Publications


TOTAL PHENOLIC AND FLAVONOID CONTENT IN TWO IMPORTANT MEDICINAL PLANTS

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Abstract - In the present investigation to the phenol and flavonoid Content of the extracts of Melia azedarach Land Cyperus rotundus. The maximum amount phenol (8.02±0.22) was obtained in root of Melia azedarach and (5.15±0.13) in rhizome of Cyperus rotundus. The minimum quantity was observed (3.23±0.19) in leaf of Cyperus rotundus and (5.07±0.33) in stem of Melia azedarach. The flavonoid content was observed maximum (23±0.22) in stem of Melia azedarach and (1.06±0.19) in rhizome of Cyperus rotundus. The minimum quantity was observed in leaf of Cyperus rotundus (0.30±0.22) and (10±0.24) in roots of Melia azedarach.

Keywords - Phytochemical, Melia azedarach, Cyperus rotundus, Phenol and Flavonoid

INTRODUCTION

Cyperus rotundus is a purple green nut sedge is a colonial, herbaceous, and perennial with fibrous roots. Which grows from 6-42 cm long and reproduces extensively by rhizomes and tubers. Rhizomes are initially white with scaly leaves and then become fibrous and dark brown with the age. Rhizomes may grow multidirectional in the soil. Those growing upward and reaching to the soil surface become enlarged forming a structure 2-20 mm in diameter variously called a “basal bulb, a tuberous bulb, or a corm” that produces roots, shoots, and other rhizomes. Each tuber is dark reddish-brown when mature, about 13 mm thick, and vary from 12-35 mm long.

Common Names

This plant have many local names according to the region where it is grown and known as: Nut grass, nut sedge, coco sedge, coco grass, red nut sedge.

Ethnobotanical and Medicinal Uses

Cyperus rotundus reported as a soil binder in India. It is used as fodder, in absence of other fodder plants; it can serve that purpose (Holm et al. 1977). Extracts and compounds isolated from Cyperus rotundus have therapeutic properties like as the reduction of inflammation, fever and pain. The literature having numerous references to the use of this plant’s roots for essential oils and its seeds for food products. Tuber extracts may reduce nausea and act as a muscle relaxant (Wills 1987) According to the Ayurveda, C. rotundus rhizomes are considered astringent, diaphoretic, antitussive, diuretic, stomachic, antispasmodic, analgesic, sedative, aromatic, carminative, stimulant, tonic, emmenagogue, litholytic and antibacterial.

Melia Azedarach Linn

Melia azedarach is a deciduous tree attaining a height of 6-16 m and a stem diameter of 115 cm. The tree with a high lateral branching. Woody and drought resistant. Leaves turning yellow in autumn and are dark green on the dorsal surface and paler underneath. Flowers are purple; Fruits or berries are yellow, nearly round, smooth and as a hard stone, containing 4 to 5 in per bunch.

Common Names

This plant have many local names according to the region where it is grown and known as: Chinaberry, Pride of India, China tree, Indian Bakamru, Thamga.
RESEARCH ARTICLE

DPPH Radical Scavenging Activity of Two Medicinal Important Plants *Tinospora cordifolia* and *Argemone maxicana*

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ABSTRACT

Antioxidant potential of different plant parts of *Tinospora cordifolia* and *Argemone maxicana* were determined by using DPPH assay and ascorbic acid as standard compound (IC$_{50}$: 10 µg/ml). The maximum antioxidant potential in A. Maxicana was found in leaf (IC$_{50}$: 29µg/ml) followed by stem (IC$_{50}$: 95µg/ml), Seed (IC$_{50}$: 97µg/ml) and root (IC$_{50}$: 111µg/ml). In T. cordifolia leaf (IC$_{50}$: 37µg/ml) showed maximum antioxidant activity then the roots (IC$_{50}$: 172 µg/ml).

KEYWORDS

Medicinal Plants, Phytochemical Screening, DPPH, Antioxidant

INTRODUCTION

According to Ayurveda the *Argemone maxicana* plant is diuretic, purgeative and destroys worms. It cures lepsory, skin-diseases, inflammations and bilious fevers. Roots are anthelmintic. Juice is used to cure ophthalmia and opacity of cornea. Seeds are purgeative and sedative. In Homoeopathic system of medicine, the drug prepared from this herb is used to treat the problem caused by tape-worm. In India it is introduced and naturalized and occur as wasteland weed in almost every part of India. In many parts it is reported as crop weed also. It is native of Tropical America. The genus *Argemone* includes 12 species. Some major species are: *A. alba* Lestib, *A. platyceras*.

*Tinospora cordifolia* contains many different chemicals that might affect the body. Some of these chemicals have antioxidant effects. Others might increase the activity of the body's immune system.

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Some chemicals might have activity against cancer cells in test animals. Most research has been done in test tubes or in animals. There isn’t enough information to know the effects of *Tinospora cordifolia* in the human body. *Tinospora cordifolia* is used for diabetes, high cholesterol, allergic rhinitis (hay fever), upset stomach, gout, lymphoma, other cancers, rheumatoidarthritis (RA), hepatitis, peptic ulcer disease (PUD), fever, gonorrhea, syphilis, and to boost the immune system.

DPPH is a stable nitrogen-centered free radical the colour of which changes from violet to yellow upon reduction by either the process of hydrogen or electron donation. Substances which are able to perform this reaction can be considered as antioxidants and therefore radical scavengers.1 It was found that the radical scavenging activities of bark and stem extracts increased with increasing concentration. The bark extract possessed more hydrogen donating ability than the stem extract and it was comparable to that of BHT. The DPPH scavenging activity of bark and stem was higher
QUANTITATIVE ESTIMATION OF β SITOSTEROL AND STIGMASTEROL IN ASPARAGUS .RACEMOSUS , AND, TINOSPORA CORDIFOLIA

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ABSTRACT

Ethanobotinacal & Phytopharmaceutical studies showed that the plants have good medicinal value for the tribes of Rajasthan. The primary screening of primary metabolites showed that the metabolite content were high in these plants. The amount of Quantitative data revealed that in A.racemosus the maximum amount of total sterols (β-sitosterol and Stigmasterol) in seeds (12.90 mg/gdw) and minimum in roots (7.82 mg/gdw) .In T.cordifolia the maximum amount of total sterols (β-sitosterol, stigmasterol) was observed in seeds (15.18 mg/gdw) and minimum was found in Stem (6.57 mg/gdw).

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PRIMAR Y AND SECONDARY PHYTOCHEMICAL ANALYSIS OF SOME MEDICINALLY POTENT PLANTS
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ABSTRACT
This present study reports 24 methanolic extracts prepared from the 6 Indian plants belonging to six families collected from the forest located in Jaipur and near by area. Qualitative preliminary phytochemical screening was performed on aforesaid extracts for the presence of alkaloids, flavonoids, steroids and terpenoids. Each analysis was carried out in triplicate. Which shows positive results for alkaloids (30.43%), flavonoids (47.82%), steroids (65.21%) and terpenoids (43.47%), respectively.

KEY WORDS: Indian medicinal plants; Phytochemical screening; Alkaloids; Flavonoids; Steroids; Terpenoids

INTRODUCTION
There is ample literature on preliminary phytochemical surveys and the knowledge of the chemical constituents of plants is desirable to understand herbal drugs and their preparations which is maintain in ancient literature Most importantly, these studies will be helpful to isolate and characterize the chemical constituents present in those plant extracts. In addition, the knowledge of the chemical constituents of plants would further be valuable in discovering the actual value of folkloric remedies. Therefore, 6 Indian medicinal plants belonging to six families were collected in view of this survey from the local forest, Jaipur, India and qualitative investigation was carried out to evaluate the presence of phytochemicals.

MATERIALS AND METHODS

Experimental Plant material collection
Six different plant (Argemone mexicana, Asparagus racemosus, Cyperus rotundus, Tagetes erecta, Tinospora cordifolia, Melia azedarach) was collected from different area of jaipur region and Kapoor Chand Kulish Smriti Van, Jaipur.The collected plants were shade dried and finely powdered. The powdered material was extracted with constant agitation for 48 h. The extracts were filtered using Whatman filter paper (no. 1) and then concentrated in vacuo at 40°C using a Rotary evaporator and stored at 4°C.1,2

Extraction
A small scale extraction was carried out in view of preliminary bio-analysis. The dried pulverized plant material (1-5 g) was extracted with methanol at room temperature the methanol was decanted after 24 hours and the extraction repeated three times. The pooled extracts were filtered and then concentrated under vacuum using a rotary evaporator at 40°C.

Sample Preparation
Crude extracts were prepared by weighing 5 mg approximately and dissolved with 1 ml of double distilled water. Later these solutions were diluted as per the requirement.

Test for primary metabolites
Carbohydrates
Carbohydrates was estimated by protocol prescribed by method 1.

Starch
Starch was estimated by protocol prescribed4

Proteins
Protein was estimated by protocol prescribed5

Lipids
Lipid was estimated by protocol prescribed6.

Phenol
Total phenol was estimated by protocol prescribed7

Preliminary Phytochemical Analysis
Qualitative phytochemical tests for the identification of alkaloids, flavonoids, steroids and terpenoids were carried out for all the extracts by the method described3,8. These tests were carried out in triplicate using various concentrations of sample.

Test for Alkaloids
A small portion of crude extract was dissolved in 5ml of 1% hydrochloric acid, filtered and tested with Dragendorff’s reagent and Mayer’s reagent separately. Any precipitate or turbidity with the reagents suggests the presence of alkaloids.