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Phytochemical Screening of *Chrisophyllum argyrophillum* Hiem. a Plant Used as a Healer in the Village of Vila Franca, Huambo - Angola

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Abstract

With the objective of determining the secondary metabolites of the species *Chrysophyllum argyrophyllu*m Hiem, plant used in the community of Vila Franca in the municipality of Londuimbali province of Huambo, Angola, phytochemical screening was performed, for this, leaves and stem hull were collected and subsequently the leaves were dried in the open air in shade and the stem hull dried directly in the sun. After drying, the leaves and stems were sprayed in a traditional mortar and were screened, which allowed the separation of coarse particles from the fines, which were later transported to CENSA, Cuba where the primary phytochemical screening was carried out. Thus, secondary metabolites were detected such as tannins, alkaloids, flavonoids, leucoanthocyanidins, free phenols, primary and secondary amines that generally presented in appreciable quantities, no quinones, triterpenes and/or steroids and lactonic rings were detected.

Keywords: *Screening; Leaves; Stems; C. argyrophyllum; Huambo; Angola*

Introduction

The WHO states that modern medicine is widespread in the world, the majority of the population in particular in developing countries, depending on traditional medicine for primary health care, since 80% of this population uses it. traditional practices in their basic health care, where 85% are plants or preparations [1]. Angola is the largest country in southern Africa, one of the regions with more than 5,000 species, of the richest in diversity of flora in the world, as it is not well known [2]. Angolan medicinal plants have various therapeutic actions, and some of them have not been described in their traditional use [3]. One of the main goals of ethnobotany is the interpretation of local knowledge, but only those that can be considered static in time, but also current knowledge that interacts with the first. Over the past three decades, there has been a rise in interest in the study and use of plants as a therapeutic resource, as well as a marked popular, official and commercial trend in the consumption of natural biological products [4].

For much of the popular misconceptions about the use of medicinal plants have been ignored by medicine, but in recent times, health professionals and researchers have been concerned about the termination of these concoctions by means of ethnobotanical studies and implementation. new public health policies [5]. In the present day, there are many factors that contribute to the increase in the use of me-

dicinal plants, such as the high cost of industrialized medicines, the difficult access of the population to medical assistance, the resistance of microorganisms to antimicrobial drugs commonly used, as well as the tendency in the last times of use of natural products, that is to be reconsidered in the therapeutical properties [6]. In reality medicinal plants are a viable alternative in the treatment of various diseases in humans and also in animal production, because these plants contain secondary metabolites of those described in various pharmacological activities such as anthelmintic, anti-bacterials, anti-inflammatories, analgesics, among others.

Purpose of the Study

The purpose of this work is to determine the secondary metabolites of the present and senior *Chrysophyllum argyrophyllum*, a plant used in the community of Vila Franca as a healer of human and animal heroes.

Materials and Methods

The work was carried out between September 2015 and June 2016, today and the bark of the plant was collected in April 2015 in the municipality of Vila Franca, Londuimbale, Huambo province, and later it has dried up in the free air. In the shade, the tall plants will dry directly in the sun following the techniques described by Cunha [7] and Zatta [8], then sprayed into a traditional shredder and sieved to convert them into thinner octopuses. The octopus plant was transported to CENSA, Cuba from where the primary phytochemical Tamizaje proceeded.

The central plateau is located in agricultural zone 24, of humid and dry climate, according to its altitude, with average temperature that oscillates between 19ºC and 21ºC, the average annual precipitation varied from 1100 mm to 1400 mm; the predominant stations (rainy and non-rainy season), with fersialitic swells [9]. For the qualitative characterization of the secondary metabolites the phytochemical Tamizaje is used, according to the procedure of Chigodi., *et al* [10]. In a qualitative analysis, the system of crosses is used and the presence of secondary metabolites is specified in the absence of García's criteria [11].

Previously employing patron components to control reactive devices (Table 1) will be used.

Metabolite	Essays	Solution control
Free phenols	$FeCl_3$ 1 - 10%	Phenol 1%
Tannins	Gelatine 1%	Tannic acid 1%
Primary and secondary terms	Ninhydrin 0,2%	L-Aspartic acid 1%
Triterpenes and/or steroids	Lieberman	Cholesterol 2%
Flavonoids	Shinoda	Quercetina 2%
Leucoanthocyanidins	Rosehein	D (+) Catechin 1%
Cardiotonic Glycosides	Tuesday	Digitalis 2% (mass/volume)
Alkaloids	Dragendorff	Rural 2% 2% ephedrine

Table 1: *Specific/selective reactions for functional chemical groups.*

Results and Discussion

In the primary phytochemical characterization of methanolic extracts of plants today and cropping, secondary metabolites such as primary and secondary amines, free phenols, tannins, flavonoids, leucoanthocyanidins and alkaloids are determined in both today and cork. Metabolites such as quinone, triterpene and/or steroids were not detected in this assay as table 2.

Metabolite	Leaves	Stems
Free phenols	+++	+++
Tannins	+	+
Primary and secondary terms	+++	+++
Triterpenes and/or steroids	-	-
Flavonoids	+++	++
Leucoanthocyanidins	+++	++
Quinona	-	-
Alkaloids	++	++

Table 2: *Plant phytochemical characterization (leaves and stems).*
Legend: (+++) = Abundant quantity; (++) = Regular quantity; (+) = Little quantity; (-) = Absence.

As can be seen from table 2, today there is an abundance of free phenols, primary and secondary amines, flavonoids and leucoanthocyanidins and alkaloids are in regular song and tannins at that time. In the cork that is the part used in the community to treat hebrides, abundant soil is present in the free amines and phenols, and for alkaloid, leucoanthocyanidins and flavonoids are not regularly detected and not detected in this test quinone and triterpenes and/the steroids. The presence of these secondary metabolites in the plant determines various therapeutic properties which are described for each of the different pharmacological actions. Studies carried out by Camacho-Campos., *et al.* [12] in *Tagetes erecta* L today and flowers, note the remarkable presence of flavonoids, terpenes, tannins, coumarins and cardiotonic glucosides, secondary metabolites that the authors relate to the antibacterial activity of it. Studied plant.

For example, they have been described for tannins, anti-diarrheal, healing, anti-infectious, vasoconstrictor, antiseptic and astringent properties [13]. These properties can justify the report of the settlement of the community of Vila Franca about the use of this plant in the treatment of heroes.

A group of plants containing condensed tannins has recently attracted attention with proven anthelmintic action in *in vitro* studies [14-16]. The flavonoids have deserved prominence in the function of their broad biological and therapeutic activity demonstrated both in experimental conditions and in humans [17]. For this secondary metabolite therapeutic properties such as antimicrobial, antioxidant, antifungal [18], antiviral, anticancer [19,20], immunomodulatory and anti-inflammatory activity [21] are described. Alkaloids have been described for biological activities as antimycotics, antivirals, anti-bacterials and anti-carcinogens [22]. Leucoanthocyanidins have been shown to be active against hypertension, anti-inflammatory and antioxidant [23]. What I want to say is that, in addition to being used as a healing agent in herpes, it can be explored in other pathologies and this possibility opens new fields of research with this kind of plant, because it determines the therapeutic properties of a phytochemical plant contained in it. However, a single plant species may have various pharmacological activities.

The use of plants and its extracts for treatment of various infections is an ancient practice, known by multiple cultures and is now used for its effectiveness, cost and availability [24]. This practice and knowledge is rooted in African peoples and the generation of oral generation, but the wide range of civil war in Angola has contributed to an increase in the use of medicinal plants, as it has revolutionized traditional medicine. the country [25].

Conclusion

The use of the cropping of this plant by the communities of Vila Franca as a healer is based on its rich composition in secondary metabolites, which are described in various therapeutic properties and can also be used and which may also have similar metabolites, flavor for flavonoids and leucoanthocyanidins.

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