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Borassus akeassii Bayton, Ouédraogo & Guinko sp. nov.

Borassus akeassii **sp. nov.** (Arecaceae) is described as a new species from western Burkina Faso, West Africa. It has been confused with the widely distributed African species *Borassus aethiopum* and more recently with the Asian *Borassus flabellifer*.

Borassus akeassii crown with hanging mature green fruits. Photo: M Sacande.

Taxonomy and nomenclature

Family: Arecaceae

Vernacular/common names: African fan palm, ron palm, elephant palm, deleb palm, black rhun palm. Local names: sebe (Bambara) and koanga (Mooré, Burkina).

Related species of interest: *Borassus aethiopum*, whose petioles are yellow and the fruits are yellow-orange when ripe.

Distribution and habitat

Borassus akeassii is indigenous and restricted to West Africa; being found in semi-arid and sub-humid zones in Benin, Burkina Faso, Cote d'Ivoire, Mali, Niger and Nigeria. It is also recorded in Senegal and the Central African Republic. The range of *B. akeassii* may be much wider than suggested, owing to its misidentification as *B. aethiopum*. It is found in Sudanian and Sudano-Guinean savannahs with 800–1100 mm annual precipitation, often in close proximity to human settlements. In Burkina Faso, it is the common palm in the western provinces. Vast areas of land are populated with *B. akeassii*, with food and cash crops growing beneath the palms. *Borassus akeassii* shows a preference for well-drained soils and is fire-resistant.

The species has developed a root foraging strategy, which enables it to exploit sparse nutrient-rich patches. The palm is slow growing and very long lived, to over 100 years old. Little is known about its ecology outside the sphere of human influence and there is a lack of accurate information regarding the population size and geographical range of the species. There is a risk of over-exploitation, although in Burkina Faso the species is abundant, but where it is also a fully protected species. Populations of *B. akeassii* are threatened by over-exploitation in Senegal and Guinea.

Uses

Borassus akeassii provides a large number of useful products and is exploited in several ways, though wine production is the most significant of these. The apical bud is hollowed out and the resulting sap is collected and fermented. The wine is made for sale (enhancing local earnings), to drink at traditional ceremonies, as well as forming a part of the balanced diet in many rural areas, and used for aphrodisiac preparations. Excessive wine tapping kills the plant. Both the fruit pulp and seeds are edible. Endosperm from the seeds of immature fruits is harvested and consumed. Almost all parts of *B. akeassii* are used, producing food, oils, timber, dyes, fibre, wine, and raw materials (leaves) for mats and baskets. The dark brown, strong, coarsely fibrous wood is a highly prized timber. The wood is very resistant to termites and fungi, and is used in carpentry, construction, bridges and gutters, and also for household articles. The roots serve for the treatment of stomach parasites, sore throats and asthma, as well as being used for a mouthwash

Botanical description

Borassus akeassii is distinguished by its glaucous, green leaves with weakly armed petioles and a characteristic pattern of lamina venation. The flowers of the pistillate inflorescence are arranged in three spirals. It is a dioecious, pleonanthic (does not die after flowering) palm, whose straight dark grey trunk attains 40-50 cm in diameter and 15 m tall, with prominent leaf scars. Mature trees have between 10 and 30 living leaves in crown, though leaf harvesting is common. The petioles are rounded abaxially and flattened; 90–160 cm long, 3–7.4 cm wide at the junction with the lamina, vivid green in colour, with sharp edges or minute spines 0.2–0.6 cm long.

The male inflorescence is 0.8 to 1.2 m long, with 3-6 partial inflorescences that are ca. 50 cm long. The female inflorescence is usually unbranched, with larger flowers of 3 cm in diameter. Females typically bear 50-100 fruits in a fruiting season.

Fruit and seed description

Fruit: The ovoid to ellipsoid fruits are about 15 cm long and 12 cm wide, though variation owing to the number of pyrenes in the fruit; mesocarp yellow and fragrant, with longitudinal fibres in the pulp. They have a pointed apex and are greenish when ripe. The fibrous fruit pulp is yellow to white and slightly oily. There are 1-3 pyrenes of 7–9 x 5–8 cm per fruit, and there is one seed in each pyrene, with hard white endosperm, seed almost filling endocarp.

Seed: The seed handling unit is the pyrene which can attain up to 10 cm in diameter and weigh about 100 g each. The morphological seeds are bilobed, pointed and basally attached, with an apical embryo of about 4 x 3 mm, and a homogeneous and centrally hollow endosperm

Flowering and fruiting habit

The reproductive period of the plant, before death, is short, an average of 22 years. Flowering usually occurs in the second part of the rainy season. Seeds are dispersed by mammals, such as chimpanzees.

Processing and handling

Fruits are usually harvested in November till May. The pericarp is then removed by hand-slashing to release the pyrenes.

Storage and viability

Seeds have a short viability and should be sown as soon as they are removed from the fruit pulp.

Germinating *B. akeassii* seed. Photo: M. Sacande.

Sowing and germination

Seeds do not require a pre-treatment. Seeds germinate after about 4 weeks. Germination is remote-tubular. The seedlings produce a very long taproot, which can be 1 m deep, while the leaf is only 1 cm high, therefore if possible they should be sown directly at the location where they are required. Growth is very slow.

Selected readings

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