Preliminary Phytochemical Analysis Of Leaves Of Alangium Salvifolium Plant.

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ABSTRACT :

The phytochemical analysis of the plants is very important commercially and has great interest in pharmaceuticalcompanies for the production of the new drugs for curing of various diseases.

The present investigation was focused on the preliminary phytochemical analysis of extraction in distilled water, ethyl alcohol, petroleum ether, Acetone, ethyl acetate, benzene and chloroform of leaves sample of *Alangium Salvifolium* Plant have been studied. The site was selected in Nagthana, Tal-Warud, Dist-Amravati of Maharashtra State(Area from the border between Madhya Pradesh and Maharashtra).The results were clearly indicates the presence of Alkaloid, carbohydrate, cardiac glycosides, Protein, Saponin, Tanin, Coumarine. Thus it will be assuredly suggests that, this plant can be utilize as an alternative source of useful drug.

Key words :- Saponins, alkaloids, flavonoids, carbohydrates,tannin,protin ,*Alangium Salvifolium*,Phytochemical.

INTRODUCTION :-

The medicinal property of the plants is due to presence of alkaloids, glycosides, volatile oil, saponins and tannins etc. They are naturally synthesized by the plants through definite pathways. It becomes necessary to find out the chemical constituents present in particular medicinal plants and their parts which are used to cure the diseases. Phytochemical screening were performed to assess the qualitative chemical composition of different crude extracts using commonly employed precipitation and coloration reactions, the methods of Harbone[1], Trease and Evans[2] were used to identify the major secondary metabolites like Alkaloids, Flavonoids, Saponins, Carbohydrate, Protein, Phenols etc.

The investigation on the preliminary phytochemical and Fourier Transform Infrared Spectral analysis and Antimicrobial Studies of solvents extracts of *Urgineaindica*(Roxb.) Kunth(Liliaceae) and *Cycleapeltata*Arn. ex Wight (Menispermaceae), results were clearly revealed that the plant contained different bioactive compounds such as of Alkaloids, Anthoquinones, Coumarins, Steriods and Flavonoids compounds were rich in the extracts of *Urgineaindica*(Liliaceae) and *Cycleapeltata*(Menispermaceae) are connected with defense mechanism against many microorganisms[3].Phytochemical screening and Extraction: A Review. Plants are a source of large amount of drugs comprising to different groups such asantispasmodics, emetics,anti-cancer,antimicrobialsetc[4].Preliminary studies on phytochemicals and antimicrobial activity of solvent extracts of Eichhorniacrassipes(Mart.)Solms.They had study the fresh plant contain alkaloids, flavonoids, phenols, sterols, terpenoids,anthoquinones and protein[5]. Preliminary phytochemical screening of different solvent extracts of stemBark and roots of *Dennetiatripetala*G. Baker[6].Pharmacognostical and phyto-chemical investigation of cissusquadrangularislinn. Stem [7].

The phytochemical analysis and antimicrobial studies of the leaves of *Plantago lanceolata*extract ever since the plant was used for wound healing in Ethiopia[8].Medicinal plant based drugs have the added advantage of being simple effective and offering a broad spectrum of activity with greater emphasis on preventive action it is of interest to investigate the phytochemical The preliminary phytochemical analysis of extracts of *Crossandra Infundibuliformis*[9].

The main chemical part obtained from *Artemisia annua* is a hydrophobic sesquiterpene lactone phytochemical study and sharp toxicity studies of *Artemisia annua* in Swiss albino mice[10].The phytochemical investigation and oral keen toxicity study of the leaves of *Baccaureo ramiflora* and micrcos paniculata the soxhlet extraction and standrad method were used for extraction and phytochemical analysis[11].The leves of *Cassine glauca* is use in a herbal medicine as rich source phytochemical with the presence of alkaloid carbohydrates flavonoids phenol cardiac glyciside suponin,tanins , caumarine[12].A preliminary qualitative evaluation for secondry metabolites in bark , leaves and seeds was conceded out in five different solvent[13]. The phytochemical screening and evaluates the total flavonoid in different extract of complete plant of *Euphorbia hirta* [14]. A preliminary phytochemical analysis and

comparative study of antioxidative properties of the fruits and leaves was carried out of *Spondias mombin*plantin Bangladesh[15].

EXPERIMENTAL:-

Preparation of sample: -

First the site was selected in Nagthana, Tal-Warud, Dist-Amravati of Maharashtra State(Area from the border between Madhya Pradesh and Maharashtra). Before picking the whole plant, the soil was moistened. The sample was washed smoothly by distilled water, and then shed dried out at room temperature. Sample was crushed individually in pestle-mortar to segregate fine powder. This powder was treat as sample powder for various investigate.

Solvent extraction:-

5 g. portion of powdered plant materials were each separately dispersed in 100 ml of each water, ethanol, acetone, petroleum ether, ethyl acetate , chloroform and benzene . The solution was left to stand at room temperature for 24 hrs and was filtered with whatman No. 1 filter paper. The filtrate was used for the Phytochemical Analysis.

Phytochemical screening :

To identify Alkaloids, Flavonoids, Saponins, Carbohydrate, Protein, Phenols, Sterols, Tannins, Cardiac Glycosides, Terpenoids, Phlobatannins, Coumarins, Amino acids, Quinones, Anthocyanins in the extracts, phytochemical screening were perform to assess the qualitative chemical composition of different crude extracts using commonly employed foam, precipitation and coloration reactions ,the methods of Harbone[1] , Trease and Evans[2] .

Table 2 :-Phytochemical screening of leaves of *Alangium Salvifolium* plant.

	Extract							
Sr. No	**Phytochemicals**	***Acetone***	***Benzene***	***Chloroform***	***DD water***	***Ethanol***	***Ethyl acetate***	***Petroleum ether***
1	Test for **Alkaloid** Wagner Test	+	+	+	+	+	+	-
2	Test for**Carbohydrate** MolischsBencdicts Test	+	-	+	+	+	+	-
3	Test for **Cardiac Glycoside** Keller Kelliani's Test	+	+	+	+	+	+	+
4	Test for **Flavonids**	-	-	-	-	-	-	-
a	Alkaline reagent Test	-	-	-	-	-	-	-
b	H_2So_4Test	-	-	-	+	-	-	-
c	Lead Acetate Test							
5	Test for **Phenol** Ferric Chloride test LeodAcectate test	-	-	-	+	-	-	-
6	Test for **Phlobatannin** Precipitate test	-	-	-	-	-	-	-
7	Test for **Amino Acid** Ninhydrin test	-	-	-	-	-	-	-
8	Test for**Protein** Xanthoproteic Test	-	+	-	-	-	-	-
9	Test for **Saponin** From Test	-	-	-	+	-	-	-
10	Test for **Sterol** Liebermann-Burchard	-	-	-	-	-	-	-
11	Test for **Tannin** Braymr's Test	+	-	-	+	+	-	-
12	Test for **Terpenoids** Salkowki's Test	-	-	-	-	-	-	-
13	Test for **Quinones**	-	-	-	-	-	-	-
14	Testfor**Anthocyninine** NaOH Test	-	-	-	-	-	-	-
15	Test for **Coumarine**	-	+	-	+	-	-	+

RESULTS AND DISCUSSION :-

From the above table it is clear that,

1. Alakaloids are present in a extract of Acetone, Benzene,Chloroform,Distilled Water,Ethanol,Ethyl Acetate,Petroleum Ether.

2. Carbohydrate is present in extract of Acetone,Chloroform,Distilled Water,Ethanol ,Ethyl acetate.

3. Cardiac glycosides are present in a extract of Acetone,Benzene,Chloroform,Distilled Water,Ethanol,Ethyl Acetate,Petroleum Ether.

4. a) Alkalline Reagent Test :- Flavanoids are absent in a extract of Acetone, Benzene,Chloroform, Distilled Water,Ethanol,Ethyl acetate,Petoleum Ether.

b) H_2SO_4Test :-Flavanoids are absent in a extract of Acetone,Benzene, Chloroform,Distilled Water,Ethanol,Ethyl Acetate, Petroleum Ether.

c) Lead Acetate Test :-Flavanoids are present in a extract of Distilled Water & absent in extract of Acetone,Benzene, Chloroform,Ethanol, Ethyl Acetate,Petroleum Ether.

5. Phenol is absent in extract of Acetone,Benzene, Chloroform,distilled Water,Ethanol,Ethyl Acetate,Petroleum Ether.

6. Phlobatannins are absent in a extract of Acetone,Benzene,Chloroform,distilled Water,Ethanol,Ethyl Acetate,Petroleum Ether.

7. Amino acid are absent in a extract of Acetone,Benzene,Chloroform,distilled Water,Ethanol,Ethyl Acetate,Petroleum Ether.

8. Proteins are absent in a extract of Acetone,Benzene,Chloroform,Distilled Water,Ethanol, Ethyl Acetate,Petroleum Ether.

9. Saponins are present in extract of Distilled Water & absent in a extract of Acetone ,Benzene,Chloroform,Ethanol,Ethyl Acetate,Petroleum Ether.

10. Steroids are absent in extract of Acetone, Benzene,chloroform,distilled Water,Ethanol,Ethyl Acetate,Petroleum Ether.

11. Tannins are present in a extract of Acetone,Distilled Water,Ethanol & absent in Benzene,Chloroform, Ethyl Acetate,Petroleum Ether.

12. Terpenoids are absent in a extract of Acetone,Benzene,Chloroform,Distilled Water,Ethanol,Ethyl Acetate,Petroleum Ether.

13. Quinones are absent in a extract of Acetone, Benzene, Chloroform, Distilled Water, Ethanol, Ethyl Acetate, Petroleum Ether.

14. Anthocyaninine are absent in a extract of Acetone,Benzene,Chloroform,Distilled Water,Ethanol,Ethyl Acetate,Petroleum Ether.

15. Coumarine are present in a extract of Benzene,Distilled Water,Petroleum Ether & absent in a Acetone,Chloroform,Ethanol,Ethyl Acetate.

CONCLUSION:-

The leaves of Alangium salvifolium use in herbal medicine as rich source of phytochemicals with the presence of Alkaloid, carbohydrate, cardiac glycosides, Protein, Saponin, Tanin, Coumarine. Thus this plant can be utilized as an substitute source of functional drug.Hence it is necessary to discover the much more learning of herb in the botany, medicinal, pharmaceutical and biochemical science. The detailed study of phytopharmaceutical herbal drug will make direct impact on overall economic enlargement of the grower farmer and villagers. In the future, the leaves of Alangium salvifoliummight be use as good pharmaceutical and therapeutic agent. Additional*in Vivo* studies are essential with the leaves of Alangium salvifolium.

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