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TRANSFORMING LIVES AND LANDSCAPES

Acacia xanthophloea Benth.

Taxonomy and nomenclature
Family: Leguminosae (Fabaceae), subfamily Mimosoideae
Synonym: *Acacia songwensis* Harms.
Vernacular/common names: Fever tree, Naivasha thorn tree, sulphur bark (English), Koorsboom (Afrikaans); Mgunga (Swahili); UmDlovune, umHlofunga, umHlosinga, umKhanyakude (Zulu).

Distribution and habitat

Acacia xanthophloea is native to eastern and southern Africa including Botswana, Kenya, Malawi, Mozambique, Somalia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. It has been introduced into cultivation in e.g. Taiwan. The species grows near swamps, riverine forests or at lakesides and is able to tolerate several degrees of frost. It grows in semi-evergreen bushland and woodland in areas with a high groundwater table where it may form dense stands in seasonally flooded areas. Trees are not tolerant to cold winds or frost. It is found at altitudes from 600-2100 masl. It grows mostly on sandy soils.

Uses

A. xanthophloea wood is hard, heavy, pale brown with a red tinge. It is valuable as timber but should be seasoned before use, as it is liable to crack. It is used for e.g. poles and posts. Foliage and pods provide food for livestock. The species is used as fuelwood although it produces a gum that leaves a thick, black, tarlike deposit when burnt. The roots and powdered bark of the stem are used as an emetic and as a prophylactic against malaria. It is a nitrogen fixing species that can be used as shade intercropping tree in agroforestry systems, where the thorny habit is also utilized as live fences. The species is, due to its decorative bark, often planted as amenity tree in towns.

Botanical description

Up to 15-25 m tall, with a spreading crown. Bark smooth, slightly flaking, yellow to greenish-yellow. New twigs purple tinged but flaking later to reveal the yellow underlayer. Leaves bi-pinnately compound, 4-10 cm long with a hairy midrib, 4-7 pairs of pinnae, each bearing about 10-17 pairs of small leaflets. Stipules spinescent, spines white, straight, up to 7-10 cm long, paired, often slender and conical at the base. Buds pink; flowers fragrant, in yellow - golden balls on slender stalks; several borne together with a tuft of leaves, in the axils of the thorns. The tree resembles *Acacia seyal* but while *A. seyal* has more reddish or whitish powdered bark and curved little segmented pods in often large roundish infructescences. *A. seyal* also grow on clay or black cotton soil while *A. xanthophloea* is mostly found on sand.

Fruit and Seed description

Fruit: Indehiscent pod, flat and narrow. 5-16 cm long and 1-2 cm wide, pale brown, flat, rather papery, straight or slightly curved. Usually breaking into segments containing individual seeds. Each pod contains 5-10 seeds.
Seed: Elliptic, compressed, 4.5–5.5 mm. long, 3.5–4 mm. wide; areole 3–3.5 mm. long, 2 mm. wide. Pale to dark green, smooth. On average there are 24,000-30,000 seeds/kg.

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Flowering and fruiting habit

Flowers hermaphroditic. Pollination by insects. Development from flower to fruit takes 4-6 months. In southern Africa, flowering occurs from September to November while fruiting is from January to April. Despite the production of a large number of flowers, there is often poor fruit development.

Harvest

Seeds are easily lost by natural dispersal so it is advisable to collect pods before they start to break up and in relatively cool period of the day for example, early morning.

Processing and handling

Extraction of seeds from pods is done by drying in the sun and then pounding or thrashing until the seeds are released. Seeds may easily be separated from pods by sifting.

Storage and viability

Storage behaviour is orthodox meaning that seeds maintain viability for several years if dried and stored cool and prevented from infestation by insects. Insecticides may be considered as seeds are often infested by bruchid beetles.

Dormancy and germination

As other legume seeds *A. xanthophloea* exhibits physical dormancy meaning that the majority of seeds will not take up water and germinate unless pretreated by agents or methods that make the seed coat permeable. Pretreatment may be by nicking or clipping seed coats with a file or nail cutter, or by bulk treatment for example pouring boiling water over the seeds and letting them cool and absorb in the water for 24 hours. Germination is epigeal.

Selected readings

Beentje, H.J. (1994): Kenya Trees, Shrubs and Lianas. National Museums of Kenya, Nairobi, Kenya. 722p.

Dale, I.R. and Greenway, P.J. 1961. Kenya trees and shrubs. Buchanan's Kenya Estates Ltd.

FAO Corporate document. Indigenous Multipurpose trees of Tanzania, uses and economic benefits for people.

World Agroforestry Centre. Species database

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