Ailanthus triphysa

(Dennst.) Alston

Simaroubaceae

white siris, white palle, maharuk

LOCAL NAMES

Burmese (o-dein); English (white palle); Hindi (muddhe dhup,guguldhupa,pongilyam,perumaram,peddamanu,matti); Indonesian (selangke,kayu langit,ki pahit,kirontasi); Tamil (perumaram,peru,mattipal); Thai (makkom,mayom-pa,mayom-hom); Trade name (maharuk,white siris,white palle); Vietnamese (b[us]t,c[af]ng hom th[ow]m)

BOTANIC DESCRIPTION

Ailanthus triphysa is a single stemmed tree or shrub. Bole cylindrical, attaining a height of 30 m and diameter of 1.2 m. Branchlets covered with many leaf scars. Young stems pubescent. Bark grey, rough, inner bark, 1.3 cm thick, yellow and fibrous.

Leaves pinnate, large 45-60 cm long, crowded at branch ends; leaflets 5-10 pairs, ovate, oblong, sickle-shaped, tapering from the base, 7.5-15 x 2.5-5 cm, thin, shining, glabrous and glaucous beneath, very oblique at the base; petiolules 1 cm long.

Flowers white, polygamous in lax axillary panicles; pedicels short. Calyx lobes minute, pubescent, triangular, acute. Petals about 0.4 cm long, glabrous, oblong-lanceolate.

Fruit a samara, 5-7.5 cm long, reddish-brown, membranous, flat. Seed compressed, circular.

The generic name ‘Ailanthus’ comes from ‘ailanthos’ (tree of heaven), the Indonesian name for Ailanthus moluccana.

BIOLOGY

A. triphysa is monoecious and deciduous. Flowering in India and Nepal is between February and March, fruiting follows in April-May.

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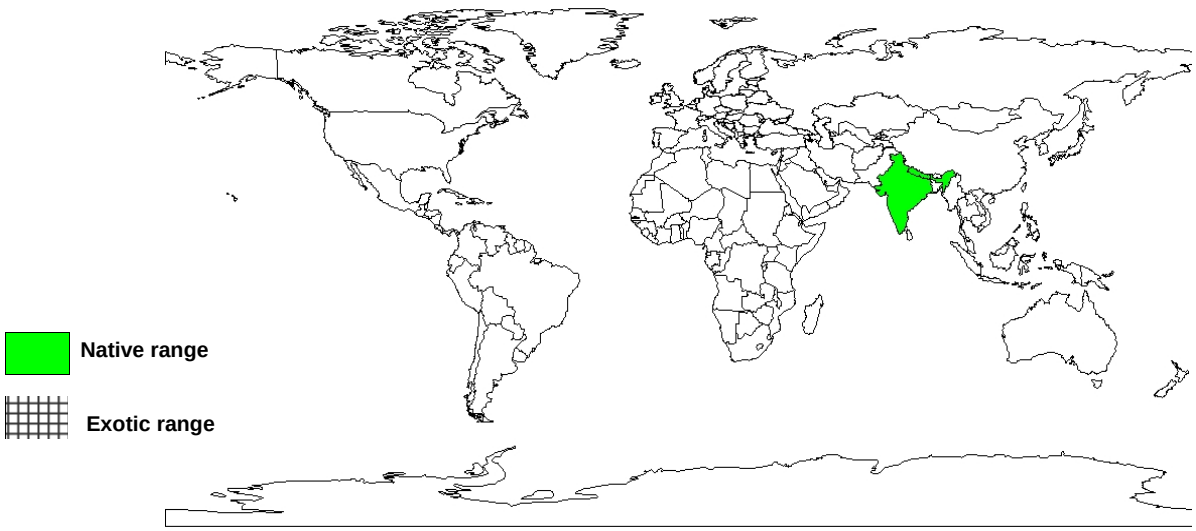
ECOLOGY
A. triphysa is a light demanding Asian tree found in wet evergreen climax forests of the western Ghats, from the Konkan, North Kanara and Karnataka southwards to Travancore.

BIOPHYSICAL LIMITS
Altitude: 60-1 500 m
Mean annual temperature: 27 deg C
Mean annual rainfall: 1 920 mm
Soil type: Prefers well drained light/sandy soils.

DOCUMENTED SPECIES DISTRIBUTION

Native: India, Myanmar, Nepal
Exotic:



The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

PRODUCTS
Timber: Wood is used for making boats, matches, fishing floats and weaponry accessories e.g. sword handles and spear sheaths.

Gum or resin: A gum is obtained from stem cuttings of A. triphysa.

Tannin or dyestuff: A dye obtained from the plant's leaves stains satin black

Essential oil: Aromatic oils are obtained from the bark.

Medicine: The plant roots, leaves, bark and gum exudates are used as medicine in India.

SERVICES
Shade or shelter: A useful shade provider.

Soil improver: Leaf litter of A. triphysa on decomposition restores soil fertility.

Ornamental: A tree often planted for aesthetic purposes.

Intercropping: Used as live stakes for supporting black pepper (Piper nigrum).

Other services: The dried bark and gum exudates are burnt as incense.

TREE MANAGEMENT
Containerised stock (commonly in polybags, but also in root trainers) is planted in pits (15-20 cm cube) at 2 x 2 m spacing with the onset of rains, in the case of monospecific woodlots. To suit the requirements of intercropping, the row-to-row spacing can be altered.

Seedlings are vulnerable to weeds and shade. Two to three weedings may be necessary in the initial years to keep the plantation weed -free. Fertilizers may be applied @ 30-40 g N, 15-20 g P2O5 and 15-20 g K2O per year per sapling from the second year to the fifth year and thereafter once in three years for a pure plantation.

In case too many lateral branches are produced, pruning may be practised. The trees can be felled/harvested over a period of 8 to 10 years. Pollarding is recommended in managing A. triphysa under a 10 year rotation.

GERMPLASM MANAGEMENT
Ailanthus trees fruit ripens in March-April, which represents the ideal time for seed collection. The seeds can be stored for only for a few months.

PESTS AND DISEASES
Pests
Nursery: The two major pests are shoot webber (Alteva fabriciella) and defoliator (Eligma narcissus). Shoot webber is economically more important because it will damage the terminal shoot and can result in epicormic branch formation. It can be controlled by application of monocrotophos, quinalphos or methyl parathion at 0.05%

Young plantations: The above two are the major pests in young plantations also, but control measures may not be cost effective. If required, 0.1% of the above insecticides can be applied using rocker sprayer. Shoot webber affects seed production. Usually control measures are not adopted but any insecticide, which is recommended under the nursery, can be used.

FURTHER READNG

Joshi HB. 1981. Troup's silviculture of Indian trees, Vol. III. Controller of Publications, New Delhi.

Kerala Agricultural University. 2002. Package of Practices Recommendations: Crops. 12th Edition (eds. A. I. Jose et al.). Kerala Agricultural University, Trichur. 278p.

Whitmore TC (ed). 1983. Tree Flora of Malaya: A manual for Foresters. Vol. 2. Forest Department, Ministry of Primary Industries. Malaysia.

SUGGESTED CITATION

Orwa C, Mutua A , Kindt R , Jamnadass R, Simons A. 2009. Agroforestree Database:a tree reference and selection guide version 4.0 (http://www.worldagroforestry.org/af/treedb/)