

PALMS OF FRENCH GUIANA: DIVERSITY, DISTRIBUTION, ECOLOGY AND USES

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RESUMEN

Se presenta una breve descripción física de la Guyana Francesa (clima, población, vegetación y exploración botánica). El primer capítulo trata sobre la diversidad de las especies de palmas según la clasificación de Uhl y Dransfield (1987); incluyendo el número de géneros por tribu, el número de especies por género, la distribución, la abundancia relativa, las características y la descripción de las especies más notables. En el segundo capítulo el autor discute las áreas de distribución y los hábitats de las palmeras. Finalmente, son mencionados los principales usos locales y se incluye una lista de las 68 especies de palmas conocidas en esta región, así como los nombres vernáculos más comunes.

Palabras clave: Arecaceae, palmas, lista, distribución, usos, nombres vernáculos, Guyana Francesa.

ABSTRACT

French Guiana is briefly introduced, in relation to its climate, population, vegetation types, botanical exploration. The first chapter discusses palm species diversity following the classification of Uhl and Dransfield (1987): number of genera per tribe, number of species per genus, distribution, relative abundance, characteristics, and description of the habit of the most striking species. In the second chapter, the author discusses the distribution patterns and habitats of Guianan palms. Lastly, the main local uses are described. The 68 species of palms known from French Guiana, as well as the most common local names are listed.

Keywords: Arecaceae, palms, checklist, distribution, uses, vernacular names, French Guiana.

INTRODUCTION

French Guiana, a department of France, comprises nine million hectares and is located in northeastern South America between Brazil and Suriname. The climate is equatorial, hot and wet with a long rainy season from December to July and a dry season from August to November. The annual mean rainfall varies from less than 2000 mm in the southwest and the northwest to more than 4000 mm in the northeast. The population is sparse with about 160,000 inhabitants mostly distributed in the narrow coastal plain and more than half living in the vicinity of Cayenne. Timber concessions and cultivated areas are located in

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the coastal and subcoastal zones. Unfortunately, recent development of gold mining represents a new danger to the forest ecosystems of the interior. Several Nature Reserves have been declared in the northern half while a National Park project in the southern half is being developed. Undisturbed forest covers more than 80 % of French Guiana.

The main vegetation types found from the coast to the interior are:

- Mangroves, mostly constituted by *Avicennia* along the coast and *Rhizophora* in the estuaries.
- Herbaceous swamps in the coastal alluvial plain.
- Swamp forests, found in the coastal plain but also along streams.
- Some dry savannas, regularly burned every year, in the old coastal plain.
- Patches of white sand forest in the far northwest.
- Rainforest on red ferrallitic soils covering more than 90 % of French Guiana.

Some mountain ranges, at altitudes higher than 500 meters, where a few patches of submontane forest are found, and Granite outcrops, partially covered by patches of herbaceous and scrubby vegetation, in the south.

Botanical exploration is not easy because of the lack of roads. Only a few tracks give access to subcoastal forests and therefore helicopter transportation is very useful, but extremely expensive and natural landing zones are rare in the interior. Consequently, except when using helicopter, all long expeditions require travel on watercourses, and lengthy walks through forest. In 1967, I.R.D. (ex ORSTOM) started systematic inventories of the plants of French Guiana. A regional herbarium was created a few years later (CAY).

Moreover, during the last 20 years, several programs of research on biodiversity, with the purpose of developing floristic inventory and publishing floras and checklists have contributed to the knowledge of flora, phytogeography and habitats in French Guiana. These programs are, in particular, the Flora of the Guianas international project, the Biological Diversity of the Guianas program, the French "Inventaire Taxonomique des Plantes de la Guyane Française", and a collaborative program between I.R.D. and the New York Botanical Garden to document the fungal and plant diversity of central French Guiana (Mori *et al.* 1997).

The present state of knowledge about palm diversity and distribution in French Guiana is discussed below. The classification proposed by Uhl and Dransfield (1987) is used.

A checklist of the palm species growing in French Guiana is given in Annex 1 and the most usual local names are listed in Annex 2. (Kahn and Granville 1991).

RESULTS

1. Species diversity

According to former inventories complemented by recent specimens collected by botanists during the last 30 years, 18 genera and 68 species of palms are native to French Guiana (Table 1).

Table 1. Palms of French Guiana: classification (according to Uhl and Dransfield 1987) and species diversity.

Tribe	Subtribe	Genus	Species per genus
Lepidocaryeae		<i>Mauritia</i>	1
Areceae	Manicariinae	<i>Manicaria</i>	1
	Euterpeinae	<i>Euterpe</i>	2
		<i>Hyospathe</i>	1
		<i>Jessenia</i>	1
		<i>Oenocarpus</i>	1
Cocoeae	Butiinae	<i>Syagrus</i>	2
	Attaleinae	<i>Maximiliana</i>	1
		<i>Orbignya</i>	2
		<i>Scheelea</i>	4
		<i>Elaeis</i>	1
	Bactridinae	<i>Acrocomia</i>	1
		<i>Astrocaryum</i>	7
		<i>Bactris</i>	21
		<i>Desmoncus</i>	3
Geonomeae		<i>Asterogyne</i>	1
		<i>Geonoma</i>	14

TRIBE LEPIDOCARYEAE

This tribe is represented in French Guiana only by *Mauritia flexuosa*. It is very abundant in the coastal alluvial plain where it grows along estuaries, in swamps and in swampy savannas, but it is scarce in the interior where a few isolated populations have been observed along streams. This beautiful palm, the only one with costa-palmate leaves in French Guiana, can reach 35 m tall. The roots produce pneumatophores (Granville 1974). The red scaly fruits are commonly found on beaches where they are left by the tide.

TRIBE IRIARTEEAE

As with former, this tribe includes just one species in French Guiana, *Socratea exorrhiza*, a palm found throughout tropical South America. This palm, growing exclusively in forests, is found in swampy areas as well as on hill tops on well drained soils. It is a tall, slender palm, characterized by spiny stilt-roots which are produced even in very young stages. The praemorse leaflet apices are diagnostic of this species.

TRIBE ARECEAE

This tribe is represented by five genera, each including one or two species (Table 1). All are medium-sized or tall forest palms, which often reach the level of the canopy.

Manicaria saccifera, uncommon in French Guiana, is localized in swamp forest along narrow streams of the subcoastal zone, mainly in the lower Approuague and Oyapock basins. The trunk, short and more or less massive, is crowned by huge, erect, impressive, entire leaves. The water dispersed fruits are tuberculate, spherical, and sometimes bi- or tri-lobate, depending on the number of carpels developing.

The genus *Euterpe* comprises two species, the most common of which is *E. oleracea*, which grows exclusively in swamp forest. This species is an elegant, clustered palm forming clumps of up to 10 slender trunks with graceful pinnate leaves and hanging leaflets. This habit gives it good potential as an ornamental species. *E. oleracea* forms extensive, monospecific stands in some coastal areas, in particular in the Kaw flood plain which has recently been declared a Nature Reserve. The species is also found everywhere in the interior in swampy places and along streams. As most palms living on inundated soils, the roots produce minute, white, cone-shaped, breathing rootlets (pneumatophores, Granville 1974). The rootlets arise directly from the aerial parts of the roots as well as from the pneumatophores. The second species of *Euterpe*, *E. precatoria*, much less common in French Guiana, sometimes grows on hill slopes but never forms pure stands. It differs from the former by its single-stemmed habit.

The *Jessenia-Oenocarpus* complex is represented by two species of tall, single-stemmed palms, common in primary forest where they usually reach the canopy. *O. bacaba* has leaflets which are green on both sides and are irregularly spaced along the rachis while *J. bataua* has leaflets that are white beneath and regularly spaced along the rachis. The distribution area of the latter is restricted to the northeastern half of French Guiana. Both have characteristic, infrafoliar, horse-tail-like hanging inflorescences.

The genus *Hyospathe* includes a single species, *H. elegans*. This is a small, cespitose palm, with usually tri-jugate leaves, that is locally common in the understorey (Fig. I, 3-d).

TRIBE COCOEAE

This tribe is the most important in terms of species diversity. It includes 42 species distributed in nine genera. Consequently, it represents three quarters of the palm species known from French Guiana.

The genus *Syagrus* includes two species: *S. inajai* and *S. stratincola*. Both

Fig. I. Palm habits: **1.** *Syagrus inajai*: A single-stemmed, medium-sized, palm of the understorey: a juvenile form with long, entire, leaves. **2.** *Orbignya polysticha*: A subterranean, single-stemmed palm with big leaves growing in the understorey. **3.** Some small, cespitose palms of the understorey: **a.** *Bactris aubletiana*, a species endemic to French Guiana; **b.** *Bactris floccosa*; **c.** *Geonoma umbraculiformis*, a palm restricted to submontane forest understorey; **d.** *Hyospathe elegans*. (all photographs from the author).



are medium-sized palms with pinnate leaves. *S. inajai* (Fig. II, 1) is a single-stemmed palm fairly common everywhere in the understory of high rainforest. The juvenile stages are characterized by the production of entire leaves during a long time period (Fig. I, 1), but the blade becomes pinnate when the stem reaches one to three meters tall (Granville 1977). On the contrary, *S. stratincola* is a very rare palm described from Suriname by Wessels Boer (1965) where it grows exclusively in low, transition forests, on granite outcrops and forms large clumps of up to 20 slender stems.

In the subtribe Attaleinae, all species are single-stemmed. Only *Maximiliana maripa* elaborates a stout, solitary trunk with a crown of huge, irregularly pinnate leaves reaching the canopy. The species occurs everywhere in high, primary forest, but is much more common in clearings and secondary forest. All other species of the subtribe are subterranean-stemmed palms of the understory. They belong to the genera *Orbignya* and *Scheelea* (Fig. I, 2; Fig. II, 6).

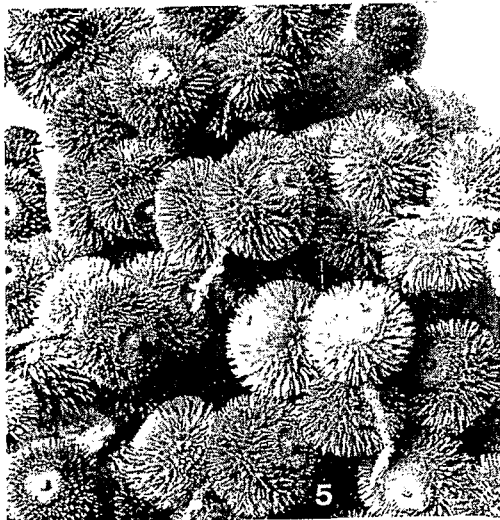
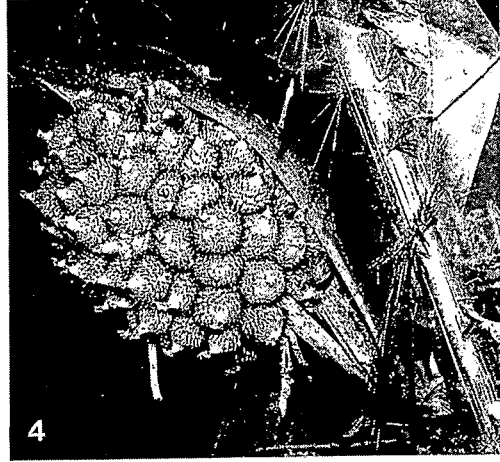
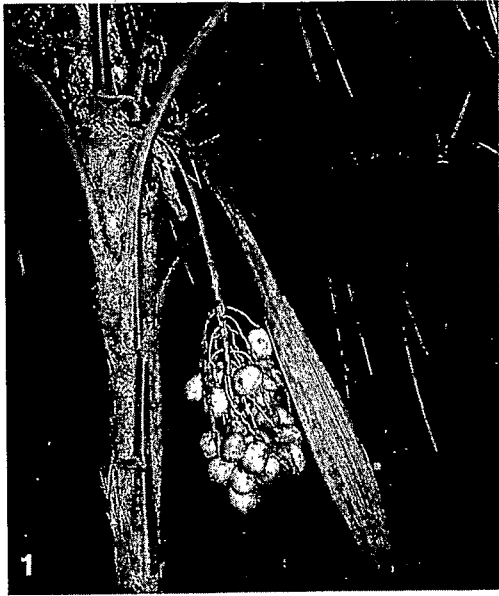
Elaeis oleifera, the only species of the genus native to South America, is not common in French Guiana. It grows on sandy alluvial soils, in the swampy understory of northwestern forests in the lower Mana river basin. The very short stem bears many leaves. The petioles are armed along the margins and the inflorescences are dense and contracted.

The subtribe of the Bactridinae includes four genera:

Acrocomia is represented by a single species in French Guiana. *A. aculeata* is a high, single-stemmed, spiny palm growing in coastal savannas and some rocky places of the shore. The habit is characterized by the persistent, dead leaves hanging under the crown.

The genus *Bactris* is the largest, and taxonomically most difficult, of the tribe (Granville in press-a). So far 21 species have been recorded for French Guiana. Species of *Bactris* are generally small or, more rarely medium-sized, spiny, cespitose palms living in various habitats. Four species are fairly tall and grow in open places. *B. major* is a colonial palm with creeping rhizomes, found in muddy, inundated places along the sea shore and estuaries. The aerial stems, leaves and bracts of this species are densely armed with long, black spines, and the large fruits are unusual for the genus. *B. campestris* forms isolated clumps, two to eight meters tall, in coastal savannas. The remaining two tall species, *B. brongniartii* and *B. maraja*, have pale, yellowish, flat spines on the stems and leaves. They are mostly found along streams, in swamp forest, or more rarely, on well drained soils. All other species of *Bactris* are small or very small palms growing in the forest understory. *B. acanthocarpa*, *B. acanthocarpoides*, *B. pliniana* (Granville and Henderson 1994) and *B. raphidacantha* are closely

Fig. II. Inflorescences and fruits: 1. *Syagrus inajai*; 2. *Geonoma baculifera*; 3. *Astrocaryum paramaca*; 4. *Astrocaryum sciophilum*; 5. *Bactris constanciae*; 6. *Orbignya polysticha*. (all photographs from the author).



related species with fruits which are orange-red at maturity and covered with black setae. *B. constanciae*, like many understory species, has sigmoid leaflets distributed in groups along the leaf rachis. The fruits are first whitish and finally dark red with fleshy bristles (Fig. II, 5). *B. oligocarpa* and *B. gastoniana* are short-stemmed or stemless palms with shiny fruits becoming dark purple when ripe. *B. elegans* possesses pinnate leaves and forms clumps of slender canes about two m tall. *B. floccosa* (Fig. I, 3-b) is a rare species with hairy leaves, mostly found in the submontane forest understory. The smallest species generally develop only one or two very slender stems which are crowned by a few entire, bi- or tri-jugate bifid leaves, e.g. *B. hirta* and *B. aubletiana* (Fig. I, 3-a), both with prickly peduncular bracts, or *B. simplicifrons*, with glabrous bracts.

The genus *Desmoncus* includes three species, *D. macroacanthos*, *D. orthacanthos*, *D. polyacanthos*, in French Guiana. These climbing palms have terminal leaflets modified into long, recurved hooks.

Lastly, the genus *Astrocaryum*, with seven species native to French Guiana, is second to *Bactris* in diversity in this tribe. All life forms are represented in the genus. *A. vulgare* forms large clumps of heavily armed trunks in coastal savannas and forest patches on sandy alluvial soil. This species is well known for its orange fruits, the mesocarp of which is extremely rich in provitamin A. *A. murumuru* grows in swamp forests, mostly in the coastal alluvial plain. This species is scarce in the interior. *A. jauari*, a tall, clustered palm, common in tropical South America in inundated places at forest margins, is restricted in French Guiana to river banks of the Maroni river. *A. sciophilum* (Fig. II, 4), a short trunked palm with big leaves, occurs almost everywhere in the forest understory, principally on hill slopes and plateaus. *A. paramaca* (Fig. II, 3), very common in French Guiana, grows more or less in the same habitat as the former, but it is also found on damper soils. It has a subterranean trunk and only the funnel-shaped leaf crown is visible. Both *A. sciophilum* and *A. paramaca* collect litter among their leaves (Granville 1977, Kahn and Granville 1992). *A. gynacanthum*, an understory, multi-stemmed species, has fruits that split into an orange star-shaped structure at maturity, similar to those of *A. paramaca*, also belonging to section *Munbaca*. *A. minus*, recently found in French Guiana, is an extremely rare species formerly known only from the type specimen collected in western Amazonia and described by Trail more than a century ago (Kahn and Granville 1998). Lastly, *A. rodriguezii* is a tall, solitary palm occurring mostly in the northeastern forests of French Guiana.

TRIBE GEONOMEAE

The Geonomeae, includes two genera: *Asterogyne* and *Geonoma*. *Asterogyne* is represented by a single, very rare species, *A. guianensis*, recently described (Granville and Henderson 1988) and known only from two localities. The genus *Geonoma* comprises 14 species. All are small, often multi-stemmed palms, growing in more or less shady places. Consequently, the leaves are most often entire or

irregularly divided into a few broad segments, except in *G. maxima*, the tallest species, which has regularly pinnate leaves. *G. baculifera* (Fig. II, 2) is common in swamp forest, but is usually associated with *Euterpe oleracea* and forms large clones by suckering, rooting and fragmentation (Granville 1977, Kahn and Granville 1992). *G. oldemanii* also grows in inundated places, but it is restricted to the subcoastal region. It has a habit with long, entire, bifid leaves (Granville 1975). Two species are found exclusively in submontane forest at elevations higher than 500 m asl, *G. umbraculiformis* (Fig. I, 3-c) and *G. euspatha*. The latter also grows at different elevations in the northern Amazon Basin, in Suriname, Venezuela and Colombia. *G. leptospadix*, distributed throughout the Amazon Basin, reaches the northern limit of its distribution in southern of French Guiana where it is abundant in the Tumuc-Humac range. Only *G. poiteauana* is stemless. In this species both the leaves and the inflorescences are simple. *G. stricta*, with entire bifid leaves and a short stem less than one meter high, is one of the smallest palms in French Guiana.

2. Distribution and Ecology

DISTRIBUTION AREAS

In a previous study (Granville 1989), the palms of French Guiana were categorized in to 5 groups according to their distributions: 1. very wide distributions in northern South America, and, sometimes also in Central America; 2. species distributed in the Guianas and in the Amazon basin (mostly in central and/or eastern Amazonia); 3. peri-amazonian species (Granville 1992b) with disjunctions distribution; 4. sub-endemic to the Guianas (*sensu lato*), but sometimes also occurring in Amapa and northern Para; and 5. species endemic to French Guiana. New data as well as recent literature (Henderson 1995, Henderson *et al.* 1995) allow the modification of the number of species in each category (Table 2).

Table two shows that 66 % (29 % + 37 %) of the palm species growing in French Guiana have wide distributions extending over the Guianas region, Ama-

Table 2. Number and proportion of species of palms growing in French Guiana per type of distribution area.

Distribution area	Number of sp.	% of sp.
1. Very wide distribution area in Northern South America (and Central America)	20	29 %
2. Species found only in the Amazon basin and in the Guianas	25	37 %
3. Species with a peri-amazonian, disjuncted, distribution area	2	3 %
4. Species sub-endemic to the Guianas (and Amapa)	9	13 %
5. Species endemic to French Guiana	12	18 %

zon Basin and often also the Orinoco Basin and sometimes Central America (Categories 1 and 2). These distributions are observed among all the palm genera except *Scheelea* (4 species not yet described!).

Two species have disjunct, peri-amazonian distribution patterns (Category 3): *Geonoma euspatha* grows in submontane forests of the western and northern borders of the Amazon basin, from Bolivia to French Guiana. The most remarkable disjunction is that of *Astrocaryum minus*. Until 1995, this rare palm was known only from the type specimen collected by Trail in the Jutai River valley (western Amazonia) in 1874. Recently, the species has been rediscovered on the Mont Grand Matoury in French Guiana where two individuals have been found (Kahn and Granville 1998).

Lastly, 21 species (31 % of the Guianan palms) have a restricted area of distribution: nine are endemic to the Guianas (Category 4), and 12 are presumed to be endemic to French Guiana only (Category 5). These species are found only in the tribes Cocoeae (three species of *Astrocaryum*, six species of *Bactris*, one of the two species of *Syagrus*, all the species of *Scheelea*) and Geonomeae (five species of *Geonoma* and the single species of *Asterogyne*).

PALMS RELATED TO PARTICULAR HABITATS

Palm distribution according to habitat is detailed in Table 3. Sixty of the sixty-eight species of palms native to French Guiana (87 %) are found in high rainforest. About one third of them grow in swamp forest while three species are restricted to submontane cloud forest, (*Geonoma euspatha*, *G. umbraculiformis*, *G. sp. nov.* 2). Among the forest species, only eight reach the canopy (*Astrocaryum murumuru*, *A. rodriguesii*, *Euterpe oleracea*, *E. preclatoria*, *Jessenia bataua*, *Maximiliana maripa*, *Oenocarpus bacaba*, *Socratea exorrhiza*) while fifty-one species live in the understorey. Compared to the canopy palm species which are

Table 3. Distribution of the palm species of French Guiana according habitat.

Habitats		Number		%	
		of sp.	total of sp.	of sp.	total of sp.
High rainforest on well drained soils	Canopy	5	39	7	57
	Understorey	34		50	
Swamp forest	Canopy	4	18	6	26
	Understorey	14		20	
Submontane forest understorey ¹			3		4
Mangrove			1		1
Riparian forest, riverbanks			2		3
Coastal swamps and savannas			5		7
Granite outcrops			1		1

¹restricted to the species growing at elevation > 500 m asl (the species also found at lower altitude are excluded).

mostly tall, single-stemmed erect palms, the understory palm species possess many different life forms (Granville 1992a), e.g., small, multi-stemmed erect palms (the majority of *Bactris* and *Geonoma*); medium-sized, single-stemmed, erect palms (*Syagrus inajai*); short-stemmed palms with big leaves (i.e., *Astrocaryum sciophilum*); subterranean-stemmed palms with big leaves (i.e., *Scheelea* sp.); procumbent palms (*Elaeis oleifera*); and climbing palms (*Desmoncus* sp.).

Open vegetation types are poor in palms. Five species grow in coastal savannas and herbaceous swamps. One or two species are found in each of the other habitats: *Astrocaryum jauari* on sandy river banks, *Bactris major* in mangrove swamps and *Syagrus stratincola* on granitic outcrops.

3. Local uses

ROOTS

Palm roots are seldom used by people in comparison with other parts of the plant. Nevertheless, roots of *Euterpe oleracea*, when pressed, provide a sap used as a substitute for salt. Palikur Amerindians take a decoction of the roots of *Astrocaryum vulgare* to cure boils while a decoction of the roots of *Syagrus inajai* is said to soothe measles itching (Grenand *et al.* 1987). Furthermore, the aerial roots of *Socratea exorrhiza* have been used to grate manioc (Mori, pers. comm.).

STEM

The trunk of *Jessenia bataua* is still used by cabinetmakers because of its hardness and beautiful appearance due to its high density of vascular bundles. According to Benoist (1933), waterpipes have been made from the stems of *Mauritia flexuosa*. The stems of *Geonoma baculifera* have been used for making canes (Devez 1932).

BUD

Euterpe oleracea is considered as one of the most useful palms, especially for the harvest of palm hearts. Although most large palms can provide palm heart, in practice only *E. oleracea* is commonly used in French Guiana for this purpose because it is a fast growing, cespitose, unarmed palm. Unfortunately, several attempts at developing a palm heart canning industry failed because of bad management and the high cost of labor in comparison to other countries. Grenand *et al.* (1987) indicate that palm hearts of *E. oleracea* and *Oenocarpus bacaba*, either dried and pulverized or pressed to squeeze out the sap, are used as local medicines.

LEAVES

The leaves of many palms are used for thatching by Amerindian and Bush-Negros communities of the interior. Usually, entire leaves are preferred to pin-

nate leaves. In the lower Oyapock basin, Palikur Amerindians use the large entire leaves of *Manicaria saccifera*, while the Wayana and the Wayãpi, living along the Litani river and in the high Oyapock basin respectively, commonly use *Geonoma baculifera* and *Euterpe oleracea* leaves and sometimes the entire leaves of juvenile forms of *Syagrus inajai* for thatching. Traditional hats, called "catouritêtes" are handcrafted from the leaves of several species of *Geonoma*.

BRACTS

The very large, woody peduncular bracts of *Maximiliana maripa* are used and sold on the market as ornaments.

FRUITS AND SEEDS

The fruits of *Astrocaryum vulgare* are used to prepare the famous "bouillon d'awara", a local speciality traditionally prepared for Easter. The fruits of *Maximiliana maripa* are sometimes sold on the market for their edible, thin mesocarp. A popular beverage, still locally commercialized in French Guiana, is extracted from the pulp of the fruits of *Euterpe oleracea* and sometimes from the fruits of *Jessenia bataua* and *Oenocarpus bacaba*.

DISCUSSION

Considerable progress has been made in the inventory, distribution, ecology and biology of the palms of French Guiana (Granville 1974, 1977, 1989, 1990, 1992a, 1997, in press-b, Kahn 1997, Kahn and Granville 1992, 1998, Kahn and Millán 1992, Sist 1985, 1989). In the sixties, about 25 indigenous species were recorded from French Guiana (Lemée 1955). Now 68 species of palms are known from French Guiana. Taking into account the few uncertain and new species not yet described as well as others growing in adjacent countries (Suriname, Guyana, Brazil) that are expected to occur in French Guiana, the French Guianan palm flora should amount to about 70 to 75 species distributed in 18 genera. The treatment of palms in the Guide to the vascular plants of central French Guiana, that includes illustrations, keys and descriptions (Granville 1997) reveals that nearly half of all of the species of palms found in French Guiana are represented in central French Guiana. However, as already pointed out (Kahn *et al.* 1988, Kahn and Granville 1992), this species richness is fairly low in regard to the high species diversity observed in western Amazonia where "...palm species diversity peaks in terra firme forests of central and western Amazonian lowlands and decreases eastwards in the Brazilian state of Para and Amapa Territory and in the Guianas...." (Kahn and Granville 1992).

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Annexe 1

List of palm species occurring in French Guiana

*Acrocomia**aculeata* (Jacq.) Lodd. ex Mart.*Asterogyne**guianensis* Granv. & Henderson*Astrocaryum**gynacanthum* Mart.*jauari* Mart.*minus* Trail*murumuru* Mart.*paramaca* Mart.*rodriguesii* Trail*sciophilum* (Miq.) Pulle*vulgare* Mart.*Bactris**acanthocarpa* Mart. (= *B. humilis* (Wallace) Burret)*acanthocarpoides* Barb. Rodr.*aubletiana* Trail*brongniartii* Mart.*campestris* Mart.*capinensis* Huber (= *B. tomentosa* Mart. ?)*constanciae* Barb. Rodr.*floccosa* Spruce*elegans* Barb. Rodr. & Trail*gasipaes* Kunth in Humb. Bonpl. & Kunth (cultivated)*gastoniana* Barb. Rodr.*hirta* Mart. (= *B. geonomoides* Drude)*major* N.J. Jacq.*maraja* Mart.*oligocarpa* Barb. Rodr.*pectinata* Mart.cf. *penicillata* Barb. Rodr. ?*pliniana* Granv. & Henderson*rhapidacantha* Wessels Boer*simplicifrons* Mart. (sensu lato)sp. nov. 1 ("*nancibensis*" Granv.)sp. nov. 2 ("*schäferiana*" Granv.)*Cocos**nucifera* L. (cultivated, naturalized)*Desmoncus**macroacanthos* Mart.cf. *mitis* Mart. ?*orthacanthos* Mart.*polyacanthos* Mart.cf. *pyncacanthos* Mart. ?

Annexe 1. Continuation.

Elaeis

- guineensis* N.J. Jacq. (cultivated, naturalized)
oleifera (Kunth) Cortés

Euterpe

- oleracea* Mart.
precatoria Mart.

Geonoma

- baculifera* (Poit.) Kunth
deversa (Poit.) Kunth
euspatha Burret
leptospadix Trail
maxima (Poit.) Kunth
oldemanii Granv.
piscicauda Dammer
poiteauana Kunth
stricta (Poit.) Kunth
umbraculiformis Wessels Boer
 sp. nov. 1 ("*pliniana*" Read & Granv.)
 sp. nov. 2 ("*guianensis*" Read & Granv.)

Hyospathe

- elegans* Mart.

Jessenia

- bataua* (Mart.) Burret
 subsp. *bataua*
 subsp. *oligocarpa* (Griseb. & H.Wendl.) Balick

Manicaria

- saccifera* J. Gaertn.

Mauritia

- flexuosa* L f.

Mauritiella

- martiana* (Spruce) Burret

Maximiliana

- maripa* (Corrêa) Drude

Oenocarpus

- bacaba* Mart.

Orbignya

- polysticha* Burret
sagotii Trail ex Im Thurn

Roystonea

- oleracea* (N.J. Jacq.) O.F.Cook (cultivated)

Scheelea

- cf. *macrolepis* Burret ?
 sp. nov. 1 ("*camopiensis*" Glassman)

sp. nov. 2 ("*degranvillei*" Glassman)

sp. nov. 3 ("*guianensis*" Glassman)

sp. nov. 4 ("*maripensis*" Glassman)

Socratea

exorrhiza (Mart.) H. Wendl.

Syagrus

inajai (Spruce) Beccari

stratincola Wessels Boer

Annexe 2

Vernacular names commonly used in French Guiana.

Awara	<i>Astrocaryum vulgare</i>
Awara-dendê	<i>Elaeis guineensis</i>
Awara-liba	<i>Astrocaryum jauari</i>
Awara-monpè	<i>Socratea exorrhiza</i>
Bâche	<i>Mauritia flexuosa</i>
Cocotier	<i>Cocos nucifera</i>
Comou	<i>Oenocarpus bacaba</i>
Counana	<i>Astrocaryum paramaca</i>
Macoupi	<i>Orbignya, Scheelea</i> sp.
Maripa	<i>Maximiliana maripa</i>
Moucaya	<i>Acrocomia aculeata</i>
Mourou-mourou	<i>Astrocaryum sciophilum</i>
Palmiste	<i>Roystonea oleracea</i>
Parépou	<i>Bactris gasipaes</i>
Patawa	<i>Jessenia bataua</i>
Pinot	<i>Euterpe oleracea</i>
Toulouri	<i>Manicaria saccifera</i>
Wai	<i>Geonoma</i> sp.
Wassaïe	<i>Euterpe oleracea</i>
Zagrinette	<i>Bactris</i> sp.



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