Bombax costatum

Pellegr. et Vuillet

Bombacaceae

LOCAL NAMES
English (red-flowered silk cotton tree); French (kapokier rouge ou faux kapokier,kapokier); Mandinka (bunkungo,bungkungo); Wolof (kattupa,garablaobe)

BOTANIC DESCRIPTION
Bombax costatum is a deciduous tree up to 25 m high, in the Sahel hardly over 6 m. Crown structure of young trees storeyed, becoming irregular and sturdy in older trees. Bark thick, grey brown and corky, with typical conical, stout, sharp-pointed spines on the stem and branches. Slash light red-brown.

Leaves digitately compound, with 5-7 leaflets, 8-15 cm long, on long petioles. Leaflets partly ovate, partly acuminate at both ends, with 8-10 pairs of lateral nerves.

Flowers (5-6 cm) long and solitary, deep red, orange or yellow, tulip-shaped, on long, glabrous peduncles. Calyx cup-shaped.

Fruit a dark brown, ellipsoidal capsule, composed of 5 valves, dehiscent, 8-16 cm long and 3-6 cm wide, of variable shape. The valves are furrowed for about one third the distance from the top to the middle.

Fruit contains white floss, called kapok and several small seeds.

The genus name 'Bombax' is derived from the Greek 'bombux', meaning silk, alluding to the dense wool-like floss covering the inner walls of the fruits and the seeds.

BIOLOGY
Flowers after leaf fall in November to February. Fructifies, according to site and conditions, from the sixth year on, but very irregularly. Fruit formation begins around August and September.

Bombax costatum slash (Joris de Wolf, Patrick Van Damme, Diego Van Meersschaut)

Bombax costatum leaves (Joris de Wolf, Patrick Van Damme, Diego Van Meersschaut)

Bombax costatum flowers (Joris de Wolf, Patrick Van Damme, Diego Van Meersschaut)

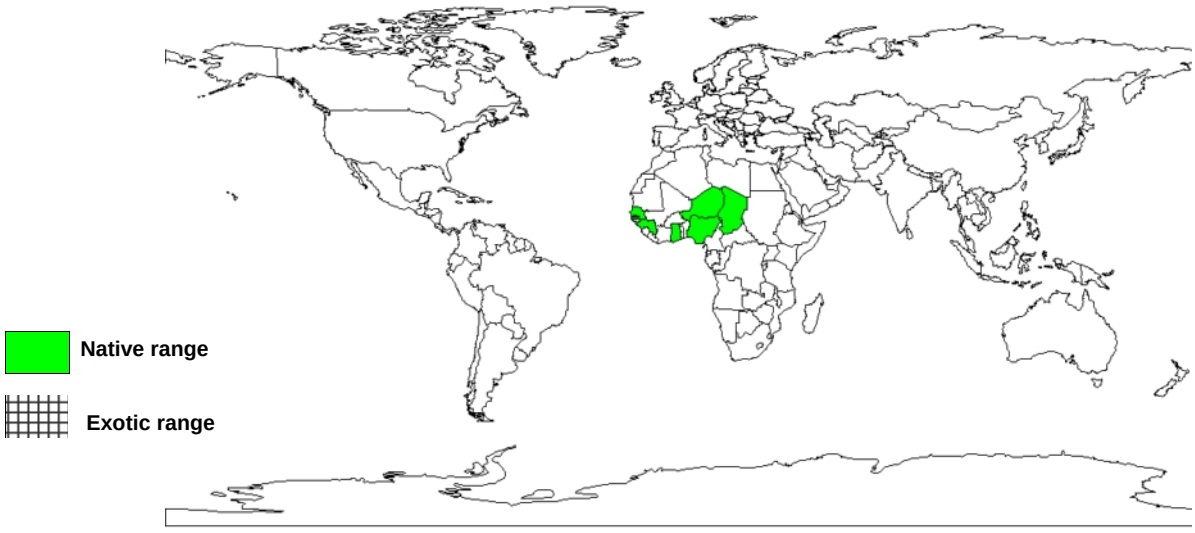
ECOLOGY
B. costatum is a fire resisting tree of the savannas and dry woodlands from Senegal to central Africa, from Guinea across Ghana and Nigeria to southern Chad. Its tuberous roots act as water and/or sugar storage facilities during long drought periods. Usually associated with Pterocarpus erinaceus, Daniellia oliveri, Cordyla pinnata, Parkia biglobosa, Terminalia macroptera and Prosopis africana.

BIOPHYSICAL LIMITS
Mean annual rainfall: 800-1500 mm

Soil type: Preferably on cropland and close to settlements. Grows well on stony soils.

DOCUMENTED SPECIES DISTRIBUTION

Native: Chad, Ghana, Guinea, Niger, Nigeria, Senegal
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
Food: The calyx of the flowers is used in 'futo' or sauces and the young fruit is cut around August and September, dried, and used for the preparation of meals. The unripe fruit is cut in pieces and used in the production of a beverage. The high protein content, low content of toxic substances and amount of polyunsaturated fats in seed oil suggest that B. costatum is potentially suitable for human and animal consumption.

Fodder: Leaves are highly digestible and are eaten by livestock. B. costatum regenerates strongly after grazing.

Apiculture: An important bee forage species.

Fibre: Kapok fibre is obtained from the fruit. Fibres are mainly used as filling, especially for pillows.

Timber: The wood is pale yellow to whitish with an orange lustre when newly felled, it soon turns grey when exposed to sunlight. There are no visible differences between the heartwood and the sapwood. The wood is very soft and weighs 350-450 kg/m^3 when air-dried. It is moderately solid, easy to season and not liable to major warping or shrinkage. Untreated, the wood is soon attacked and destroyed by fungi and insects. Wood is workable, timber used in constructing dug-out canoes and match-stick manufacture.

Tannin or dyestuff: The bark has tannins and yields a brown dye.

Lipids: Seeds of B. costatum have a high oil content (19.8%) and can be a possible oil source.

Poison: B. costatum extracts exhibit molluscicidal activity.

Medicine: The bark is used for the treatment of skin diseases, yellow fever and headache, leaves and immature fruit as an emmolient. Various parts are used for fever or to promote lactation and as tonic for fatigue.

SERVICES
Erosion control: Supports dry lateritic soils.

Shade or shelter: Provides ample shade to livestock.

Soil improver: The leaf litter enhances soil fertility.

Boundary or barrier or support: Being a fire resistant species the tree can serve well as a boundary mark.

Intercropping: B. costatum trees are associated with the agricultural environment, this attests their agroforestry significance.

TREE MANAGEMENT
Planting of isolated trees recommended. A tree bears up to 1 500 fruits each with 5-8 kg of kapok. Under favourable conditions, 3-5 kg kapok per tree can be obtained from the 10th year onwards. Kapok is very resistant to fire.

GERMPLASM MANAGEMENT
There are 17 000-27 000 seeds /kg.

FURTHER READNG

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SUGGESTED CITATION

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