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SHORT COMMUNICATIONS

Phytochemical screening of hyocyamus niger of various extracts

MANZOOR AHAMD, MOHD YASEEN and RASHIDA QUERESHI

Department of Chemistry Saifia College Bhopal (INDIA)
Corresponding author rqhodchem.saifia @gmail.com

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Abstract

Phytochemicals are secondary metabolites produced by all plants in which some has medicinal uses. This study is to analyse the presence of Phytochemicals in hyocyamus niger. Extractions of methanol,

Chloroform and aqueous of various parts of hyocyamus niger such as stem, leaves were used in this study. The extracts were screened for the presence of Phytochemicals was determined. Phytochemical analysis showed the presence of Alkaloids, Phytosterol, Saponins and Phenolic compounds.

Medicinal plants are of great importance to the health of individualsand communities. Medicinal value of these plants lies in some chemical substances that produce a definite physiological action on the human body. Many of these indigenous medicinal plants are used as spices and food. They are also sometimes added to foods meant for pregnant and nursing mothers for medicinal purposes (H. Edeoga *et al*., 2005). Medicinal herb is considered to be a chemical factory as it contains multitude of chemical compounds like alkaloids, glycosides, aponins, sesquiterpene, land oils (essential and fixed) (Amrit pal Singh, 2005). Today there is growing interest in chemical composition of plant based medicines. Several bioactive constituents have been isolated and studied for pharmacological activity. During the last two decades, the pharmaceutical industry has made massive investment in pharmacological and chemical researches all over the world in an effort to discover much more potent drugs, rather, a few new drugs. Plants have successfully assessed the tests of commercial screenings (Amrit pal Singh, 2005).

Hyocyamus niger belongs to the family solanaceae is flowering plants and found throughout India from the Himalayas. Plant extracts of many higher plants have been reported to exhibit phytochemicals properties under laboratory trials. Plant metabolites and plant based drugs appear to be one of the better alternatives as they are known to have minimal environmental impact and danger to consumers in contrast to the synthetic drugs Hence an

attempt is made in the present study to find out The presence of secondary metabolites in the stem, leaves of Hyocyamus niger.

Collection of Plant Materials :

The planthyocyamus niger. as they are distributedthroughout India, It is easy to collect the plant on the forest sideand cultivated lands. The plant for the present study was takenfrom the gulmerg district, j and k india

Extraction of Plant materials :

The different plant materials stems, leaves were crushed separately with different solvents such as water, methanol and chloroform. The extract was filtered through a Whatmann filter paper. The filtrate was used for phytochemical analysis activity[1].

Phytochemical Screening :

Phytochemical screening was performed using the method of Harbone (1998) and Parekh and Chand (2007). The extracts use were Aqueous, methanol, and Chloroform.

Test for Glycosides and Phytosterol Salwaski Test :

0.5 ml of extract was dissolved in 2 ml of chloroform, H_2SO_4 was carefully added to form a layer. A reddish brown colour indicates the presence of steroidal ring and 2 ml of extract was mixed with conc H_2SO_4, shaked and allowed to stand for 5 min. turning of golden yellow colour indicates the presence of sterols and phytosterols.

Test for Alkaloids :

2 ml of extractsof hyocyamus niger . was stirred with few drops of diluted HCl and filtered. 2 ml of the filtrate was treatedwith the Mayer's reagent and Wagner's reagent for the presence of alkaloids. Creamy precipitate for Mayer's reagent and Reddish brown precipitate for Wagner's reagent indicates the presence of alkaloids.

Test for Fixed Oils :

2 drops of extracts pressed between 2 filter papers. Appearance of oil strain on the paper indicates the presence of fixed oils.

Test for Saponins :
Foam Test :

2 ml of extract was diluted with 20 ml of distilled water and shaken vigorously. It was observed for a stable persistent froth. The GRA - GLOBAL RESEARCH ANALYSIS X 9 frothing was mixed with 3 drops of olive oil, shaken vigorously for an emulsion.

Test for Proteins and Free Amino acids :

2 ml of extracts dissolved in 3 ml of water and Biuret test, Ninhydrin test and Xanthoprotein test were performed. The purple colour for Biuret and Ninhydrin test and Orange precipitate for Xanthoprotein test indicates the presence.

Test for Phenolic Compounds $FeCl_3$ Test:

2 ml of diluted extracts was treated with dilute $FeCl_3$ solution. Appearance of violet colour showing the presence of Phenolic compounds and tannins.

Test for Flavonoids: The extracts

were treated with conc H2So4 and Yellowish orange was observed for the presence.

Phytochemical screening of hyocyamus niger: The Phytochemical screening of different extracts of stem, leafand showed the presence of Alkaloids, Oils, Phytosterols, Saponins and Phenolic compounds and absences of Glycosides,and Amino acids. They are tabulated in Table –1. Aqueous extract of stem, aqueous and chloroform extract of leaves gave positive results for alkaloids. The aqueous extract of stem and leaves showed the presence of phytosterol, Saponins. The Phenolic compounds and flavonoids showed positive in methanol and chloroform extracts of stem and leaves[2].

Thus, from the present study the plant hyocyamus niger showed an abundant production of Phytochemicals as secondary metabolites and they can be used in the pharmaceutical industries for producing a potent drug against different disease causing agents.

Phytochemicals tests for Stem, Leaves of Hyocyamus niger

	Aqueous, methanol,Chloroform	Aqueous methanol Chloroform
Glycosides	– – – – –	
Alkaloids		
Mayers reagent	+++	+++
Wagners Reagent	+	+++++
Phytosterol	+ – + + –	-
Fixed oil	+ – – – –	-
Saponins	+ + – +	++
Protein free amino acid		
Xanthoprotein test	– – – –	++
Biuret test	++ – – – –	
Ninhydrin test	++- - - -	
Phenolic compounds $FeCl_3$ test	+ +	++++
Flavonoids	+ + +	+++

TABLE – 1: Qualitative Phytochemical Analysis of hyocyamus niger + = Positive; - = Negative

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