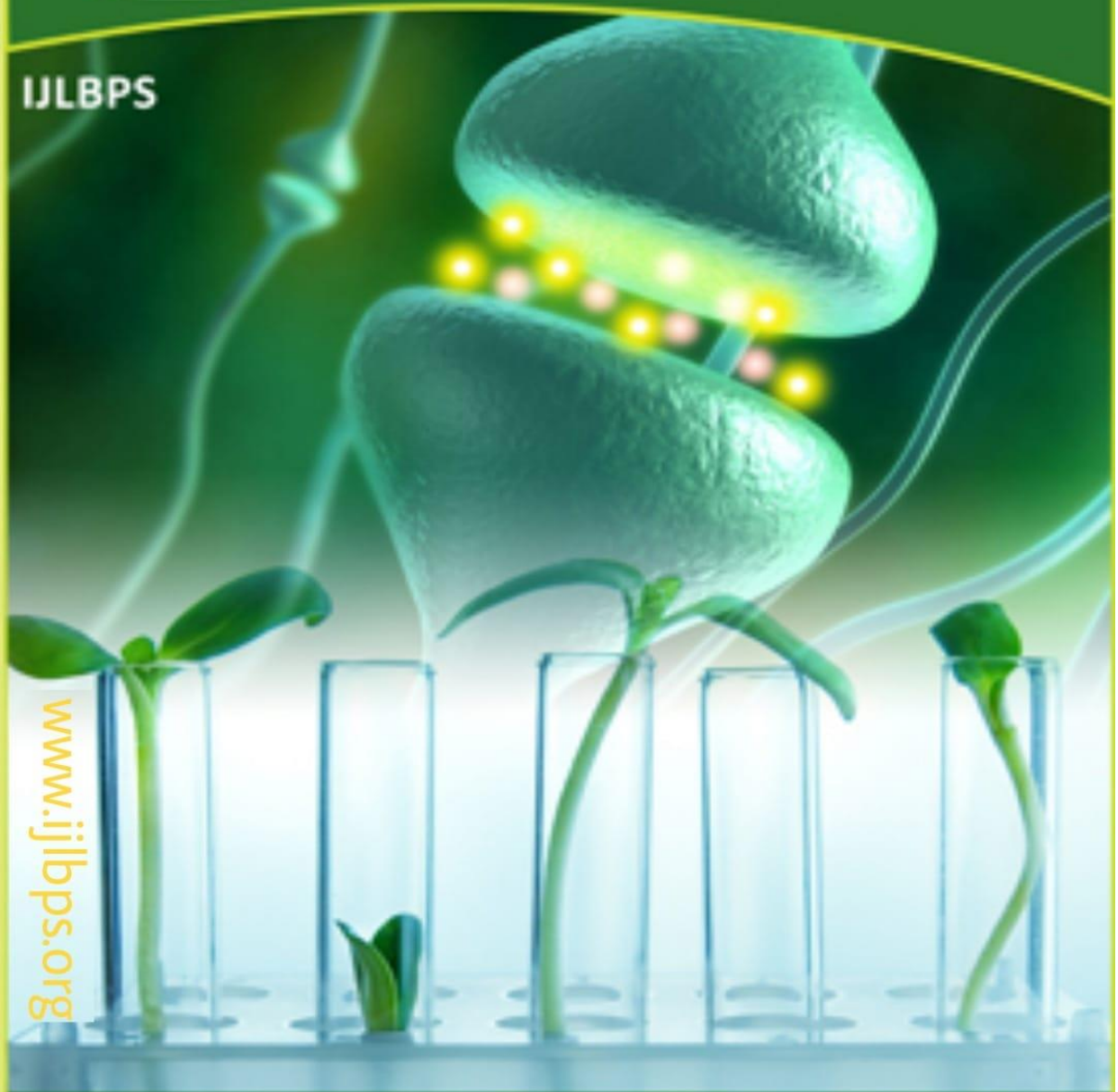
ISSN 2395-650X

International Journal of Life Sciences Biotechnology Pharma Sciences

IJLBPS



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International Journal of Life Sciences Biotechnology Pharma Sciences

Volume 2 Issue2,June2014

Initial pharmacognostic and phytochemical analysis of Ctenolepis gracinii

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Abstract

The purpose of this research is to identify the active principle in Ctenolepis gracinii Burm.f., (Cucurbitaceae) and to establish its physicochemical properties. According to Atkinson, the roots, seeds, and fruit may all be utilized medicinally. Traditional Tamil medicine prescribes this species for quinsy and other throat conditions. Despite the importance of verifying the identification and purity of a medicine by microscopic inspection, standardized criteria for Ctenolepis gracinii have not been reported in the literature. Physiochemical parameters such as loss on drying, extractive values, Ash values, and preliminary investigations into the phytochemicals present in the extracts with respect to thin layer chromatography were carried out as part of the present work, which aims to establish methods for quality control of drugs. Therefore, it was deemed important to investigate this threatened species using its standardized criteria.The research will give a benchmark for accurately identifying the unprocessed medication.

Keywords: *Ctenolepis gracinii*, *Blastania gracinii*, *Bryonia garcinii*, *Zehneria garcinii*,*Sicyos garcinii*, Cucurbitaceae

Introduction

Native to Burma, these monoecious annuals may also be found in Southern India and Ceylon, and can be found on rare occasions in dry deciduous forests1,2. Commonly referred to as Mossumossuke by those in Japan, Gudimuralu by those in Telugu3, and Mochumochukay in Ceylon. In addition to Blastania garcinii, Bryonia garcinii, Zehneria garcinii, and Sicyos garcinii, there are a number of other names for this plant. Slender, elongate, striate, branched, glabrous stems; capillary tendrils; membranous, 2.5–5 cm long and broad; initially hirsute; later scabrid; lobes usually obovate, obtuse, or constricted at the base; denticulate or crenulately toothed; intermediate lobe barely longer than the others; mucronate petio 1.3-3.8 centimeters in length, thin, striate, briefly hirsute, then scabrid. Long, filiform cilia line the edges of the ovate stipular bracts, which are 4-8 mm in length. Male flowers are a pale yellowish white in color and are arranged in clusters of three or four at the end of a short peduncle (less than 13 mm in length). the pedicels are just one to two millimeters long. There are just one female bloom per stem. Bright red, inversely subreniform, or hammer-shaped fruit that is 4 to 6 millimeters wide and 8 to 10

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millimeters long. Seeds are 6-8 mm in length and 3 mm in width. They have a pale yellowish gray color, and they are rounded at the tip and somewhat attenuated at the base.8,9,10. According to Atkinson, the roots, seeds, and fruits may all be utilized medicinally. Traditional Tamil medicine prescribes this species for quinsy and other throat conditions.

Substances and Techniques

The botanists at the Regional research Institute in Bangalore recognized the plants as Ctenolepis garcinii that had been gathered in Trichi (Tamil Nadu, India). Leaf, apex, base, border, and other morphological characteristics of the plant were studied. The leaves are collected, sorted, and air-dried before being stored indefinitely. For the physical and chemical analysis, we employed a powder made from the dried leaves. Phloroglucinol-hydrochloric acid solution, glycerin, and iodine solution were applied to transverse leaf slices to identify the different tissues11.Ash value, alcohol extractive value, and water content were also measured as physical constants. Chloroform and methanol were used to extract the leaves, and the resulting extracts were analyzed for their phytochemical content and yield %.

Diagnostic pharmacologySimple techniques for determining the leaf's size, shape, color, and smell were used in morphological research. For the purpose of microscopy, a thin hand slice of Ctenolepis garcinii leaf was prepared. Chloral hydrate was used to remove debris, and staining followed standard operating procedure. Mounted in glycerin, sections stained with Con.Hcl and phloroglucinol were examined for lignified components.Indices of physiochemical activityThe total ash % was calculated using the criterion specified by the Indian Pharmacopoeia. The extractive value of the powdered leaf was investigated by preparing extract using a variety of solvents.

Initial Phytochemical Screening

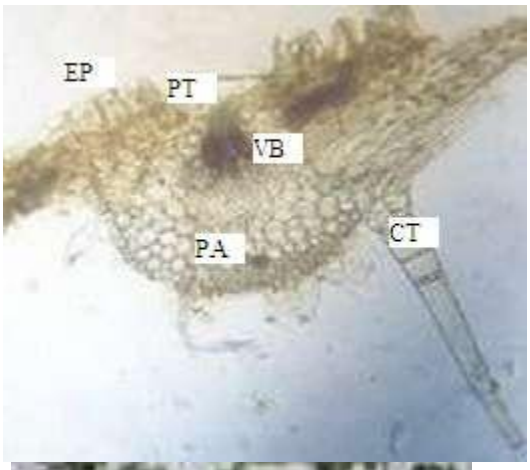
Extract was made by weighing 500 gm of the dried powdered leaves, then subjecting them to hot consecutive continuous extraction with various solvents as per the polarity, methanol,

chloroform, and lastly with water, for preliminary phytochemical analysis. Each successive stage of processing included filtering, concentration, and solvent removal (by rotary evaporator). We weighed the extract residues after they were dried over a dessicator. Standardized procedures were used to ascertain whether or not main and secondary phytoconstituents were present.Ash worthThe ash content was calculated by burning dried leaves.Value extractionValue extracted with alcoholFor 24 hours, with occasional shaking for the first 6 hours, 5 grams of coarse, air-dried drug material was macerated in 100 milliliters of ethanol (99%). After that, it was quickly filtered through filter paper while taking measures to keep the ethanol loss to a minimum. Ethanol was added to bring the total to 100 ml. The leftovers were placed in a shallow dish with a flat bottom, heated to 1050 degrees Celsius, dried, weighed, and then stored in a desiccator. Using air-dried medicine as a standard, we were able to determine the average extractive value in % w/w (on dry basis) (Table II).

Value extracted by soaking it in water

For 24 hours, 5 grams of air-dried, coarse drug material was macerated with water in a sealed flask, shaken frequently for the first 6 hours. To avoid losing too much solvent, the extract was quickly filtered using filter paper. The leftovers were weighed after being dried at 1050C and stored in a desiccator. The mean extractive value was expressed as a percentage of the drug's dry weight (w/w).(Second Table).

Analysis of Phytochemicals



The new vegetation was gathered. The leaves were sorted, shade-dried, and ground into a powder. In a Soxhlet system, the powdered material was subjected to a 48-hour extraction with chloroform and methanol. Filtration of hot water and distillation at low pressure were used to get rid of the solvent in the extract (Khandelwal K.R.).

Alkaloids, Glycosides, Flavonoids, Carbohydrates, and Tannins (Table III) were measured in the extract after the % yield was determined.

The Ends and the Means

All of the formulations had drug entrapment efficiencies between 73.45% and 95.17%. The leaves ranged in size from 2.5 to 5 centimeters in length and width, and they were initially hirsute before becoming scabrid. They were also profoundly 3-5 lobed, with lobes that were often obovate, obtuse, or acute, and denticulate or crenulately serrated. Disgusting aroma and flavor. The cuticle and trichomes that cover the epidermis are made up of cells. Single-layered palisade parenchyma makes up mesophyll.
mesophyll and midrib cells that are below the epidermis and are also densely packed with no intercellular space. The midrib is made up of Palisade cells and a single pair of vascular

bundles. Table I provides the moisture and ash content. Table II lists the percentage yields of alcohol and water extracts, as well as chloroform and methanol extracts. Carbohydrates, glycosides, and Tannins were detected in the phytochemical analysis, however alkaloids and flavanoids were not.

EP- Epidermis, PT- Palisade Tissues, VB- Vascular Bundles, PA- Spongy parenchyma, CT- Covering Trichomes.

Stomata Leaf lamina

S/.No.	Tests	Leaf
1	Carbohydrates	Present
2	Alkaloids	Present
3	Glycosides	Present
4	Tannins	Present

Covering Trichomes.

Fig: 3 Powder Microscopy of leaves

Table: 1 Evaluation of Leaves of *Ctenolepis garcinii*

S/No.	Parameters	Leaf
1	Ash value	14.39
2	Moisture content	11.32

Table: II Extractive values of Leaves of *Ctenolepis garcinii*

Table: III Phytochemical screening of Chloroform and Methanol extracts of Leaves of *Ctenolepis garcinii*

Table: III Analysis of powdered drug in different

S/. No.	Drug	Colour
1	Powder.	Greyish green.
2	Powder + Water.	Yellow.
3	Powder + Con.Hcl.	Yellowish red.
4	Powder + Con.H_2SO_4.	Bluish black.
5	Powder + Con.HNO_3.	Orange red.
6	Powder + NaOH.	Brown
7	Powder + Acetone.	Yellowish green.
8	Powder + Methanol.	Green.
9	Powder + Acetic anhydride.	Yellow.

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