

# Beautiful Plant *Bombax Ceiba*

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## Abstract

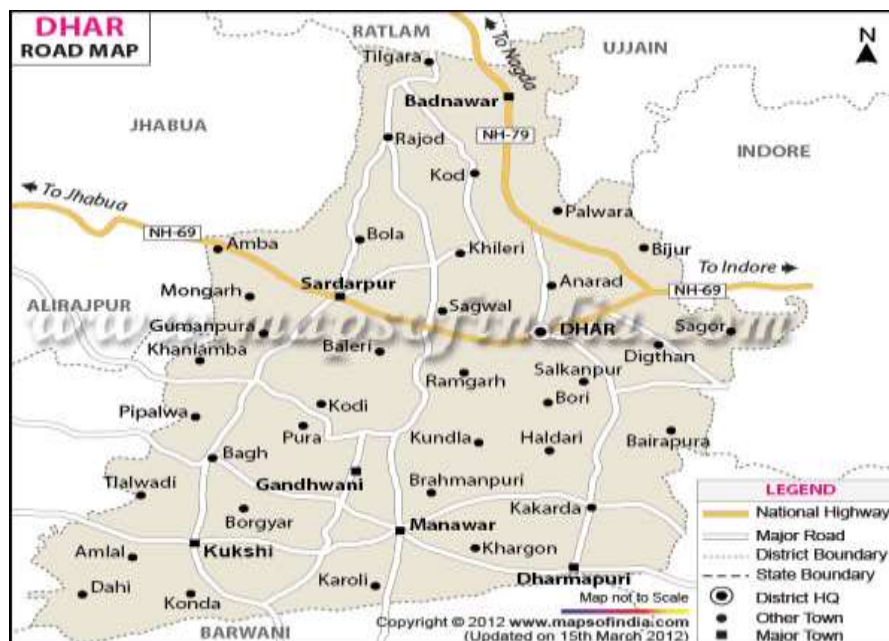
The silk cotton tree is very beautiful. Its beautiful pink flowers are captivating. This plant is very useful. This plant is a sexual debility and rejuvenator, Shows anti-inflammatory activity, Antimicrobial activity, Antipyretic activity. There are many myths about this plant. It provides nectar to honey bees. Holi, the colour festival is also blooming time of *B. ceiba* tree and its flowers are used to prepare ecofriendly colour to play with. The importance of this plant has also been mentioned in Charaka Samhita and Sushruta Samhita. It also has great ethnobotanical importance.

**Keyword:** anti inflammatory activity, Antimicrobial activity, Antipyretic activity, Anti-obesity

## Introduction

This is a very useful plant. Silk cotton tree is a type of native cotton tree with large red flowers. The genus name *Salmalia* is derived from the Sanskrit name *shaalmali*. Silk cotton trees comprise eight species in the genus *Bombax*, native to India, tropical southern Asia, northern Australia and tropical Africa. Semul trees bear beautiful red-colored flowers during January to March. The fruit appears during March and April. These are full of cotton-like fibrous stuff. It is for the fiber that villagers gather the semul fruit and extract the cotton substance called "kapok". This substance is used for filling economically priced pillows, quilts, sofas etc. The fruit is cooked and eaten and also pickled.

## Study area



## Research Methodology

data collection was done through visits in forest periodically, interaction with local people, internet, review of various research papers and capturing photos with a mobile camera. many research papers were studied in research journal Literature searches in electronic databases, such as Web of Science, Science Direct, SpringerLink, PubMed, Google Scholar, Semantic Scholar,

## Range

E. Asia - southern China, Indian subcontinent, Myanmar, Thailand, Laos, Vietnam, Malaysia, Indonesia, Philippines to Papua New Guinea and Australia

## Classification

Kingdom: Plantae

Clade: Tracheophytes

Clade: Angiosperms

Clade: Eudicots

Clade: Rosids

Order: Malvales

Family: Malvaceae

Genus: Bombax

Species: *B. ceiba*

Binomial name: *Bombax ceiba*

Family (Hindi name) : SEMAL FAMILY

Family (as per The APG System III) : MALVACEAE

**synonyms:** *Bombax ceiba* L., 1753, *Bombax ceiba*, *Bombax malabaricum* DC., *Bombax malabaricum*, *Gossampinus malabarica* (DC.) Merr., *Gossampinus malabarica*, *Indian kapok*, *red silk-cotton tree*, *Salmalia malabarica*.

## Vernacular name

Nurma, Huttian, Semal, Simal (Hindi); Kempu buruga (Kannada); Mullulavu, Booruga chettu (Telugu); Ilavu, Purani (Tamil); Simalu, Simili, Simal (Oria); Shalmali (Sanskrit); Kate-saver (Marathi); Elavu, Kandilavu, Mocha, Mullilavu, Panjimaram, Pichila, Poola, Poorani, Pulamaram, Unnamurikku (Malayalam)L



Tree plant *Bombax ceiba L.*



**Flower Bud**



**Cut Open Flower Bud**



**Flower**



**Flower**



**Corolla**



**Stamens**

### Plant Description

*bombax ceiba* is a tall deciduous tree, known for its beautiful red flowers and thorny trunk ; upto 45 m high; bole straight, buttress 1-2 m high, armed with conical prickles; bark 20-30 mm thick, grey mottled with white, longitudinal fissures shallow; blaze pink, marked with triangular rays; branches horizontal and more or less whorled; branchlets prickly. Leaves digitately-compound, alternate, stipulate; stipules small, lateral; rachis 12-25 cm, stout, swollen at base, glabrous; leaflets 5-7, whorled; petiolule 14-25 mm long, stout, glabrous; lamina 10-20 x 2-6 cm, elliptic, elliptic-ovate or elliptic-obovate; base attenuate or cuneate; apex caudate-acuminate; margin entire, glabrous, chartaceous; lateral nerves 8-14 pairs, parallel, slightly ascending, prominent, secondary laterals also seen; intercostae reticulate. Flowers bisexual, dark crimson, 6-7 cm across, solitary or 2-5 together; pedicels 1-2 cm long, thick; calyx campanulate, irregularly lobed, lobes 3-4 x 3 cm, coriaceous, glabrous to sparsely puberulous outside, silky inside, falling off with corolla and stamens; petals 5, 8.5-18 x 3.5-5 cm, obovate to elliptic-obovate, recurved, fleshy, tomentellous outside, imbricate; stamens 65-80, 3-7.5 cm long in 5 bundles; staminal tube short; filaments flat, angular, connate only at the base of the bundles; anthers reniform; ovary conical, tomentose, 5-celled; ovules many; style exceeding the stamens; stigma 5-fid, lobes spreading. Fruit a capsule, 8-10 x 3 cm, downy tomentose, cylindrical, cuneate on both ends, blackish and glabrous at maturity, the columella brownish; seeds numerous, pyriform, smooth, dark brown, embedded in white cotton.



Stem *Bombax ceiba* L

### Sexual Debility and Rejuvenator

Traditionally parts of this plant are used to cure in various sexual diseases like gonorrhoea leucorrhoea, and menstrual disorders in women and to increase sperm count, treat impotency and hydrocele in man. Another study carried out in Chittorgarh and Udaipur district located in Rajasthan (India) showed that bark, flower and root barks powder of this plant are used in these disorders. Apart from sexual diseases these plant material are also used to regularize menstruation and urinary problems (Jain et al., 2004). Kandha tribe of Orissa use juice of fresh stem bark of *Bombax ceiba* , juice of fresh root of *Asparagus*

racemosus, powder of seven black peppers and one teaspoon of sugar or gum taken orally before meals twice a day for 21 days to cure impotency, spermatorrhea, reduced sperm count, sterility, nocturnal emission, gonorrhoea and leucorrhoea (Behera and Misra, 2005). Another ethnobotanical study showed an infusion of the bark of *Bombax ceiba* is used as a tonic (Sebastian and Bhandari, 1984).

### **Leprosy**

Seeds and roots of *Bombax ceiba* were used by traditional practitioners and religious healers of Bangladesh in the treatment of leprosy (Mollik et al., 2009).

### **Anti-inflammatory activity**

An ethnobotanical study of traditional anti-inflammatory plants used by the Lohit community of Arunachal Pradesh showed that fresh paste prepared from the bark of *B. ceiba* mixed with cow dung was applied over back muscle of leg at night to treat hotness and inflammation.

### **Antimicrobial activity**

Plant extracts (methanol and aqueous) were assayed for their activity against multi-drug resistant *Salmonella typhi*. A strong antibacterial activity was observed due to methanol extracts of *Bombax ceiba* treatment against *Salmonella typhi*.

### **Antipyretic activity**

Hossain et al. (2011) has carried out screening of antipyretic activity of the methanol leaf extract of *Bombax ceiba* in Baker's yeast induced pyrexia in Wistar rats. It was concluded that extract has significant antipyretic activity and inhibition of the synthesis and/or release of inflammatory mediators may be its main mechanism of action.

### **Analgesic effect**

Methanol extract from *B. Ceiba* leaves and their fractions and mangiferin have caused analgesic effect that is dose dependent on acetate and hot plate tests (Jain & Verma, 2014)

### **Diuretic Activity**

The study reported on diuretic effects of aqueous and crude ethanol extracts of *Bombax ceiba* L. fruits using acute model in rats, indicated that the aqueous and ethanol extracts of *B. ceiba* fruit (200 mg/kg and 400 mg/kg, p.o.), was significantly increased the urine output in higher doses. These effects will demonstrate a possible diuretic action of *B. ceiba* fruit extracts and support its folklore use in various urinary ailments.

### **Anti-obesity**

Against high fat diet anti-obesity potential was generated, likely due to FAS manipulation and in Wistar rats signaling PTP-1B because of existence of the active lupeol and flavanoids found in extract of *Bombax ceiba* Linn stem bark (Gupta et al., 2013).

### **Traditional uses**

1. **Charak Samhita:** *B. ceiba* is described as one of the ten drugs used as tissue regenerator. Petioles or gum of *B. ceiba* is administered in dysentery and ulcerative colitis as enema.

2. **Sushruta Samhita:** The stem bark of *B. ceiba* is helpful for hemorrhagic diseases and reducing acne. It is also used topically to treat burns, wounds and stomatitis (Chaudhary and Tawar, 2018).
3. The gum (2gm) mixed with cow's milk (30ml) and water (30ml) is reported to cure bleeding piles (Anonymous, 2000).
4. Tribal people throughout India are well-acquainted with the knowledge of the plant's usage. Preparation of about 30g of seed powder of *B. ceiba* and about 10 g Hing (*Ferula foetida*) are used as an abortifacient by the Oraon tribe in West Bengal.
5. **Dermatological disorders:** The tribal communities of North-West Frontier Province of Pakistan employ *Bombax ceiba* in the treatment of skin diseases and in folk cosmetics. For this purpose crushed fresh bark of *Bombax ceiba* was applied locally on pimples, carbuncles and boils (Abbasi et al., 2010). Pawara tribal people in the Satpura hills of Maharashtra apply concentrated bark decoction of *Bombax ceiba* in the treatment of dermatological disorders.
6. **Wounds:** Ethnomedicinal uses of useful plants from Mysore and Coorg districts, Karnataka included using the paste of *B.ceiba* bark externally for cattle wounds.

### Other uses

- Fibres are used in filling cushions.
- Wood is used in preparing match boxes and match sticks.
- Holi, the colour festival is also blooming time of *B. ceiba* tree and its flowers are used to prepare ecofriendly colour to play with. Besides this, a pole of debarked *B. ceiba* stem or a branch is used as main pillar to be burnt in Holika-dahan by Bhil, Garasia and Damor tribes. The tradition of burning of *B. ceiba* in Holika-dahan is followed in states of northern India such as Rajasthan, Madhya Pradesh and Uttar Pradesh, where the tree is found abundantly. However, from east to West, the use of sacred cotton tree (*semal*) in Holi is a must.



**Holi danda**

### Conclusion

This is a very useful plant. It provides nectar to our pollinators. It is used for anti-inflammatory activities, antimicrobial activities, antipyretic activities, analgesic effect, anti-diuretic activities, anti-

obesity activities and many other important purposes. It is also used a lot in our Ayurveda. It is also important in folk botany. Such trees should be planted on both sides of the highway for beauty.

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