

LOCAL NAMES

Afrikaans (kinaboom); Bemba (mubimbi,mwimbi); English (rauvolfia,quinine tree); Lunda (mutoto,mutochi); Nyanja (mvumbamvula,mwimbe,msabua,mpambamvula,mnyesani,muyesani); Shona (makashu); Swahili (mwembemwitu,msesawe,mkufi); Tongan (mwimbi); Zulu (umHlambamanzi)

BOTANIC DESCRIPTION

Rauvolfia caffra is a much branched tree to 35 m high, 1.5 m or more in diameter with a dense crown; bole straight, slightly buttressed; bark light brown or greyish-white with irregular fissures; slash cream, exuding a bitter white latex.

Leaves in crowded whorls, simple, stipules absent; blade oblanceolate to linear oblanceolate, 6-32 x 1.5-7 cm, apex obtuse to acute or subacuminate, base cuneate, margins entire, glabrous, shiny green above, paler below, lateral nerves 18-30 pairs; petiole 0.5-6 cm long.

Inflorescence a terminal compound umbel, peduncle 2-6 cm long, bracts minute; flowers bisexual, 5-merous, white, pedicels 1 mm long. Calyx cup-shaped, 1 mm long, 5-toothed or lobed; corolla salver-shaped, white, tube 3-4.5 mm long, lobes ovate, 1 mm long, mouth filled with whitish hairs; stamens 5, inserted above the middle; ovary of 2 more-or-less united carpels, often only 1 developing.

Fruit a subglobose to obovoid drupe, smooth and green at first, becoming wrinkled and blackish purple, 1-1.5 cm long, 2 cm in diameter if 2-seeded; seeds 1 or 2, white, ovoid-compressed, endosperm fleshy.

The generic name *Rauvolfia* (sometimes mis-spelt *Rauwolfia*), commemorates a 16th century German physician, Leonhart Rauwolf, who travelled widely to collect medicinal plants. The specific name 'caffra' means 'of Kaffraria' (Eastern Cape). The common name 'quinine tree' refers to the bitter and supposedly quinine-like properties of the bark.

BIOLOGY

In Tanzania flowering occurs during the long rains, extending into the dry season up to the onset of the short rains; fruit ripens during the dry season extending into the short rainy season up to the long dry season. In South Africa flowering is from May to October and fruiting from October to March. It takes about 9-10 months between fertilization of the bisexual flowers and ripening of the fruit.



Trunk tall, erect, sometimes somewhat fluted. (Ellis RP)



Bark (Ellis RP)



Leaves (Ellis RP)

ECOLOGY

Naturally distributed from Tanzania to the Eastern Cape of South Africa. Occurring near rivers and streams. When growing away from rivers and streams it is always associated with available ground water, therefore regarded as an indicator of water. *R. caffra* is a frost sensitive species.

BIOPHYSICAL LIMITS

Altitude: 500-2 100 m , Mean annual rainfall: 500-1 270 mm

Soil type: Grows on loamy sands to sandy clay loam soils of mainly volcanic origin.

DOCUMENTED SPECIES DISTRIBUTION

Native: Democratic Republic of Congo, Kenya, Malawi, South Africa, Tanzania, Uganda, Zambia, Zimbabwe

Exotic:



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

Fodder: Leaves browsed by nyala, and the leaves, flowers and fruit eaten by vervet monkeys.

Apiculture: It is an important species in bee keeping.

Fuel: The tree is a good source of fuel.

Timber: Wood is yellowish-white with a small heartwood, soft and light (air-dry 540 kg/m³). It is suitable for general timber work and takes nails well. An excellent wood for making fruit boxes and is ideal for kitchen furniture and shelving. Household utensils are sometimes carved from this wood.

Alcohol: The root and stem bark is added to a local alcoholic beverage made from banana to increase the potency of the drink.

Medicine: The pharmacological studies of the plant show it to be an anti-depressant; it has sedative action and an anti-hypertensive effect accompanied by bradycardia. *R. caffra* alkaloid (resperine) exerts important effects on behaviour and on autonomic functions, and has been very useful in the treatment of hypertension and psychoses.

The root of the plant is traditionally used for treating insomnia and insecurity. A bark decoction is drunk for general body swellings, rheumatism and pneumonia. The stem and root bark can be used as an ascaricide and the powdered unopened inflorescence as a local application to sores on the legs. The root juice, mixed with honey, is applied to fractures. The bark has been used as an astringent and as a colic remedy. The root bark is dried and ground or pounded while fresh and an infusion prepared for the remedy of roundworms and tapeworm. It also acts as a purgative and/or an emetic. The bark is used as a cure for coughs and toothaches.

SERVICES

Shade or shelter: It is used as a shade tree in coffee plantations.

Ornamental: This is a fine, fast-growing tree for sheltered gardens, easily raised from seed and unusually decorative.

TREE MANAGEMENT

Seedlings and young plants transfer well. Give them sufficient water for the first 3 months until they are established. It has a fast growth rate, up to 1.5 m/year. The tree is a shade demander especially when very young. However, as the tree grows older its light requirement changes. The old trees do not tolerate shade. Unfortunately its large size and invasive root system make it unsuitable for the smaller garden.

FURTHER READNG

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SUGGESTED CITATION

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