

**ANKOL (ALANGIUM SALVIFOLIUM) - AN AYURVEDIC HERB**

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Udaipur.**ABSTRACT**

In India, medicinal plants are widely used by people as folk remedies or in different indigenous systems of medicine like *Siddha*, *Unani* and *Ayurveda*. They are also used in the pharmaceutical preparations. The plant *Alangium salvifolium* is a small tree or shrub, native to South India. It belongs to the family *Alangiaceae*. All the parts Root, bark, leaves, seeds and fruits possessed significant therapeutic uses. These compounds belong to the natural products called flavinoids, glycosides, alkaloids, saponins. During the last three decades, apart from the chemistry of the alangiium compounds, considerable progress has been achieved regarding the medicinal applications and biological

activity of alangium. It is considered as a valuable source of natural products for development of medicines against various diseases. This review gives a view mainly on distribution, phytochemistry, pharmacological activities of *Alangium salvifolium* plant extracts.

KEYWORDS: Alangium, south india, Alangiaceae, Flavinoids, Glycosides, Alkaloids, Plant Extract.

INTRODUCTION

Alangium salvifolium (Alangiaceae) is one of the most valuable drug in traditional system of medicine from ancient time. The genus contains of 17 species of small trees, shrubs. It is anti-hypertensive, antidote for several poisons for rabies. Roots are used in rheumatism and inflammation as external application. Fruits are used in treatment of hemorrhages.

ETYMOLOGY**1. In Oasdahnam Roopvijhnam**

Alangieum - alangi, latin name of the plant

Salvifolieum – salver shaped leaf.

2. In Nighantu Aadarsh

Ankole meaning – spine (thorny) present in ankole on the stem.

3. Modern Text

The name of alangieum is derived from the Malayalam name alangi.

4. It was named in 1783 by jean baptiste lamarack in his Encyclopedie Methodique .

Chief Characters

An armed tree almost evergreen branchlets spinescent, dark grey .

1. Leaves alternate, simple 8-15 cm long, oblong to elliptical, obtuse or acute, glabrous lateral nerves 5 – 8, petiole 6-2 mm.
2. Flowers are white,
3. Fruit a berry 1.7 cm long ellipsoidal, crowned with the enlarged calyx, purplish to red to black.

Table no 1: Taxonomial Classification.

Kingdom	Plantae
Order	Cornales
Family	Cornaceae (Alangiaceae)
Genus	<i>Alangium</i>
Species	<i>Salvifolium</i>

Table no – 2: Vernacular Names.

Hindi	Ankola, ankole
English	Sage leaved alangieum
Malyalam	Cornaceae (Alangiaceae)
Tamil	Ankolam
Kannada	Alanji

Table No – 3: Fruiting & Flowering.

Flowering	February--april
Fruiting	March—may

Habitat

Found throughout the drier parts of india, especially in the forest of south india. It is native to tropical Australia, Madagascar, Western Africa Southern and western Pacific Ocean islands

Eastern Asia (China, Malaysia, Indonesia, India, and Philippines) and New Caledonia. In India, it is found throughout the Hyderabad forests and Sitamata wildlife sanctuary, Dhaka, Rajasthan, Chittoor district of Andhra Pradesh like Tirupati, Talakona, Chandragiri and Aragonda.

Table no -4: Classification In Nighantu.

Bhavpraksh nighantu	Guduchyadi varg 139
Kaidev nighantu	Ooasdi varg 925
Raj nigantu	Prabhdradi varg 73-74
Dhanvantri nigantu	Guduchyadi varg 250
madanpal nigantu	Abhyadi varg 32
Sidhmantra praksh	Vitpittghan varg 64 Kaphpittghan varg 102
Shodhal nighantu	guduchyadi varg
Sosruta nighantu	Tranpanchmool 301
Nighantu sesh	Vrakshkand 133
Astang nighantu	Shyamadi varg

Table No – 5: Various Synonyms In Nighantu.

Synonyms	Reference
Ankol	Raj Nighantu
Girikol	Astang Nighantu
Dirghkeel	Nighantu Sesh
Malika	Shodhal Nighantu
Gandhpuspa	Dhanvantri Nighantu
Irikeel	Kaidev Nighantu
Lamnkarana	Raj Nighantu
Tamraphala	Kaidev Nighantu
Tailgarbh	Raj Nighantu
Peetsar	Astang Nighantu
Rechaka	Nighantu Sesh

Table no – 6: Species of *Alangium*.

1.	<i>Alangium Acuminatum</i> Wight Ex Steud., <i>Nom. Inval</i>
2.	<i>Alangium Decapetalum</i> Lam
3.	<i>Alangium Lamarckii</i> Thwaites
4.	<i>Alangium Latifolium</i> Miq. Ex C.B. Clarke
5.	<i>Alangium Mohillae</i> Tul
6.	<i>Alangium Salviifolium</i> subsp. <i>Decapetalum</i> (Lam.) Wangerin
7.	<i>Alangium Sundanum</i> var. <i>Miqueliana</i> Kurz
8.	<i>Karangolum Mohillae</i> (Tul.) Kuntze
9.	<i>Alangium Tomentosum</i> Lam

Biodiversity And Pollination

- The flowers are bird and bee pollinated. It is mainly pollinated by

e.g

Pale-Billed Flowerpecker (*Dicaeum erythrorhynchos*),

Purple-Rumped Sunbird (*Leptocoma zeylonica*),

Purple Sunbird (*Cinnyris asiaticus*)

Xylocopa latipes and *Xylocopa pubescens*.

- The birds that feed on the fruits are common myna (*Acridotheres tristis*), babblers (*Turdoides* sp) and rose-ringed parakeets (*Psittacula krameri*).
- This is the host plant of the larvae of a rare Western Ghat hawkmoth *Daphnis minima*

Chemical Composition

The *Alangium salvifolium* consist different phytoconstituents in different part of the plant

1. Leaves, roots and seeds of *Alangium salvifolium* contain

- alangidiol, alangicine, alangimarckine, alamaridines, dimethyl aptaline, isoalamarin, alangimarine, alangicine, cephaeline, steroids (alangol, alengol), triterpenoids flavonoids, steroids, glycosides, tannins, oil and saponins.
- Leaves - of *Alangium salvifolium* contain alkaloids, deoxytubulosine, alangimarckine, dehydroprotoemetine etc.
- Root bark - contains the alkaloids, emetine, cephaeline, psychotrine, tubulosine, isotubulosine alangium A, alangium B, marckidine, marckine, and alangine.
- Seed - alkaloids include emetine, cephaeline, N-methylcephaeline, psychotrine, betuline, betulinaldehyde, lipeol, betulinic acid.

Table no – 7: Raspanchak Of Ankole.

Rasa	Tikta, katu, kashay
Guna	Laghu snigdha, teekshna
Verya	Ushna
Vipaka	Katu
Dosh karma	Tridosh shamaka

Table no – 8: Medicinal Properties 5.

Ankol roots	Analgesic, Anti-inflammatory, Anti-arthritis Anti-rheumatic, Antispasmodic, Muscle relaxant Carminative, Anthelmintic, Anticancer, Anthelmintic Antiprotozoal, Anti-hypertensive, Hypoglycemic Antipyretic
Ankol seeds	Antidiabetic, Anticancer, Diuretic Anti-Inflammatory Antimicrobial, Laxative, Antiepileptic
Ankol oil	Antipruritics (Ankol Oil), Demulcent (Ankol oil)
Ankol fruits	<ul style="list-style-type: none"> • Laxative or Purgative • Aphrodisiac • Expectorant • Carminative • Antidote of snake bites • Antidote of scorpion stings
Ankol stem	<ul style="list-style-type: none"> • Anti-diarrheal • Antiemetic
Ankol leaves	<ul style="list-style-type: none"> • Analgesic • Anti-rheumatic

Therapeutic Indication

Ankol (*Alangium Salvifolium*) is helpful in following health conditions.

Ankol Root & Stem Bark

- Fever – As Antipyretic And Antimicrobial (Root Bark)
- Arthritis (Ankol Stem and roots)
- Rheumatic pains (Ankol Stem and roots)
- Backache (Ankol roots)
- Influenza (Root Bark)
- Animal Bites (Root Bark)
- General Body Aches (Root Bark)
- Jaundice (Root Bark With Rice Water For Nasal Administration)
- Urticaria or Chronic Hives
- Diarrhea (Ankol Stem & roots)
- Vomiting (Ankol Stem)
- Constipation (Ankol roots)
- Piles (Ankol roots) – rarely used
- Worms (Ankol roots) – rarely used
- Hypertension (Ankol roots)
- Breathing Troubles & Asthma (Ankol Leaves).

Ankol Oil

- Boils – local application
- Itching – local application
- Scabies – local application
- Urticaria – local application.

Ankol Leaves

- Breathing troubles & Asthma (Ankol Leaves)
- Rheumatic pains (Ankol leaves paste – local application)
- Osteoarthritis (Ankol leaves paste – local application).

Side Effects of The Ankol Roots

- Severe burning sensation
- Stomach upset
- Discomfort feeling in the abdomen
- Headache
- Vertigo (reeling sensation)
- Insomnia.

Side Effects of Ankol Seeds & Fruits

- The most common side effect of Ankol seeds and fruit is loss of appetite. However, no other adverse effect is observed.

Antidote of Ankol Toxicity

- Shankhpushpi (*Convolvulus Pluricaulis*) is antidote of Ankol Toxicity. It is boiled in cow's milk and then sugar is added in the milk. This Shankhpushpi milk helps reducing side effects that occurs due to excess or wrong dosage of any part of ankol plant.

Medicinal Useful Part

1. Ankol root bark
2. Ankol Oil
3. Leaves
4. Flowers
5. Fruits
6. Seeds.

Table no – 09: Dosage And Administration.

Plants Parts	Dosage
Roots or root bark or stem	125 mg to 2000 mg
Leaves	Less than 2 gram
Fruits	Less than 2 gram
Seeds	Less than 2 gram
Ankol Oil (internal use)	2 to 15 drops

Therapeutic indication acc. To text

- **Poisoning** – the root (bark) is applied and externally and internally in cases of artificial and animal poisons including rabies.
- **Bronchial Asthma** – seeds of ankota cooked into an edible preparation relieves bronchial asthma.
- **Diaarrhoea**
 1. The root of bark ankota taken with the buffalo buttermilk is an efficacious remedy for diarrhoea
 2. The intake of the root bark of ankota 5 gm pounded with the rice water checks severe diarrhoea and disorder of grahini.
- **Grahani Roga** – Power is prepared of ankota (root bark) 3 parts and ativisha 1 part. it is taken with the rice water
- **Jaundice** – Root of ankota or arka powdered with rice water is taken as snuff in case of jaundice
- **As Rasayana** –

REASERCH

1. Antidiabetic and hypoglycemic activity of aqueous extract of stem and leaves
2. Antioxidant and antimicrobial activity of root.

CONCLUSION

The *Alangium salvifolium* plant is the most inexpensive and providing good nutrition, but also used to cure and prevent a lot of diseases. The multiple benefits of *Alangium salvifolium* made it a miracle of nature. Numerous studies have been conducted on different parts of *Alangium salvifolium*, but this plant has not yet developed as a drug by pharmaceutical industries. More research work can be done on plant so that a drug with multifarious effects will be available in the future market. *Alangium salviifolium* bioactive components can be further developed into naturally based cosmetic, externally used products and herbal drugs

for treatment of dermatomycotic infections. The clinical studies with human subjects should be taken to investigate. Nutrient, bioavailability and bio-toxicity, positive effects on infections tuberculosis effects are claimed by traditional medicine in regard to diseases, such as: diabetes and cardiac disease, antioxidant properties in fighting diseases, such as: heart disease, cancer and Alzheimer's disease.

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