

Triplochiton scleroxylon

samba, obeche, African whitewood

Schumann

Sterculiaceae

LOCAL NAMES

English (African whitewood); Trade name (samba, obeche, African whitewood)

BOTANIC DESCRIPTION

Triplochiton scleroxylon is a large deciduous forest tree commonly attaining 45 m in height and 1.5 m in diameter. The boles of mature trees are often heavily buttressed but usually free from branches. Bark ashy grey or yellowish-brown, usually smooth in young trees but scaly and with fissures in older ones. Slash fibrous, creamy white to pale yellow. Young trees have a cylindrical-shaped crown bearing foliage almost to the ground; self-pruning gradually modifies this to a high, dense, circular crown, which finally becomes flat-topped when the trees are old.

Leaves 10-20 cm long and broad, palmate with 5-7 lobes, cordate and 5-7 nerved at base, lobes broadly ovate, triangular or oblong, rounded or obtusely acuminate at the apex; glabrous; stalk 3-10 cm long. Leaves of saplings and coppice shoots often larger and more deeply lobed than the crown leaves.

Inflorescence a paniculate cyme, 4-5 cm long, with dichotomous branching. Flower saucer-shaped; petals white, red-purple at base, obovate, densely hairy, about 1 cm long and broad; stamens 30-46; carpels 5.

Fruits brown to reddish-brown, composed of 1-5 winged carpels, each carpel more or less rhombic; measuring 0.8-2 cm across the diagonal, wing 4-6 cm long, 1.2-2 cm broad, oblong-obovate with a thickened margin. Mericarp may be densely or sparsely pilose, either from the point of attachment to the slit at the apex or only on the slit and at the point of attachment.

The generic name is derived from triplostichus (in or having 3 rows) and -chiton (Greek for covering). The specific name is derived from sclero- (Greek for hard) and xylon (Greek, relating to wood).

BIOLOGY

Colourful petals and a pleasant strong scent from recently opened flowers suggest that the flowers are insect pollinated, making them self-sterile. The production of viable seed depends on cross-pollination. Large quantities of fruit are produced at intervals of a few years with very little fruit in the intervening years.

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ECOLOGY

Within its natural limits, *T. scleroxylon* is found mainly in forest at low and medium altitudes in the monsoon equatorial forest belt. High mean temperatures that vary relatively little throughout the year characterize this belt.

The tree is found in the semi-deciduous moist forest, in the transition zone between forest and moist savannah, and in scattered outliers where local topography favours a closed forest community. Also characteristic and frequent in drier and more disturbed types of forest. Trees occur naturally from Guinea to Democratic Republic of Congo and from Gabon to Nigeria. Throughout its natural range there is always a marked dry period between December and April. *T. scleroxylon* is referred to as a pioneer species, and it has been suggested that shifting cultivation in West Africa has influenced the natural distribution. Trees normally occur in clusters of 10 or more and isolated trees are very rare.

BIOPHYSICAL LIMITS

Altitude: 0-900 m, Mean annual temperature: 24-26.7 deg. C, Mean annual rainfall: 1000-3000 mm

DOCUMENTED SPECIES DISTRIBUTION

Native: Benin, Cameroon, Central African Republic, Congo, Cote d'Ivoire, Democratic Republic of Congo, Equatorial Guinea, Ghana, Guinea, Liberia, Nigeria, Sierra Leone, Togo

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

Fibre: Although the main uses of *T. scleroxylon* are as timber, the wood is also used for fibreboard and particleboard.

Timber: Heartwood and sapwood are not clearly differentiated, and the latter is reported to be up to 15 cm wide. Texture usually varies from coarse to moderately fine and even with a natural sheen on the surface. There is usually an unpleasant odour when wood is freshly cut, but the smell disappears after it is seasoned. The wood dries very rapidly and readily, with little or no degradation. Lumber must be stacked carefully to permit good air circulation. Distortion and knot splits may occur during drying. The heartwood is reported to be resistant to preservative treatment. The sapwood is permeable. The material has a slight abrasive effect. It is reported to respond well to hand and machine tools in moulding and most operations. Cutting edges should be kept very sharp when working end-grain material since it has a tendency to crumble and chip at tool exits. Carving characteristics are reported to be generally good. The wood is reported to have good gluing qualities, and gluing is preferable over nailing and screwing for jointed work. Staining properties are reported to be satisfactory, but the surface requires careful filling.

Obeche is recognized as a very important source of timber for export. It is one of the three timber species (others are *Entandrophragma cylindricum* and *Lophira alata*) that have traditionally accounted for more than half of timber supply in Cameroon (Wunder 2003.)

It is reported to be readily available in both veneer and lumber forms. Some of the uses include blockboard, boat and ship building, boxes and crates, cabinet making, plywood, furniture components, marquetry, moldings, bedroom suites, building materials, casks, chests, cutting surfaces, excelsior, furniture, interior construction, radio, stereo and TV cabinets.

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TREE MANAGEMENT

Prompt removal of logs from the forest, as well as conversion, is reported to be essential, as the species is susceptible to insect and fungal attack.

GERMPLASM MANAGEMENT

Orthodox seed storage behaviour. Seeds from mature fruit tolerate desiccation to 5-10% mc, but viability is lost after 5 years of subsequent storage at 0-5 deg. C. Fruit (not seeds) harvested at 70% mc tolerates desiccation to 11.5% mc, but further desiccation to 7.4% mc reduces viability to 48%; little (5%) loss in viability after 8 months of hermetic storage at 6 deg. C with 7.4% mc, only 28% germination when stored hermitically at 6 deg. C with 13% mc, and no loss in viability when stored hermetically at 18 deg. C with 12.3% mc after the same period of time.

PESTS AND DISEASES

Insect and, less frequently, fungal pathogens often damage the crop, the most harm being done by a weevil of the genus *Apion*, with attack levels of 50% being common, and up to 90% not infrequent. In Ghana, the moth *Anaphe venata* causes extensive defoliation, and *Trachyostus ghanaensis* (the wawa borer) weakens the wood by causing tunnels in standing trees. Heartwood is not resistant to attack by termites and other insects and is susceptible to attack by pinhole borers, long-horn beetles and sap-stain fungi. Sapwood is prone to powder-post beetle attack. A die-back fungus, *Botryodiplodia theobromae*, which reduces most mechanical properties, is sometimes present in this species.

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FURTHER READING

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SUGGESTED CITATION

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