## The Cones of Encephalartos inopinus

When *Encephalartos inopinus* R. A. Dyer was first described in Bothalia 8 : 169 (1964), only a few plants and two damaged young male cones had been recorded. No additional information came to light for inclusion in the account for the Flora of Southern Africa 1 : 13 (1966). In January 1969, however, both male and female cones became available for description: a beautiful full-sized, but immature, female cone collected by Mr. G. J. Alberts of the Nature Conservation Section of the Transvaal Administration, and male cones from wild and cultivated plants through the help of Mr. C. T. Phillips of Verwoerdburg

Mr. Alberts had undertaken extensive field excursions in the rough terrain of the Olifants River Valley in the Lydenburg district of the Transvaal to determine the distribution range of the species and to estimate if possible the degree to which unauthorized collecting had been taking place. He found the cycad population to be fairly widely scattered but nowhere was there a colony with young plants to prove that active regeneration is taking place from seed. Approximately 50 per cent of the plants recorded by him were on north-facing cliffs, krantzes or rocky outcrops and the other half on various other aspects including some in south-facing positions. The tallest perfectly upright stem measured approximately 1.5 m, whereas the longest stem, now procumbent, measured nearly three times this length (±5 ft).

The male cone from the wild — one of a cluster — was subcylindric, more or less elliptic-oblong in outline, whereas three cones from a single stem on a garden plant, were more oblong-lanceolate. The scales of the cone from the wild were dense and the beak slightly decurved, by comparison with the relatively open, spreading scales of the plant in cultivation. It was found also that the garden cones must have had a considerably higher moisture content judging by the shrivelling and weight for size ratio. The following details amplify the original description.

Cones 1 to several in a head; the scale faces green and densely covered with small white papillae giving a general light green „matt" appearance. *Male cones* subcylindric, narrowed more or less equally to both ends or sometimes more gradually tapered towards the apex, 18-25 cm long, 6.5-8 cm diam.,

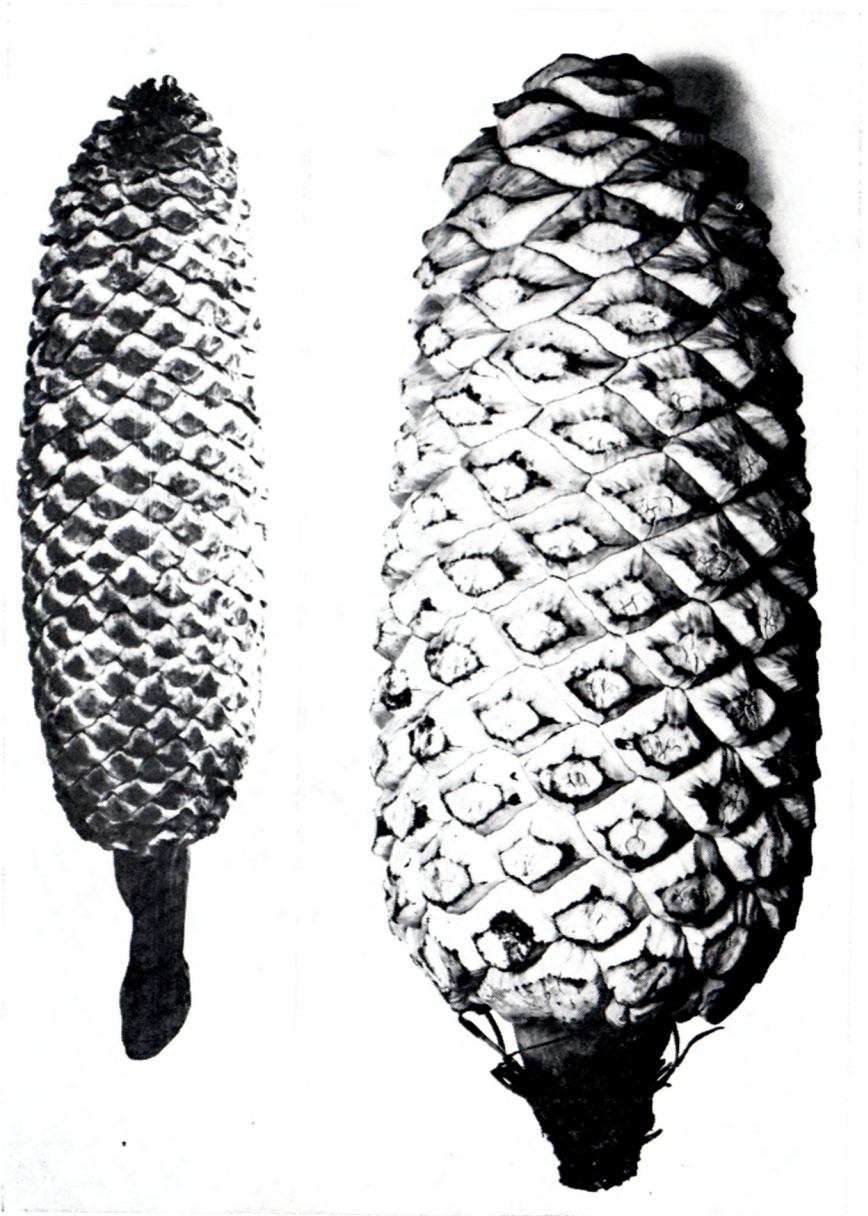

PLATE 1.—**Encephalartos inopinus** *R. A. Dyer;* left, male cone; right, female cone, both densely and minutely whitish papillate; female cone-scales largest toward the apex of the cone.

pedunculate; peduncle 6-8 cm long, 2.5-3 cm diam. at top, not much thinner at base; median scales spreading more or less horizontally from axis with deflexed beak, 2.5-3 cm long, 7-8 mm thick vertically, with sharp lateral angles, moderately ridged down upper surface, nearly flat on microsporangial surface, with pollen-sacs not spreading quite to margin; bulla-face minutely papillate, projected into a beak 9-10 mm long; upper facet with median receding ridge; lower facet continuous with microsporangial surface; terminal facet subquadrate 7-8 x 7-8 mm. *Female cones* broadly subcylindric, slightly narrowing to obtuse apex, 31 cm tall 15 cm in greatest width near base, and with stout peduncle; peduncle obconic, 5-6 cm long, 5 cm thick at top and narrowed to base, subtended by numerous linear-filiform tomentose bracts about the same length as the peduncle; median scales about 5 cm long, 4-4.75 cm broad, 3 cm thick vertically, with lateral ridges extending into incurved lateral lobes; bulla-face about 10 mm prominent, minutely and densely whitish papillate; upper facet with a slightly undulate surface and 1 or 2 receding ridges; lower facet similar to upper but more acutely angled from the terminal facet; terminal facet slightly below centre of bulla-face, slightly concave, about 2.5 cm broad, 1.5 cm wide vertically (slight cracking of surface at time of photograph and description probably due to slight drying out after period of 4-5 weeks since removal from parent plant); scales in the upper $\frac{1}{3}$ of the cone, broadest, up to 5 cm broad, with the terminal facet narrower vertically by comparison with those of the lower scales.

The leaf characters of this species are distinctive among the South African species of the genus and the minutely papillate nature of the cone-scales recorded above is one more obvious distinguishing feature.

R. A. Dyer.