

## ETHNOBOTANIC NOTES IN THE HIGH SOLIMÕES, AMAZONAS, BRAZIL

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**ABSTRACT:** (Ethnobotanic notes in the high Solimões, Amazonas, Brazil): The present study aimed to increase knowledge about plant resources and populations of the Amazon region through ethnobotany. The plants used by the local community are found in the local landscape units constituted by natural environments such as tropical forests and native species, mainly and by anthropically modified environments, such as gardens, backyards and vegetable gardens, cultivars, always located near the residences. In the forest there is a predominance of species for food or medicinal purposes, such as the assai (*Euterpe oleracea*), patuá (*Oenocarpus bataua*), babaçu (*Orbignya speciosa*), piquiá (*Caryocar villosum*), cocoa (*Theobroma cacao*), chestnut (*Bertholletia excelsa*), copaiba (*Copaifera* spp.), woods cupuaçu (*Theobroma* sp.) and in the cultivars papaya (*Jacaratia spinosa*). The use of the plants by the community is diverse and is the most expressive form of sustainable use for the amazonian riverside.

**Key words:** Plants resources, Sustainability, Forests.

**RESUMO** (Notas etnobotânicas no alto Solimões, Amazonas, Brazil): O presente estudo objetivou ampliar os conhecimentos sobre os recursos vegetais e as populações da região Amazônia, através da etnobotânica. As plantas usadas pela comunidade local são encontradas nas unidades de paisagem local constituída por ambientes naturais como as florestas tropicais e com espécies nativas, principalmente, e pelos ambientes antropicamente modificados, como roças, quintais e hortas, os cultivares, sempre localizados próximos das residências. Na floresta ocorre a predominância de espécies com fins alimentar ou medicinal, como o açaí (*Euterpe oleracea*), patuá (*Oenocarpus bataua*), babaçu (*Orbignya speciosa*), piquiá (*Caryocar villosum*), cacau (*Theobroma cacao*), castanha (*Bertholletia excelsa*), copaíba (*Copaifera* spp), cupuaçu-do-mato (*Theobroma* sp.) e nos cultivares o mamão jaracatiá (*Jacaratia spinosa*). O uso das plantas pelos comunitários é diverso e constitui a forma mais expressiva de utilização sustentável para os ribeirinhos amazonenses.

**Palavras - chave:** Recursos vegetais, Sustentabilidade, Florestas.

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## INTRODUCTION

The Amazon is home to one-third of the world's tropical rainforests, concentrating about 30% of the world's biological diversity and presenting immense genetic potential by covering 64.9% of the Brazilian territory, being the largest tropical forest on the planet as a collection of biodiversity and as a base to provide environmental services for global climate stabilization (MMA, 2006).

Through ethnobotany, Amazonian riverside populations promote the maintenance of forests by creating sustainable alternatives and enabling economic development with income generation from the sustainable use of non-timber products. The positive role played by traditional populations in the environmental protection effort is recognized. This is due either to their accumulated knowledge about the natural world, or to the perception of ingenious natural resource management systems.

The present study is justified by the importance of the research, through the knowledge and uses that the community has over vegetal resources. Through the local culture, the collective phenomenon that maintains this cabocla community integrated with its environmental and historical context allows defining the objective in describing the ethnobotanical interactions of the human being with the environment, from a cultural, social and environmental point of view.

## MATERIAL AND METHODS

### Study area

The caboclo community is located in the central region of Amazonas and 200 km from the city of Tefe on the banks of the Solimões River whose geographic coordinates are 01°49'00 "S and 65°42'00" W and with an altitude of 30-75 m, according to Figure 1.

**Figura 1.** Amazonian riverside community. 2012.



Fonte: IBGE, 2012.

## **Methodology**

The methodological tools involved the application of the Pre-test, semi-structured interviews (MINAYO, 1996), oral history (MEIHY, 2007), guided tour, photographic record and field diary. The collections took place in the months of September and October of 2012 with the aid of a field guide and a boat driver. The frequency of the collections was daily and for a period of fifteen days. The TAP (Term of Prior Consent) was also applied, in order to clarify the objectives and the appropriate authorizations to participate freely and spontaneously in the research. The exsicates are deposited in the Herbarium of the State University of Amazonas. The botanical identifications were carried out by comparison with the material deposited in the Mamirauá-AM/Tefé greenhouse, by consulting the pertinent literature and experts, as well as the consultation of the *Herbário Virtual Re flora e Flora do Brazil 2012* working platform.

During the excursions, samples of the species were collected, especially in the reproductive and vegetative phases, for the assembly of exsicates and subsequent identification that followed the botanical nomenclature The Plant List. The spelling of the scientific names was checked using the Missouri Botanical Garden, Saint Louis database, available at <http://www.tropicos.org>. For the listing of the taxa was followed by APG III (2012).

## **RESULTS AND DISCUSSION**

### **People and culture**

The riverside community is made up of indigenous people from the region and also from the Northeast, mainly from Ceará, who migrated during the rubber period, being the local population is denominated of riverside or caboclos.

The catholic church has organized communities into families and initiated local conservation and sustainability work where there is a president to oversee the activities and decisions that are taken in general assembly. All community members who are part of the association can sell their products at the fair in Tefe or use for the survival of the family. The riverside people perform two primary activities in the reserve that are forest management and family agriculture.

People in the community develop crafts with seeds, fiber, clay and wood. Tourists are taken by Tefé ecotourism program to the communities for the purchase of their handicraft products. The visit of the tourists to the community promotes the appreciation of local history and culture and the profits obtained through the sale of the products are reverted to the community projects such as constructions and improvement in the school and local houses.

This traditional community was established 67 years ago and consists of 17 nuclear families and a total of 102 people, 62 adults, men and women, in the age group of 18 to 78 years of age and 41 children and adolescents, the majority being born and raised in the community and most of the residents are relatives. Each family has, on average, five children. Most adults do not have any schooling and the remainder with incomplete first degree. Young people mostly study at the local school. Due to the level of water, flood and ebb, they make, on average, four changes of residence during the year, that is, they change their house according to the rhythm of the waters, but always residing near the river. Around eight months later the water advances inland and meets the houses at the edge of the forest, and at this time they survive on forest resources, fishing, and handicrafts. In the dry season the waters recede and leave exposed huge beaches that will serve for the cultivation of the gardens. During the dry season they build their homes on the beach in the form of stilts overlapping the cultivated plants and use the river water to drink and to wash clothes. Water to be drunk goes through a process of preparation, through the introduction of chlorine into liquid, which is supplied by the health agent distributed to local families.

One of the interviewees, a native of the region, who was born in the community, says that the community center is where cultural and religious activities take place and stresses that the riverside songs are highly appreciated by community members and tourists (Mr. A. D. 72 years old).

### *Song of the caboclo*

*“Many people ask me why my song is of river, of forest, of animals;*

*Because my song is vain, if lost, lives adrift in elemental forces,*

*Brings the message of rain, fish, canaranas, land and rubber groves.*

*It's just that one day the cabocla with the pussanga of tenderness hurt me, bewitched me,*

*Made me hear the voice of the birds to sing the green, the waters and the life they taught.*

*That is why I sail freely, and the lyrics of my poem Tupa himself gave me.*

*I am a caboclo singer, and instead of singing stars, I sing the world that is mine”.*

## Plants and landscape units

The local forests that make up the beauty of the amazonian landscape constitute a very important landscape unit for the traditional communities, since they take sustenance, medicines and wood in a sustainable way for their survival (AYRES, 1993).

Other landscape units are relevant to local cultivars, which characterize family production such as gardens, backyards and vegetable gardens, which are organized near residence dwellings to facilitate local management activities.

The vegetable species used as woods are intended for the construction of houses, giraus, beds, tables, benches, hoe rope, machete cord and also as fuel for making fire. The most used wood is chestnut (*Bertholetia excelsa* Humb. & Bonpl.), followed by the jacareúba, mamuí, mulateiro, piranheira, acapú and the lianas of the forests (arumã and jacitanã) (BROWDER, 2006).

In the local forests, chestnut trees are prioritized in order to maintain existing germplasm "in situ" by providing areas for refuges and feeding for wild animals. Chestnut is considered a high priority for conservation of genetic diversity, among other factors, since it is a species of monospecific genus (SILVA et al., 1987).

Hundreds of residents of the northern regions of Mato Grosso and the Amazon get some income with the Brazil nut, through various forms of ethnocategories of uses. The species is considered a symbol of the Amazon and its collection and marketing contribute to the protection of millions of acres of forests contributing to the socioeconomic development of local populations (PASA et al., 2016).

Some non-timber products are found in forests and are part of diets and medicinal purposes such as bacchus (*Garcinia brasiliensis* Mart.), buriti (*Mauritia flexuosa* L. f.), assai (*Euterpe precatoria* Mart.), pataúá (*Oenocarpus bataua* Mart.), babaçu (*Orbignya speciosa* Mart. ex Spreng.) Barb. Rodr.), piquiá (*Caryocar villosum* (Aubl.) Pers.), cocoa (*Theobroma cacao* L.), chestnut (*Bertholletia excelsa* Humb. & Bonpl), also species jatobá (*Hymenaea parvifolia* Huber), copaiba (*Copaifera* spp.), cumbaru (*Dypterix alata* Vogel), quina (*Cinchona* L.), woods cupuaçu (*Theobroma* sp.), pinha (*Annona* sp.), apurui (*Alibertia edulis* (Rich.) A. Rich. ex DC.), guava-araçá (*Psidium guineense* Sw.), araçá (*Eugenia stipitata* MC Vangh), araticum (*Annona montana* Macfad.), crown bacuri (*Garcinia madruno* (Kunth) Hammel), caapeba (*Piper umbellatum* L.), caapitiú (*Siparuna guianensis* Aubl.), camapu (*Physalis angulata* L.), cinnamon (*Cinnamomum*

*zeylanicum* Blume), mulato-caatinga (*Leucas martinicensis* (Jacq.) W.T.Aiton), cubiu (*Solanum crinitum* Lam.), cupuaçu (*Theobroma grandiflorum* (Spreng.) Schum), jambu (*Acmella oleracea* L), mari (*Poraqueiba sericea* Tul.), white-pinion (*Jatropha curcas* L.), taperebá (*Spondias mombim* L.) among others.

In anthropically modified landscape units such as gardens, backyards and gardens stand out for cultivars such as lettuce (*Lactuca sativa* L.), rue (*Ruta graveolens* L.), chive (*Allium schoenoprasum* L.), holy grass (*Cymbopogon citratus* (DC) Stapf.), jerimun (*Cucurbita* sp.), lime (*Citrus aurantiifolia* (Christm.) Swingle.), cassava (*Manihot esculenta* cultivar Crantz), malvarisco (*Plectranthus amboinicus* (Lour.) Spreng), cassava (*Manihot esculenta* Crantz), mangarataia (*Zingiber officinale* Roscoe), watermelon (*Citrullus lanatus* (Thunb.) Mansf.), corn (*Zea mays* L.), stone breaking (*Phyllanthus orbiculatus* Rich.), tangerine (*Citrus reticulata* Blanco.), lemongrass (*Melissa officinalis* L.), papaya (*Jacaratia spinosa* (Aubl.) A. DC.) among others.

In the local community, the gardens are a fundamental landscape unit for the survival of local residents. The cultivars serve to supply the table of local families and the surplus can be exchanged for another product in another community or can be sold at the fair in Tefé, which is held on sundays in the morning.

Roots management is done by the technique of fallow with crop rotation every 10 years for each area of cultivation and the input used is organic. The time between planting and harvesting watermelon, pumpkin and corn is generally three months.

According to the deponents, they stock the cassava branch in the forest, in giraus trees built in the height of the trees and often the floods destroy and take away all the stock of germplasm of this cultivar, so it is not always possible to maintain the stock of branches of cassava for the next crop.

In order to store the seeds of watermelon, corn and beans, they first perform the drying of the seeds in the sun at defined times, such as early morning and late afternoon, for several days. After the seeds are dry enough they are stored in a pot, made with the liana of the forest, to be used in planting the crops in the dry season. Often the harvest is so abundant that they donate or exchange seeds between neighboring communities.

The rivers that bathe the forests in the region are used for recreation and leisure, such as bathing, walking and fishing. Among the most fished species are tambaqui, tucunare, arauanã and curimbatá. The fishing rod is called locally tacna, but also fish with reed, harpoon and jar (POSEY, 1983).

## CONCLUSION

The vegetal resource in the Amazon community is diverse and its use is exercised in daily activities. People live and coexist with plants, in natural environments such as forests or anthropically modified, such as gardens, orchards and backyards and with emphasis on conservation practices of the local ecosystem.

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