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Combretum aculeatum Vent.

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MILLENNIUM SEED BANK PROJECT Kew

Combretum aculeatum Vent.

Taxonomy and nomenclature

Family: Combretaceae

Synonyms: *Combretum leuconili* Schweinf., *C. holstii* Engl., *C. denhardtiorum* Engl. & Diels, *C. stefaninianum* Pampan.

Vernacular/common names: Bularal, laonadi, laongi, (Peulh), agersigil (Tamachek), kodentabga (Mooré), shihheit, dablab (Arabic-Sudan), gedajedo, mardaf (Somali).

Distribution and habitat

Combretum aculeatum is a sub-Sahelian dry zone species with a distribution range stretching across Africa from Senegal and Mauritania, to Somalia and Tanzania. It is widespread in dry areas, in bushland, woodland, savannah, and wooded grassland. It is often found along rivers, riverine forest and ground water forests, as well as on rocky slopes. It grows in bushland on fixed dunes, on sandy alluvium or in rocky places. It has a wide edaphic adaptation growing on alluvial soils and sandy, stony or clay soils. It can grow at altitudes of up to 1800 masl. It is reported to withstand flooding; however in the seasonally flooded areas of Sudan, it is restricted to termite mounds, which are generally above the flood level. Its distribution is irregular and is locally common. There is no recorded threat to *C. aculeatum*; however, the species is strongly browsed and regeneration suffers in heavily overgrazed areas.

Uses

It is highly utilised for firewood and to make charcoal. The twig fibres are used in basketry and for making fishing pots. The green leaves and young branches are much sought after as browse by both wild and domestic animals, and even the fallen leaves are eaten. Seeds of *C. aculeatum* are edible and in some places used for consumption, they are also eaten by wild and domestic animals. The plant is used for its purgative and diuretic properties. It is used to treat blennorrhoea, colic, diarrhoea, intestinal worms, wounds, fever, gastritis, leprosy and loss of appetite. Some more speculative traditional uses include treatment against female sterility and mental disorders.

Botanical description

Combretum aculeatum is a climbing shrub that subsists often on its annual shoots after been eaten. It can grow up to 4 m, even taller if support is available. The bark is fibrous grey-beige or dark red, with brown rhytidome, greenish or pale yellow slash. It often has long sarmentose branches. The leaves are alternate to sub-opposite. They can vary in size on the same branch. The blades can grow up to 7 cm long and 5 cm wide, but are usually smaller. They are elliptic, obovate or orbicular with acute to emarginated apex; both surfaces are pubescent. The nerves are pinnate, more or less prominent, with 4-6 pairs of mostly fused lateral nerves. Petioles are 1-10 mm long, and persist after the rest of the leaf has fallen, forming a recurved spine that is up to 30 mm long. Its hairy branches with curved thorns allow the plant to hook on to surrounding trees and shrubs.

The yellowish-white fragrant flowers are bisexual, with greenish to dark red sepals. The petals are 4-8 mm long by 1-2 mm wide, oblanceolate to obovate to spatulate, and pubescent on the back. The inflorescence is spike like, from the axils of the leaves. The stamen-filaments are longer than the petals.

Combretum aculeatum. From: Andrews 1950: The flowering plants of the Anglo-Egyptian Sudan, Vol. I

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Flowering and fruiting habit

Flowering occurs at the end of the dry season and during the rainy season. A tree can bear flowers and ripe fruit simultaneously.

Fruit and seed description

Fruit: The pale yellow or pale reddish fruit is an ovoid samara. It is 5-winged, 1-2 by 1-3 cm, and with a stalk 0.6-1 cm long. The papery, yellow-brown wings are 0.4-0.6 cm wide.

Seed: There are about 17,000 seeds per kg. The seeds contain c. 35% lipids.

PHOTO: H. VAUTIER

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Seeds of *C. aculeatum*, including a longitudinal cut showing the whitish embryo.

Harvest and processing

Fruits are harvested by shaking fruit bearing branches. Seeds are normally not extracted, but left within the fruit at least until sowing. However, processed seeds (de-winged) are easy to handle and are often used. Extraction/de-winging is done manually by pulling apart opposite wings. Extracted seeds are sensitive to mechanical damage.

Storage and viability

Seeds exhibit 'orthodox' seed storage behaviour. In RBG Kew viability of 100% was obtained following drying to moisture contents in equilibrium with 15% RH and freezing for 1 month at -20°C. Seed of this species has been stored at the MSBP since 1990 and actual X-rays of seed lots showed 100% viability.

Sowing and germination

When sown on 1% agar, at 26°C, with a 12 h photo period, 100% of seeds germinated (RBG Kew, Wakehurst Place). When sown on 1% agar, at 25°C, with a 8/16 h photo period, 83% of seeds germinated.

Selected readings

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