

Shalmali (*Bombax Malabaricum* DC.): Aphrodisiac drug of Ayurveda

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Abstract

Ayurveda, the Indian system of medicine uses drugs obtained from plant, animal and mineral sources for the maintenance of health and also for the treatment of various diseases. *Shalmali* (*Bombax malabaricum* DC.) is one such important medicinal plant used in *Ayurveda*. All parts of this plant like flowers, exudates, thorn, leaves and root are useful in treatment of various ailments. The roots of *Shalmali* are having aphrodisiac property. Numerous *Vajikarana yogas* containing *Shalmali* are mentioned in *Ayurvedic* classics. The present paper is an attempt to review few such formulations of *Shalmali*, best *Vajikarana dravya* of *Ayurveda*.

Keywords

Ayurveda, *Shalmali*, *Vajikarana yoga*, Aphrodisiac



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INTRODUCTION

Shalmali (*Bombax malabaricum* D.C.) is commonly known as Silk-cotton tree or Indian kapok tree belonging to the family Bombacaceae¹. It is commonly found in India, Burma and Sri Lanka. Plant grows throughout hotter parts of India; up to elevation of about 1500 meters. In Peninsular India, the tree is very common in dry as well as moist deciduous forests and near rivers, also cultivated in gardens². On the basis of flower color there are two kinds of *Shalmali* viz., *rakta pushpa* and *shveta pushpa* and they are specifically known as *Shalmali* (*Bombax malabaricum* DC.) and *Kutashalmali* (*Ceiba pentandra* Linn.) respectively³. Various parts of the plant are used in diarrhea, dysentery, acne, menorrhagia and impotency. The roots of *Bombax malabaricum* have stimulant, tonic, and aphrodisiac properties and are useful in impotency, sexual weakness and seminal disorder⁴.

LITERATURE REVIEW

The literary review of the *Shalmali* was started right from the *Vedas* up to recent research works to obtain through knowledge of drug. In *Rigveda*, it is mentioned that *Shalmali* wood is used to prepare a chariot

during marriage rituals. *Shalmali* is also described in *Grahya sutra*, *Vishnudharma sutra* and *Atharva parishishta*⁵. In *Charaka Samhita*, *Shalmali* is described in *Purishaviranjaniya*, *Shonitasthapaniya* and *Vednasthapana mahakashaya* (Ca.Sa.Su.4) and *Kashayaskandha* (Ca.Sa.Vi 8). In *Sushruta Samhita* *Shalmali* is described in *Priyngvadigana* (Su.Sa.Su.38). According to *Vagbhata* *Shalmali* has been used in bodyache and stiffness and recommended its use through nasal route (*Nasya*) for administration (A.H.Ut.40).

Shalmali is mentioned in *Nighantus* also. In *Bhavaprakasha nighantu* and *Madanpaala nighantu* described it under *Vatadivarga*. *Raj nighantu* and *Nighantu adharsha* included it under *Shalmalyadi varga*. *Nighantu ratnakar* and *Shodhal nighantu* mentioned it in *Aamradivarga*. *Kaiyadeva nighantu* mentioned it in *Aushadhi varga*.

Taxonomical Classification⁶

Kingdom	: Plantae
Division	: Magnoliophyta
Class	: Magnoliopsida
Order	: Malvales
Family	: Malvaceae
	(Bombacaceae)
Genus	: Bombax

Species : *ceiba*
 Binominal name : *Bombax ceiba* Linn.;
Bombax malabaricum D.C.; *Salmalia*
malabarica
 (D.C.) Schott & Endl.

Vernacular names¹

Classical Name : *Shalmali*
 Sanskrit Name : Shalmali, Mocha,
 Picchila, Raktapushpa
 Hindi :
 Semal, Semar, Semul, Shembal, Pagun
 English : Silk-cotton tree, Red
 silk cotton tree
 Bengali : Shimul
 Punjabi : Simble
 Gujarati : Shemalo, Sawar
 Marathi : Sanvar, Simalo
 Telugu : Buruga
 Malayalam : Mullilavu
 Tamil : Elavam

Synonyms of *Shalmali*⁷

Shalmali - It blossoms with beautiful red flowers.

Manadruma, *Dirgadruma* - It is a tall.

Chirajivika, *Purani*, *Dirghaayu*, *Sthirjivika* -
 It is a long lived.

Kantakadhya, *Kantakdruma* - It is thorny.

Raktapushpaka, *Kukkuti*, *Ramyapushpa* - It has beautiful red flowers.

Tulaphala, *Tulavriksha*, *Tulini* - Cotton yielding fruit.

Mocha - Releases exudates

Botanical Description of *Shalmali*¹

Bombax malabaricum Linn. is a lofty, deciduous tree buttressed at the base. The tree grows 25-35 meters in height with old tree upto 60 meters. It is known as King of the forest due to their massive size and showy flowers. It has pale ashy to silvery grey colored bark, 1.8-2.5 cm thick, covered with hard, sharp and conical prickles but these prickles get eroded when tree get older. The roots of young *Shalmali* is called *Semulmusli*. *Semulmusli* is having tonic and aphrodisiac property.

Distribution & Habitat⁸

It is widely distributed throughout India, including the Andamans, up to 1500 m or even higher. In peninsular India, the tree is very common in the dry as well as moist, mixed deciduous forests. It is found in the mixed evergreen forests of West Bengal and Assam. The tree also grows sporadically in the mixed deciduous forests in the Sub-

Himalayan region and lower valleys, also in bhabar tracts of Uttar Pradesh and Bihar.

Phytochemical Constituents of *Shalmali*

Roots – The root contain glycosides, sesquiterpene lactone, polysaccharide, cadinane sesquiterpenoids⁹⁻¹¹. *Semulmusli* contain starch 71.2%, sugar 8.2%, protein 1.2%, minerals 2.1%, some fat, tannin and cellulose¹².

Root bark – Aromatic sesquiterpenoid like lupeol, β - sitosterol and naphthaquinone was isolated from root bark of *B. ceiba*¹³.

Flowers – Flowers contain β -D-glucoside of β -sitosterol, free β -sitosterol, hetriacontane, hetriacontanol, kaempferol, quercetin and traces of essential oil¹⁴.

Stem bark – Stem bark contain lupeol, β -sitosterol, naphthaquinone. It also contains various amino acids like lysine, arginine, alanine, glutamic acid, glyocol, leucine and sugars like fructose, glucose, galactose, sucrose, lactose and arabinose^{15,16}.

Seeds – The seed oil contains phytosterol, palmitic acid, stearic acid, oleic acid, linoleic acid and lipase like enzyme. Seeds contain essential amino acids like threonine, valine, methionine, isoleucine etc¹⁷⁻¹⁹.

Gums – Hydrolysis of gum yields arabinose, galactose, galacturonic acid and rhamnose¹¹.

Pharmacological Properties¹⁰

Rasa : *Madhura, Kashaya*

Guna : *Laghu, Snigdha, Pichchhila*

Virya : *Sheeta*

Vipaka : *Madhura*

Doshagnata : *Vata-Pitta shamaka*

Rogagnata : *Vranashotha, Daha, Raktasrava, Mukhapaka, Vrana, Vyanga, Nyachchha, Atisara, Pravahika, Grahani, Arsha, Raktapitta, Raktavikara, Pleehavridhi, Kasa, Ashmari, Mootrakrichchhara, Vrikkashoola, Shukradosha, Shwetapradara, Raktapradara, Dourbalya, Karshya, Snayukaroga*

Karma : *Shothahara, Dahaprashamana, Vedanasthapana, Raktarodhaka, Stambhana, Vranaropana, Lekhana, Varnya, Raktastambhana, Kasahara, Mootrala, Vrishya, Shukrastambhana, Purishavirajneeya, Shonitasthapana, Artavarodhi, Balya, Brinhana, Rasayana, Vajikarana.*

Part used¹⁰

Root, gum, bark, leaf, flower, young fruit, seed

Dosage Form¹⁴

Moola churna : 5-10 gm

Pushpa swarasa : 10-20 gm

Phala churna : 3-6 gm

Niryasa : 1-3 gm

Action and Uses¹⁰

- **The gum** is astringent, cooling, stimulant, aphrodisiac, tonic, styptic and demulcent. It is useful in diarrhea, dysentery, haemoptysis of pulmonary tuberculosis, influenza, menorrhagia, burning sensation, strangury and haemorrhoids.
- **The bark** is mucilaginous, demulcent, diuretic, tonic, slightly astringent and emetic. It is used for fomenting and healing wounds and skin eruptions.
- **Leaves** are used in strangury and skin eruptions.
- **Flowers** are laxative, diuretic, astringent and are good for skin troubles, intrinsic haemorrhage, conjunctivitis, splenomegaly and haemorrhoids.

- **Young fruits** are useful in calculus affections, chronic inflammations and ulcerations of the bladder and kidney.
- **Seeds** are useful in gonorrhoea, chronic cystitis and consumption. A paste made out of the prickles is used for restoring skin colour, especially on the face.
- **The root** is stimulant, tonic, aphrodisiac, slightly diuretic and demulcent. It is used in gonorrhoea, impotence and dysentery.

A review of *Vajikarana yogas* mentioned in *Chikitsa granthas* of *Ayurveda* reveals the presence of *Shalmali* in most of the *yogas* either as a chief constituent or as a *bhavana dravya*. This aphrodisiac property is present mainly in the roots of *Shalmali*. Few such *Vajikarana yogas* are shown in the tables given below.

Table 1 *Vajikarana yogas* in which *Shalmali* is one of the constituent

S.No.	Name of Formulation	Reference	Ingredients
1.	Ashwagandhabhra Rasa (II)	Rasa yoga sagara Akaradirasa (Shloka: 1082-84)	Abhraka Bhasma, Ashwagandha, Satavari, Shalmali , Chitraka, Musali, Kokilaksha, Vidarikanda, Padminikanda, Vanaribeeja.
2.	Kamanganayaka Rasa	Rasa Yoga Sagara Kakaradirasa (Shloka: 811)	Abhraka Bhasma, Shalmali moola churna, Bringaraja moola churna
3.	Kameshwara Modaka	Rasa Yoga Sagara Kakaradirasa (Shloka: 824- 828)	Shalmali and other Kasthaaushadhi Churna
4.	Kushmanda Paka	Rasa Yoga Sagara Kakaradirasa (Shloka: 1350)	Shalmali and other Kasthaaushadhi Churna
5.	Madana sandipana churna	Rasa Yoga Sagara Makaradirasa (Shloka: 2293- 2302)	Loha Bhasma, Abhraka Bhasma, Shalmali , Gokhuru, Satavari, Guduchi, etc.
6.	Yuvatileela Rasa	Rasa Yoga Sagara Yakaradirasa (Shloka: 29-46)	Suddha Parada, Suddha Gandhaka, Makshika, Shalmali , etc.
7.	Vangeshwaradi Vati	Rasa Yoga Sagara Vakaradirasa (Shloka: 1693- 1703)	Vanga, Loha Bhasma, Abhraka, Parada, Hingula Bhasma, Suddha Gandhaka, Kasturi, Kesar, Shalmali , etc.
8.	Sri Madnananda modaka	Bhaishajya Ratnavali Vajikaranadhikara (Shloka: 242-266)	Suddha Parada, Suddha Gandhaka, Loha Bhasma, Abhraka Bhasma, Suddha Tankan, Shalmali churna , Vijaya churna etc.

Table 2 *Vajikarana yogas* in which *bhavana* is given with *Shalmali moola rasa*

S.No.	Name of Formulation	Reference	Ingredients
1.	<i>Kandarpjivan Rasa</i>	<i>Rasa Yoga Sagara Kakaradirasa</i> (<i>Shloka: 178-180</i>)	<i>Parada Bhasma, Swarna Bhasma, Rasa sindura, Hiraka Bhasma, Vanga Bhasma, Shilajit, Jayaphala, Javitri, Kesar, Karpura, etc. Bhavana dravya - Shalmali, Satavari, Vidari, Talamakhana and Dhanva (7-7 Bhavana each)</i>
2.	<i>Kamadeva Rasa (III)</i>	<i>Rasa Yoga Sagara Kakaradirasa</i> (<i>Shloka: 723-727</i>)	<i>Parada Bhasma, Swarna Bhasma Bhavana dravya – Shalmali, Kadalikanda, Godugdha (1-1 Bhavana each)</i>
3.	<i>Kamadeva Rasa (V)</i>	<i>Rasa Yoga Sagara Kakaradirasa</i> (<i>Shloka: 731-734</i>)	<i>Suddha Parada, Suddha Gandhaka, Kanta Bhasma Bhavana dravya – Shalmali</i>
4.	<i>Kamanayaka Rasa</i>	<i>Rasa Yoga Sagara Kakaradirasa</i> (<i>Shloka: 774-778</i>)	<i>Suddha Parada, Suddha Gandhaka Bhavana dravya – Shalmali swarasa</i>
5.	<i>Kameshvatsara Rasa</i>	<i>Rasa Yoga Sagara Kakaradirasa</i> (<i>Shloka: 820</i>)	<i>Parada Bhasma, Gamdhaka, Pravala Bhasma, Naga Bhasma, Tamra Bhasma, Vaikranta, Abhraka, Vanga, Moti and Swarna Bhasma Bhavana dravya – Shalmali</i>

			<i>swarasa, Chitraka, Kumari, Musali, Nirgundi and Lajvanti (each 7-7 Bhavana)</i>
6.	<i>Purnendu Rasa</i>	<i>Rasa Yoga Sagara Pakaradirasa (Shloka: 945-949)</i>	<i>Suddha Parada Bhavana dravya – Shalmali swarasa (15 Bhavana)</i>
7.	<i>Makardhwaja Rasa (III)</i>	<i>Rasa Yoga Sagara Makaradirasa (Shloka: 2076-2080)</i>	<i>Hiraka, Swarna, Tamra, Parada, Abhraka and Loha Bhasma Bhavana dravya – Shalmali and Kumari swarasa (each 3-3 Bhavana)</i>
8.	<i>Madana Kamadeva Rasa (III)</i>	<i>Rasa Yoga Sagara Makaradirasa (Shloka: 2199-2204)</i>	<i>Shuddha Parada, Suddha Gandhaka Rajata and Swarna Bhasma Bhavana dravya – Shalmali moola, Kakoli, Vidarikanda, Satavari (each 3-3 Bhavana)</i>
9.	<i>Madana Golaka</i>	<i>Rasa Yoga Sagara Makaradirasa (Shloka: 2240-2261)</i>	<i>Suddha Parada, Suddha Gandhaka, Makshika Bhavana dravya – Shalmali, Satavari (each 1-1 Bhavana)</i>
10.	<i>Madanajanaka Rasa</i>	<i>Rasa Yoga Sagara Makaradirasa (Shloka: 2262-2263)</i>	<i>Parada, Kantaloha, Swarna, Abhraka, Makshika, Rajata Bhasma Bhavana dravya – Shalmali, Manjishtha (each 1-1 Bhavana)</i>

11.	<i>Madanodaya Rasa (II)</i>	<i>Rasa Yoga Sagara Makaradirasa (Shloka: 2318-2319)</i>	<i>Vaikranta Bhasma, Kantaloha, Abhraka, Parada, Swarna, Naga and Hiraka Bhasma Bhavana dravya – Shalmali, Satavari, Musali, Amalaki (each 1-1 Bhavana)</i>
12.	<i>Chandalini Yoga</i>	<i>Bhaishajya Ratnavali Vajikaranadhikara (Shloka: 49-51)</i>	<i>Suddha Gandhaka, Sweta Punarnava churna Bhavana dravya – Shalmali swarasa</i>
13.	<i>Kamadhenu Rasa</i>	<i>Bhaishajya Ratnavali Vajikaranadhikara (Shloka: 52-53)</i>	<i>Suddha Gandhaka, Amalaki churna Bhavana dravya – Shalmali swarasa, Amalaki swarasa (each 7-7 Bhavana)</i>
14.	<i>Harshashanka Rasa</i>	<i>Bhaishajya Ratnavali Vajikaranadhikara (Shloka: 54-56)</i>	<i>Suddha Gandhaka, Shalmali moola churna Bhavana dravya – Shalmali swarasa</i>
15.	<i>Siddha Shalmali Kalpa</i>	<i>Bhaishajya Ratnavali Vajikaranadhikara (Shloka: 59-63)</i>	<i>Suddha Parada, Suddha Gandhaka, Musali, Amalaki, Vidarikanda, Punarnava Bhavana dravya – Shalmali moola swarasa, Mahishi dugdha (each 7-7 Bhavana)</i>
16.	<i>Panchshara Rasa</i>	<i>Bhaishajya Ratnavali Vajikaranadhikara (Shloka: 64-65)</i>	<i>Suddha Parada, Suddha Gandhaka Bhavana dravya – Shalmali</i>

		<i>moola swarasa (21 Bhavana)</i>
		<i>Rasa sindura, Naga Bhasma,</i>
		<i>Loha Bhasma, Abhraka</i>
		<i>Bhasma, Vanga Bhasma</i>
		<i>Bhavana dravya – Shalmali</i>
17.	<i>Pushpadhanwa Rasa</i>	<i>moola quatha, Nagarvela</i>
	<i>Bhaishajya Ratnavali</i>	<i>swarasa, Bhanga quatha,</i>
	<i>Vajikaranadhikara (Shloka: 70)</i>	<i>Dhatura patra swarasa,</i>
		<i>Mulhathi quatha (each 1-1</i>
		<i>Bhavana)</i>

➤ Pharmacological studies on root of *Bombax malabaricum* have proved the aphrodisiac property. *Bombax malabaricum* root extract was investigated for Mount latency (ML), intromission latency (IL), ejaculation latency (EL), mounting frequency (MF), intromission frequency (IF), ejaculation frequency (EF) and post-ejaculatory interval (PEI) parameters for a month study. The extract reduced significantly ML, IL, EL and PEI ($p < 0.05$). The extract also increased significantly MF, IF and EF ($p < 0.05$). These effects were observed in sexually active and inactive male mice²⁰.

CONCLUSION

A comprehensive review of *Ayurvedic* classics depicts that *Shalmali* is described in *Vedas, Charaka Samhita, Sushruta Samhita, Ashtangahridaya*. Synonyms of *Shalmali* like *Pichchhila, Mocha, Kantakadhya, Raktapushpaka* etc. are described in various *Nighantu*. *Shalmali moola* is having *shukravardaka, rasayana, vrishya* and *balya* properties³. It has *madhura rasa, laghu, snighdha guna, sheeta virya, madhura vipaka and vatapitta shamaka* properties. Mineral drug used in *Ayurveda* like *Parada* (Mercury), *Gandhaka* (Sulphur), *Swarna* (Gold), *Abhraka* (Mica) etc. have best aphrodisiac and rejuvenating properties. Most of herbo-mineral *vajikarana yogas* mentioned in *Ayurvedic* classics contain

Shalmali either as a constituent or as a
bhavana dravya.

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