Combretum nigricans Lepr. ex Guill. & Perr.

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Combretum nigricans Lepr. ex Guill. & Perr.

Taxonomy and nomenclature

Family: Combretaceae
Synonyms: *Combretum elliottii* Engl. & Diels, *C. lecananthum* Engl. & Diels.
Vernacular/common names: taap (Wolof); dooki, gori (Pulaar); Sama, labali, jambakatan (Maninka).
Related species of interest: There may be several varieties of *C. nigricans*.

Distribution and habitat

It is a widespread Sahelian species distributed throughout tropical West Africa from Senegal to Cameroon, and eastwards to the Sudan. It is very common, locally abundant and gregarious, particularly in northern Nigeria, Mali and Niger. It is found in savannah and dry forests of the Guinean and Sudanian regions, usually on loamy or clay soils, but also on sandstone, sandy or rocky soils. Not an IUCN red listed species.

Uses

This species is well known for its gum. The gum is edible and is the major source of commercial 'gum combretum', which is often used as a substitute for gum Arabic (extract from Acacia senegal and A. seyal). It is marketed and has locally economic importance. The wood is yellow and relatively durable; it is used for tool handles, fencing poles, roofs and pestles. It is also used as good quality firewood and charcoal. The leaves are browsed by ruminants and horses; the stems are toxic to fish and crocodiles. It is used for tanning, ink and dye for leather, and starch for clothes. The leaves and other plant parts are widely used in local medicine to treat various illnesses, e.g. intestinal disorders including diarrhoea, insanity, headaches, colic, jaundice, and rheumatism.

Botanical description

The species is either a tree or a shrub, 4-12 m high, with a dense, rounded crown. The bark is rough or finely scaly, grey to ochre, the slash is brown on the upper surface and pink-yellow beneath. The bole is twisted and often low branched, up to 30 cm in diameter, the bark of the bole and older branches are pinkish-brown. The branches and leaves are glabrous to sparsely pubescent, glutinous when young. The leaves are opposite to sub-opposite, 8-12 cm long and 3-5.5 cm wide including a 0.3-1 cm long petiole. The blade is ovate to elliptic with acuminate apex and rounded or shortly cuneate base. Nerves are pinnate; 6-8 pairs of lateral nerves are visible on both surfaces. The under surface of the leaves are sometimes glabrous, but without white scales. The mature dry leaves have a reddish brown colour.

The inflorescence is an axillary or spike-like raceme, glabrous or downy, 1-7 cm long. The flowers are 4-merous, glabrous to pubescent, greenish yellow, 3-4 mm in diameter. The petals are about 1 mm long, spatulate, pilose on back and strongly ciliate. The petals and filaments are cream. A bright red disk is present. The stamens are longer than the petals.

Combretum nigricans. From: Berhaut, J., Flore Illustrée du Sénégal, Direction des Eaux et Forêts, Government du Sénégal, 1975.

Flowering and fruiting habit

Flowering occurs in the dry season, before or when the first leaves appear. Flowering mainly depends on the bush fire period, the earlier the bush fires, the earlier the flowering. Fruiting typically occurs during the wet or early dry season.

Fruit and seed description

Fruit: The fruit is an ovoid samara, with four 0.5-0.8 cm wide thin wings. The samara is glabrous or more or less covered with rust-coloured scales on the seed, 2-3 cm long and 1-2 cm wide. It is ochre-yellow, turn-

ing reddish brown when ripe and dry, the seed being darker than the wings.

Seed: The seed is ovate, 6-8 mm long, furrowed with pointed apex and with very thin seed coat. It consists of the embryo with rolled cotyledons and no endosperm.

Photo H. Vautier

Seeds of *C. nigricans*, including a longitudinal cut showing the rolled cotyledons

Harvest and processing

Fruits are harvested in by shaking fruit bearing branches. Seeds are usually not extracted before sowing as extracted seeds are more prone to damage.

Storage and viability

The species has been stored at the MSBP since 1990, and collections x-rayed showed 90-100% viability. Seeds that were dried to 5% moisture content and stored for 5 years at 4°C, germinated to >92%.

Dormancy and pretreatment

Soaking the seeds in tap water for 24 h improves germination. Removing the covering structures before placing the seeds under the germination conditions can also improve germination rate. Extraction is done by manually pulling apart opposite wings of the fruit.

Sowing and germination

100% germination was achieved when seeds were sown on 1% agar, at 26°C with a 12 hour photoperiod, as well as at either 25 or 30°C with an 8/16 hour photoperiod (MSBP).

Selected readings

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