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Research Article

PHARMACOGNOSTIC AND PRELIMINARY PHYTOCHEMICAL INVESTIGATION OF *CORCHORUS FASCICULARIS LAM.* LEAVES

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ABSTRACT

Leaves of plant *Corchorus fascicularis L.* are reported to possess good medicinal values in traditional system of medicine. The present investigation deals with preliminary phytochemical investigation of leaves of *Corchorus fascicularis L.* which includes physicochemical parameters like ash values, extractive values and moisture content. The total ash, acid insoluble ash, water soluble ash values and sulphated ash were observed to be 5.40%, 2.96%, 1.85%, 0.65% respectively. Alcohol soluble and water soluble extractive values of leaves ware observed to be 2.90%, 5.54% respectively. 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 leaves of *Corchorus fascicularis L.* which could be used to prepare a monograph for the proper identification of plant.

Keywords: *Corchorus fascicularis L.*, Phytochemical analysis, n-hexane extract.

INTRODUCTION

Corchorus fascicularis commonly called as Hirankhuri is an annual herb found in throughout India and also many tropical countries. The leaves are tasty and sour. It shows activity of Laxative, Stimulant, tonic and aphrodisiac. The seeds 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.*

MATERIAL AND METHODS

Plant Material Collection and Authentication

The leaves 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 leaves powder was used for the extraction of constituents of the plant, determination of ash values, extractive values and phytochemical investigation.

Drying and pulverization

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

Extraction of powdered leaves

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

Pharmacognostic Studies

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].

Phytochemical Investigation

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

RESULT AND DISCUSSION

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

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 leaves were determined and results are shown in (Table – 2).

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

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	N- hexane	Syrupy mass	Light Green	Aromatic
3	Chloroform	Semi-Solid mass	Dark Green	Aromatic
4	Water	Semi-Solid mass	Greenish Brown	Pungent Aromatic

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

Sr. No.	Parameters	Values (%) w/w
1	Loss on drying	3.01%
2	Ash values:	
	Total ash	5.40%
	Acid insoluble ash	2.96%
	Water soluble ash	1.85%
	Sulphated ash	0.64
3	Extractive values:	
	Water soluble extractives	5.54%
	Alcohol soluble extractives	2.90%
	Petroleum ether soluble extractives	1.73%

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

Sr. No.	Phytoconstituents	Ethanol	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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