

PLATE 1053, 1054.

ENCEPHALARTOS NGOYANUS.

*Natal.*

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CYCADACEAE.

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**Encephalartos ngoyanus** Verdoorn, sp. nov., (*E. caffer* Hutch. & Rattr. in Fl. Cap. 5, 2: pro parte), affinis *E. caffro* sed inter alia foliis minor densis basi non tortis saepe dentatis radicibus non crassis squamis umbilicis non elevatis differt.

*Caudex* subterraneus vel 20 cm. elevatus, 20 cm. diam. *Folia* plus minusve 60 cm. longa; petiolus 10–30 cm. longus, 6–8 mm. diam. aracnoideo-pubescentis, glabrescens. *Foliola* lineari-lanceolata 7–8 cm. longa, 9–11 mm. lata, utrinque sparse pubescentia glabrescentia marginibus inferioribus 1–3 dentatis apicibus pungentibus basin versus cuneatis. *Strobilus maris* 20 cm. longus, 4.5 cm. diam. anguste cylindricus; squamae 1.8 cm. longae, 2.2 cm. latae, facies laevis plana rhomboidea 2.2 cm. × 1.4 cm. marginibus inferioribus acutis. *Strobilus femineus* breviter pedunculatus, ellipsoideo-subovatus, 23 cm. longus, 10 cm. diam.; squamarum facies subplana 4.5 × 3 cm., umbilico rhomboideo indistincto margine inferiore acuto infra producto. *Semina* scarlatina, 2.7 cm. longa, 2 cm. diam.

ZULULAND: Ngoye, on grassy slopes near and among boulders, Verdoorn and Christian 716 (female type); 716 *b* (male type); 716 *a*; 715, 715 *a*; Ingwavuma, on steep slope above stream, Verdoorn and Christian 720; 720 *a*; 720 *b*; 720 *c*; 720 *d*; Conyngham 1 *a*; 1 *b*; 1 *c*; (Galpin 11818 from Ubombo Mts. and 13310 from Mkuzi, may belong to this species).

In the Journal of S.A. Botany, Jan., 1945, M. R. Henderson suggests on page 16, that the dwarf cycad found in Zululand is distinct from *E. caffer* and should be described as a new species. During an expedition in 1947, to investigate species of *Encephalartos* in their native habitats, this species was found in the mountains at Ngoye and also at Ingwavuma. Like *E. caffer* the stem is mainly subterranean with only the dome-shaped apical portion, sometimes about 20 cm. high, showing above ground. The slender petiole and rhachis is a striking character by which it may be distinguished and the leaflets are not nearly so crowded as in *E. caffer* and they do not spread in different planes. Further they are not quite so narrowed at the base nor are they twisted. In addition the leaflets are often 1- to 3-dentate on the lower margin. The roots were found to be quite slender by comparison with those of *E. caffer* which are very stout. For these reasons, supported by the break in distribution, Henderson's view is upheld. Hutchison and Rattray, l. c., cite two specimens of this species from Zululand under *E. caffer*, which species is now regarded as restricted in distribution to the eastern Cape Province.

In connection with these investigations it is a pleasure to acknowledge the assistance of Mr. L. H. Conyngham at Ingwavuma and members of the Department of Forestry at Ngoye.

DESCRIPTION:—*Stems* mainly subterranean sometimes with about 20 cm. exposed, about 20 cm. diam. at ground level, top dome shaped; roots of plants dug up in the veld not stout. *Leaves* 3 to 7 in a whorl, about 60 cm. long (in shade up to 120 cm. long); petiole slender, 10 to 30 cm. long and about 6·8 mm. wide just above pulvinus, covered with long silky and woolly off-white pubescence (densely so at base), glabrescent; rhachis slender, pubescent with long silky-woolly, off-white hairs, becoming glabrescent, upper surface very narrow, rounded, with 2 longitudinal grooves (not always obvious in living state), lower surface rounded (through greater arc); *leaflets* arising in a medium V, sub-oblique across the rhachis, linear-lanceolate, 7–8 cm. long, 9–11 mm. broad (in shade up to 12 cm. long and 1·5 cm. broad) reducing in size abruptly to apex of leaf and gradually to base, usually to a miniature leaflet (rarely lobate or to so small a leaflet that it looks like a prickle), margins with 1 to 3 proclivent teeth on lower margin or occasionally entire (the uppermost tooth near the apex), both surfaces thinly pubescent (pubescence obvious on margins) glabrescent, nerves showing on lower surface, sometimes also on upper (not so obvious on growing plant), apices pungent, base subequally narrowed to about 3 to 4 mm. (not obviously folded or twisted at the base. *Male cone* (past maturity, dry) remains of peduncle 2 cm. long; cone 20 cm. long, 4·5 cm. diam., more or less cylindrical; median scales (lower surface) 1·8 cm. long and 2·2 cm. wide, covered with sporangia except for a narrow area, 3 mm. — 5 mm. wide, upper surface smooth and shallowly concave; scale face smooth, flat 2·2 cm. broad and 1·4 cm. vertically (no shoulders), rhomboid with an inner rhomboid area faintly indicated but not raised; lower margin with an acute edge produced downwards to overlap slightly the scale below, upper margin blunt. *Female cone* pale olive-green turning yellow with maturity, shortly pedunculate, ellipsoid-subovate in outline, about 23 cm. long and 10 cm. diam., scales in about 9 spirals; median scale, face 4·5 cm. in width, 3 cm. vertically, more or less flattened or slightly convex above with only a faint indication of a flatish rhomboid area in lower portion, (no lateral angles on scale face); lower edge a sharp ridge produced downwards, slightly overlapping the scale below; upper edge blunt; stipe yellow tinged with orange, quadrate, 2 cm. long; arms short winged (spreading, not decurved), same colour as stipe. *Seed* scarlet about 2·7 cm. long, 2 cm. broad, truncate and fleshy at the distal end, area of attachment small, about 6 mm. diam.—I.C. VERDOORN.

PLATE 1053.—Female cone, natural size.

PLATE 1054.—Fig. 1 and 1 a, female scales and seeds viewed from above and from below respectively; 2, female leaflet; 3, female plant reduced; 4, male scale from below; 5, male leaflet; 6, male plant, reduced.

F.P.A. January 1949.



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Letty.



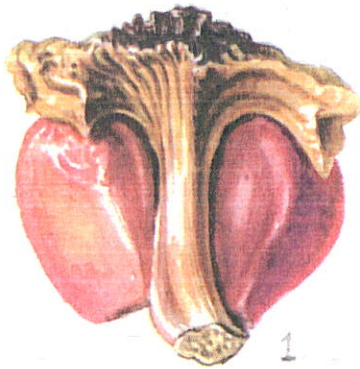
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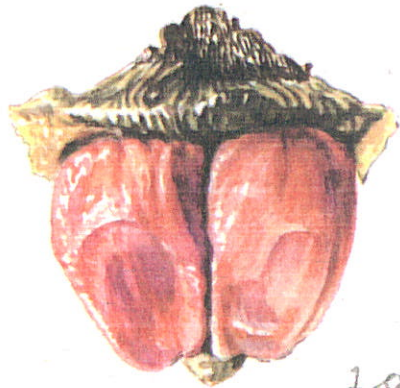
2.



4.



1.



1a.



6.

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3.