

## SHIRISH: DESCRIPTION OF A VISHGHANA (ANTIDOTE) DRAVYA IN AYURVEDA

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### ABSTRACT

A herbal drug commonly known as *Shirish* (*Albizia lebeck* (L.) Benth. (Family: Fabaceae) has number of therapeutic property and are useful for the treatment of the diverse range of diseases. All parts of *Shirish* are widely used as a general and universal antidote in traditional medicine. The present study evaluates the complete description and therapeutic effects of *Shirish*. It is generally distributed in tropical and subtropical areas of India, Andaman Island, Myanmar, Bangladesh, tropical Africa and Asia. It is used in *Pama*, *Kushtha*, *Kandu*, *Visarapa*, *Kasa*, *Vrana*, *Shohta*, *Shvaas*, *Mushak Visha*, *Sheetpitta*, *Rakta Dushti*, *Vishamjwara*, *Sarpdandh*, *Vishadushti*, *Suryavart*, *Ardhaavbhedak*, *Netrabhishyanda*. The phyto-constituents presents in

the plants are  $\beta$ -sitosterol, melacacidin, albiziahexoside, D-catechin, betulnic acid and echinocystic acid, which are responsible for different physiological and pharmacological activities.

**KEYWORDS:** *Shirish*, *Albizia lebeck*, *Ayurveda*, *Chikitsa*.

### INTRODUCTION

*Ayurveda* considers that the whole group of treatment is governed by *Chikitsa Chatushpada* i.e. four basic pillars of treatment,<sup>[1]</sup> and their required qualities lead to the sooner recovery of the disease. Among for these four basic factors of treatment, *Dravya* has been elected the

second place quoting that it is a major tool in treating the diseases. There are several herbal medicines either independently or in combination which are being used in various medical treatise for the cure of different disorders. *Shirish* is one of them which are commonly used in *Ayurvedic* system of medicines. *Shirish* (*Albizia lebeck*) is a leguminous plant, which is widely distributed in tropical and subtropical Asia and Africa, belonging to the Fabaceae family.<sup>[2]</sup> All parts of *Shirish* are extensively used as a general and universal antidote in traditional medicine like *Himavana Agada*, *Panch Shirish Agada*, *Mahagandhahasti Agada* etc.<sup>[3]</sup>

**Table 1: Taxonomy.**<sup>[4]</sup>

Sanskrit Name	<i>Shirisha, Sukapriya</i>
BotanicalName	<i>Albizzia lebeck.</i>
Classical Name	<i>Shirisha</i>
English Name	<i>Shirisha</i>
Genus	<i>Albizzia</i>
Species	<i>A.lebeck</i>
Family	<i>Fabaceae</i>

**Synonyms**<sup>[5]</sup> *Barhampuspha, Bhandi, Kalinga, Kapitana, Mrudupushpa, Shukapirya, Shukapushpa, Bhandira*

**Vernacular Names**<sup>[6]</sup>

<b>Hindi</b>	:	Garso, Siris
<b>Bengali</b>	:	Sirosh
<b>Gujarati</b>	:	Sarsado
<b>Kannada</b>	:	Bage mara
<b>Malayalam</b>	:	Vaga
<b>Marathi</b>	:	Siras
<b>Punjabi</b>	:	Siri,Shari
<b>Tamil</b>	:	Vegiai
<b>Telugu</b>	:	Dirisena chettu
<b>Urdu</b>	:	Darash

**Classification**<sup>[7-9]</sup>

Charaka Samhita : Vishaghna, Vedanasthapana, Shirovirechana, Kashayaskanda

Sushruta Samhita : Salsaradi Gana

Vagbhata : Asanadi Gana

*Kula* : *Vata Kula*

### Parts Used

Stem Bark, Seeds, Leaves, Flowers, Bark.

### Dose<sup>[10]</sup>

Powder	–	3 –6 grams per day,
Water decoction	–	50 –100 ml
Fresh juice	–	10 –20 ml

### Botanical Description<sup>[11]</sup>

A medium to large sized erect, unarmed, deciduous tree grows about 20 m in height with a spreading crown.

**Stem:** Branches with grey to dark brown, rough, irregularly cracked, bark young shoots glabrous.

**Leaves:** Abruptly bipinnate, with glabrous or downy rachises, a large gland near the base of the main petiole, pinnae 4-8, 7-12 cm long, leaflets 5-9 pairs, short-stalked, rigidly subcoriaceous, oblique, 2.5-3.8 cm long.

**Flower:** White to greenish-yellow, fragrant, borne in globose umbellate heads, 2-3.8 cm in diameter, peduncles 3.8-7.5 cm long, solitary or 2-4 together.

**Fruit:** Pods 10-30 cm long, 2-4.5 cm wide, linear oblong, bluntly pointed, thin, green turning yellow-brown on maturity, smooth, shining reticulately veined.

**Seeds:** 4-12, pale brown, ellipsoid, oblong compressed.

**Flowering:** April-June

**Fruiting:** December-February

### Distribution<sup>[12]</sup>

Native of tropical Asia from Srilanka, Pakistan, Myanmar, China and Malaysia, North Australia, Tropical Africa. It is introduced as ornamental tree in various countries worldwide and common throughout India from the plains up to 1600 m elevation in the Himalayas.

**Actions and Uses<sup>[13]</sup>**

Of all the herbs that are useful to treat poisoning *Shirish* is one of the best herb. It relieves inflammation, herpes, cold and cough. Traditionally, it is used as anti-inflammatory, anti-fertility, anti-asthmatic, antiseptic, anti-dysenteric, anti-diarrhoeal, and anti-tubercular. It is also used in the treatment of wounds and ringworms, gonorrhoea, bronchitis, leprosy, leucorrhoea, helmenth, paralysis, infection and other genital diseases. It has quick wound healing property. It detoxifies skin and improves complexion.

**Ayurvedic properties<sup>[14]</sup>**

Sweet, bitter, pungent and astringent in taste (*Madhura, Tikta, Katu, Kasaya Rasa*); post digestive effect is pungent (*Katu Vipaka*); cold in potency (*sheet Virya*); light in attribute (*Laghu Guna*); alleviates *Tridosha* (*Tridoshashamaka*).

**Therapeutic properties**

**Bark-** Expectorant, aphrodisiac, anti-inflammatory, ophthalmic, purifier, tonic, rejuvenates.

**Plant-** Hypoglycaemic, anticancer, spermicidal, abortifacient, antitussive, analgesic, antifungal, antibacterial, hypotensive, central nervous system depressant.

**Flowers-** Alleviates dyspnoea, ophthalmic disorders, scrofula, blisters, leprosy, vitiligo, sprain, wound, injury, ligamental pain, erysipelas, inflammation and diarrhoea.

**Seed-** Useful in gonorrhoea, tubercular gland, dermatological disorders, leprosy and ophthalmic disorders. *Albizia lebbeck* seed are *Sirovirechak*.

**Medicinal Uses****Cephalic disorders**

**Migraine-** Errhine of *Albizia lebbeck* (Lebbeck tree) root and fruit juice is useful in trigeminal neuralgia and migraine.<sup>[15]</sup>

**Ophthalmic disorders**

**Acute conjunctivitis-** Application of collyrium prepared form *Albizia lebbeck* (Lebbeck tree) leaf juice mixed with honey is useful in acute conjunctivitis.<sup>[16]</sup>

### Thoracic disorders

Intake of powder prepared from *Albizia lebbek* (Lebbeck tree), *Musa sapientum* (Banana), *Jasminum pubescens* (Downy jasmine) flower and *Piper longum* (Long pepper) alongwith rice water is useful in dyspnea.<sup>[17]</sup>

### Abdominal disorders

1. Worm infestation-After enema, intake of *Albizia lebbek* (Lebbeck tree) and *Careya arborea* (Wild guava) juice mixed with honey is useful in worm infestation.<sup>[18]</sup>
2. Intake of *Albizia lebbek* (Lebbeck tree) bark juice is useful in worm infestation.<sup>[19]</sup>

### Reproductive system disorders

**Abnormal presentation of foetus**-Intake of *Albizia lebbek* (Lebbeck tree) and *Terminalia arjuna* (Arjuna myrobalan) decoction after cesarean delivery expels out *Dosa* and useful in postpartum pain.<sup>[20]</sup>

### Dermatological disorders

1. Leprosy-Topical application of *Albizia lebbek* (Lebbeck tree) bark paste is useful in leprosy.<sup>[21]</sup>
2. *Kapha* associated erysipelas-Topical application of paste prepared from an equal quantity of *Triphala* (combination of three fruits), *Glycyrrhiza glabra* (Liquorice root), *Pueraria tuberosa* (Indian kudzu) and *Albizia lebbek* (Lebbeck tree) flower is useful in *Kapha* associated erysipelas.<sup>[22]</sup>
3. Topical application of paste or powder prepared from an equal quantity of *Cassia fistula* (Pudding pipe tree) leaves, *Cordia myxa* (Assyrian plum) bark, *Albizia lebbek* (Lebbeck tree) flower and *Solanum nigrum* (Garden nightshade) is useful in erysipelas.<sup>[23]</sup>
4. Wound-Topical application of powder prepared from *Albizia lebbek* (Lebbeck tree), *Derris indica* (Smooth leaved ponga) fruit and metal ashes is useful in chronic wound.<sup>[24]</sup>

### Alexipharmic treatment

1. Snake poisoning-Snuff and collyrium of white variety of *Piper nigrum* (Black pepper) powder triturated with *Albizia lebbek* (Lebbeck tree) flower juice is useful in snake poisoning.<sup>[25]</sup>
2. Insect poisoning-Intake of *Albizia lebbek* (Lebbeck tree) whole plant decoction alongwith honey, rock salt and *Trikaçu* (group of three pungent medicinal herbs) powder is useful in insect poisoning.<sup>[26]</sup>

3. Rat poisoning-Intake of powder prepared from *Albizia lebbek* (Lebbeck tree) extract, flower, fruit and bark alongwith honey is useful in emaciation, insomnia and pericarditis caused due to rat poisoning.<sup>[27]</sup>
4. Insect poisoning-Intake of powder prepared from leaf, bark, fruit and root of *Albizia lebbek* (Lebbeck tree) or *Alangium salvifolium* (Sage leaved alangium) expels out *Dosa* through vomiting and gives relief in poisonous effects caused due to insect poisoning.<sup>[28]</sup>
5. Topical application of paste prepared from *Albizia lebbek* (Lebbeck tree) seed and *Piper longum* (Long pepper) powder triturated with *Calotropis procera* (Calotropis) latex is useful in snakebite, spider sting, insect poisoning, rat poisoning and scorpion sting.<sup>[29]</sup>
6. Insect poisoning-Topical application of paste prepared from an equal quantity of *Albizia lebbek* (Lebbeck tree) flower, *Derris indica* (Smooth leaved ponga) seed, *Crocus sativus* (Saffron), *Saussurea lappa* (Costus root) and purified realgar stone ash is useful in insect poisoning.<sup>[30]</sup>

### Chemical Constituents<sup>[31]</sup>

Bark yields D-catechin, saponin, leucocyanidin, leucoanthocyanidin, lebbecacidin, friedelin, sitosterol, tannin and melacacidin.

Leaves contain echinosystic acid, sitosterol, flavone, vicetin II, caffeic acid, kaempferol, myricitrin, quercetin, robin and rutin.

Flowers yield benzyl alcohol, benzoic acid, p-nitrobenzoate, sweet-smelling oil, amyryns and lupeol.

Seeds contain saponins-lebbeddkanin A and B, protein, amino acids-arginine, histidine, leucine, isoleucine, lysine, methionine, phenyl alanine, threonine, tyrosine and valine, calcium, phosphorus, iron, niacin and ascorbic acid.

Seed oil contain linolein acid, oleic, palmitic, behenic, stearic, arachidic and myristic acid.

Pods contain triterpenoids, sapogenin and albizenic acid.

Heartwood malanoxetin, d-pinitol, okanin and leucopelargonidin.

### Pharmacological Activities

Saponins are glycosides components often referred to as 'natural detergent' because of their foamy nature.<sup>[32]</sup> It has been established that saponins have anti -carcinogenic activity,

immune modulation activities and regulation of cell proliferation as well as health benefits such as cholesterol lowering capacity. The toxic effect of cyanogenic glycoside decreases heart rate, decreases sympathetic activity & decreases systemic vascular resistance (Seiglar 1998). However for the *Shirish* seeds it is low. Tannin reduces protein solubility by forming a complex with protein, thereby causing a reduction in digestibility & causing depressed growth (Siglar 1998). The level of Tannin in the seed is negligible (Ahn et.al. 1989). All these things mentioned above are the favorable condition for animal supplement diet. Therefore *Shirish* has a potential to be utilized as a cheap source of protein, energy, & mineral supplement for animals. The alkaloids from the seeds of *Shirish* are fungicidal and cytotoxic to selected lines of cancer cells growing *in vitro* (Rahman et.al. 1986).

### Some Ayurvedic Formulations

*Dashanga Lepa, Vajraka Tailam, Brihat Marichaiadi Taila, Devdarvaristha.*

### CONCLUSION

*Shirish* (*Albizia lebbek*) has been traditionally used in the treatment of various diseases. It can be found that *A. lebbek* has significant anti-allergic, hepatoprotective, anti-asthmatic, antioxidant activity etc. along with nutritional value thus seems to be a promising drug for various activities. So this plant can be further investigated pharmacologically.

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