

PLATE 1100.  
ENCEPHALARTOS UMBELUZIENSIS.

*Portuguese East Africa.*

CYCADACEAE.

*Encephalartos umbeluziensis* R. A. Dyer, sp. nov., affinis *E. villosus* Lehm. habitu minore foliolis infimis non spinellis reductis strobilis minoribus differt.

*Caudex* subterraneus, usque 30 cm. longus, 25 cm. diam. *Folia* 2-5 simultanea erecto-patentia, 1-2 m. longa; pulvini compacti, bruneo-lanati, 4-5 cm. lati, 7-8 cm. longi; petioli 10-30 cm. longi, basin versus 0.7-1.2 cm. crassi, demum glabrescentes; foliola usque 20 cm. rariter 30 cm. longa, 8-15 mm. lata, spinoscentia, marginibus apicem versus utrinque 1-spinuloso-dentatis margine superiore nonnunquam 1-dentatis inferiore 1-3 dentatis. *Strobilus masculinus* usque 30 cm. rariter 35 cm. longus, 6-8 cm. diam., cylindricus, pedunculo 10-12 cm. longo, 2.5-3 cm. crasso; squamae plus minusve 2 cm. longae; facies squamarum 1-1.2 x 2-2.4 cm. latae, 5 cm. prominentes, apicibus leviter concavo-rhomboides 6-9 mm. x 8-12 mm. latis *Strobilus femineus* usque 30 cm. longus, 12 cm. diam. pedunculo usque 15 cm. longo 3.5 cm. crasso; facies squamarum circiter 3.5 x 6.5 cm. lata apicibus rhomboides 1.3 x 2 cm. latis. *Semina* coccinea, 3.5 cm. longa, 2 cm. crassa.

PORTUGUESE EAST AFRICA: Lourenco Marques district: S.W. of Goba, in ravine below the Monument, *Verdoorn* and *Dyer* 2314 A-F; near bank of Umbeluzi River, *Key* in National Herbarium, Pretoria, 28429 (type); *Dyer* 4798; *de Sousa* 212.

CULTIVATED.—Lourenco Marques district: Ressano Garcia, *Moss* in N.H.P. 28432; *Gunn* in N.H.P. 28431; Swaziland; *Stegi*, *Verdoorn* and *Christian*, 725. South Africa: Johannesburg, from Umbeluzi, *Key* in N.H.P. 28429A; Pretoria, from Umbeluzi, *Key* in N.H.P. 28429B; Pretoria, from Namaacha, *Mogg* in N.H.P. 28430; Cape Town, from Inhambane, *Marloth* 11044; Komatipoort, *Moss*, in N.H.P. 28432; Barberton, *Thorncraft* per *Dyer* 4810.

This species from Lourenco Marques district has been under investigation for a number of years. The main discussion has centered on its relationship to the South African species *E. villosus*. By degrees evidence has accumulated, largely through the efforts of the late Mr. B. A. Key of Johannesburg, which has confirmed the view that the plant from the Lourenco Marques district deserves separate specific status.

There is little difficulty in separating the two species when plants of each are examined side by side. *E. villosus* is generally more robust, with longer curved leaves; the leaflets are reduced to conspicuous prickles towards the base of the

DESCRIPTION.—*Stem* underground, with a thick tuberous root from the base, up to about 30 cm. long and 25 cm. diam., covered with the compact persistent bases of leaves, densely woolly. *Leaves* 2–5, arising together, 1–2 m. long, slightly recurved or arched when in dense shade suberect and almost straight in exposed sites, in the young stage woolly except on the inner surface of the leaflets, glabrescent, with the wool last to fall from the petiole; pulvinus densely woolly, 4–5 cm. broad, 7–8 cm. long, petiole comparatively slender, 10–30 cm. long, 7–12 mm. thick towards base, with the rhachis rounded on the under surface and not grooved on the upper surface when fresh; leaflets light green when young, soon becoming dark green on both surfaces, spaced about 1 cm. apart with the bases inserted into the rhachis more or less along a straight line, twisted slightly near the base so that the upper surfaces face upwards and almost at right angles to the rhachis, with the median leaflets linear, 5–20 cm. long, rarely up to 30 cm., 8–15 mm. broad, reduced in size towards apex and base of the rhachis but the basal ones not reduced to true prickles although sometimes withering and becoming falsely prickle-like, with the apex of the developed leaflets acuminate pungent usually with a single terminal prickles and lateral ones on either side occasionally augmented by an additional prickles on the upper margin and 1–3 on the lower margin and contracted towards the base. *Male cone* olive-green turning sulphur yellow, sub-cylindric, tapering slightly towards both ends, up to about 30 cm. long rarely up to 35 cm. long, 6–8 cm. diam. with peduncle 10–12 cm. long and 2.5–3 cm. thick, with pollen like Fuller's earth and without unpleasant smell; scale face olive green turning sulphur yellow, 1–1.2 cm. × 2–2.4 cm. broad, projecting 5 cm. and with a slightly concave rhomboid area 6–9 mm. × 8–12 cm. broad on the lower portion. *Female cone* green with yellow and pink tinge while somewhat immature, on a peduncle up to about 15 cm. long and 3.5 cm. diam., up to 30 cm. long, 12 cm. diam. with about 12 spirals of closely packed scales; scale-face about 3.5 × 6.5 cm. broad having a rhomboid area 1.3 × 2 cm. broad and more or less flat; the lateral angles raised into acute ridges; the upper angle obtuse with 2 faint ribs, 1.5 cm. long; the angle of the lower surface obtuse, extending 5 mm. below the rhomboid

petiole (which is not the case in *E. umbeluziensis*); the leaflets are generally more glossy green, larger and more tapering, with their surfaces arranged more or less in the same plane as the rachis (as in a closed Venetian blind); the cones and fruits are larger. In *E. umbelunziensis* the leaflets are not reduced to prickles towards the base of the rachis, although occasionally the lower leaflets wither when young and leave a somewhat hardened base. The leaflets are set at an angle to the rachis (resembling a three-quarter-open Venetian blind).

An important feature of the comparison between the two species is that no plants with characters intermediate between the two types have been discovered in spite of the fact that a large number of each has been studied both in cultivation and in their natural surroundings.

When growing under natural conditions under the protection of tall trees in ravines and along watercourses leading to the Umbeluzi River, the leaves of *E. umbeluziensis* are usually spreading and curved as shown in the habit sketch whereas in cultivated plants they are more erect and stiff.

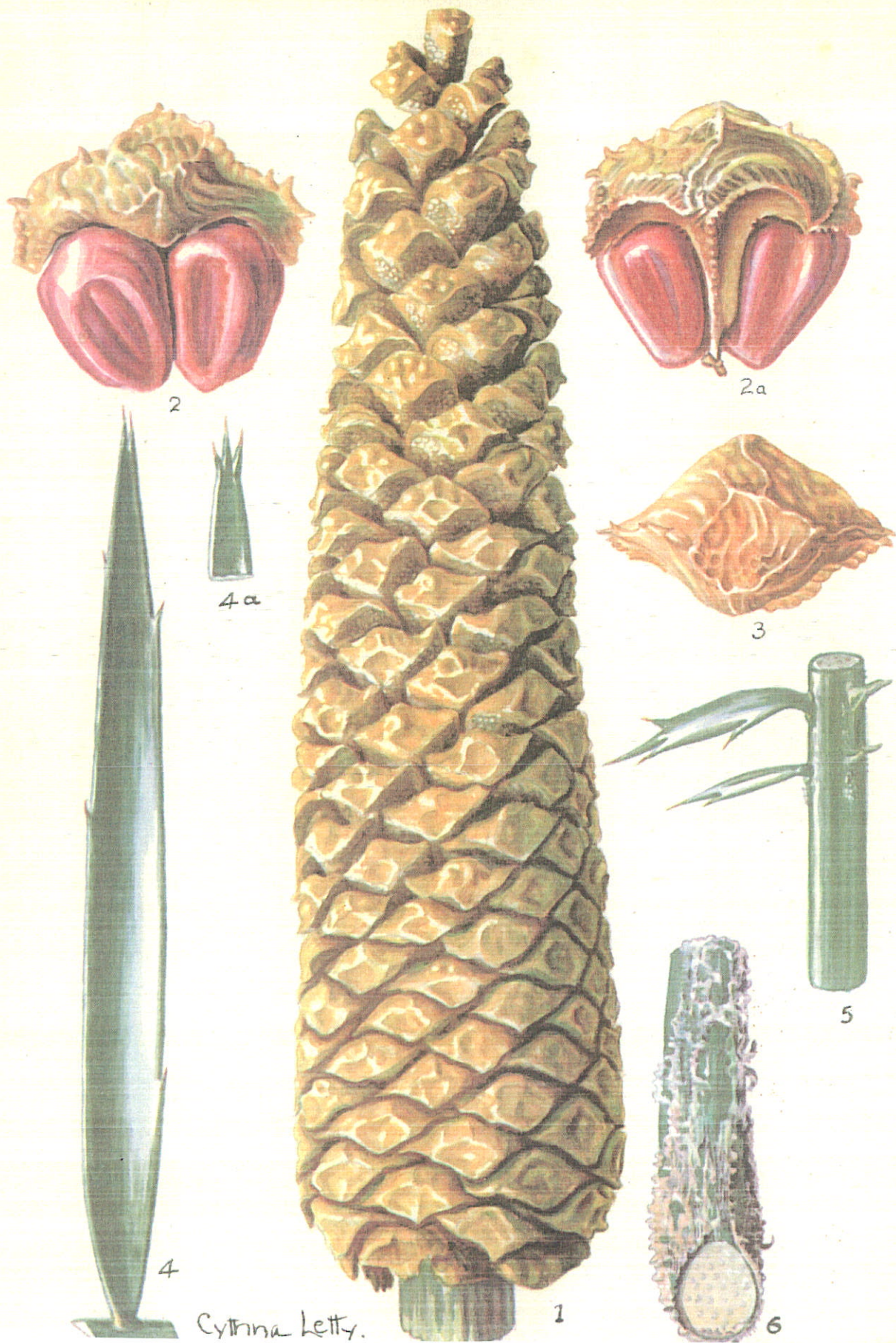


area, and with the scale stipe about 3 cm. long, yellow. *Seed* scarlet-red, about 3.5 cm. long, 2 cm. thick, unequally 6-sided.  
—R. A. DYER.

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PLATE 1100.—Fig. 1, male cone; 2 and 2a, female scales from above and below respectively; 3, face view of female scale; 4 and 4a, leaflets and tip; 5, rhachis with basal leaflets; 6, base of rhachis with indumentum all natural size; 7 line drawing of habit.

F.P.A. January, 1951.



Cytina Letty.

1

6

4

4a

2

2a

3

5