ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 8.4
IJAR 2022; 8(9): 26-27
www.allresearchjournal.com
Received: 22-05-2022
Accepted: 05-07-2022

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Phytochemical screening of leaf of *Cordia dichotoma* G. Forst

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Abstract
The present paper deals the phytochemical constituent of *Cordia dichotoma* G. Forst. leaf. The extraction from leaves of *Cordia dichotoma* was done by soxhlet apparatus for 3 days by using alcohol (Ethanol) as solvent. After that the evaporation of solvent was done for obtaining solid form of extract. Phytochemical screening of solid form of extract was performed to study its contents (Eg. Tannins, Alkaloids, Anthocynin, steroids, etc.)

Keywords: Phytochemical, *Cordia dichotoma*, leaves

1. Introduction
Cordia dichotoma is a small to moderate-sized deciduous tree with a short bole and spreading crown. It is member of family Boraginanceae. The stem bark is greyish brown, smooth or longitudinally wrinkled. Flowers are short-stalked, bisexual, white in colour which open only at night. The fruit is a yellow or pinkish-yellow shining globose which turns black on ripening and the pulp gets viscid.
The presence of phytochemicals such as steroids, terpenoids, carotenoids and flavanoids exhibiting antimicrobial, heamolytic and foaming activity was demonstrated by screening phytochemicals present in the leaf extracts of *Cordia dichotoma* (Feroz *et al.* 1993) [1]. Environmental factors can influence plant growth, such as soil conditions, temperature, altitude and precipitation, and in turn influence the production of phytochemicals in them (Kokate *et al.* 2004) [2]. The purpose of this research was to investigate the presence of phytochemical constituents in two different solvent extracts and the anthelmintic behavior of *Cordia dichotom*a ethanolic extract.

2. Methods and Material
2.1 Collection and identification of plant and worms
The test plant *Cordia dichotoma* leaf was collected from forest of Sidhi district Madhya Pradesh, India. Using an electric grinder, shade-dried leaf samples were cleaned, washed, dried and pulverized into coarse powder.

2.2 Extraction
The dried leaf powder (20 g) of *Cordia dichotoma* leaf was extracted separately by ethanol by keeping them in respective solvents for 48 hours with soxhlet apparatus and then evaporated to dryness and air dried at room temperature.

2.3 Phytochemical analysis
The phytochemical constituents present in *Cordia dichotoma* leaf were carried out with solvent extracts as mentioned as follow using standard methods (Shanti *et al.* 2011; Savithramma *et al.* 2011; Vaghasiya *et al.* 2011 and Patil *et al.* 2012) [3-6].

Table 1: Phytochemical analysis

Sr. No.	Phytochemical	Test	Positive Observation
1	Alkaloids	1 ml of extract adds 1% HCl and 6 drops of Mayer's reagent and few drops of Dragendorff's reagent.	Organic precipitate indicate that presence of alkaloid
2	Flavonoids	5 ml of dilute ammonia solution were added to a portion of aqueous filtrate of extract followed by addition of con. H_2SO_4.	A yellow coloration is observed which confirms the presence of flavonoids.
3	Terpenoids	5 ml of extract was added to 2 ml of chloroform and 3 ml of con. H_2SO_4.	Formation of reddish brown monolayer at coloration of the interface was showed to form positive result for terpenoids.
4	Tannins	5 ml of extract was added to few drops of 1% lead acetate.	A yellow precipitate indicates presence of tannin.
5	Saponins	5 ml of extract was added to 20 ml of distilled water was agitated in a graduated cylinder for 15 minutes.	The formation of a layer of foam indicates the presence of saponins.
6	Coumarins	3 ml of 10% NaOH was added to 2 ml of aqueous extract	Formation of yellow color indicates the presence of cumarins
7	Emodins	2 ml of NH_4OH and 3 ml Benzene was added to the extract.	Appearance of red color indicates the presence of emodin
8	Anthocyanins	2 ml of aqueous extract is added to 2 ml of 2N HCl and ammonia.	The appearance of pink-red turns blue violet indicates the presence of anthocyanin.
9	Leucoanthocyanins	5 ml of aqueous extract added to 5 ml of isoamyl alcohol	Upper layer appears red in color indicates for presence of leucoanthocynin.
10	Steriods	1 ml of the extract was dissolved in 10 ml of chloroform and equal volume of concentrated sulphuric acid was added by sides of the test tube.	The upper layer turns red and sulphuric acid layer showed yellow with green fluorescence indicate the presence of steroids.
11	Phlobatinins	Aqueous extract were boiled with 1% aqueous HCl	Red precipitate was deposition indicate the presence of phlobatinins.

3. Result

Table 2: Phytochemical constituents present in leaf extracts of *Cordia dichotoma*

S. No.	Phytochemical	*Cordia dichotoma*
1.	Alkaloid	+
2.	Tannis	-
3.	Anthocynin	-
4.	Flavonoids	+
5.	Terpenoid	+
6.	Coumarin	-
7.	Steroids	+
8.	Phlobatins	-

Preliminary phytochemical screening has shown the presence of saponin, steroid, alkaloid, tannin, flavonoid in ethanolic extract. From the above table.

4. Discussion

The plants have different chemical constitution and the composition of these chemicals may vary from one part to another part within the same plant. In order to determine the soluble phytochemical constituents, *Cordia dichotoma* leaf were therefore chosen to prepare ethanolic extracts using two separate methods. The present investigation revealed the presence of phytochemicals in ethanolic solvent extracts of *Cordia diachotoma* leaf, such as alkaloids, glycoside, coumarin, saponins, flavonoids and tannins.

Phytochemicals, also known as secondary metabolites, are found in complex mixtures that vary by plant organ and growth stage (Banerji *et al.* 1969) [7]. Knowing the phytochemical constituents of *Cordia dichotoma* leaves will help you get the most out of this plant in terms of medicine. Vital sources of antiviral, antitumor and antimicrobial agents have been identified as phytochemicals contained in plants and are therefore used as constituents in allopathic medicine (Nair *et al.* 2005) [8] and in other medical systems as well.

5. Conclusion

By performing extraction of *Cordia diachotoma* leaf it was found that both extract contain cumarine as active constituent for anthelmintic activity. Further work will emphasize the isolation and characterization of active principles responsible for anthelmintic activity of leaf extracts of *Cordia diachotoma*.

6. Acknowledgements

Authors are thankful to the authority of S.G.S. Govt. P.G. College, Sidhi (M.P.) for kind cooperation and carry out to this work.

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