

Phytochemical evaluation of *Acalypha hispida*, *Acalypha nervosa* and *Acalypha fruticosa*

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ABSTRACT

In the present study, an attempt was made to investigate phytochemical evaluation of *Acalypha hispida*, *Acalypha nervosa* and *Acalypha fruticosa*. The crude power extract of the leaves of the above plant were taken for the study. The Phytochemical screening was done for the selected plants. Phenolic compounds, tannins, flavonoids, cardiac glycosides, and alkaloids were present in *Acalypha hispida*. Alkaloids, flavonoids, carbohydrates, glycosides and tannins were present in *Acalypha nerifolia*. Alkaloids, saponins, flavanoids, carbohydrates and anthraquinone glycosides were present in *Acalypha fruticosa*

Keywords: Phytochemical screening *Acalypha hispida*, *Acalypha nervosa* and *Acalypha fruticosa*.

INTRODUCTION

Herbal medicine also known as botanical medicine or phytomedicine-refers to using plants seeds, flowers, roots for medicinal purpose. Herbalism has a long tradition of use of outside of use of outside of conventional medicine. It is becoming more main stream as improvement in analysis and quality control along with advances in clinical research show the value of herbal medicine in the treating and preventing disease. The medicinal action of plants is unique to a particular plants species, consistent with the concept that the combination of secondary metabolites in a particular plants is taxonomically distinct for three medicinal plants and their description and uses respectively. Here in the present study three plants were taken and evaluated. The phytochemical constituents were studied by qualitative analysis for performing various chemical tests.

MATERIALS AND METHODS

Plant materials: The leaves of plants *Acalypha hispida*, *Acalypha nervosa* and *Acalypha fruticosa* were authenticated and collected from different parts of Andhra Pradesh.

Solvent extraction: The leaves of *Acalypha hispida*, *Acalypha nervosa* and *Acalypha fruticosa* fruticosa were collected, washed, dried power of the leaves was weighed and transferred into a conical flask and it was macerated with sufficient amount of ethanol for about a week days. Process is repeated with water. The whole mixture was filtered and filtrate was collected, concentrated in a china dish on a hot plate till the residue was obtained. The extract was collected, labeled and stored for further experimental use. Qualitative analysis for detection of carbohydrates, Alkaloids, cardiac anthraquinone, saponin, glycosides, flavonoids, tannins was done. The extract and crude dried powders of *Acalypha hispida*, *Acalypha nervosa* and *Acalypha fruticosa* were subjected to qualitative analysis for presence of chemical constituents of *Acalypha hispida*, *Acalypha nervosa* and *Acalypha fruticosa* by performing various chemical tests.

Table.1. Phytochemical evaluation of *Acalypha hispida*

Chemical tests	Results	Chemical tests	Results
Test for carbohydrates		Test for saponines	
Molish's Test	Positive	Foam Test	Negative
Fehling's Test	Positive		
Benedict's Test	Positive		
Barfoed's Test	positive		
Test for alkaloids		Test for cardiac glycosides	
Hager's Test	Positive	Legal Test	Positive
Wagner's Test	Positive	Keller-killiani Test	Positive
Test for flavanoids		Test for steroids	
Lead acetate Test	Positive	Lieberman burchard test	Negative

Table.2. Phytochemical evaluation of *Acalypha nerifolia*

Chemical tests	Results	Chemical tests	Results
Test for carbohydrates		Test for saponines	
Molish's Test Fehling's Test Benedict's Test Barfoed's Test	Positive Positive Positive positive	Foam Test	Positive
Test for alkaloids		Test for cardiac glycosides	
Hager's Test Wagner's Test	Positive Positive	Legal Test Keller-killiani Test	Positive Positive
Test for flavanoids		Test for steroids	
Lead acetate Test	Positive	Lieberman burchard test Salkowski test	Positive Positive

Table.3. Phytochemical evaluation of *Acalypha fruticosa*

Chemical tests	Results	Chemical tests	Results
Test for carbohydrates		Test for saponines	
Molish's Test Fehling's Test Benedict's Test Barfoed's Test	Positive Positive Positive positive	Foam Test	Positive
Test for alkaloids		Test for cardiac glycosides	
Hager's Test Wagner's Test	Positive Positive	Legal Test Keller-killiani Test	Negative Negative
Test for flavanoids		Test for steroids	
Lead acetate Test	Positive	Lieberman burchard test Salkowski test	Negative Negative

RESULTS AND DISCUSSION

The study of the chemical constituents and the active principles of the medicinal plants have acquired a lot of importance all over the world. The present study included the phytochemical screening of the plants *Acalypha hispida*, *Acalypha nervosa* and *Acalypha fruticosa*. They were collected and were authenticated. Then they were shade dried and powdered and were subjected to phytochemical screening. The dried powdered leaves of *Acalypha hispida*, *Acalypha nervosa* and *Acalypha fruticosa* were subjected to extract with ethanol separately. The qualitative chemical test for the ethanolic extracts was performed. The screening showed that *Acalypha hispida* contains carbohydrates, flavanoids, cardiac glycosides, anthraquinone glycosides, saponins, steroids and tannins. The screening showed that *Acalypha nerifolia* possesses carbohydrates, flavanoids, alkaloids, steroids, cardiac glycosides and tannins. The screening showed that *Acalypha fruticosa* possesses carbohydrates, flavanoids, saponins, steroids, and alkaloids. The results were given in Table.1, Table.2 and Table.3 respectively.

CONCLUSION

The screening of phytochemical constituents of plants *Acalypha hispida*, *Acalypha nerifolia*, *Acalypha fruticosa* indicated the presence of carbohydrate, flavanoids, alkaloids and steroids in common. *Acalypha hispida* does not contain saponins and *Acalypha fruticosa* lacks. The plants contains more metabolites there is need for further investigations using fractionated extracts and purified chemical components.

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