

Encephalartos turneri (Cycadaceae), a new species from Mozambique

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Descreve-se a nova espécie *Encephalartos turneri*, cujo tipo é moçambicano.

The new species *Encephalartos turneri* is described from a Mozambican type.

Encephalartos turneri Lavranos & Goode nov. sp., ab omnia alias speciebus generis foliis naviculiformibus, apice uncinatis; strobilibus flavis, roseo suffusus differt.

Planta plerumque e basi sobolifera, truncis a 3 m altis, cylindratis, a 80 cm diam. *Folia* a 150 cm longa, parte media 37 cm lata, fere stricta, ascendente, rachidi basi a 20 mm crassa, parte basali per 10 cm aculeis paucis instructa; filiis atroviridibus, leviter imbricatis, naviculiformibus, apice acuto uncinatis. *Strobili* flavi, roseo suffusi; *masculini* 1-3 simul, subcylindrici, 300 mm longi, 85 mm lati, pedunculo 120 mm longo, microsporophyllis aliquantum congestis, 30 mm longis 25 mm latis, bulla glabra, prominente, 25 mm lata, 15 mm crassa, vulticulo terminali 11 × 7 mm. *Strobili feminei* 1-2(-3) simul, de eodem colore, glabri, plus minusve ovoidei, 28 cm longi, 14 cm crassi, megasporophyllis 60 mm longis, bulla 70 mm lata, 35 mm crassa, lobis lateralibus incurvis, ca 10 mm longis, vulticulo

terminali leviter concavo, rhomboideo, 12-14 mm lato lateraliter, 10 mm sensu verticale. *Semina* rubra, 60 mm longa, 25 mm diam. — Fig. 1-2 et Tab. I.

LOCUS TYPICUS: Mozambique, Prov. Nampula, ca 22 km versus meridiem et orientem a Nampula, in monticulos graniticos legat I. S. TURNER, cult. «Springs Farm», Arcturus, Zimbabwe, *Turner sub Lavranos 22 553* (LISC, holo). — Fig. 3.

Plants usually suckering from the base; *stems* up to 3 m tall, the taller ones frequently recumbent, up to 80 cm diam. covered by rather irregularly spaced leaf bases; *bracts* narrowly ovate acuminate, whitish woolly. *Leaves* to 150 cm long, 37 cm wide towards the middle, rather straight, ascending, the older ones less so; rachis rounded in section, 20 mm thick near base, sparsely lanate in about the lower one third of its length, green, becoming yellowish with age, bearing a few sharp prickles laterally along its basal 10 cm; leaflets dark glossy green inserted about 25 mm apart towards the base, more crowded

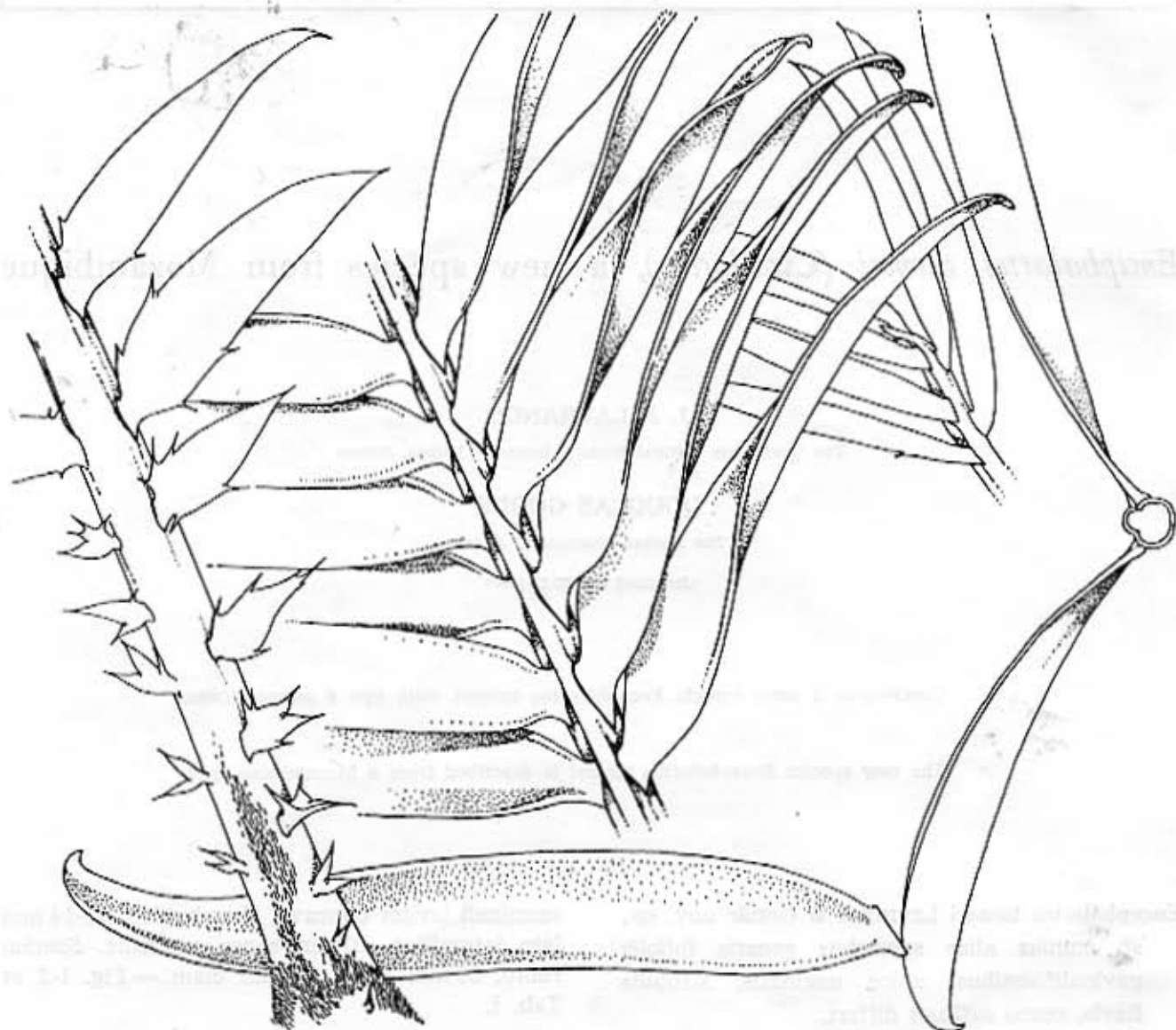


Fig. 1 — *Encephalartos turneri*. Details of leaf structure. $\times \frac{1}{2}$. D. GOODE delt.

upward, and somewhat imbricate, up to 200 mm long and 30 mm wide, boat shaped, terminating in a single, sharp, hook-like, recurved point, glabrous, those in the lower half of the leaf with usually 0-1 prickles near their base on their lower margin and 0-3 on their upper margin also near their base; leaflets in upper half of leaf entire. *Cones* in both sexes 1-3 together, dissimilar, glabrous, yellowish with a conspicuous pink bloom. *Male cones* with a 120 mm long and 22 mm thick peduncle, subcylindric, slightly ventricose, tapering markedly at both extremities, about 300 mm long and 85 mm diam in their middle portion; median scales spreading at almost right angles

to the axis, 30 mm long, 25 mm broad, broadly cuneate at base, the microsporangia extending to the margins and to about 6 mm from the terminal facet; bulla glabrous, 25 mm broad, 15 mm thick vertically, its upper surface with a median hump, the lower facet about 6 mm long, protruding somewhat in relation to the sporangial surface; terminal facet rhomboidal, 11 mm long, 7 mm broad vertically, slightly concave. *Female cones* to about 280 mm long, ca 140 mm diam, more or less ovoid, the peduncle about 50 mm long; scales 60 mm long; bulla 70 mm broad, 35 mm thick vertically (fresh material), with lateral ridges extending into incurved marginal lobes

about 10 mm long and a prominent medial bulge on inner side of upper surface; lower facet of bulla 25 mm deep to sporangial surface, carinate; both surfaces rugose, glabrous; terminal facet rhomboidal 12-14 mm broad laterally, 10 mm vertically, slightly concave; seeds scarlet, 60 mm long, 25 mm diam.

The relationships of this species are obscure. In the central-western parts of Mozambique are found species of the *E. manikensis* complex which all have green cones, while in the South of the country, there is *E. ferox* with bright orange-red

cones and entirely different leaves. Finally, in the North-West, there is *E. gratus* which too has orange-red cones. Our species occurs in North-East Mozambique and the peculiar pinkish bloom of its cones is found in no other known species of the genus. The hooked end of its leaflets also is a most distinctive character, as is their boat-shaped form.

In its very heavy leaf texture, *E. turneri* also differs from most other species. HEENAN (personal communication) compares it in this respect with plants he found in S. Tanzania, but these

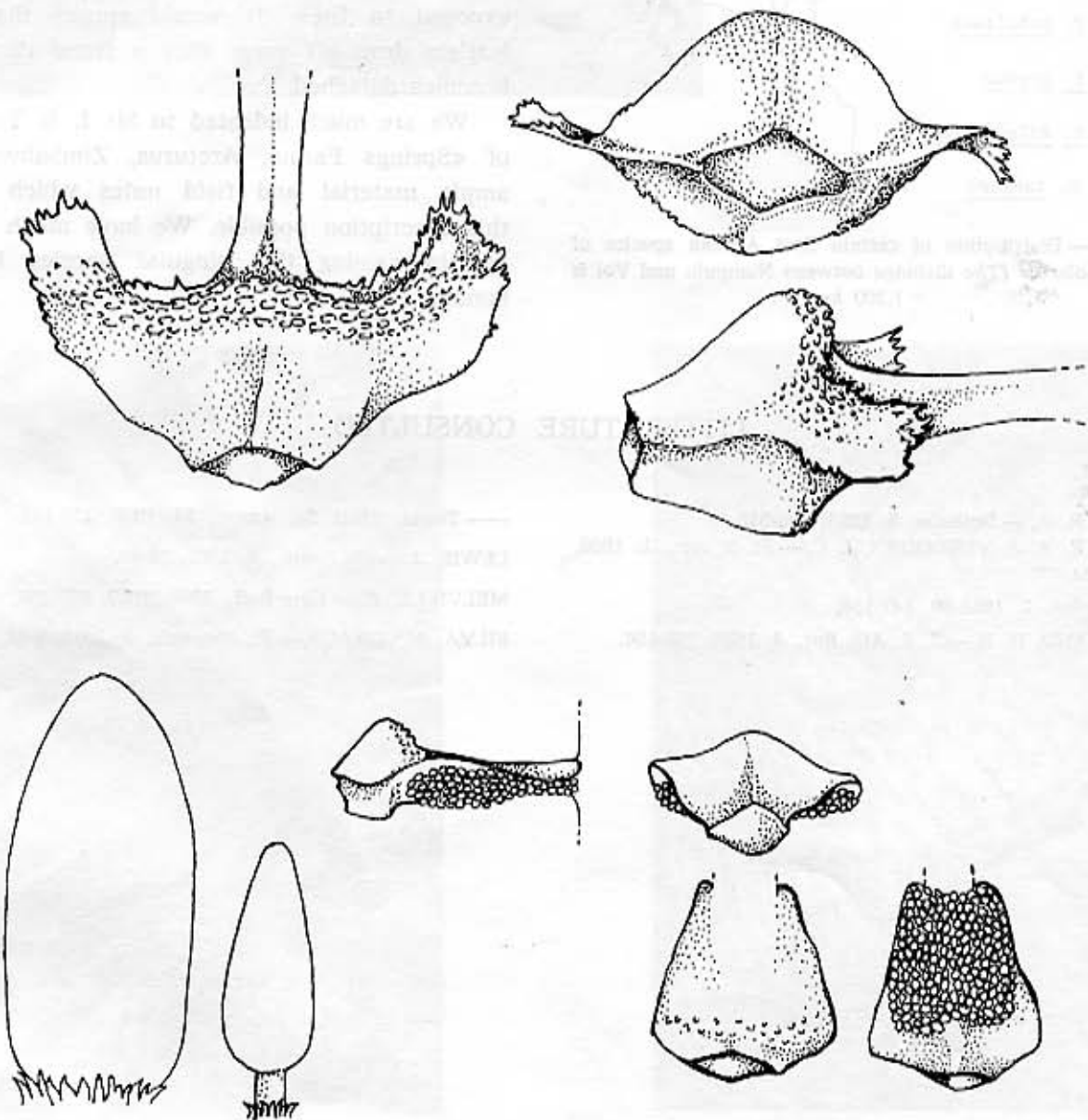


Fig. 2 — *Encephalartos turneri*. Details of macro- and microsporangia (c. $\times 1$). On the left bottom corner semi-diagrammatic sketches of strobili, on the left ♀ (c. $\times 1/4$), ♂ on the right (c. $\times 1/6$). D. GOODE del.

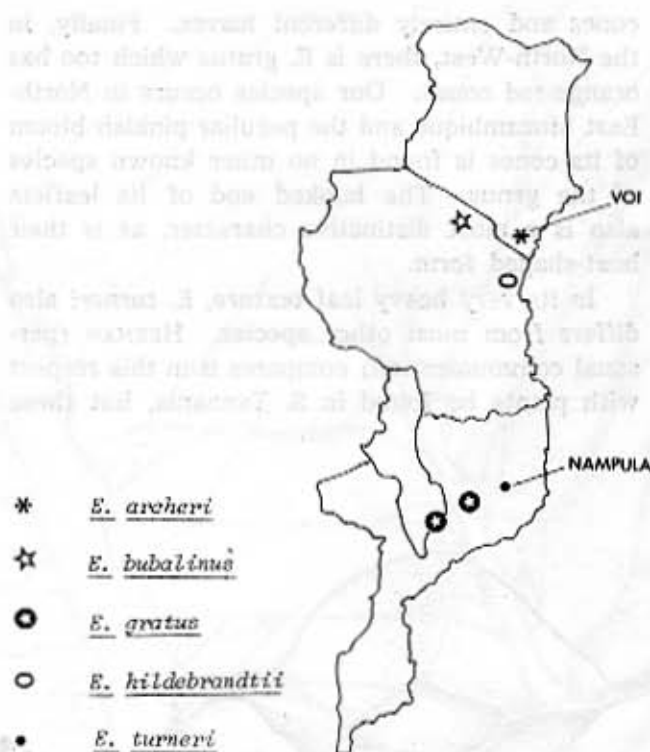


Fig. 3 — Distribution of certain East African species of *Encephalartos* (The distance between Nampula and Voi is $\pm 1,300$ km)

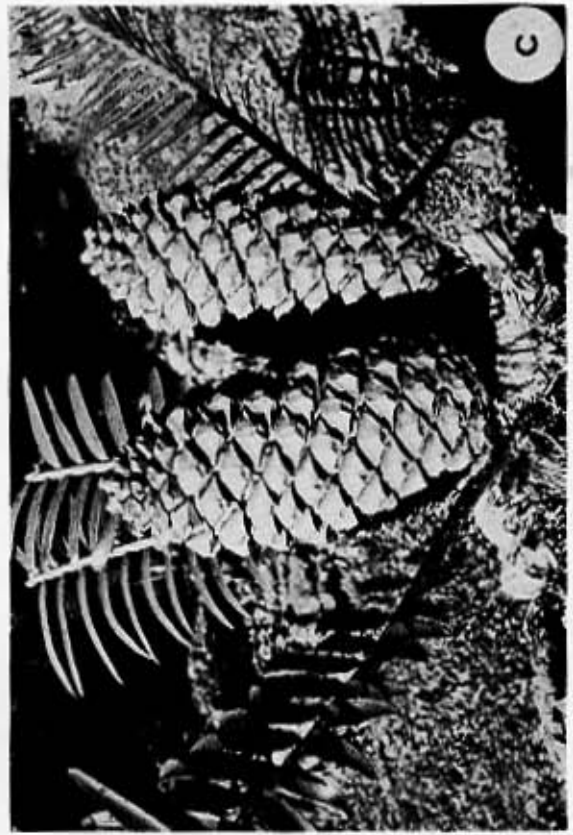
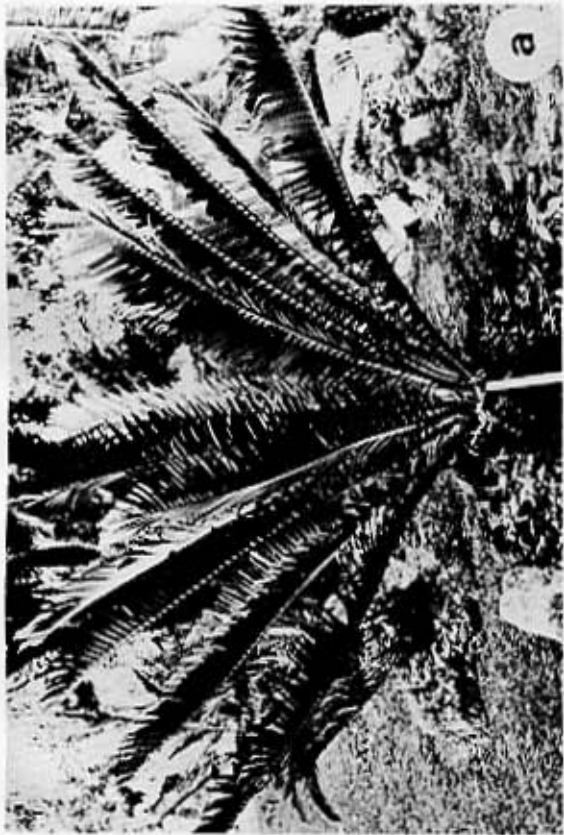
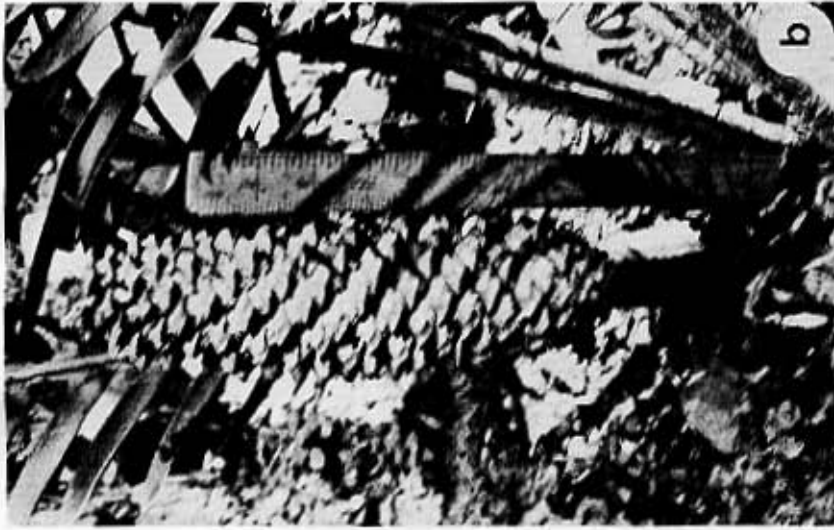
had green cones and lacked the hook-like apex of the leaflets. Another possible relative is an as yet undescribed species, discovered by P. G. ARCHER on the Marungu hills, SE of Voi, in Kenya, which has been studied in detail by R. FADEN. This species has yellow to orange-yellow cones but it, too, lacks the boat like form of the leaflets and their hooked apex.

Pants of *E. turneri* were found growing some 22 km south-east of Nampula on low granite hills, in semi shade or in full sun, mostly wedged in cracks in the granite. Older stems were often recumbent, their growing point raised. It is difficult to tell whether these plants are ever exposed to fires. It would appear that the leaflets drop off soon after a frond dies and becomes detached.

We are much indebted to Mr I. S. TURNER, of «Springs Farm», Arcturus, Zimbabwe, for ample material and field notes which made this description possible. We have much pleasure in naming this singular species in his honour.

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Encephalartos turneri

a — Plant in cultivation at Arcurus, Zimbabwe.
b — Male cone. c — Female cone. (Photos by

I. S. TURNER)