

Gmelina arborea Roxb.

Synonyms : *Premna arborea* Roth

Family : Lamiaceae

Group : 1. Dasamoolam

Parts Used : Whole plant

Vernacular Names

English : Coomb teak

Malayalam : Kumizhu/Kumbil/Candahar tree

Hindi : Gamari

Sanskrit : Gumbhari

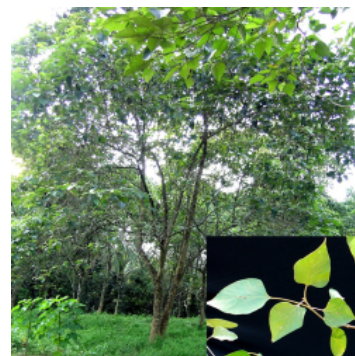
Bengali : Gomari

Gujarathi : Shewan

Kannada : Kummuda

Tamil : Uri, Gumadi

Telugu : Gummadi



Distribution and Habitat: The plant is found wild throughout India from the foot of Himalayas to Kerala and Andamans, in moist, semideciduous and open forests up to an altitude of 1500 m. It is also distributed in Sri Lanka and Philippines.

Botany: It is a moderate-sized unarmed deciduous tree growing up to 20 m in height with whitish-grey corky lenticellate bark, exfoliating in thin flakes. Branchlets and young parts are clothed with fine white mealy pubescence.

- **Leaves:** Simple, opposite, broadly ovate, cordate, glandular, glabrous above when mature and fulvous-tomentose beneath.

- **Flowers:** Brownish yellow in terminal panicle. Calyx campanulate, pubescent outside and with 5 lobes. Corolla showy brownish yellow with short tube and oblique limbs.

- **Fruits:** Fleshy ovoid drupes, orange-yellow when ripe. Seeds are hard and oblong.

Properties:

- The roots are acrid, bitter, tonic, stomachic, laxative, galactagogue, demulcent, antibilious, febrifuge and anthelmintic.

- Bark is bitter, hypoglycaemic, antiviral, anticephalalgic and tonic.

- The leaves are demulcent, antigonorrhoeic and bechic.

- Flowers are sweet, refrigerant, astringent and acrid.

- Fruits are acrid, refrigerant, diuretic, astringent, aphrodisiac, trichogenous, alterant and tonic.

Chemical constituents:

- Roots and heart wood are reported to contain gmelinol, hentriacontanol-1, *n*-octacosanol and β -sitosterol. The roots contain furano sesquiterpenoid and apiosylskimmin-a, coumarin characterised as umbelliferone-7-apiosyl glucoside and gmelofuran-a.

- The heartwood gives ceryl alcohol, cluytyl ferulate, lignans, arboreol, gmelanone, 6''-bromo isoarboreol, lignan hemiacetal and gummidiol.

- Leaves yield luteolin, apigenin, quercetin, hentriacontanol, β -sitosterol, quercetogenin and other flavons.

- Fruits contain butyric acid, tartaric acid, and saccharine substances.

Uses:

- A vital ingredient of the "*dasamula*" (group of ten roots). The whole plant is medicinally very important. It promotes digestive power, improves memory, overcomes giddiness and is also used as an antidote for snake bite and scorpion sting.

- Roots are useful in hallucination, fever, dyspepsia, hyperdipsia, haemorrhoids, gastralgia, heart diseases, nervous disorders, piles and burning sensation.

- Bark is used in fever and dyspepsia. Leaf paste is good for cephalalgia and leaf juice is a good wash for foul ulcers and is also used in the treatment of gonorrhoea and cough.

- Flowers are recommended for leprosy, skin and blood diseases.

- The fruits are used for promoting the growth of hair and in anaemia, leprosy, ulcers, constipation, strangury, and leucorrhoea and lung disease.

- Wood is one of the best and most reliable timbers of India. It is used for making furniture, planks, carriages, printing boxes, musical instruments, shafts, axles, picture frames, jute bobbins, calipers, ship buildings, artificial limbs etc.

Formulations: Dasamoolarishtam, sriparni-taila, Sriparnayadi-kwath, brihathpanchamuladi kwath.

Agrotechnology

Soil and climate: A sun-loving plant. It does not tolerate drought but can grow in light frost. Rainfall higher than 2000 mm and loose soil are ideal.

Propagation: The best method of propagation is by seeds but sometimes propagated through stem cuttings also. Seed formation occurs in May-June. Seeds are dried well before use. They are soaked in water for 12 hours before sowing. Seed rate is 3 kg/ha. Seeds are sown in nursery beds shortly before rains. Seeds germinate within one month. Seedlings are transplanted in the first rainy season when they are 7-10 cm tall. Pits of size 50 cm³ are made at a spacing of 3-4 m and filled with sand, dried cow dung and surface soil, over which the seedlings are transplanted.

After cultivation: 20 kg organic manure is given once a year. Irrigation and weeding should be done on a regular basis.

Plant protection: The common disease reported is sooty mould caused by *Corticium salmonicolor*, which can be controlled by applying 1% Bordeaux mixture. Stem borer caterpillar is seen infesting in some areas.

Harvesting: The tree grows fast and may be ready for harvesting after 4 or 5 years. However 7-10 year old trees are cut and root and heartwood are extracted.

