Markhamia lutea

Species identity

Taxonomy
Current name: Markhamia lutea
Authority: (Benth.) K.Schum.
Family: Bignoniaceae

Synonym(s)
Dolichandrone lutea Benth. ex Hook.
Dolichandrone platycalyx (Baker) Sprague
Markhamia hildelbrantii Sprague
Markhamia platycalyx Sprague
Spathodea lutea Benth.

Common names

(Amharic) : botoro
(English) : markhamia
(Luganda) : lusambya, nsambya
(Somali) : sogdu
(Swahili) : mgambo, mtalawanda

Botanic description
Markhamia lutea is an upright evergreen tree 10-15 m high, with a narrow, irregular crown and long taproot. Bark light brown with fine vertical fissures. Leaves compound, often in bunches, thin and wavy, each leaflet up to 10 cm, wider at the tip, often with round outgrowths at the base. Flower buds yellow-green and furry, splitting down 1 side as flower emerges. Flowers bright yellow, in showy terminal clusters, each trumpet shaped, to 6 cm long, with 5 frilly lobes, the throat striped with orange-red. Fruit very long, thin, brown capsules, to 75 cm in length, hanging in clusters and tending to spiral, splitting on the tree to release abundant seed with transparent wings, 2.5 cm long and yellow-whitish when mature. The genus was named after Sir Clement Markham, who introduced the famous quinine-yielding cinchona into India. The specific name, 'lutea', is Latin for golden-yellow.

Ecology and distribution

Natural Habitat
M. lutea is common in the lake basins and highland areas of eastern Africa. The tree is drought resistant but cannot withstand waterlogging.
Geographic distribution
Native : Ethiopia, Kenya, Tanzania, Uganda

Biophysical limits
Altitude: 900-2000 m, Mean annual temperature: 12-27 deg. C, Mean annual rainfall: 800-2000 mm Soil type: Trees prefer red loam soil but can tolerate well-drained, heavy, acidic clay soils.

Reproductive Biology
M. lutea trees flower for much of the year. In western Kenya, flowering occurs from August to September, followed by seeding in February to

March, while east of Mt Kenya, the flowering period is December to January and the seeding period July to August. Fruits develop within 6 months of insect pollination.

Propagation and management

Propagation methods
Natural regeneration is mainly by seed. Pretreatment is not necessary, and under ideal conditions, seeds germinate within 20-30 days, with an expected rate of 30-60%. Trees may also be propagated by seedling or wildings.

Tree Management
M. lutea grows fast in good forest soil, and plants can attain growth rates of more than 2 m/year. They should be planted in a deep hole, as the roots are long. Trees can be pruned and pollarded to reduce shading and are coppiced when they are about 1.7 m in height. Pods should be collected from the trees after they turn grey.

Germplasm Management
Seed storage behaviour is orthodox, but seeds are better sown fresh. After extraction, seeds can be dried in the sun to 5-10% mc. Mature and properly dried seeds can be stored in hermetic storage at 3 deg. C for several years with no loss in viability. On average, there are about 75 000 seeds/kg.

Functional uses

Products
Apiculture: M. lutea provides good bee forage. Fuel: Trees are a source of firewood and produce good charcoal. Fuelwood is used to cure tobacco in western Kenya. Timber: The wood, which is fairly resistant to termites, is used for furniture, poles, posts, tool handles and boat building. Medicine: Leaves are known to have medicinal value.

Services
Erosion control: Recommended for use in soil-conservation. Shade or shelter: The species provides useful shade and acts as a windbreak. Soil improver: It provides mulch, which enhances soil-moisture retention and increases organic matter. Ornamental: Attractive and worth planting as a screen or background tree for gardens and on golf courses.
Boundary/barrier/support: M. lutea poles can be used as props to support banana trees.

Pests and diseases
Young trees are often attacked by shootborers, resulting in crooked stems.

Bibliography

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