

An Ethnobotanical Sketch of the Palm *Bactris (Guilielma) gasipaes*

VÍCTOR M. PATIÑO

Apartado aéreo 21-54, Cali, Colombia

The pejibaye palm (*Bactris gasipaes* Kunth) is a domesticated species and as such is expected to have a rich ethnobotanic lore handed down from time immemorial. This is indeed the case, but, unfortunately, the early Spanish chronicles do not convey all of the information that one would like about this obviously extremely important species. In many areas the pejibaye was so important that it was considered to be a sacred plant, a gift of the gods. In this short contribution, a little of the ethnobotanical lore about the pejibaye will be presented, enough, I hope, to stimulate the interested reader to delve into much earlier writings, both by the author and others.

Geographic Distribution

Available historic data from the 16th century show that when the Europeans arrived the pejibaye was found in the Isthmus of Panama and neighboring regions, Costa Rica and further to the northwest, the Chocó area (north Pacific coast of Colombia), and the Cauca and Magdalena River valleys, especially Muzo, and further to the southeast, all of the upper Amazon River tributaries, from the Caquetá River south through the Putumayo, Napo, Pastaza, Santiago, Zamora, Marañón and Ucayali Rivers (what is today the foothills of the Colombian, Ecuadorian and Peruvian Andes). Somewhat later there is data from Nicaragua and Honduras, the Orinoco River in Colombia and Venezuela, the main valley of the Amazon River down to its mouth at Belém, Pará, Brazil, the

Beni River in Bolivia and the Madeira River in Brazil (a southern tributary of the Amazon). In all of these areas the palm was found cultivated.

Indigenous Names

In its vast geographic distribution many more than 100 indigenous languages were spoken at the time of Columbus' arrival. Patiño (1960) published a list of 338 Amerindian names for the palm and its fruits, later organized into 66 divisions that group the known variants (Patiño 1963). Since then at least 100 additional names have been collected, frequently from small tribes whose languages are poorly known. The names most frequently mentioned by the Spanish chronicles and missionaries, and therefore the most widely spread at or just after the discovery of America, are the following:

1. *Pijibay*, *pejibaye* (the current name in Costa Rica and used in much of the modern international literature) and *pixbae* (the current name in Panama). There are at least 40 other close variants in the Isthmus of Panama, Costa Rica, and the Chocó (Colombia). Strangely enough, the last remaining populations of the Chokó tribe use *uerre* and its variants, perhaps because they have supplanted the previous inhabitants who used the *pejibay* variants. In Amazonian Peru, the only part of the country where the palm is known, the name is *pifuayo* or *pijuayo* and its variants.

2. *Pepire* or *pipire* are the names in the Colombian Llanos (which drain eastward into the Orinoco River), the first of which was registered as early as 1672. The Tunebo tribe uses *bibura* or *vibura*, which is an evident variation of *pipire*. A little further east, in the Venezuelan Orinoco, the names *pirijao* and *pihiguo* are current. All are based upon the *pi* radicle, which defines their inter-relatedness with the first group of names.
3. *Cachipay*, *cachipae* were the names used by the Muzo tribe in the Magdalena River valley (Colombia) in the sixteenth century, and they are still used there. This is the name that Alexander von Humboldt and his colleagues, Bonpland and Kunth, found when they described the species in 1816, based upon material collected in Ibagué, Colombia, in 1801. They Latinized this Amerindian name to the present *gasipaes*.
4. *Pupunha* is the palm's name in Brazil. According to the botanist and linguist J. Barbosa Rodrigues, this name derives from the Tupi or Lingua Geral syllables *by* (skin) and *nha* burning charcoal (as in red-hot), to give the name "skin the color of red-hot charcoal". While the *py* radicle appears similar to the *pi* mentioned above, the Tupi languages have very little in common with the others, so that the name appears to be a separate development. In fact, the name only appears in Brazil in the 17th century, when the Portuguese started to penetrate the Amazon River. This suggests that the name is artificial or made-up from other names that the Portuguese came across, as is the case of the next name.
5. *Chontaduro*. This name is surely an artificial name invented by the Spanish missionaries and civil servants from the Quechua words *ruru* (eggs) and *chunta* (palm), to give the name "palm that produces eggs" (referring to the ovoid

shape of the fruit). Since the Spanish used Quechua as the Lingua Geral of the Andes and the missionaries distributed it beyond the Inca areas, *chontaduro* displaced indigenous names in Ecuador and south-western Colombia, where it is dominant today.

Archeological Data

Few archeological data exist in which this palm is positively identified. In the region of San Agustín, upper Magdalena River valley, Colombia, scorched or carbonized seed have been found and dated to 770 ± 200 years before present, perhaps as early as the 9th century AD. The palm remains were found with those of the Andean nut (*Juglans neotropica* Diels), a cultivated peanut (*Arachis hypogaea*) and a cultivated, primitive variety of maize (*Zea mays*), of the Reventador type (Duke Gómez 1964, pp. 388-390, 457).

Recently, well preserved seeds have been found in several archeological sites on the Caribbean and Pacific coast of Costa Rica that are dated between 300 BC and 300 AD (Mora-Urpí, personal communication).

Although the archeological record is scant, the palm's enormous genetic variability indicates that it must have entered the domestication process very early (see also Clement 1988).

Reasons for Its Importance

The pejibaye was not simply another fruit species domesticated by the Amerindians, rather it was something special. The stem wood was preferred by all the tribes where the species occurred for making arms (lances, bows and arrows, awls); its fruit were not only eaten directly, but also (perhaps most importantly) used to prepare a widely consumed, very popular fermented drink, frequently called "Chicha" (possibly because of the 70-80% starch levels in highly selected pejibayes). All parts of the palm were used.

Harvest and Fertility Festivities

The pejibaye harvest varies during the year in different parts of its geographical distribution. Generally, however, the harvest occurs during the two or three months that coincide with the spring (February–April) and fall (August–October) equinoxes. The Amerindians celebrated the abundance of the harvest season with great festivities, which also had many characteristics of fertility rites. For example, the Guaymie, of Panama–Costa Rica, celebrate the “balseada”, generally in November, in which sporting events between neighboring groups were amply supplied with chicha of pixbae.

In Amazonia the harvest coincides with the spring equinox and even today many of the remaining Amerindian tribes celebrate the pejibaye harvest, even the more primitive, proto-agricultural tribes like the Yanomamos and Guaikas in Venezuela and Brazil. Usually the celebrations include considerable dancing and singing and consumption of chicha. The arrival of guests converts the celebration into a social exchange as well.

The Pejibaye Calendar

As a natural corollary of the preceding section, the pejibaye harvest is used as a basis for calculating time, because this harvest is frequently the most important agricultural event of the year. The Yuracaré, of Bolivia, are an example of this: any happening is three months before the beginning or two months after the end or in the second month of the harvest.

Myths

Anthropologists have collected myths and other legends that show the great importance of the pejibaye to the Amerindians in the equatorial regions. The myths and legends contain pejibaye in one of two ways: explaining how humans obtained such

a valuable plant or showing its importance to the tribes.

Among the Catio of Urabá, Colombia, a myth refers to the origin of maize and pejibaye, both obtained from heaven (Bajia) (Chaves 1945): two women were permitted two days in heaven. Upon returning to the world they brought seed of the Chococito maize and pejibaye hidden in their mouths. They told the other indians that one dies and will meet again in Bajía, and that they had brought seeds from these two plants from there. They then planted the seed, grew the plants and ate the fruit. All who tried the fruit thought that they were good and proceeded to plant more.

Among the Ahuaruno of the Marañon River, Peru, a myth mentions the importance of pejibaye and how the sun, which was previously human, left the earth for the skies, because of a lazy woman (Wavrin 1937): . . . On another occasion he went to hunt. He had instructed his wife to clean the fields and prepare pifuayos. Upon his return he found his wife still cleaning the fields. Irritated by such laziness, he put a cassava grinding board on a pifuayo leaf of a young plant. On this he put a basket and then climbed in. The tree grew rapidly and the sun climbed to the skies. Those who attempted to follow after could not get so high and all fell. They attempted, in vain, to cut the tree.

Among the Catio, from the Chocó region of Colombia, the pejibaye is also mentioned in another myth (Rochereau 1929): . . . Geru-potó-uarrá was searching for the killers of his mother. He arrived in the domain of Tutriacá, one of the divine creators, situated in the antipodes. The land there is perfectly flat and sown completely with pejibaye, there being no other vegetation, and the stones are blue for sharpening knives. . . . Many strange things were observed by the traveller, among which, the people there did not die, nor did they eat. They lived on the vapor given-off by cooking pejibayes and did not have organs to defecate. The traveller was soon offered

some cooked pejibayes and proceeded to eat them, much to the astonishment of the natives. The traveller asked "Why don't you eat them also, since you have mouths? If the smell is good enough to live on, imagine the actual fruit". Three of the natives proceeded to experiment with the fruit and in due course needed to defecate. Because they were unable to, not having the correct organs, they implored the traveller to break them open, which resulted in their deaths. Seeing this the other natives urged the traveller to leave, before any could experiment again and need to defecate.

Beliefs

A plant that was so important in the diet and the culture of the indigenous people took on a sacred character. For example, among the Jivaro of Ecuador, the punches or needles used to sew the lips of shrunken heads, or tzantzas, are always made from the wood of pejibaye. Among the Ticuna of the upper Amazon River, the fences that ritually encircle youths coming into puberty were made from strips of this wood.

Among the Huitoto of southern Colombia, who divide themselves in clans with their respective totems, one of the clans is called the Jimene, that means people of the pejibaye, from the name that they apply to the palm.

Post-Columbian Folklore

In many areas the pejibaye continued to be important after contact. For example, in the Colombian and Ecuadorian Pacific coast its wood was used to make "marimbas", a wooden percussion instrument of African origin. Strips of pejibaye wood are used to cover the open end of a bamboo tube and are then beaten with a mallet; the instrument will produce a lower or higher tone depending upon the length of the bamboo tube. This instrument was first recorded in the 18th century.

Several couplets are known from the folk music of Colombia, one of which includes the following verse:

"De la palma de chontadura la raíz también se pudre; con una mujer celosa, el hombre también se aburre".
 "Of the Chontaduro palm even the root rots; so with a jealous woman, a man also becomes bored".

Uses

The roots are occasionally used as a vermifuge.

The entire stem, generally armed with stout spines, was used to make blockades in Central (Corotapa, Costa Rica) and South America (Chocó, Magdalena, Llanos, Amazonas). When the stem dies and rots it becomes infested with Coleoptera larvae, which are greatly appreciated by the Amerindians. The split stem was worked and polished to make lances, clubs, bows, arrows, punches, stabbers, games for children, etc.

The heart of palm is one of the most delicious among the Palmae. It has less tannin than other palms and remains white much longer in storage. There is currently a strong export industry in Costa Rica, and Colombia (Urabá) and Brazil (São Paulo, Bahía) are developing theirs.

The inflorescence, freshly opened, is boiled and served as a vegetable by many tribes, according to numerous reports by the Spanish in colonial Amazonia and Panama.

The fruit, however, is by far the most important product, and can be used in numerous ways. Some tribes only use the fruit to make "chicha" (the Guaikas, for example), which is prepared not only for harvest festivities but during the entire harvest period. The indians of the Vaupés River prepare the mashed moist fruit ready for fermentation, then bury it until they want some chicha, at which moment they uncover it and add water; this mass can be stored in underground holes covered with leaves of a Marantaceae without decay for very long periods.

Nevertheless, the major use is as a cooked fruit, generally without salt, although this is frequently added now-a-days, especially by acculturated indians. The fresh or cooked fruit does not keep well in the tropical climate and must be consumed quickly. Some tribes are known to preserve the fruit by smoking or dehydration, which allows preservation for several months.

Most tribes do not use the seed, although a few consume the endosperm which has the flavor of coconut (*Cocos nucifera*) but with more fiber.

Harvest Methods

Although spineless types exist, most pejibaye are densely armed with thin or stout spines on the internodes. Some look like *Astrocaryum* because they are so densely spiny. Because of this most tribes have developed methods that do not involve climbing the stem unassisted.

Along the Orinoco River, the Amerindians tie cross-bars between adjacent palms or a palm and another species. Others erect a separate post beside the palm and from its top pull down the bunches with a hook. The Huitoto and other Amazonian tribes generally plant another kind of spineless fruit tree beside the palm and climb this to pull down bunches with a hook. Many others just use a long pole with a hook.

An ingenious apparatus found in Panama and along the Orinoco is used to climb the spiny stem itself, while keeping the body away from the spines. A pair of crosses in the form of an X or a pair of triangles with an open V at one extreme are tied to the stem with vines or stout cords. The harvester will step on the lower cross, which becomes immobile on the trunk because of this weight, and will raise the upper cross. He then sits on the upper cross, which becomes immobile, and pulls the lower cross upward with his feet. He then

steps on the lower cross and repeats the process until arriving at the top of the tree where he will collect the ripe bunches, without ever coming into contact with the spines. A skilled harvester can climb a 15 m palm, collect the bunches, and return to the ground in 10 minutes. A good photograph of this apparatus is presented by Chagnon (1968).

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(This paper is a very condensed version of previous articles by the author. The interested reader should consult these major works, which also contain abundant bibliographical references.)

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