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## PHYTOCHEMICAL ANALYSIS OF *ALANGIUM SALVIFOLIUM* (Linn) LEAF EXTRACTS

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### ABSTRACT

Alangium species used as natural medicine, prescribed by Ayurveda, Sidda medical practitioners for various diseases due to its wide range of biological profile. Our study is the phytochemical investigation of petroleum ether, chloroform and ethanol leaf extracts of *Alangium salvifolium*. The qualitative chemical analysis were showed the presence of proteins, steroids, glycosides and alkaloids are main active constituents responsible for the various fascinating biological activities.

### KEYWORDS

Alangium species, Qualitative analysis, Extraction, Active constituents and Chemical test.

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### INTRODUCTION

*Alangium salvifolium* and *Alangium lamarkii* leaves extract had antispasmodic, hypotensive, anticholinesterase and adrenolytic activities. The bark of the plant has been used in Indian indigenous system of medicine for the treatment of leprosy, syphilis, various skin disease and dysentery. It has been used as a diaphoretic, antipyretics, emetic, laxative, and anthelmintic<sup>1</sup>. The leaves are used as poultice to relive rheumatic pains. The alcoholic extract of the leaves was found to be pharmacological active as hypotensive, anticholinesterase, antispasmodic, and adrenolytic

activities. The different parts of *Alangium salviifolium* possess various properties like astringent, emollient, diuretic, purgative, cholinergic and useful for external application in acute case of rheumatism and inflammation. The leaves are used as poultice in rheumatism. Stem barks of the *Alangium salviifolium* extracts have been used to assess the anti-inflammatory<sup>2</sup> and anti-bacterial activities. Among the extracts the chloroform extract possesses good anti-inflammatory activity and it is very effective against the *E-coli*, *P.aeruginosa*, *S.aerues*<sup>3</sup>. The methanol extract of *Alangium salviifolium* flowers showed a wide spectrum of antibacterial activity against both gram positive and gram negative bacteria and *alangiium* also used in birth control. The *Alangiumla marckii* was demonstrated to exhibit potent cytotoxicity. Thus the plant alkaloid is a potential antimicrobial, antitumor and anticancer agent<sup>4</sup>. Alkaloids extracts of *Alangium vitiense* and *salviifolium* were found to be oncostatic for lymphocytic leukemia and antitumor against lymphoma<sup>5</sup>. Extract of *Alangium Platanifolium* and *salviifolium* were assessed for CNS depressant and antiepileptic activity<sup>6</sup>. The leaves of *Alangium salviifolium* are used as anti-arthritis activity<sup>7</sup>, anti-oxidant activity, wound healing, anti-hypertensive, anti-fertility activity, antitumor, sedative, anti-microbial, anti-diabetic activity<sup>8</sup>, astringent, laxative, refrigerant, anti-ulcer effect<sup>9</sup>. And used to treat rheumatism, leprosy, syphilis and asthma<sup>10</sup>. These fascinating biological activities stimulated us to do the phytochemical investigation of various solvent extracts of the leaves of *Alangium salviifolium* (Linn).

## MATERIALS AND METHODS

The dried leaves of *Alangium salviifolium* were dried in the shade. Then the shade dried leaves were powdered to get a coarse powder. The extracts were prepared by increasing order of

polarity of various solvents. About 500gm of powder was extracted first with the petroleum ether by continuous hot percolation using Soxhlet apparatus. The extractions were continued for 48 hours. The petroleum ether extract was filtered and concentrated to a dry mass by using vacuum distillation. A yellowish waxy residue was obtained. The mass left after the ether extract was taken and subsequently extracted with chloroform upto 72 hours. The chloroform extract was then filtered and concentrated to get a dry mass. A dark brown residue was obtained. The mass left after the chloroform extraction were dried and extracted with ethyl alcohol. The extraction was continued up to 72 hours. The alcohol extract was filtered and concentrated by vacuum distillation<sup>11</sup>. A brownish yellow residue was obtained.

## QUALITATIVE CHEMICAL EVALUATION

The extracts obtained by above methods were subjected to qualitative chemical tests for the identification of various plant constituents. The results are displayed in Table No.1.

## RESULTS AND DISCUSSION

The continuous hot extraction is performed by using Soxhlet extractor apparatus increasing order of polarity of solvents using petroleum ether, chloroform and ethyl alcohol. The above solvents are successfully used for phytochemical investigation. The qualitative chemical analysis displayed that leaf petroleum ether extract showed the presence of alkaloids, fixed oils and fats. The qualitative chemical analysis displayed that leaf chloroform extract showed the presence of proteins, amino acids, steroids, alkaloids and the leaf alcohol extract showed the presence of carbohydrate, glycosides and alkaloids. All the tested extracts do not possess tannins, terpenes, flavanoids and saponins.

**Table No.1: Data Showing the Preliminary Phytochemical Screening Results of the *Alangium salvifolium* (Linn) Leaves Extracts**

S.No	Chemical tests	Petroleum ether Extract	Chloroform Extract	Alcohol Extract
1	Test for carbohydrates a) Molish Test b) Fehling's Test	- -	- -	+ +
2	Test for Glycoside a) Legal's test b) Baljet's test c) Borntrager's test	- - -	- - -	+ + +
3	Test for proteins and amino acids a) Biuret Test b) Ninhydrin Test c) Xanthoprotein Test d) Millions Test	- - - -	+ - - +	- - - -
4	Test for Tannins lead acetate test	-	-	-
5	Test for steroids a) Salkowski Test b) Liberman Burchard test	- -	+ +	- -
6	Test for flavanoids Shinoda's Test	-	-	-
7	Test for Triterpenes a) Chloro Sulphonic acid Test b) Trichloroacetic acid test	- -	- -	- -
8	Test for Diterpenes Copper acetate Test	-	-	-
9	Test for Alkaloids a) Mayer's Test b) Wagner's Test c) Dragendroff Test d) Hayer's Test	- + - +	+ + + +	+ + + +
10	Test for Saponins	-	-	-
11	Test for Fixed oils and fats	+	-	-

## CONCLUSION

*Alangium salvifolium* leaf extracts have depicted wide range of phytochemical constituents. So it posses fascinating pharmacological profile. In present and future it must be useful or as a lead pharmacophore plant material for the development of newer pharmaceutical dosage forms.

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## CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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