

**LOCAL NAMES**

Bemba (kangwa,kalanangwa); English (jujube); Lozi (mukalu,muchaluwe); Lunda (mukwata); Nyanja (mlashawantu,kankande); Tigrigna (gaba-agdi); Tongan (mwichechete)

**BOTANIC DESCRIPTION**

*Ziziphus abyssinica* is a semi-evergreen spiny shrub, scrambler or small tree up to 12 m tall with a straight, occasionally crooked, single bole; spreading, drooping branches forming a heavy, rounded and untidy crown. Fresh bark creamy, becoming greyish brown, longitudinally fissured and rough in older specimens.

Leaves ovate to broadly ovate, alternate along the stems, up to 8 x 4.7 cm, conspicuously 3-veined from the base, dark green above with veins depressed, leathery, paler green below due to the dense rusty yellow to grey furry hairs; apex broadly tapering, frequently ending in a hairlike tip; base lobed, markedly asymmetric; margin finely toothed; petiole up to 1.2 cm long, with dense soft hairs; stipules spinescent, short, hairy stalk.

Flowers small, star-shaped, creamy to yellowish-green, with an unpleasant, sharp smell, in dense, light clusters in the axils of the leaves; inconspicuous except when produced in profusion; stalk 1-2 cm long, beside leaves.

Fruit almost spherical, 2-3 cm in diameter, shiny red or reddish-brown when mature, smooth, containing 1 or 2 light brown glossy seeds inside the inner stone.

The name '*Ziziphus*' is often erroneously written as *Zizyphus*. The generic name is derived from the latinized version of the Arabic vernacular name 'zizouf' for *Z. jujuba*. The specific name means 'from Ethiopia'.

**BIOLOGY**

In southern Africa, flowers appear between December and February and fruits from June to September. In Zambia, flowers appear from October to March, with some casual flowering in May to June; fruits mature from April to August, often persisting on the tree until November. In North America, flowers appear in the spring and fruit matures from July to November. Pollination vectors are bees.

**ECOLOGY**

*Z. abyssinica* is found growing in arid or dry tropical and subtropical regions, with severe heat and slight frost. It occurs at medium to low altitudes, in open woodland, open grassland and along riverbanks; it reaches its southernmost limit along the southern escarpment of the Zambezi Valley. The tree grows throughout Zambia except for 5 districts in the northwest corner and is widespread outside Zambia from Senegal and Ethiopia south to Angola and Mozambique. It is locally frequent in the chipya, Kalahari and munga woodlands and in munga scrub and occurs occasionally in other woodland types and on termite mounds. It grows throughout East Africa; in Uganda, it occurs in dry savannah in eastern, northeastern and northern regions as well as in Luwero and Moyo Districts.

**BIOPHYSICAL LIMITS**

Altitude: 400-2000 m, Mean annual temperature: as low as -25 deg. C, Mean annual rainfall: 300-2000 mm

Soil type: *Z. abyssinica* grows on a wide variety of soils, including limestone.

**DOCUMENTED SPECIES DISTRIBUTION**

Native: Botswana, Democratic Republic of Congo, Djibouti, Eritrea, Ethiopia, Ghana, Kenya, Lesotho, Mozambique, Somalia, South Africa, Swaziland, Tanzania, Uganda, Zambia

Exotic: United States of America



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:** The sweet fruits are edible, and the leaves may be cooked as a vegetable.

**Fodder:** Jujube is browsed by livestock in spite of its thorns, and in Democratic Republic of Congo, it is cultivated as a fodder crop.

**Apiculture:** *Z. abyssinica* is an excellent tree for bees, both pollen and nectar being easily available.

**Fuel:** The species is a source of firewood and is used in the production of charcoal.

**Timber:** The dark brown to black wood is heavy, hard and resistant to termites and borers. It is used mainly as poles to fence kraals and villages and to cover graves. It is also used for furniture, interior work and carving.

**Tannin or dyestuff:** The bark yields a cinnamon-coloured dye.

**Medicine:** Ash from the burnt leaves is mixed with salt and applied on the throat to relieve tonsillitis. A fomentation of steaming hot leaves soaked in boiling water are used as on the chest to treat pneumonia.

**SERVICES**

**Boundary or barrier or support:** The spiny branches make this plant useful as a protective live fence.

**TREE MANAGEMENT**

Pruning is a suitable practice.

**GERMPLASM MANAGEMENT**

Seed storage behaviour is orthodox; the seeds should be stored at low temperature. There are about 1700 seeds/kg.

**FURTHER READNG**

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**SUGGESTED CITATION**

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