

Rhizophora mucronata**Rhizophoraceae****Indigenous**

STANDARD/TRADE NAMES: Mkoko.

COMMON NAMES: **Digo:** Mkpwoko; **Duruma:** Mkoko; **Giriama:** Mkoko; **Sanya:** Mkoko; **Swahili:** Mkoko.

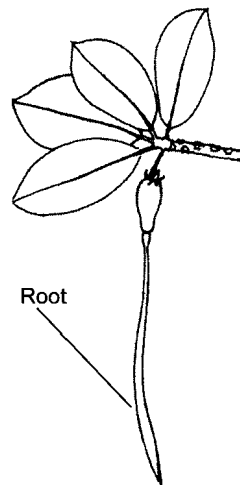
DESCRIPTION: The commonest mangrove tree in Kenya, with a straight trunk to 10 m, confined to coastal mudflats. The tree develops characteristic aerial **stilt roots** up to 2 m in length, which arch over and anchor in the mud. At high tide the tree appears to be floating on the water, and at low tide perched above the mud on stilts. The branches are soft and brittle. **BARK:** Reddish brown to black. **LEAVES:** **Opposite, dark green, lower surface with corky spots, thick and leathery**, up to 15 cm long and 8 cm wide with a distinctive hair-like tip. **FLOWERS:** Cream, fleshy, in groups of 4–8. **FRUIT:** Leathery green, **cone-shaped berries** to 5 cm long. The single **seed germinates while the fruit is still on the tree** (viviparous). A green cylindrical root emerges, growing downwards, to 45 cm long. Eventually the whole torpedo-like structure drops off and may float away, to put out true roots and leaves on lodging in the mud.

ECOLOGY: Widely distributed on the Indian Ocean shorelines. In Kenya, this mangrove species is most frequently found mixed with *Avicennia* on the seaward side of mangrove swamp forest. Commonly found on muddy shores, especially on creeks, where it is often the dominant species.

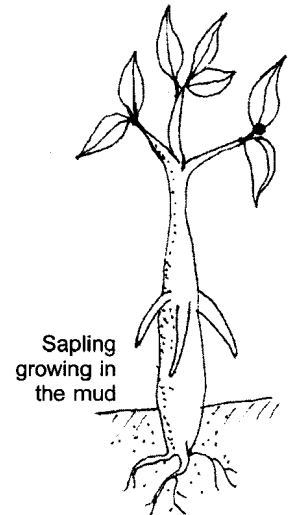
USES: Firewood, charcoal, timber (roof construction), poles, baskets (split branches), medicine (leaves and roots).

PROPAGATION: Seeds germinate when the fruit is still on the mother plant (viviparous). Young recently dropped seedlings may be used for propagation.

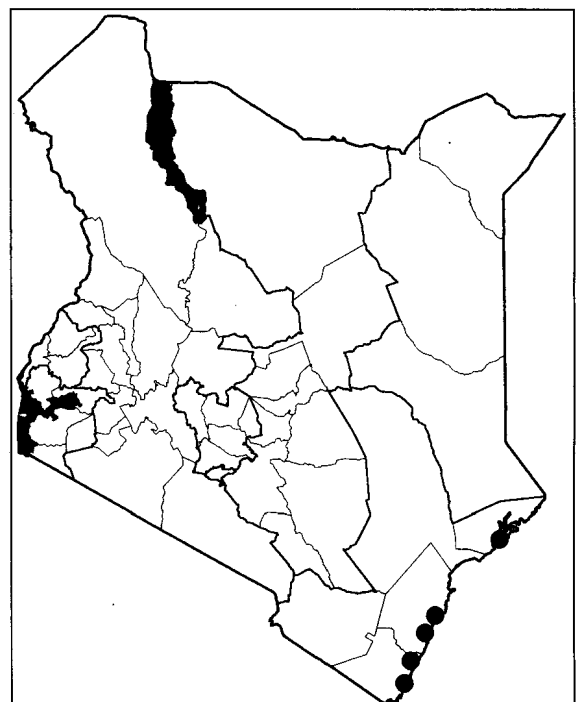
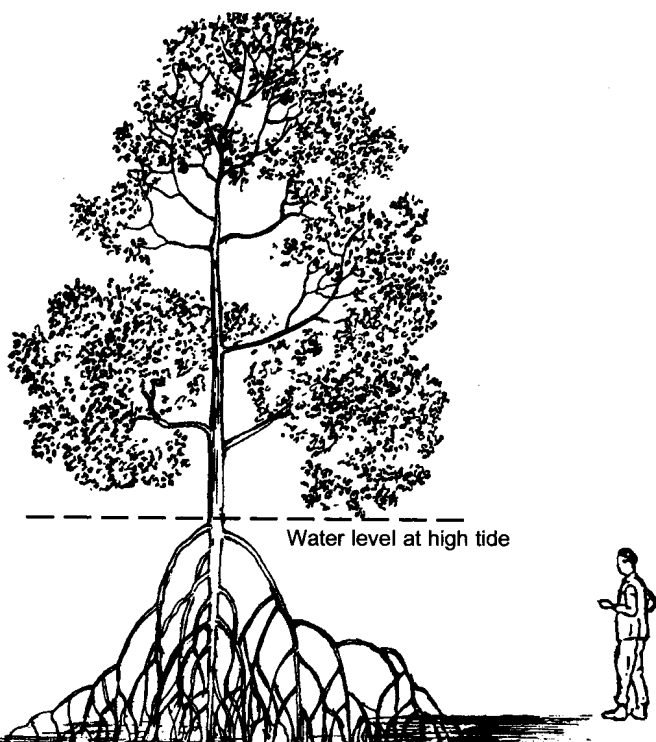
SEED: Not used.



Root



Sapling growing in the mud



Rhizophora mucronata (cont)

REMARKS: This plant is among the most useful sources of building material at the Kenya coast. The wood is hard and tough and therefore a source of superior building poles and charcoal. The bark has a high tannin content. *Ceriops tagal* (**Swahili:** Mkandaa), also in the family Rhizophoraceae, is a shrub or tree, seldom exceeding 6 m, with stilt roots and finger-like aerial roots arising from the mud. It is found along the entire Kenyan coastline where there are mangrove swamps and saline creeks. The bark is fibrous. Leaves are up to 9 cm long with a rounded tip. Flowers are white. The fruit is up to 2 cm long with a ridged root (radicle) to 25 cm long on the tree. This is also excellent firewood. The bark also has a high tannin content (45%) and is used in tanning and as a source of dye. The timber is said to be the most durable of all mangroves. The species is also found on the coasts of the Indian and western Pacific Oceans.

While the family Rhizophoraceae contributes 3 of the 8 mangrove genera occurring in Kenya (*Rhizophora*, *Ceriops* and *Bruguiera*), the other families, Combretaceae, Sonneratiaceae, Verbenaceae, Meliaceae and Chenopodiaceae, contribute one each:

Sonneratia alba (**Swahili:** Mlilana), the only one in the family Sonneratiaceae, is a tree to about 10 m high with many finger-like aerial breathing roots arising from ordinary roots. Bark smooth or rough. Leaves widest towards the tip or almost round, to 9 cm long. Flowers white or pink, 1–3 together at shoot ends, to 3.5 cm long. Stamens many, in rows. Fruit a berry, wider on one end, to 4 cm long. Wherever it occurs with other mangroves, this species usually occupies the seaward edge. The species is distributed on the Indian and Pacific Ocean coastlines. The wood is used in carpentry. The bark yields tannin and the leaves are fodder for camels. The breathing roots are used as fishermen's floats.

Yet another mangrove, *Xylocarpus granatum*, in the family Meliaceae (**Swahili:** Mtonga, Mkomafi), is an evergreen tree, seldom exceeding 10 m, with a network of spreading flattish surface roots whose upper edges protrude above the mud looking like snakes. Leaves are divided into leaflets, usually 2–4. Leaflets have a rounded tip, coloured orange-brown on drying. Flowers are cream, small. Fruit large, to 25 cm in diameter, 4-valved. This mangrove species is found near the high-water mark along the East African coast and east to the Pacific. The related *X. moluccensis* (**Swahili:** Mkomafi) is a shrub or small tree found in coral in thickets or bushland along the Kenyan coast. It is reported to develop pneumatophores (breathing roots). The leaflets dry yellow-green and have a sharper end than in *X. granatum*. The fruit is generally smaller. The timber is used as dhow masts and in furniture.

Lumnitzera racemosa (**Swahili:** Mkandaa mwitu, Kikandaa), in the family Combretaceae, is an evergreen shrub or small tree rarely exceeding 4 m. It is found at the high-water mark, mainly on the Kenya south coast. It has a brown fissured bark and may sometimes have knee-

shaped breathing roots. The spirally arranged leathery leaves have a rounded tip. Flowers are white, in spikes arising from the leaf axils. The fruit is small, woody, up to 12 mm long with a persistent calyx. The species is used for poles and as firewood. Though not a true mangrove, *Suaeda monoica* (**Boran:** Durte; **Gabra:** Durte; **Maasai:** Olnyarusa; **Rendille:** Lufute hadu'un; **Somali:** Amaressa; **Swahili:** Mwinyonye, Mwinamia maji; **Taveta:** Musiwa; **Turkana:** Muyee) in the family Chenopodiaceae is found on the landward side of mangroves and also inland at the edges of salt pans, swamps and on other saline soils in the dry parts of Kenya, particularly Taveta and Amboseli, around Lake Turkana and in North Eastern and Eastern Provinces. It is usually the dominant species wherever it occurs. It is good fodder plant and is very salty. The related shrub, *Salsola dendroides*, common in arid northern Kenya along luggas, is also quite salty but good camel fodder. It is often known by the same local names.

FURTHER READING: Beentje, 1994; Dharani, 2002; Lötschert and Beese, 1983; National Academy of Sciences, 1980, 1983; Noad and Birnie, 1989; Palgrave and Palgrave, 2002; Verheij and Coronel, 1991.