

LOCAL NAMES

Afrikaans (without,waterhout,waterboom); English (watertree,Cape holly,African holly); Xhosa (umDuma); Zulu (iPhuphuma)

BOTANIC DESCRIPTION

An evergreen tree between 20 – 25 m tall, with a straight, rounded canopy. It is variable in size depending on where it is growing. In the forests of Knysna in South Africa it easily reaches a height of 18 m and may have a trunk diameter of 0.6 m. Stems are normally round. Bark on the young tree is a pale grey-brown with patches of white, smooth with fine, transverse ridges and yellow-brown corky specks. As the tree becomes older it becomes evenly whitish grey with dark and rough spots.

Young twigs are reddish purple in colour. The lance-shaped, simple, alternate leaves are shiny dark green and are carried on plum-coloured stalks. They are between 70 – 100 x 19 – 25 mm, with pointed, sometimes curled tips and wavy, sometimes slightly toothed margins. The plum-coloured leaf stalks help to identify the tree. The midrib is sharply impressed above and prominent below.

Flowers dioecious, small, white and sweet scented and in bunches between the leaf axils. The forest floor below the trees become carpeted with tiny, white flower petals that are shed as the fruit begins to develop.

Fruits bright red, and densely packed along the stems, provide bright splashes of colour, attracting many kinds of birds. There are several small, round seeds each with a sharp point in each fruit. Fruiting trees are conspicuous when viewed from above.

BIOLOGY

The tree is dioecious and flowers in spring or early summer. Fruits ripen on the female trees in autumn.

ECOLOGY

It is very widely distributed in Africa, from sea level to high mountains, growing on the banks of rivers and streams, often found overhanging streams along which it grows and in moist spots in woods and montane forests. In Uganda it is common in the impenetrable Bwindi forest and on Mt. Elgon. In Kenya it occurs on the south-west and north-east slopes of Mt. Kenya and in the north-eastern Aberdares in the canopy 9 – 21 m, in valleys and ravines associated with *Albizia gummifera*, *A. schimperania*, *Fagara* spp. *Hagenia* spp., *Macaranga kilimandscharica*, *M. conglomerata*, *Ocotea usambarensis*, *Prunus Africana* and *Rapanea rhododendroides*.

BIOPHYSICAL LIMITS

Altitude: 0 - 3 500 m

Temperature: -3°C, maximum: 34°C

Rainfall: 740-1500 mm

Soil type: perform best in a fertile moist, well-drained soil that is slightly acidic

DOCUMENTED SPECIES DISTRIBUTION

Native: Kenya, Lesotho, South Africa, Swaziland, Uganda

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 close-grained, medium-hard and medium-heavy and whitish to grey-green in colour that is easily worked and can be attractively marked. Though used as timber, normally the trunk is too short to obtain long boards. The wood was once used in the construction of wagons for buckboards and occasionally for spokes. It was also in demand for the heels of ladies shoes and is still used for implement handles and furniture.

Medicine: small pieces of bark are chewed as purgative and also used in the preparation of enema for treating colic in children. Sotho witchdoctors in southern Africa include the plant in their divine dice to protect sick people from being bewitched.

Fuelwood: *Ilex mitis* is also used as fuelwood.

Apiculture: the honey from this tree is very white and is highly prized in Kenya.

SERVICES

Ornamental: The bright red fruits and glossy leaves make *Ilex mitis* a great candidate for ornamental purposes.

Other services: there is a belief that the presence of this tree is an indication of underground water near the surface. The brilliant red fruits in autumn attract birds who also aid in seed dispersal. In the Knysna (South Africa) forests elephants show a particular liking for the leaves. When the leaves are rubbed together they give a soap-like lather and this was once used by the Knysna woodcutters to wash themselves in the forest streams hence the name iPhuphuma which means, 'it foams out'.

TREE MANAGEMENT

Ilex mitis is a fairly fast growing tree, 0.8 m a year being possible, transplants well but needs protection whilst young. The tree responds well to pruning, lopping and pollarding. Ilex mitis grows best when planted alongside a running stream and is one of the few indigenous evergreen trees in South Africa which can cope with frost, making it especially suitable for cold areas. To be sure of fruit, one should plant a small grove of these trees and remove extra males later.

GERMPLASM MANAGEMENT

Fresh seed germinates easily. Seeds collected from the tree, or those fallen below the tree should be allowed to dry gradually. Trees can be very tall, making collection off the tree very difficult. They should then be sown into a tray containing a 1:1 mixture of river sand and compost. Seedling mix obtained from nursery centres is also suitable. Seed should be covered lightly with the soil mix and then kept damp. Although germination can be erratic, seeds usually begin to germinate 8-20 days after sowing. The seedlings need to be transplanted into a mix of sand and compost in bags at the two-leaf stage.

PESTS AND DISEASES

None known

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SUGGESTED CITATION

Orwa C, A Mutua, Kindt R, Jamnadass R, S Anthony. 2009 *Agroforestry Database: a tree reference and selection guide* version 4.0 (<http://www.worldagroforestry.org/sites/treedbs/treedatabases.asp>)