

## Acacia holosericea

A. Cunn. ex G. Don

Fabaceae - Mimosoideae

### LOCAL NAMES

English (candelabra wattle)

### BOTANIC DESCRIPTION

*Acacia holosericea* attains an average height of less than 8 m, with numerous branches beginning from the base, giving it a multi-stemmed appearance. The bark is smooth and green in the young plant.

Phyllodes measure 10-25 x 1.5-10 cm, are thick, with 3-5 longitudinal veins.

Flowers small, bright yellow, cattail-like spikes, 3-6 cm long.

Pods narrow, coiled, 3-6 x by 2.5-5 cm, in dense clusters; contain small, oval, slightly flattened, shiny, black seeds measuring 2 x 3-5 mm.

The generic name *acacia* comes from the Greek word 'akis', meaning a point or a barb.

The species name is derived from the Greek 'holo' (entire/whole) and the Latin 'sericeus' (silky, with long straight close-pressed glossy hairs), in reference to the indumentum of the plant.

### BIOLOGY

Like most acacias, *A. holosericea* relies on sexual reproduction. It produces a large number of flowers, a small proportion of which develops into fruit. It is pollinated by the activity of insects and birds. Seed dispersal is prompted by propulsion from drying dehiscent pods. Browsing vertebrates sometimes also play a role in seed dispersal. In its native range in Australia, The main flowering period is June-August but can be April-October. Fruits mature in August-October.



*A. holosericea*, seedlings in nursery. (David Boshier)



*A. holosericea*, line plantings on Fogo, Cape Verde Islands. (David Boshier)



*Acacia holosericea* phyllodes (Chris Gardiner)

**ECOLOGY**

The early and abundant seeding of *A. holosericea* has the potential of making it a weed.

**BIOPHYSICAL LIMITS**

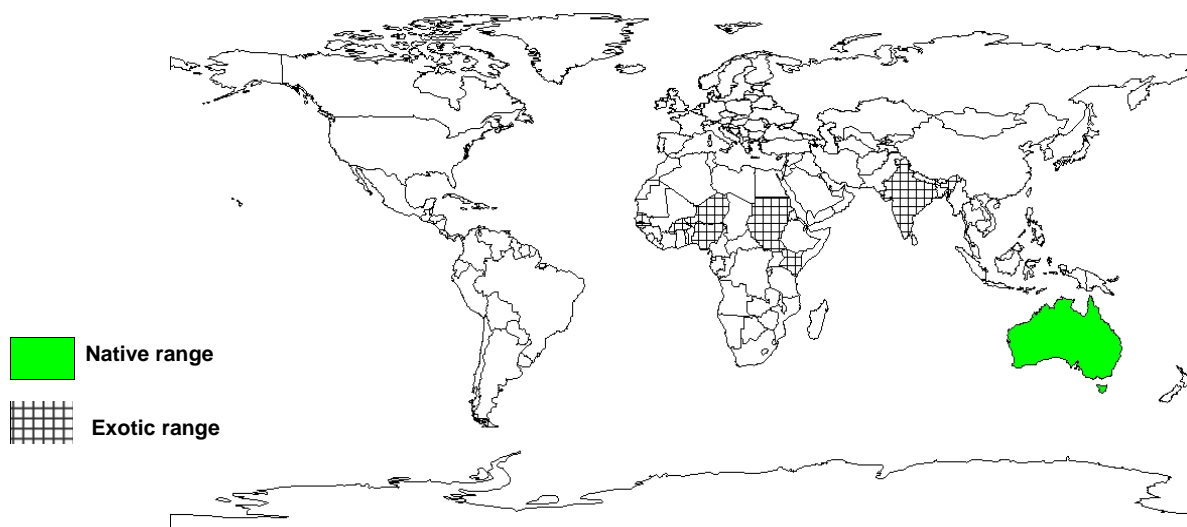
Altitude: 150-450 m, Mean annual temperature: 19.5-34.7 deg. C, Mean annual rainfall: 600-1 200 mm

Soil type: Grows on a wide range of soils from shallow acidic sandy lithosols, shallow loams, red volcanic and solodized solonets soils.

**DOCUMENTED SPECIES DISTRIBUTION**

Native: Australia

Exotic: Burkina Faso, India, Kenya, Niger, Nigeria, Senegal, Sudan



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**

**Food:** Seeds are edible, but consumption is limited by chances of toxicity, the labour-intensive procedure of preparing them for making flour, and their unpleasant odour.

**Fodder:** Large quantities of phyllode biomass, produced during the dry season when other acacias shed their leaves, is a valuable fodder source. However, fodder should be dried before it is fed to livestock, as fresh phyllodes are not palatable for cattle and sheep, and there are reports from Niger of goats dying after consuming them. Crude proteins and digestibility are low, due to their high concentrations of tannins, which limit the availability of the protein component. Trees 4 years old have reportedly produced about 3 t/ha of dry phyllodes.

**Fuel:** The wood, an excellent fuel that can readily be converted to charcoal, is hard with high density (ca. 870 kg/cubic meter). The calorific value of wood is estimated at 4670 kcal/kg and of charcoal 7536 kcal/kg. Early rapid growth makes *A. holosericea* a highly productive fuelwood source. Trees 4 years old can yield up to 13 t/ha.

**SERVICES**

**Shade or shelter:** Due to its large dense crown, *A. holosericea* is used to form the lower part of a multistorey windbreak with *Eucalyptus camaldulensis*.

**Reclamation:** Grows fast, has a dense crown, fixes nitrogen and has vigorous colonizing characteristics. These make it ideal for revegetation and restoration of degraded mining sites and fixation of sand dunes.

**Ornamental:** *A. holosericea* is becoming a popular species for planting in towns and for roadside windbreaks. The silvery foliage, early appearance of its yellow flower spikes and prominent twisted pods make it an attractive ornamental shrub. Its relatively short life span of 4-8 years is a limiting factor.

**TREE MANAGEMENT**

Lopping and pollarding are recommended. Generally *A. holosericea* does not coppice well.

**GERMPLASM MANAGEMENT**

Seed storage behaviour is orthodox; 11% viability lost after 14 years storage at room temperature. There are 100 000-175 000 seeds/kg. Seed pretreatment with boiling water for 1 minute is necessary to break dormancy and enhance germination.

**PESTS AND DISEASES**

ests recorded

Insect pests recorded include *Mylocerus* spp and *Sextius* spp. Fungi causing diseases include *Aecidium*, *Fusarium oxysporum*, *Meloidogyne* and *Uromyces digitatus*.

**FURTHER READING**

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Turnbull JW. 1988. *Acacia holosericea* - a successful newcomer for the dry tropics. Nitrogen Fixing Tree Association Highlights. Nitrogen fixing tree Association.

Vogt K. 1995. A field guide to the identification, propagation and uses of common trees and shrubs of dryland Sudan. SOS Sahel International (UK).

**SUGGESTED CITATION**

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