**Combretum zeyheri** Sond.

Combretaceae

LOCAL NAMES
Afrikaans (raasblaar); English (large-fruited bushwillow); Tswana (mafambaborile); Zulu (umbondwe wasembudwini)

BOTANIC DESCRIPTION
Small to medium-sized, single to multi-stemmed deciduous tree up to 10(12) m high or rarely a shrub; crown rounded or flat-rounded; bark brown or grey-brown, smooth to scaly, generally fissured; branchlets usually tomentose. The branches tend to curve downwards and may hang to the ground.

Leaves large, darkish-green, dull and leathery drooping, margins finely ciliate, and are borne in opposite pairs or in whorls of 3 or 4 at intervals of 15 – 80 mm. On the underside there are yellowish to white hairs, fairly dense on the main vein. The leaves turn brilliant yellow in autumn. The average leaf size is about 80 x 45 mm, the petiole 7–15 mm long with a swelling at the base up to 3 mm in diameter.

Flower a spike up to 8 cm long with an overall greenish-yellow appearance produced at or near the bases of new lateral or terminal shoots. It is faintly sweet scented and very fragile. Leaves are usually suppressed at the inflorescence positions.

Fruit pale green when young, biscuit to red-brown when ripe, 4-winged (sometimes 3-winged) with a sub-circular wing outline. The bases of the wings are broadly and deeply notched and the apices less deeply and narrowly notched. Wings may be fused together beyond the apex of the body. An apical peg up to 2.5 mm long can be present. In some cases the body has a greyish overtone due to scales, if they are sufficiently closely spaced. Apart from scales, both body and wings are glabrous.

Seed single in each fruit, ellipsoid and circular in cross-section, 28 mm long and up to 15 mm in diameter with four main longitudinal furrows and the whole surface finely wrinkled. The colour is gamboge with some darker markings.

BIOLOGY
Seeds start ripening from June to July. The species is sometimes subjected to polyembryony. Two seedlings are often produced from one seed and up to seven seedlings have been observed from a single seed.


leaves (TopTropicals.com)


(TopTropicals.com)

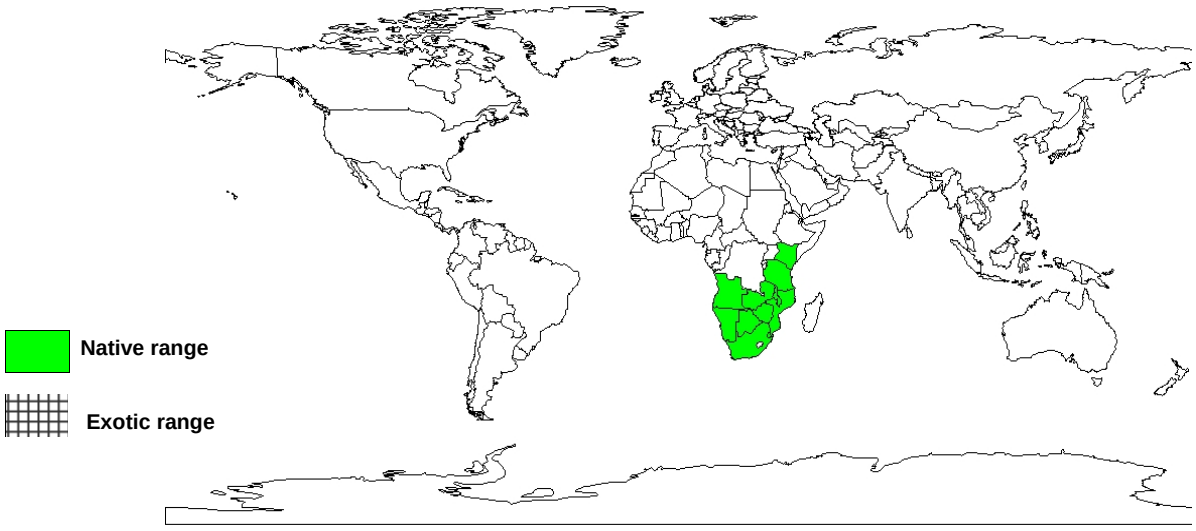
ECOLOGY
Combretum zeyheri occurs at medium to low altitudes, in open woodland, on rocky hillsides and sometimes along rivers, tolerating a wide range of soils from sandy soils to those that are fairly heavily mineralised. It prefers the higher rainfall areas and is thought to be an indicator of sour bushveld. The habit of these trees varies considerably from what is virtually grassland with scattered specimens of C. zeyheri as the only tree species, to savannah, to woodland, in rocky hill terrain or on plains, at altitudes from 50-1 500 m, in areas which have high summer ambient temperatures to those with relatively frequent frosts in winter. The associated vegetation of these trees varies and may include Brachystegia-Julbernardia in savanna woodlands; Cryptosepalum dry forest and woodlands; lowland littoral forest with Pteleopsis, Erythrophloeum and Brachystegia spiciformis; Pericopsis-Pterocarpus-Acacia tree savanna; and Acacia-Combretum-Terminalia in tree savanna.

BIOPHYSICAL LIMITS
Altitude: from 50-1 500 m
Soil type: tolerates a wide range of soils from sandy soils to those that are fairly heavily mineralized

## DOCUMENTED SPECIES DISTRIBUTION

Native: Angola, Botswana, Democratic Republic of Congo, Kenya, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, 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
Timber: The wood is hard, yellow, termite- and borer-proof, and is a useful general purpose timber; it is easy to work but not durable unless thoroughly seasoned. The wood is also used to make yokes.

Medicine: Crushed leaves combined with oil are used as an embrocation to ease backache, and if crushed in water are used as an eye lotion. The roots, mixed with other ingredients, are regarded as a remedy for nose-bleeding and form an ointment to relieve haemorrhoids when pounded and mixed to a paste with fat. The bark is used for treating gallstones and root infusions are taken for diarrhoea and excessive menstrual flow. In Zimbabwe, root infusions are taken for bloody diarrhoea.

Fodder/forage: Although the tree is not very palatable, leaves are eaten by giraffe (Giraffa camelopardalis) and elephant (Loxodonta africana). The ripe seeds are eaten by baboons (Papio cynocephalus). Hornbills (Tockus spp.) also eat the seeds out of fallen fruits. The sweetly scented flowers attract various insects.

Gums& tannins: Gum and tannins have been found in fruit and seeds. The edible gum, secreted mainly in September, is considered as a delicacy by pastoralist communities.

Weaving and basketry: The fibrous roots are woven into baskets and fishing traps.

SERVICES
Ornamental: This tree can be a very decorative addition to the garden.

TREE MANAGEMENT
Very little has been documented on appropriate management options for this tree.

GERMPLASM MANAGEMENT
Seed storage behaviour is orthodox and dry seeds store well in cool places. Many seeds are parasitised by insects but undamaged seeds can be removed carefully from the fruit by cutting off two opposite wings and then pulling the remaining two apart.

Seeds should be soaked in warm water for at least 12 hours. Swollen and softened seeds are very fragile and could easily be damaged. They should be sown carefully with the long axis horizontal, so that the soil only just covers them. Seeds germinate within 11-29 days (8-10 days with heated soil) and the germination percentage is 0-70 %.

A new shoot emerges from below the ground about 4-10 weeks after germination. This shoot becomes the main stem of the plant. About 60 % of the seedlings may die because they fail to produce this shoot. The root system is very brittle and easily breaks off during handling. The growth rate is so slow that by the end of the first growing season, trees will only be up to 250 mm high.

PESTS AND DISEASES
Microscopic mites of the Eriophyoidea cause hairy domes on the dorsal surface of the leaves with erineum (an outgrowth of abnormal plant hairs produced by certain mite species of especially the Eriophyoidea) of straight hairs underneath. Seeds are also victims of parasitism by many insects.

## FURTHER READNG

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## SUGGESTED CITATION

Orwa C, Mutua A , Kindt R , Jamnadass R, Simons A. 2009. Agroforestree Database:a tree reference and selection guide version 4.0 (http://www.worldagroforestry.org/af/treedb/)