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Terminalia brownii Fresen.

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TRANSFORMING LIVES AND LANDSCAPES

Terminalia brownii Fresen.

Taxonomy and nomenclature

Family: Combretaceae

Synonym: *Terminalia confertifolia* Steud. ex A. Rich. *Terminalia cycloptera* R. Brownii.

Vernacular/common names: Darot, subagh, subaraya (Arabic); mbarao, mwalambe (Swahili); biress, hareri, (Somali)

Related species of interest: The genus *Terminalia* includes a number of valuable trees and shrubs mainly in Africa, e.g. *T. mollis, T. spinosa* from E. Africa; *T. superba and T. ivorensis* from W. Africa and the ubiquitously cultivated coastal and ornamental *T. catappa*.

Distribution and habitat

Terminalia brownii is naturally distributed in E. Africa, e.g. Kenya, Uganda, Tanzania, Eritrea, Ethiopia and Somalia, extending southwards to Malawi

The species grows in moist savannahs of the semi arid regions, where it is part bushland or woodland. In dry areas it grows near rivers or wadies. Altitude range from 600-1,800 masl and rainfall range 500 – 1,300 mm. It can grow on a wide range of soil types but is mainly found on sandy loam soils and does not thrive on heavy clay soil with poor drainage.

Uses

The wood is strong, durable and termite resistant. It is used for all types of construction purposes and household implements, e.g. handles, mortars and pestles. Leaves are fodder for livestock. The sap is rich in tannin. Extracts from the tree are used in traditional medicine for humans and livestock. The tree is often planted as an ornamental amenity tree in towns and parks.

Botanical description

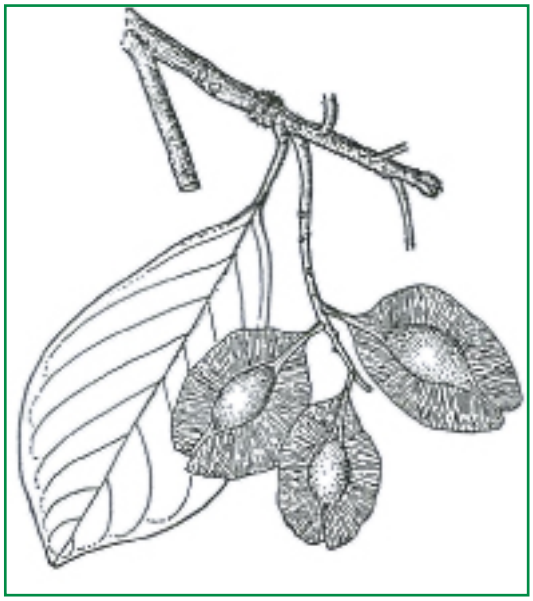
Terminalia brownii is a small (< 20 m) deciduous tree with round or flat crown, often straight bole. Branches tend to appear from whorls, which gives the tree a layered appearance. Young bark light and pubescent, old bark grey and fissured. Leaves alternate – spirally arranged at the end of the branches; simple, entire, elliptic–obovate, 5-8 cm long, 3-5 cm wide, petiole 2-3 cm, glabrous below, apex pointed. Flowers small, white in 7-10 cm long many-flowered spikes, with an unpleasant smell. Individual flowers consist of calyx, 5 stamen and ovary; no petals. Flowers are hermaphroditic or male.

Flowering branch. (source untraceable)

Fruit and Seed description

Fruit: The fruit is a woody samara. It is broadly elliptic–ovate, 2½-3½ cm long, flat, with an 1-1½ cm broad wing surrounding the central fruit part. The fruit is purple red at maturity, turning chocolate brown with age.

Seed: The seed handling unit is the samara. It is very hard and the morphological seed cannot easily be extracted. 1000 seed weight of entire fruits is about 260 g; i.e. about 3-4,000 seeds per kg.



Fruits of *T. brownii*. From Dale and Greenway 1961

Flowering and fruiting habit

Flowering is generally at the latter part of the dry season extending into the rainy season, in the seasonal

East Africa from March-April – June with subsequent fruiting from October to November. Pollination by insects, mainly flies. Fruit development takes 4-5 months. Fruits are dispersed by wind or water.

Harvest

Harvest by picking up fruits under the trees or beating or shaking fruit-bearing branches. Harvest time is not critical as mature seed will usually stay on the tree for some time, extending the fruiting season to several weeks.

Processing and handling

Seeds do not need extraction as the whole fruit is stored and sown. For storage space saving, fruits may be de-winged manually.

Storage and viability

The seed exhibit orthodox storage behaviour, and dry seeds (< 6-7%) can be stored for several years even at ambient temperature. Cool storage presumably extends longevity.

Dormancy and pretreatment

Seeds exhibit moderate physical and possible mechanical dormancy. Cutting part of the fruit open at the opposite end of the radicle will speed up imbibition.

Sowing and germination

Germination is epigeal. Seeds are usually sown directly in pots in the nursery in a sandy loam nursery soil. Germination is slow, which is mainly caused by restriction to water absorption

Selected readings

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

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

World Agroforestry Centre. Species database.

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Seedleaflets are a series of species wise extension leaflets for tropical forest species with special emphasis on seed technology. Leaflets are compiled from existing literature and research available at the time of writing. In order to currently improve recommendations, FLD encourage feedback from users and researchers who have experience with the species. Comments, corrections, improvements and amendments will be incorporated into future edited leaflets. Please write your comments to: SL-International@life.ku.dk