

Dovyalis caffra

(Hook. f. et Harv.) Warb.

Flacourtiaceae

LOCAL NAMES

Afrikaans (wide-appelkoos, keiappel, appelkoosdoring); English (wild apricot, kei apple, dingaan's apricot); Zulu (umQokolo)

BOTANIC DESCRIPTION

Dovyalis caffra is a shrub or small evergreen tree, usually 3-5 m in height, but sometimes reaching 8 m. Bark grey, smooth on young branchlets but fissured and flaky to corky on old branches and stems. Young branches heavily armed with long (40-70 mm) spines, but stem with few spines. Crown much branched. Root system is not aggressive.

Leaves simple, often in tight clusters or fascicles, on dwarf lateral branches; alternate on young shoots; dark green with a waxy lustre, with 3-5 prominent veins from the base on both sides, narrowly obovate to broadly obovate-elliptic, 2-5.5 x 0.5-3 cm; apex rounded, occasionally notched; base tapering to narrowly rounded; margin entire, slightly rolled under; petiole up to 5 mm long.

Flowers small, inconspicuous, in dense clusters, creamish-green. Male and female flowers on separate trees. Male flowers 3 mm long in dense clusters of 5-10; female flowers solitary or in groups of up to 3 on stalks 4-10 mm long in leaf axils, usually on the dwarf lateral shoots, seen more as masses of stamens.

Fruit almost spherical, up to 6 cm in diameter, fleshy, turning from green to yellow-orange with a velvety surface when mature, crowned with persistent styles containing seeds 10 mm long. About 12 hairy seeds in 2 circles are enclosed in the pulp; these distinguish the kei apple from the thorn pear fruit which is similar (the thorn pear fruit has only 1-3 seeds).

The name '*Dovyalis*' is based on the Greek word for 'spear' and 'caffra' comes from Kaffraria (Eastern Cape, South Africa). When not in flower or fruit, this species is sometimes confused with *D. zeyheri*.

BIOLOGY

The species is dioecious. In southern Africa, flowering and fruiting occur from November to January. *D. caffra* starts to fruit when at least 3 years old. Pollination is carried out by insects, and fruits are developed within 4 months.



This extremely hardy plant is cultivated extensively in Nairobi as a hedge or living fence. (Ellis RP)



The smooth grey bark of the trunk and branches is covered in strong, sharp spines up to 60mm long. (Ellis RP)



The fruits are round and fleshy, up to 40mm in diameter and orange-yellow when ripe. The fruit is edible and makes an excellent jam. (Ellis RP)

ECOLOGY

D. caffra occurs in open bush and wooded grassland, often in Acacia woodland and frequently associated with termite mounds. The drought- and frost-resistant trees also tolerate sea breezes and salt spray.

BIOPHYSICAL LIMITS

Altitude: 200-2450 m, Mean annual rainfall: 1500-3000 mm, Mean annual temperature: 11-31 deg.C

Soil type: Kei apple thrives in deep, well drained, loamy or sandy soil to which compost has been added.

DOCUMENTED SPECIES DISTRIBUTION

Native: Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zimbabwe

Exotic: Albania, Australia, Djibouti, Eritrea, Ethiopia, Greece, Israel, Italy, Kenya, Malta, Portugal, Spain, Sudan, Tanzania, Uganda, United Kingdom, 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: Ripe fruits are pleasantly flavoured and rich in vitamin C. They can be eaten fresh or made into jelly and jam.

Fodder: Leaves are eaten by cattle, goats and game.

Apiculture: *D. caffra* provides valuable forage for bees.

Timber: The wood is white, dense and heavy; usually too small to be of general use.

Poison: If the fruit is soaked in water and allowed to ferment, the liquid drained off has herbicidal properties.

SERVICES

Ornamental: *D. caffra* is an attractive addition to any garden.

Boundary or barrier or support: Trees can be spaced close together to form an impenetrable hedge around homesteads, gardens and croplands to keep out unwanted animals.

TREE MANAGEMENT

Trees have a moderate growth of 60 cm/year. They are drought resistant and can take very light frost, except the young plants, which must be protected for the 1st 2 years. It also responds well to pruning and grows well in either full sun or light shade. To maintain a good live fence, trees should be trimmed regularly.

GERMPLASM MANAGEMENT

Seed storage behaviour is recalcitrant; viability maintained for over 2 years in hermetic air-dry storage at 5 deg. C; viability can be maintained for several years in hermetic storage at 3 deg. C with 6-10% mc. There are about 27 000-47 000 seeds/kg.

PESTS AND DISEASES

The ripe fruit is popular with birds. Fruit is attacked by the fruit fly, whose larvae breed in them. Larvae of the African leopard butterfly, *Phalanta phalanta*, feed on the leaves.

FURTHER READNG

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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>)