iJRASET
International Journal For Research in Applied Science and Engineering Technology

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 9 **Issue:** X **Month of publication:** October 2021

DOI: https://doi.org/10.22214/ijraset.2021.38296

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.429
Volume 9 Issue X Oct 2021- Available at www.ijraset.com

Pharmacognostic and Preliminary Phytochemical Investigation of *Corchorus Fascicularis LAM.* Stems

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Abstract: ***Stems of plant Corchorus fascicularis L. are reported to possess medicinal values in traditional system of medicine. The present investigation deals with preliminary phytochemical investigation of Stems of Corchorus fascicularis L. which includes physicochemical parameters like ash values, extractive values and moisture content. Phytochemical investigation of n-hexane, chloroform, ethanol and water extract revealed the presence of glycosides, tannins, terpenoids, steroids, carbohydrates, alkaloids, saponins and proteins. The main aim of present investigation is to study the pharmacognostic characters and phytochemical standard of Stems of Corchorus fascicularis L. which could be used to prepare a monograph for the proper identification of plant.***
Keywords: Stems, Corchorus fascicularis L., Physicochemical, Phytochemical analysis.

I. INTRODUCTION

Corchorus fascicularis commonly called as Hirankhuri is an annual herb found in throughout India and also many tropical countries. The Stems are tasty and sour. It shows activity of Laxative, Stimulant, tonic and aphrodisiac. The Stems remove tumors, pain stomach troubles, skin diseases and scabies. It is useful in discharging ulcers[1]. Powder of entire plant is used as tonic to anemic patient[2]. Ursolic acid, oxocorosin and corosolic acid isolated from roots[3]. *Corchorus fascicularis L.* shows physiological activity[4]. Glycosides are isolated from *corchorus fascicularis L.*[5]. In Ayurvedic system of medicines this plant has a large demand due to its uses in the treatment of many chronic and acute diseases and disorders. In continuation of work of phytochemical studies of various plants, we are presenting this paper on *Corchorus fascicularis L.*

II. MATERIAL AND METHODS

A. Plant Material Collection and Authentication

The Stems of plant *Corchorus fascicularis* were collected from village Tande of Shirpur tehasil in Dhule district (M.S.). The specimens of plants were authenticated by Dr. L. K. Kshirsagar, Department of Botany, S.S.V.P. S's L. K. Dr. Ghogrey Science College, Dhule (M.S.). The dried uniform Stems powder was used for the extraction of constituents of the plant, determination of ash values, extractive values and phytochemical investigation.

B. Drying and Pulverization

Stems of *Corchorus fascicularis L.* were shade dried and pulverized and stored in an air tight container for future use.

C. Extraction of Powdered Stems

The powdered Stems were successively extracted by cold maceration process using organic solvents like ethanol, methanol, n-hexane, chloroform and water. All the extracts were evaporated to dryness and stored for future use.

III. PHARMACOGNOSTIC STUDIES

A. Physicochemical Investigation

The moisture content, total ash, water soluble ash, acid insoluble ash, sulphated ash, alcohol and water-soluble extractive values were determined as part of its physicochemical parameters[6].

B. Phytochemical Investigation

Ethanol, methanol, n-hexane, chloroform and water extracts were subjected to phytochemical analysis for the presence of various secondary phytoconstituents using standard chemical tests[7, 8, 9].

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IV. RESULT AND DISCUSSION

Physical appearance, color and odor of different extracts were recorded in (Table 1).

Table 1: Shows characteristics of *Corchorus fascicularis L.* extracts.

Sr. No.	Extract	Physical Appearance	Color	Odor
1	Ethanol	Semi-Solid mass	Dark Green	Pungent Aromatic
2	Methanol	Semi-Solid mass	Light Green	Pungent Aromatic
3	n- hexane	Syrupy mass	Light Green	Aromatic
4	Chloroform	Semi-Solid mass	Dark Green	Aromatic
5	Water	Semi-Solid mass	Greenish Green	Pungent Aromatic

The physical constants evaluation of drugs is an important parameter in detecting adulteration or improper handling of drugs. The total ash value is important in evaluation of purity of drugs i.e., presence or absence of foreign inorganic matter. The ash values, extractive values and moisture content of Stems were determined and results are shown in (Table – 2).

Table 2: Shows physicochemical parameters of *Corchorus fascicularis L.* Stems.

Sr.No.	Parameters	Values (%) w/w
1	Loss on drying	
	Ash values:	2.93%
	Total ash	5.43%
2	Acid insoluble ash	2.46%
	Water soluble ash	1.70%
	Sulphated ash	0.49%
	Extractive values:	
3	Water soluble extractives	5.01%
	Alcohol soluble extractives	2.23%
	Petroleum ether soluble extractives	1.21%

Phytochemical tests for the presence of secondary phytoconstituents showed following results (Table -3)

Table 3: Show preliminary phytochemical screening of *Corchorus fascicularis L.* Stems powder.

Sr. No.	Phytoconstituents	Ethanol	Methanol	n-Hexane	Chloroform	Water
1	Alkaloids	–	–	–	–	–
2	Carbohydrates	+	+	+	+	+
3	Glycosides	+	+	+	+	+
4	Flavonoids	+	+	+	+	+
5	Phenol& Tannins	+	+	+	+	+
6	Steroids	–	–	–	–	–
7	Terpenoids	+	+	+	+	+
8	Saponins	–	–	–	–	–
9	Proteins	+	+	+	+	+
10	Amino Acids	+	+	+	+	+

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V. ACKNOWLEDGMENT

Authors are heartily thankful to Management, Principal and HOD Dept. of Chemistry Art's, Commerce and Science College, Onde, Vikramgad Dist Palghar (MS) India for availing all necessary facilities.

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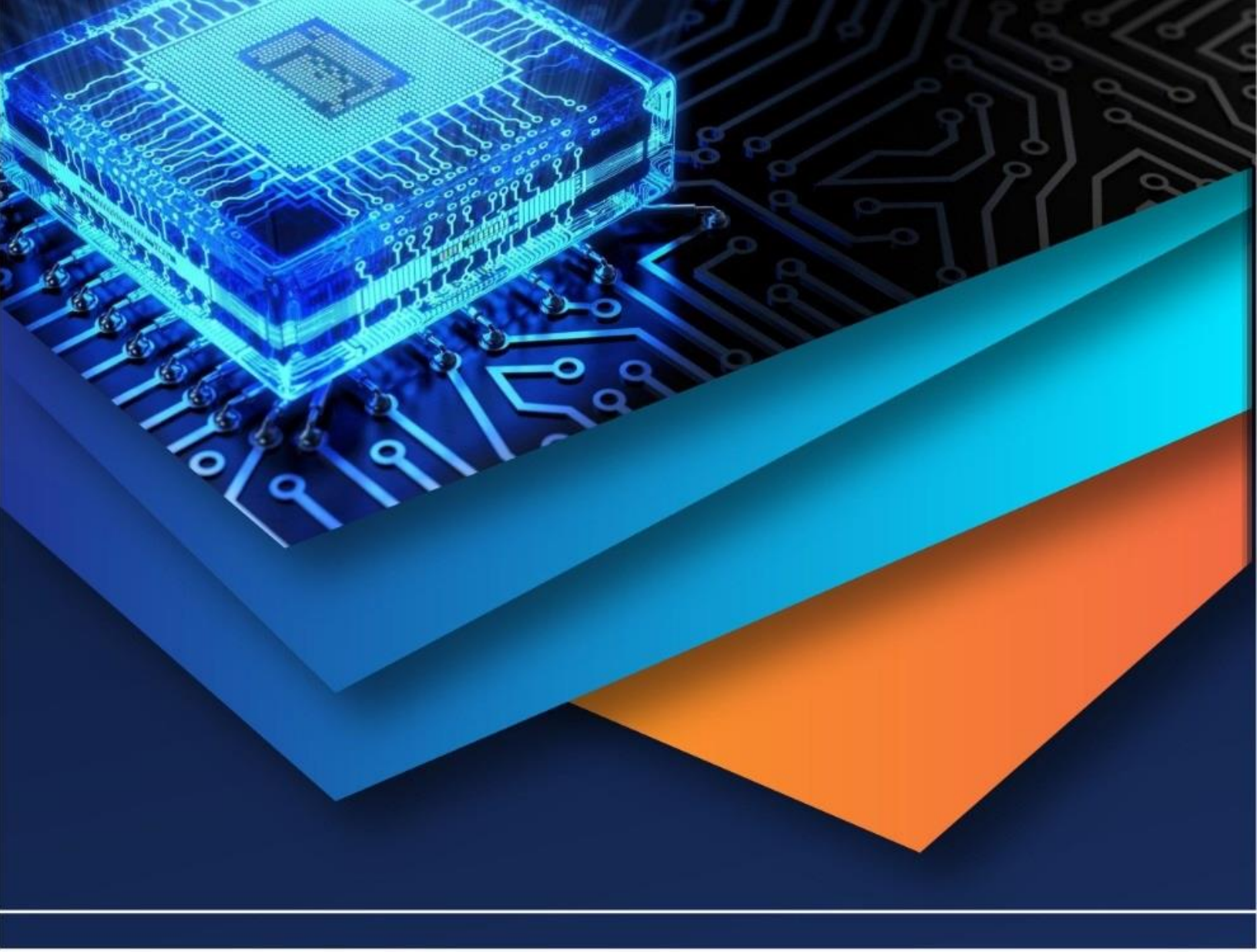

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