself there is general ignorance as to what the palm actually looks like.

DATUK LIM CHONG KEAT