

Syagrus coronata and *Syagrus vagans*: Traditional Exploitation in Bahia, Brazil

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Syagrus coronata and *S. vagans* are important palms in the lives of local people in northeastern Bahia, Brazil. In this paper their uses are described in detail.

Several palm species native to Brazil are sources of products used in the commerce and subsistence of local people. In the northeastern state of Bahia, where 15 palm genera grow naturally, approximately 50% of the state is covered by semi-arid vegetation called *caatinga*. The dry season often lasts 7–11 months, and at times rain fails to fall for several years. For a large proportion of the local people the socio-economic conditions are extremely harsh, and in such circumstances palm species frequently become very important subsistence sources. Among these, *Syagrus* stands out, with eight species occurring in the *caatinga*. *Syagrus coronata* (Mart.) Becc. ('*licuri*') and *S. vagans* (Bondar) Hawkes ('*licurioba*'), especially the former, are important economic resources for Bahian people, the contribution of both sometimes accounting for 90% of the people's income (Heiser 1977, Johnson 1982, 1987a, Bondar 1939a, Noblick 1986). *Syagrus coronata* reaches up to 10

m tall, with stems up to 20 cm in diameter. The mature fruits ranging from yellow to orange, with a bony endocarp and a white, oily endosperm. *Syagrus vagans* has an underground stem growing 15–30 cm from the soil surface, with a diameter 10–15 cm and length reaching several meters. The mature fruit is green, with white and oily endosperm but an endocarp not as bony as that of *licuri*.

Sousa (1587) was the first to comment on the usefulness of *Syagrus coronata* fruits as food. Bondar (1938, 1939a, b, c, 1941, 1942) carried out studies on the taxonomy, economic uses, chemistry and conservation of the species. *Syagrus coronata* is still the source of products for the wax and soap industries, and local people manufacture many folk products from the leaves, stems and petioles. In the past few years, the palms have come to be regarded as weeds in the Brazilian



1. *Syagrus coronata*, licuri, in Bahia, Brazil.

semi-arid regions and have been cut down and eradicated by local farmers.

The relationship between *Syagrus* and local people in the Bahia semi-arid *caatinga* is no different now than it was in Bondar's times. The palms are exploited by poor families using traditional methods. The aim of this present paper is to explore the roles of *Syagrus* species in the daily activities of people from the Bahian *caatinga*.

Material and Methods

The present study was carried out in two localities: 1) Itatim Municipality (12°42'S, 39°41'W), with open *caatinga* vegetation, mean annual temperature 24.3°C, mean annual precipitation 551 mm and approximately 10,000 inhabitants; 2) Mairi Municipality (11°43'S, 40°09'W), with vegetation intermediate between *caatinga* and seasonal forest, mean annual temperature 23.6°C,



2. *Syagrus*
vagans, *licurioba*,
in Bahia, Brazil.

mean annual precipitation 796 mm and approximately 20,000 inhabitants (CEI 1994). The procedures adopted followed Martin (1995), and the list of uses was made by folk characterization.

Results and Discussion

Bondar (1939 a,b,c) proposed the name *licuri* for *Syagrus coronata* (Fig. 1). Although *licuri* is the name most frequently used, other names such as

ouricuri, *aricuri*, *nicuri*, *coqueiro dicori*, *coqueiro-cabeçudo-alicuri* and *baba-de-boi* are also used occasionally. In semi-arid Bahia, *S. vagans* is called *licurioba* (Fig. 2), but other names are used as well, such as *ariri*, *pindoba* and *licurioba-das-caatingas* (Noblick 1986).

Several parts of *licuri* plants are exploited by people in semi-arid Bahia for the manufacture of objects that are sold, and they play an important role the

Table 1: Botanical and common names used in Itatim and Mairi (Bahia, Brazil) for some parts of *licuri* plant.

Part of Plant	Common Name (Portuguese)
stem	trunk ("tronco")
young leaf	eye ("olho")
old leaf	straw ("palha")
closed inflorescence	busa ("busa")
open inflorescence	bunch ("cacho")
fruit	coco ("coco")
endocarp	husk ("casca")
nut	coquinho ("coquinho")

local subsistence economy. For each part, a common name is used. A list of several exploited parts of palms and corresponding common names are given in Table 1

Palm leaves in the economy of Itatim

Products from *licuri* and *licurioba* leaves are the chief subsistence source for Itatim people. Among all artifacts manufactured locally, hats stand out for the huge amounts that are steadily commercialized in the public market and along the Itatim sector of BR-116, a road that spreads out from the north to the south of Brazil. The commerce of hats is of such regional importance that it has elicited a spontaneous economic hierarchic stratification of Itatim society (Fig. 3). Five strata can be recognized in the city, members of one hierarchy showing no ambition to shift from one stratum to another.

Young leaves ("eyes," see Table 1) are collected when the trees are over five years old. Throughout the year, a leaf of each tree is cut once a month and left to dry in the sun. Leaflets are detached, and 40–50 of them are gathered in tight bundles to be sold in the public market. Such work is carried out by *collectors*, the poorest women and children, who live in rural areas. Each collector sells on average ten bundles a week to members of the immediate upper class corresponding to the *threaders*, who manufacture fiber strands from leaflets for hat production. Threaders are women with a living standard as poor as the collectors. They sell their products to *seamstresses*, women who weave hats from the fiber threads, on average 20 pieces a week. Although still poor, these women enjoy a better living standard than do members of the two lower strata. Their houses are located in the city, although the head of the family is normally a man earning a low salary as a land laborer.

The entire Itatim hat production is sold to only two *intermediate dealers*. Both men are rich local farmers who sell hats to dealers from nearby cities

or to *road stand dealers* living at the margins of BR-116 road. This last class is composed of men who sell hats from simple stands along the road. Among road stand dealers, all family members are involved in hat-selling, but such activity is only part of their occupation. The children attend school, and the men spend most of their time in other jobs. At least half of their income stems from hat-selling. There is a seasonal fluctuation in hat-selling, which is more intense when more tourists are around, mainly in June, when the main religious festivities take place in northeast Brazil, and in December–February, a period when most Brazilians take their annual vacation and many people from other parts of the country go to the northeast driving along BR-116.

The above classes of workers and dealers constitute a productive chain, in which profits tend to increase from the lower to the upper strata, although the peak income is reaped by the intermediate dealers. Approximate average weekly incomes derived from hat manufacture and commerce are (in US\$): \$1.00 for collectors, \$1.10 for threaders, \$2.50 for seamstresses, \$100.00 for intermediate dealers, and \$50.00 for road stand dealers.

For the economy of the Itatim population, *licuri* leaves have an importance that far exceeds Bondar's evaluation made in the 1930s and 1940s. The exploitation of the plants' potential could be even more profitable if associations or unions at each professional category were created, along with the establishment of stands of cultivated *licuri* plants around Itatim for leaf production. Such measures could have a positive impact on the local economy, making hat production and commercialization more profitable and possibly reducing the huge income disparities among the various hierarchical classes of producers and dealers.

Fruit processing and nut commerce in Mairi

When pulp is mature (yellow to orange), *licuri* fruits are eaten fresh. They may be used as food for

humans, cattle, or chickens. However, inhabitants of the *caatinga* prefer not to feed chickens with *licuri* nuts, even though very often they cannot afford to buy corn for this purpose. It is a reality that apparently arises simply due to an unjustifiable prejudice.

During dry seasons, *licuri* kernels are the only source of income in Mairi. Nuts are obtained by gathering the fruits, removing the pulp and cracking the endocarp to expose the kernel. All these steps are carried out by women and children.

Two methods of collecting *licuri* nuts can be observed. One consists of forcing the fruits to drop from mature infructescences. The fruits are given to cattle, so that pulp extraction and endocarp cracking proceed in the animals' stomach. The bovines chew the fruits and then leave the kernels on the ground. Such kernels, known locally as '*ox licuri*,' are gathered for nut extraction.

The other method consists of cutting the panicles from the trees or, alternatively, in cutting and felling palms just for the purpose of harvesting the fruits. This latter procedure is obviously highly destructive and favors the perpetuation of inferior phenotypic trees, because good fruits are consumed and the fruits from inferior trees are not harvested and give rise to new inferior trees.

The kernels are sold to local markets and distributed for soap production in Bahia State. There are serious problems related to the exploitation of *licuri* fruits, among which the scarcity of hand labor and the income derived from fruit processing, which is exceedingly low. One laborer cracks on average 6 kg per day of *licuri* and sells the product to the local markets at US\$ 0.20 per kilogram. The markets sell the nuts to the soap factory at twice that value.

During the fruiting season the commercialized production corresponds to about 25 tons of processed nuts. Although *licuri* fruits more than once a year, in periods between two consecutive fruiting peaks, fruit production is irregular. Fruits are seldom available, and contrary to common sense and market laws, fruit prices go downhill. Two factors explain this paradox: the low quality of the fruits at those periods and the coincidence with the beginning of *babassu* (*Orbignya martiana*)

fruiting season in Maranhão State, when soap producers start to purchase *babassu* nuts from that state. Mechanical procedures for cracking *Syagrus* endocarps are available, but the separation of kernels still has to be done manually. Hence, during low fruiting seasons it is economically not advantageous to keep the cracking machines in operation.

Licuri and *licurioba* are used for several other purposes in the Bahia semi-arid region (Tab. 2). In addition to the use for hat manufacture, the leaves of *licuri* are used to make baskets, brooms, collars for dogs, strings to fasten grafts and tie fish and props to accommodate cattle and game meat. Leaves of both palm species are also used to make hammocks and roofs for rural houses. From the petioles of *licuri*, people manufacture bird cages, and the flowers and fruits of both species are used as cattle fodder. The fresh kernel of both species is eaten by people and used as pig fodder, while *licuri* kernel is used to prepare chicken, bovine and goat feed. *Licuri* kernel is also used to make rosaries, flour, a sweetened food, in addition to being used as raw material for oil extraction. Residues of *licuri* kernel extraction and its endocarps are used as fuel.

The links between *licuri* and people from the *caatinga* are poorly known. At least part of the blame for such ignorance can be assigned to the local people, because they are unaware of the enormous importance of the palms in their daily lives. In spite of the fact that the palms are consciously used, people are still unconsciously moved by the old and socially deep-rooted idea that palms are weeds. This idea has contributed to an increase in destructive harvesting practices. As long ago as 1942, Bondar made claims about the danger of deforestation losses of local *licuri* stands.

Although people in the *caatinga* neglect the value of *licuri* and *licurioba* as important sources of income, such palms are very important for the economy of all social strata of vast areas of Bahia State. In fact, we hope that the data presented here may be useful for the development of strategies to revitalize the local economy. In addition, multidisciplinary work should be implemented in the communities to establish strong conservation procedures for the palms and

Table 2: Some uses of *licuri* in Itatim and Mairi (Bahia, Brasil).

Leaves	Petiole	Flower	Fruit	Nut
hats	hutch	forage	<i>in natura</i>	<i>in natura</i>
broom			cooked	oil
matting				ration



3. Hats made from *licuri* sold at the roadside.

to introduce new and inexpensive technologies for the rational exploitation of palm products.

LITERATURE CITED

- BONDAR, G. 1938. O licurizeiro e suas potencialidades na economia brasileira. Instituto Central de Fomento Econômico da Bahia, Boletim 2: 1–18.
- BONDAR, G. 1939a. Importância econômica das palmeiras nativas do gênero *Cocos* nas zonas secas do interior baiano. Instituto Central de Fomento Econômico da Bahia, Boletim 5: 1–16.
- BONDAR, G. 1939b. Palmeiras da Bahia. Instituto Central de Fomento Econômico da Bahia, Boletim 6: 1–22.
- BONDAR, G. 1939c. Palmeiras na Bahia do gênero *Cocos*. Instituto Central de Fomento Econômico da Bahia, Boletim 4: 1–19.
- BONDAR, G. 1941. Palmeiras do gênero *Cocos* e descrição de suas espécies novas. Instituto Central de Fomento Econômico da Bahia, Boletim 9: 1–53.
- BONDAR, G. 1942. As ceras no Brasil e o licuri (*Cocos coronata* Mart.) na Bahia. Instituto Central de Fomento Econômico da Bahia, Boletim 11: 1–81.
- CEI – CENTRO DE ESTATÍSTICAS E INFORMAÇÕES DA BAHIA. 1994. Informações básicas dos municípios baianos. Recôncavo Sul., Salvador. 279–299.
- HEISER, C. B. 1977. Sementes para a civilização: a história da alimentação humana. São Paulo, EDUSP. 171–179.
- JOHNSON, D. 1982. Commercial palm products of Brazil. *Principes* 26: 141–143.
- JOHNSON, D. 1987. Native palms for Brazilian development: three major utilization regions as examples. *Vida Silvestre Neotropical* 1: 43–49.
- MARTIN, G. J. 1995. *Ethnobotany: a people & plants- conservation manual*. Chapman & Hall, London. 268 pp.
- NOBLICK, L. R. 1986. Palmeiras das caatingas da Bahia e as potencialidades econômicas. In *Simpósio sobre a caatinga e sua exploração racional*, Anais, Brasília, EMBRAPA. 99–115.
- SOUSA, G. S. 1587. *Tratado descritivo do Brasil*, cap. LV. Ed. 4. Cia. Edit. Nacional, EDUSP, SP, 197–199.