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Phytochemical Analysis of Calotropis Giganteae with Study of its Medicinal Properties

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Abstract: ***The present study is aimed at the development of physiochemical parameters & to investigate active functional compounds in plants responsible for yielding it the medicinal properties & so as to make it more & more capable against various disorders & to reduce the use of chemicals by providing natural alternatives against several deficiencies & disorders. It is actually a study of all reported medicinal properties of Calotropis Giganteae of its various parts like leaves, flowers, stems, roots etc. Calotropis Giganteae is a traditional medicinal plant possessing unique medicinal properties & uses like its leaves are used as remedy for poisonous snake bite, for fever, stomach disorders, cough, ringworm, ascites, skin disorders, swelling, purgative & emetic, indigestion, Nausea, vomiting, diarrhea, also these leaves are used by tribes for abortion by inserting into cervix which can induce labour pain & causes abortion , also flowers are reported to have high medicinal values in treating asthma. This knowledge about the medicinal values of Calotropis Giganteae is transferred by primitive people of antiquity. The above mentioned plant possess currently discussed medicinal values & phytochemical analysis reveals that it is possible because of presence of some compounds like Alkaloids, anthraquinone, carbohydrates, Terpenoids, Steroids, Tannins, Cardiac Glycosides, Phenolic compounds which are phytochemically analyzed.***

Key words: Calotropis Giganteae, Remedy for snake bite, Abortion, Indigestion, Phytochemical analysis

1. Introduction

The literature survey reveals that plants were used medicinally in China, India, Egypt & Greece long before the beginning of Christian era. In these days ancient peoples acquired the knowledge of herbal drugs through experimentation with plants & passes on the next generation orally in “Gurukuls” due to no availability of documentation practice. Then medicinal plants were recorded in the forms of signs, symbols, carvings, in clay tablets & stones. The ancient literature of medicines reveals that primitive people of antiquity have been used several kinds of medicinal plants for treating various diseases. These practioners knew much more medicinal values of maximum plants & they gave external as well as internal treatment to the patients. On the basis of literature survey present analysis Calotropis gignateae was carried out.

Calotropis giganteae is very common herb seen widely throughout India & found road side which is commonly known as Madar/Rui. Its leaves are thick, sessile, ovate, opposite, decussate in arrangement. Flowers are in umbel & fragrant. It grows up to height of 8-10 ft also are 3.8 to 5.1cm in size. It is a traditional medicinal plant & very commonly used by tribes of India for much more disorders because of its reported medicinal values by ancient of tribes. It is generally assumed by these people to have unique medicinal values. Leaves of plants are used for remedy for poisonous snake bite, for fever, stomach disorders, cough, ringworm, ascites, skin disorders, swelling, purgative & emetic, indigestion, Nausea, vomiting, diarrhea, also these leaves are used by tribes for abortion by inserting into cervix which can induce labour pain & causes abortion , also flowers are reported to have high medicinal values in treating asthma.

Distribution: Coursed textured soils of tropical regions, open, sunny, dry localities, a weed of follow land, field, waste areas & road side.

Habit: Herb
Disseminule: Fruit

Classification:
Kingdom Plantae
Division Magnoliophyta
Order Gentianales
Family Apocynaceae
Species Calotropis giganteae
It is commonly found in Indonesia, China, Srilanka, Thiland, and Malasia etc.

The common names of Calotropis giganteae are as follows

Region/Languages	*Traditional Name*
Marathi	Rui/Arki/ruiti
Hindi	Madar/ Aak
English	Madar tree/Mudar
Punjabi	EK
Kashmiri	Aeka
Sanskrit	Ravi/Tapana
Tamil	Vellai Erukku
Urdu	Madar
Telagu	Tella Jilledu
Kannad	Ekka

2. Methodology

First of all, plants were collected from the respective site; it was washed smoothly with distilled water. Then roots, stems, leaves, & flowers were separated out by scissor and all were shade dried at room temperature for 15 days. Then each part of sample was crushed to isolate fine powder and now this fine powder was treated as sample of leaves, sample of root, sample of stems, and sample of flowers. This air dried & grinded fine powder of leaf sample was mixed with distilled water & kept for 12 hrs then it is filtered out with Whatsmann filter paper & phytochemical analysis of leaves sample for various bioactive compounds given below was carried out.

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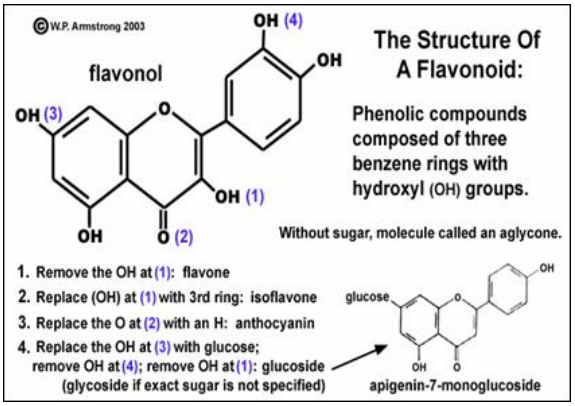
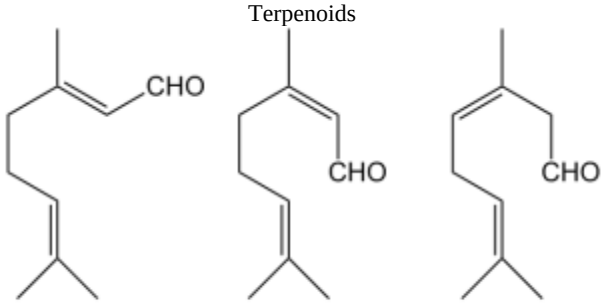
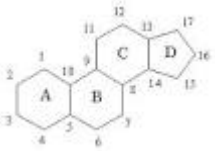
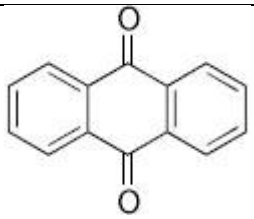
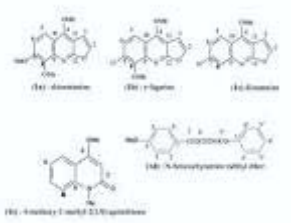
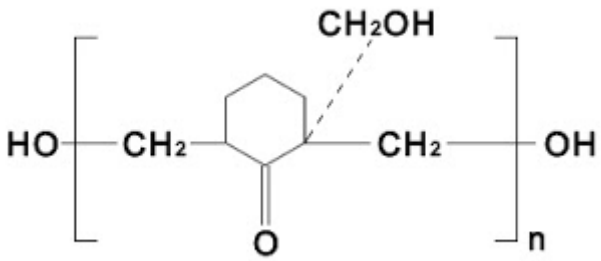
S/N	Compounds	Leaf sample
1	Flavanoids 	Present
2	Terpenoids 	Present
3	 Steroids	Present
4	 Anthraquinone	Present
5	 Alkaloids	Present
6	Resins 	Present

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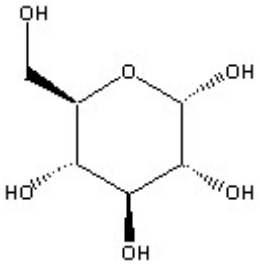
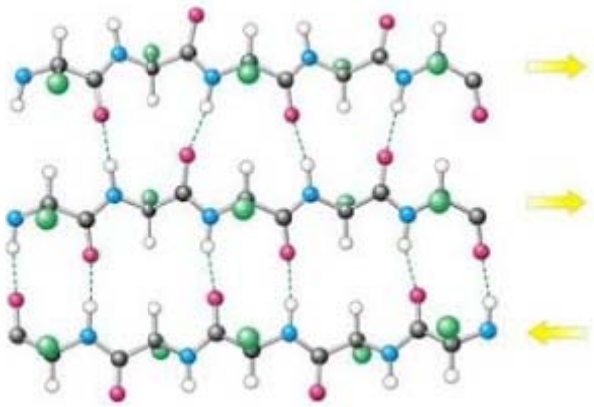
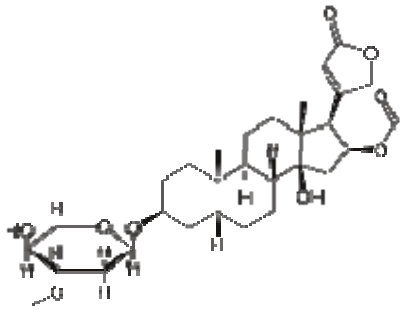
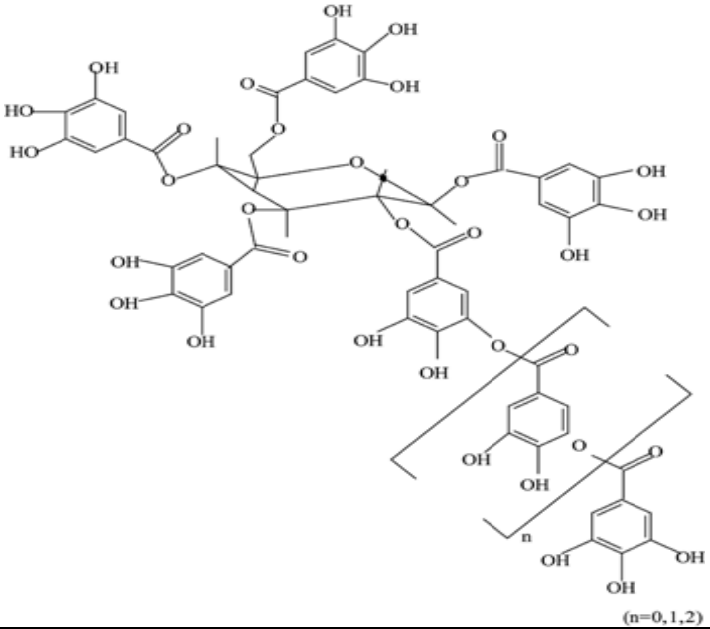
7	 Carbohydrates	Present
8	Proteins 	Present
9	Cardiac glycoside 	Present
10	Tannin 	Present

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Modern chromatographic methods have been greatly developed to isolate & purify a large number of different compounds in very small quantities. Column, GC, TLC, HPLC, Paper, Ion exchange etc.More modern structural elucidation & characterization of compounds present plants will be analyzed by Spectroscopy –NMR/IR & by using Mass Spectrometry confirmation of structure of chemical compounds in plant will be done in next.

3. Result

The sample of Calotropis giganteae after analysis have been reported to have the presence of various compounds like Alkaloids, anthraquinone, carbohydrates, Terpenoids, Steroids, Tannins, Cardiac Glycosides, Phenolic compounds etc because of & after some elemental analysis we will come to know that it possess medicinal values like anti toxicity, can be used as laxative, emetic, against insect bite, snake bite, remedy for fever, intestinal worms, stomach disorders & above mentioned uses. As the natural extracts has more complex composition & properties than salts & minerals, that's why they can be best, studied.

4. Conclusion

Medicinal plants play a critical role within the framework of formula health service. When a plant is designated as "medicinal" it is implied that it is useful as a therapeutic agent or anti-ingredient for medicinal preparation. Medicinal plants are rich sources of bioactive compounds & thus serve as important raw materials for drug products. They constitute a precious natural wealth of country. Judicious & Scientific exploitation of this wealth can significantly improve the general health of people & being or valuable commercial item, country can also earn a good amount of foreign exchange.The study represents a contribution to the existing knowledge of Calotropis giganteae as remedies for various disorders that are in current practice only the requirement is to modify the chemical& physical properties of Calotropis giganteae & to extract out & confirm all the medicinal contents properly with the technique available in the field of science to get the best result & to replace synthetic drugs which sometimes have side effects by the present herb.

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