

Prunus africana

red stinkwood, mueri, bitter almond

(Hook. f.) Kalkman

Rosaceae

LOCAL NAMES

Afrikaans (rooistinkhout); Amharic (tikur inchet); English (red stinkwood, iron wood, bitter almond); Luganda (ntasesa, ngwabuzito); Swahili (mueri, mkomahoya, kiburraburra); Trade name (red stinkwood, mueri, bitter almond)

BOTANIC DESCRIPTION

Prunus africana is an evergreen tree, 10-24 (36 max.) m in height, with a stem diameter of 1 m; bark blackish-brown and rugged; branchlets dotted with breathing spots, brown and corky; twigs knobbly.

Heavy, shining foliage composed of alternate, simple leaves, oval or lance shaped, 5-15 x 2-6 cm; shiny deep green on the top side, duller and lighter underside; conspicuous veins and a distinct midrib prominent on the underside, sometimes widely tapering at both ends and sometimes with a long drawn-out point, or with a round apex; margin finely toothed or untoothed; petiole 2 cm long, pink or red. Crushed leaves have a bitter-almond smell.

Flowers small, white or greenish, hairy, fragrant, borne abundantly in bunches 5-7.6 cm long in the axils of leaves or on the side of shoots; solitary or in branched axillary sprays 3-7 cm long; calyx and petals small; 10-20 stamens.

Fruits spherical, bitter, 7 mm long, 1.3 cm broad, pinkish-brown, bilobed, with a thin, dark red to reddish-brown pulp when ripe, a depression in the centre covering a papery shell; thin pericarp with 1 or 2 small, delicate, oval seeds inside.

Prunus comes from the classical Latin name of the plum tree, from the Greek 'prunos' (plum). The specific name means 'of Africa'.

BIOLOGY

In its area of natural distribution, *P. africana* peaks flowering between November and February. Sporadic flowering all year round can be found in the Kakamega Forest of Kenya. Trees produce flowers with male and female parts. Insects pollinate the tree, and fruits, which are highly relished and dispersed by birds and monkeys, develop within 4-6 months.



Five-year-old tree at Embu, Kenya. (Anthony Simons)



Leaves and berries of *Prunus africana*, courtesy of Briza publications. (Ben-Erik van Wyk)



Immature and mature fruits from Kibojoi Forest, Western Kenya (Anthony Simons)

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ECOLOGY

P. africana, a highland forest tree, grows in the humid and semi-humid highlands and humid midlands. It occurs in sub-Saharan Africa; in Kenya it grows on the slopes of Mt Kenya, Mt Elgon, the Aberdares Range, Cherangani Hills, Tugen Hills, Mau Range, and Timboroa, Nandi and Kakamega Forests. Found in association with species such as *Albizia gummifera*, *Anigera adolfi-friederici*, *Cassipourea malosana*, *Celtis africana*, *Podocarpus falcatus* and *Polyscias kikuyuensis*. The species has a high light requirement and grows best in forest gaps.

BIOPHYSICAL LIMITS

Altitude: 900-3 400 m

Mean annual rainfall: 890-2 600 mm

Mean annual temperature: 18-26 deg.C

DOCUMENTED SPECIES DISTRIBUTION

Native: Angola, Benin, Botswana, Burkina Faso, Cameroon, Chad, Comoros, Cote d'Ivoire, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Sao Tome et Principe, Senegal, Sierra Leone, South Africa, Swaziland, Tanzania, Togo, Uganda, United States of America

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.

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PRODUCTS

Apiculture: Flowers have sufficient nectar and pollen for good bee forage.

Fuel: *P. africana* produces high-quality firewood.

Timber: The wood is heavy, hard, durable, close and straight grained, strong, red-brown, planes well, takes a high polish, but splits and twists; it is used for heavy construction work, furniture, flooring, turnery, mouldings, poles and mortars.

Poison: Bark, bruised leaves and fruits smell strongly of bitter almonds. They are reputed to be poisonous and are used in witchcraft.

Medicine: Liquid extracts from *P. africana* bark are used in the treatment of benign prostatic hyperplasia and prostate gland hypertrophy. Leaves are used as an inhalant for fever or are drunk as an infusion to improve appetite. Water is added to pounded bark, and the red liquid is used as a remedy for stomach-ache; bark extract may be used as a purgative for cattle.

SERVICES

Erosion control: Trees can be grown along contour ridges and terraces.

Shade or shelter: *P. africana* provides useful shade and acts as a windbreak.

Soil improver: Leaves can be used as mulch and green manure.

Ornamental: It makes an attractive garden shade tree.

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TREE MANAGEMENT

The tree grows at a moderate rate and responds well to cultivation. It is able to withstand severe bark removal to exhibit complete bark regrowth, but poor harvesting of bark may lead to tree death. Bark is collected only from quarters on opposite sides of trees, from about 35 cm above the ground level to the height of the 1st branch. In this way it is thought that the bark can be harvested sustainably every 4-5 years. Bark removal induces early flowering. Mean bark yield per tree is 55 kg, ranging from 34 to 74 kg.

GERMPLASM MANAGEMENT

Extracted seeds are spread in a thin layer in the shade of a well-ventilated area so that excess water on the pericarp is removed; this drying process should not exceed 4 hours. Seeds are recalcitrant and desiccation sensitive; they can be stored at 1 deg. C. and 37% mc for 1 year. Initial germination is 42% but drops to 39% after 9 months of storage at 4 deg. C with 20% mc. Desiccation to 15% mc induces dormancy, which is broken by prechilling seeds at 3 deg. C for 5 months. Seed containers should be kept in a cold store to suppress the emergence of radicles and shoots. On average there are 3400-6000 seeds/kg.

PESTS AND DISEASES

Fungi and insects infect fruits on the ground. A lepidopteran caterpillar feeds on leaves, and at low altitudes aphids attack developing leaf buds, leading to defoliation. Moist conditions encourage infestation of powdery mildew and a stem borer whose presence is indicated by resin exudation through small bore holes. This has been recorded in Cameroon.

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FURTHER READING

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SUGGESTED CITATION

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