Phytochemical evaluation of *Mussaenda erythrophylla, Elaeocarpus ganitrus, Cassia sophera*

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ABSTRACT

In the present study, an attempt was made to investigate Phytochemical evaluation of roots of *Mussaenda erythrophylla, Elaeocarpus ganitrus* and *Cassia sophera.* The crude drug powder extracts of the above plants were taken for the study. The Phytochemical Screening was done for the selected plants. Carbohydrates, alkaloids, and cardiac glycosides were present in *Mussaenda erythrophylla*. Carbohydrates, alkaloids, flavanoids, steroids, cardiac glycosides and anthraquinone glycosides were present in *Elaeocarpus ganitrus. Carbohydrates, a*lkaloids, flavanoids, saponins, and anthraquinone glycosides were present in *Cassia sophera*.

KEY WORDS: Phytochemical screening, *Mussaenda erythrophylla, Elaeocarpus ganitrus* and *Cassia sophera* plant species.

1. 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 conventional medicine. It is becoming more main stream as improvements 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 plant species, consistent with the concept that the combination of secondary metabolites in a particular plant is taxonomically distinct for three medicinal plants and their description and uses respectively. Here in the present study three plants were taken for phytochemical screening and plants extracts crude dried powdered drug were taken and evaluated. The phytochemical constituents were studied by qualitative analysis for performing various chemical tests.

2. MATERIALS AND METHODS

2.1. Plant Materials: The Roots of plants *Mussaenda erythrophylla, Elaeocarpus ganitrus* and *Cassia sophera* were authentified. They were collected from different areas of Guntur, Prakasham and Krishna districts of Andhra Pradesh, India.

2.2. Solvent Extraction: The roots of were collected, washed, dried and powdered separately. 50g of dried powder 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 extracts was collected, labeled and stored for further experimental use.

2.3. Qualitative analysis for detection of carbohydrates, alkaloids, flavonoids, saponins, steroids, cardiac glycosides, anthraquinone glycosides: The extracts and crude dried powders of *Mussaenda erythrophylla*, *Elaeocarpus ganitrus* and *Cassia sophera* were subjected to qualitative analysis for presence of chemical constituents.

3. 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 includes the phytochemical screening of the plants of Roots of plants *Mussaenda erythrophylla, Elaeocarpus ganitrus* and *Cassia sophera.* The plants were collected and were authentified. Then they were shade dried and powdered and were subjected to phytochemical screening. The qualitative chemical tests for the ethanolic extracts were performed. The investigation showed that *Mussaenda erythrophylla contains* carbohydrates, alkaloids, flavanoids, cardiac glycosides, anthraquinone glycosides, saponins, steroids and tannins. The screening showed that *Elaeocarpus ganitrus* possesses carbohydrates, flavanoids, alkaloids, steroids, cardiac glycosides and tannins. The screening showed that *Cassia sophera* possesses carbohydrates, flavanoids, saponins, steroids and alkaloids. The results were given in Table 1 and Table 2 and Table 3 respectively.

Table.1.Phytochemical evaluation of *Mussaenda erythrophylla*

Chemical tests	Result
Test for carbohydrates	
Molisch's test	Positive
Fehling's test	Positive
Benedict's test	Positive
Barfoed's test	Positive
Test for alkaloids	
Hager's test	Positive
Wagner's test	Positive
Test for flavonoids	
Lead acetate test	Positive
Test for saponins	
Foam test	Negative
Test for steroids	
Lieberman burchard test	Negative
Salkowski test	Negative
Test for cardiac glycosides	
Legal test	Positive
Keller-killiani test	Positive
Test for anthraquinone glycosides	
Borntrager's test	Negative

Table.2.Phytochemical evaluation of *Eleocarpus ganitrus*

Chemical tests	Result
Test for carbohydrates	
Molisch's test	Positive
Fehling's test	Positive
Benedict's test	Positive
Barfoed's test	Positive
Test for alkaloids	
Hager's test	Positive
Wagner's test	Positive
Test for flavonoids	
Lead acetate test	Positive
Test for saponins	
Foam test	Negative
Test for steroids	
Lieberman burchard test	Positive
Salkowski test	Positive
Test for cardiac glycosides	
Legal test	Positive
Keller-killiani test	Positive
Test for anthraquinone glycosides:	
Borntrager's test	Positive

Table.3.Phytochemcial evaluation of *Cassia sophera*

Chemical tests	Result
Test for carbohydrates	
Molisch's test	Positive
Fehling's test	Positive
Benedict's test	Positive
Barfoed's test	Positive
Test for alkaloids	
Hager's test	Positive
Wagner's test	Positive
Test for flavonoids	
Lead acetate test	Positive
Test for saponins	
Foam test	Positive
Test for steroids	
Lieberman burchard test	Negative
Salkowski test	Negative
Test for cardiac glycosides	
Legal test	Negative
Keller-killiani test	Negative
Test for anthraquinone glycosides	
Borntrager's test	Positive

4. CONCLUSION

The screening of phytochemical constituents of plants of Roots of *Mussaenda erythrophylla*, *Elaeocarpus ganitrus* and *Cassia sophera* indicated the presence of carbohydrates, alkaloids, and flavonoids in common The plants contains more metabolites there is need for further investigations using fractionated extracts and purified chemical components.

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