**Alangium salvifolium** (Linn. F) Wang: A Phytopharmacological Review

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**ABSTRACT**

*Alangium salvifolium* (Linn. F) Wang, is a small deciduous tree or shrub, which grow in the wild throughout the hotter parts of the India1. It belongs to the family Alangiaceae. It is used as laxative, astringent, pungent, anthelmintic, purgative, emetic, anti protozoal, hypoglycemic activity, anti diabetic and for anti ulcer activity. The plant was also reported as antifungal activity, anti diabetic activity, antioxidant, antimicrobial activity, cardiac activity and anti fertility activity. This activity of the plant possess due to the important phytochemical constituents like flavonoids, saponins, glycosides, alkaloids and steroids etc.

**Keywords:** *Alangium salvifolium* (Linn. F) Wang, Alangiaceae, phytochemical constituents.

**INTRODUCTION**

The genus *Alangium* consists of 22 species that are growing in the wild throughout the hotter parts of the India1. *Alangium* comes from the Tamil name Alangi2. One of species named as *Alangium salvifolium* (Linn. F) Wang is more popular than its other species. *Alangium salvifolium* (Linn. F) Wang a small deciduous tree or shrub belongs to the family Alangiaceae3. It is native Western Africa, Madagascar, Southern and Eastern Asia, China, Malaysia, Indonesia, India, and Philippines, tropical Australia, the western Pacific Ocean islands and New Caledonia. In India, it is throughout the Hyderabad forests and Sitamata wildlife sanctuary, Rajasthan4.

**Ayurvedic Description**

Sanskrit: - Ankola, Ankota, Nikochaka, Deerghakeela
Kannada: - Ankolimara, Ansaroli, Ankol
Malayalam: - Ankolam, Velittanti
Tamil: - Alangi, Ankolum
Telgu: - Ankolamu, Udagu
Bengali: - Akarkanta, Onkla
Marathi: - Ankola
Hindi: - Angol, Ankora, Dhera
English: - Sage leaved Alangium, Baghankura
Gujrati: - Ankol

**Botanic Description**

It is deciduous shrub or a tree, up to 10m in height with a maximum girth of 1.2m with rough light brown bark. Branch lets grey or purple-brown, often with strong spines up to 1.2 cm. long, pubescent or glabrous. Leaves alternate up to 15cm x 5cm simple, oblong lanceolate, repandly entire5. The flowers are White or cream, fragrant, 1.2-3.0cm long, axillary fascicles from the axes of fallen leaves6. seeds are Stamens 10–32, 5–14 mm long; ovary inferior, 1–2-celled, style 8.5–27.5 mm long, glabrous, stigma conical or head-shaped, slightly lobed. The fruits are ellipsoidal when young and become purplish red globular when ripen7. The wood is valued for musical instruments and furniture in India. It is also used in building as beams, for flooring, furniture, cabinet work, inlaying, carving, bobbins, spindles, shuttles, rice pestles, tool handles, walking sticks, gunstocks and handicraft articles in Asia. The twigs are used for brushing the teeth in India. The stems are used for spears in Kenya8. The different parts of this plant are also used for wide range of diseases. The root is used for diarrhoea, paralysis, piles, vomiting and is useful for external application in acute case of rheumatism, leprosy and inflammation9. Seeds are used in hemorrhages, leprosy, skin disease and arthritic. Leaves are used in diabetes10. The bark shows antitubercular activity11. Root bark used as antidote for several poisons. Fruits are sweet, cooling and purgative and used as a poultice for treating burning sensation and haemorrhage12.

**Chemical Constituents**

The seeds were reported to contain several alkaloids Alangimarine, Alamanine, Alangimardine, Emetine, cephaline, isoccephaline, Psychotrine, protoberberine alkaloid. They also contain betulinic acid, betulin, lupeol, alangol, beta-sitosterol, and tannins13. The stem bark...
revealed the presence of benzoquinolizidine alkaloid, alancine and isoalamarine. The total non alkaloid extract of the stem bark contained beta-sitosterol, stigmasterol and viscous oil. The leaves were reported to contain several alkaloids, sterols and terpenoids. These were identified as ankorine, choline chloride, alangimarckine, deoxytubulosine, alangiside, stigmasterol, and beta-sitosterol16. The fruits contained methylisoalangiside, isoalangiside, demethylisoalangiside, 3-o-demethyl-2-o-methylisoalangiside; glucopyranoside is also reported from the plant. Root contained cephaeline, tubulosine, isotubulosine, psychotrine, and alangiside and Root bark contained Alangicine, d-methylpsychotrine, marckine, marckidine, lamarkciknine17.

Pharmacological Activity

Antimicrobial Activity
The ethanolic leaves extract of *Alangium salvifolium* Wangerin showed a broad spectrum of antimicrobial activity against pathogenic strains of *Escherichia coli*, *Proteus vulgaris*, *Bacillus subtilis*, *Enterobacter faecalis*, *Serratia marcescens* and *Klebsiella pneumoniae*18.

Wound Healing Activity
The ethanol extract of *Alangium salvifolium* possesses a definite prohealing action. This is demonstrated by a significant increase in the rate of wound contraction and by enhanced epithelization19.

Anticonvulsant Activity (Maximal electroshock (MES) induced seizures)
*Alangium salvifolium* ethanolic extract at a dosage of 250 and 500 mg/kg showed 67.77% and 80.70% inhibition of convulsions produced by MES. The ethanolic extract at the dose of 500 mg/kg showed activity comparable to that of standard drug diazepam (83.01% inhibition)19.

Larvicidal Activity
*Alangium salvifolium* tested for its larvicidal activity against *Artemia salina*. Chloroform and Methanol extract showed 100 % mortality at the lowest level of concentration, i.e., 0.25ml/10ml v/v. Hexane extract has showed 100 % larvicidal potency at the concentration of 0.5ml/10ml volume. However, very poor activity was recorded for aqueous extract of the leaves of *Alangium salvifolium*21.

Antidiabetic Activity
*Alangium salvifolium* bark possesses potential antidiabetic activity. The ethanol and aqueous extracts of *Alangium salvifolium* bark lowered the blood glucose levels in oral glucose tolerance test as well as in alloxan induced diabetic rats22.

Antioxidant Activity
Antioxidant and anti microbial activities of the alcoholic and aqueous extracts from the root of *Alangium salvifolium* Wang and aqueous extracts of *Alangium salvifolium* were reported due to presence of phenolic compounds and flavanoids in alcoholic and aqueous extracts23.

Antifungal Activity
Antifungal activity investigated against dermatomycotic organisms and its toxicity of *Alangium salvifolium*. The lyophilized powder extract (4.59%) of pulverized wood was tested for its inhibitory effect by agar disc diffusion test. Using Buehler’s method. The results demonstrated the inhibitory effect of *Alangium salvifolium* subsp hexapetalum against fungi without any local toxicity24.
Antidiabetic Activity
Antidiabetic activity of Benzene and ethyl acetate extracts of *Alangium salvifolium* were reported. The study involved determination of total urine volume and Na+, K+ and Cl-concentration in urine. Frusemide was included as standard. Both the extracts exhibited significant diuretic activity. Ethyl acetate extract was found to be more active than benzene extracts.²⁵

Antiallergic Activity
Antiallergic effect of ethanolic extract of leaves of *Alangium salvifolium* on gastric lesion induced by ethanol in rats. From findings, it concluded that the ethanolic extract of *Alangium salvifolium* has a significant anti ulcer activity at 400mg/kg and 800mg/kg dose. The results were comparable with that of standard and control groups.²⁶

Antinflammatory Activities
*Alangium salvifolium* flower methanol extract and chloroform fraction induced antiinflammation and depression using EPM and open field test and hole cross test at dose 50 and 100 mg/kg.²⁷

CONCLUSION
Medicinal plants form a large group of economically important plants that provide the basic raw materials for indigenous pharmaceuticals. Medicinal plants have a vital role to preserve the human healthy life. Numerous traditionally used plants exhibit pharmacological properties. *Alangium salvifolium* (Linn.) F. Wang is an ayurvedic medicinal plant used for the various diseases like diarrhoea, paralysis, piles, rheumatism, leprosy and hemorrhages, leprosy, skin disease and arthritic. Pharmacological *Alangium salvifolium* used as Antimicrobial Activity, Antidiabetic Activity, Antioxidant Activity, Antiepileptic activity, Analgesic and Anti-Inflammatory Activities, Antianxiety activity. *Alangium salvifolium* flower as an antianxiety activity. No report is available on the anxiolytic activity of *Alangium salvifolium* on seeds of plant.

REFERENCES


