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Syagrus schizophylla: Unconventional Food Plant of the Caatinga Biome with a high caloric value

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ABSTRACT
In the present day world concern relates to the effects of climate on plantations. In various parts of the world, forests, fields, plantations continue to disappear or are degraded. Brazil is a country that concentrates a great diversity of plants, this also refers to the Caatinga biome that participates in the vegetal cover of the state of Pernambuco, where this vegetation still displays the presence of unconventional food plants (UFP). Seeking to know in more detail the nutritional value of fruits of the palm *Syagrus schizophylla* known as Catolé coconut, this study sought to assess the centesimal composition of its almonds. Physico-chemical tests were performed in triplicate and according to methodologies of Instituto Adolfo Lutz-IAL. Before the results, it is concluded that the Catolé coconut almond is very nutritious and presents high caloric value.
Keywords: Catolé Coconut, Unconventional Plant Food, Nutritional Value

Syagrus schizophylla: Planta Alimentícia Não Convencional do Bioma Caatinga com elevado valor calórico

RESUMO
Nos dias atuais a preocupação mundial está relacionada aos efeitos do clima nas plantações. Em diversas partes do mundo, florestas, campos, plantios continuam a desaparecer ou são degradados. O Brasil é um país que concentra uma grande diversidade de plantas, isto se refere também ao bioma Caatinga que participa da cobertura vegetal do estado de Pernambuco, onde nesta vegetação visualiza-se ainda a presença de plantas alimentícias não convencionais (PANC). Buscando conhecer com mais detalhes o valor alimentício de frutos da palmeira *Syagrus schizophylla* conhecido como coco catolé, esta pesquisa procurou avaliar a composição centesimal de sua amêndoa. Foram realizados ensaios físico-químicos em triplicata e segundo metodologias do Instituto Adolfo Lutz – IAL. Diante dos resultados apresentados, conclui-se que a amêndoa do coco catolé é muito nutritiva e apresenta alto valor calórico.
Palavras-chave: Coco Catolé, Planta Alimentícia Não Convencional, Valor Nutricional

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Introduction

It is estimated that human activities have caused the premature extinction of Earth's species to the exponential rate of 0.1% to 1.0% per year – an irreversible loss of the great variety of life forms, or biodiversity, of the Earth. In various parts of the world, forests, fields, wetlands, coral reefs and the soil surface of plantations continue to disappear or are degraded as the human ecological footprint spreads exponentially across the globe, providing a likely change in climate (MILLER Jr., 2014).

Brazil, probably the country of greatest floristic richness of the globe, has taken, in international forums related to the Environment, important commitments to the conservation of its biodiversity. On the other hand, it is known the importance of the emission of gases by the plants, in order to moderate the effects of global warming. The country focus 11% to 14% of the diversity of plants on Earth, world champion in plant biodiversity. This is a conservative assessment, since it is estimated that the country has up to 75.000 species (MARTINELLI, MESSINA, SANTOS FILHO .2014; PAASONEN et al. .2013).

It is assumed that many of these plants are at risk and significant losses of species in each biome characteristic, requires urgent responses about its protection. The literature shows the recovery of some species, arising from a stimulus to the ornamental planting. In addition to noting the need to popularize the unconventional food plants (UFP), because some of them present an important nutritional content (AGEA et al., 2014; SILVA, PERELLÓ, 2010).

The plant cover of Pernambuco State consists of Coastal vegetation, Tropical forest and Caatinga. This last vegetation covers most of the area with semi-arid climate in the Northeast region of Brazil. Naturally, the plants do not have uniform characteristics in this vast area, but each of these characteristics, and the environmental factors that affects them, are distributed in such a way that their areas of occurrence have a reasonable degree of overlap. The identifying nuclear areas, where a larger number of features basic overlap, and considered marginal areas, where this number decreases, until you reach the limits with the areas where the characteristics of plants and environment define another type of biome (GIULIETTI et a., 2004).

Among the plants of the Caatinga, the *Arecaceae* family, formerly named *Palmae*, which consists of a group of species generally known as palm trees and that are among the most ancient flowering plants on the planet, their most remote vestiges dated more than 120 million years (LORENZI et al. 2004).

Symbols of the tropical forests have a differentiated aspect that distinguishes them easily from other plants. The fruit is mainly removed by birds and mammals, whose withdrawal also varies between species of palm, not being possible to establish standards for the genre as a whole (FERREIRA, 2011).

Belongs to this family plant fruits very known and used in gastronomy, as the coconut tree, brought from India and that has acclimatized so well in the northeastern beaches that its silhouette is today the most typical trait of the plant landscape of the region. It's a very caloric food, and 100 g of its pulp is equivalent to 589.8 Calories (CASTRO, 1984; FRANCO, 2002).

The municipality of Casinhas, located in the Agreste Meso-region of Pernambuco, included in the geographical area of the brazilian semi-arid region presents a vegetation of the Caatinga Biome with the presence of remnants of palm trees whose fruits are not used by the population. Among these is the palm *Syagrus schizophylla*, which in addition to other States occurs also in Pernambuco. Seeking to know in more detail the nutritional value of fruits of this palm tree, this research evaluated the centesimal composition for later research suggest its consumption by the population.

Material and Methods

This study was based on descriptive-exploratory bibliographical revision, which sought in specialized literature periodicals, official national and international legislators sites, specialized books on the problem under study.

Samples of the fruit of the palm tree *Syagrus schizophylla* known as Catolé coconut were collected in the town Casinhas, located at Pernambuco.

The study sought to perform physicochemical analyses of the Catolé coconut almond, in order to obtain the centesimal composition of this Unconventional Food Plant that flourishes in the caatinga of the Agreste Meso-region of Pernambuco. The analysis included the determination of the humidity content, determination of total ash, determination of proteins, total carbohydrates and lipids. The physical-chemical tests were performed in triplicate and according to methodologies of Instituto Adolfo Lutz - IAL (2008).

Results and Discussion

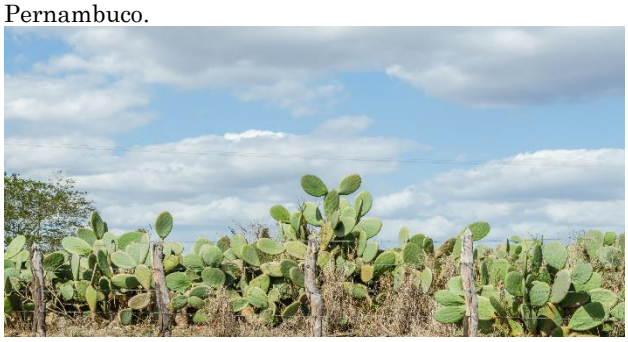
Among the Brazilian biomes, the Caatinga is probably the most undervalued and poorly known botanically. This situation is due to an unjustified belief that the Caatinga is the result of the

modification of another vegetable formation, being associated with a very low diversity of plants, without endemic species and highly modified by human actions. Although quite changed, especially in the lower lands, this biome contains a wide variety of vegetation types, with a high number of species and vegetation remnants also still well preserved (GIULIETTI et al., 2004).

In recent years, Brazil's Ministry of Environment has funded, among others, projects aimed at the sustainable use of native species as well as seeking the promotion of alternatives for the sustainable use of its biodiversity (BRASIL, 2017).

In the District of Casinhas, which is far from the City of Recife in 131 km., the vegetation is predominantly of xerophytic plants, like deciduous trees and shrubs during dry season, often armed with thorns, as well as *cacti* (Figure 1), *bromeliaceae* and annual herbs, therefore specific Caatinga vegetation (IBGE, 2015), also find some types of palm trees.

Figure 1 -Vegetation of xerophytic plants specific to the Caatinga biome in the Agreste Meso-region of Pernambuco.



Source: Author, 2017.

Acconding to Padilha et al. (2014), the use of forage palm (*cactaceae*) in the elaboration of recipes of contemporary regional gastronomy offers a wider range of options to a culture that is imposed by its richness in the miscegenation of peoples, as well as tidbits that have been incorporating and remodeling to the taste of an eclectic people that has by richness the diversity of preparations. In addition, it enables research into new products that can minimize food vulnerability.

And it is precisely in this biome which are found endemic plants like the *Syagrus schizophylla*, palm tree native to tropical regions of the Americas, Botanical genus belonging to the family *Arecaceae* and that can give as a result the forgotten Catolé coconut that was already present in the food of the Recife citizens, this seen in some squares of Recife (Figure 2)

Figure 2 - Palm trees *Syagrus schizophylla.*

Source: Author, 2017.

This study found the genus in some properties of municipality of Casinhas as seen in Figure 3.

Figure 3 - Native endemic plant of the family *Arecaceae, Syagrus schizophylla* existing in Casinhas.

Source: Author, 2017.

In order to deepen the richness of a low-income region, an analysis was made of the centesimal composition of the fruit almond (Catolé coconut) of the *Syagrus schizophylla* plant and the caloric and nutritive composition was obtained as shown in Table 1.

Table 1 - Centesimal composition of some vegetables.

Food	Amount (g)	Humidity (%)	Ash (%)	Carbohydrates (%)	Proteins (%)	Lipids (%)	Energetic Value (Kcal)
Catolé coconut	100	3,93	1,45	11,37	10,40	72,85	742,72

The analysis shows a highly caloric food, with a high content of vegetable fat, which in a few servings brings high benefits to the human body and that is little used by the population. According

to Kinupp and Lorenzi (2014) these species of great nutritious importance are little explored.

With the use of coconut in such abundance the coastline northeastern increases the share of fat (the coconut pulp contains 25% of fats) and minerals to your diet. The proteins of this coconut are not of high biological value, but when mixed with those of the region's fish and shrimps they become excellent. With the coconut, you can prepare coconut beans, coconut sauce fish, coconut rice, vatapá, canjica, pamonha, mungunzá, coconut candy, cocada, and a multitude of other dishes and sweets characteristic of the Pernambuco cuisine, with such justified universal fame. The green and mature pulp of the coconut, as well as its milk and sometimes oil, are used in the preparation of these dishes (CASTRO, 1984)

Conclusions

Considering the analytical point of view, it is observed that the fruit almond of the Syagrus schizophylla palm tree has a high Caloric Value, especially when the percentage of lipids, of vegetable origin, and the good value of proteins in 100g of the food are observed.

It is a product that must be introduced in the diet of the population as an ingredient of the local cuisine.

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