

## REFERENCES

- ADAMS, C.D. 1972. *Flowering plants of Jamaica*: 267. University Press, Glasgow.
- CAVANILLES, A.J. 1791. *Talinum reflexum*. *Icones et descriptiones plantarum* 1: 1, t. 1. (Reprint 1965). Cramer, New York.
- EHRHART, J.F. 1788. *Beiträge zur Naturkunde* 3: 135.
- ENGELMANN, G. 1850. *Portulacaceae*. *Boston Journal of Natural History* 6: 153.
- GAERTNER, J. 1791. *Talinum* Adans. *De fructibus et seminibus plantarum* 2: 219, t. 128, fig. 13. Guiljelmi Henrici Schrammii, Tubinge.
- GRAY, A. 1895. *Talinum patens* Willd. *Synoptical flora of North America* 1, Part 1, Fascicle 1: 265. American Book Co., New York.
- HAWORTH, A.H. 1803. *Portulacca* (sic.). *Miscellanea naturalia*: 141. Taylor, London.
- JACQUIN, N.J. 1760. *Enumeratio systematica plantarum*: 22. Lugduni, Batavorum.
- JACQUIN, N.J. 1763. *Selectarum stirpium americanarum historia*: 148. (1971 Facsimile). Hafner, New York.
- JACQUIN, N.J. 1772–1773. *Hortus botanicus vindobonensis* 2: 71, t. 151. Kaliwoda, Vindobonae.
- JORDAAN, M. 1997. *Portulacaceae*. In G.F. Smith, E.J. van Jaarsveld, T.H. Arnold, F.E. Steffens, R.D. Dixon & J.A. Retief, *List of southern African succulent plants*: 145. Umdaus Press, Pretoria.
- KUNTZE, O. 1891. *Portulacaceae*. *Revisio generum plantarum* 1: 56, 57. Kommissionen, Leipzig.
- LINNAEUS, C. 1762. *Species plantarum*, Vol. 1, edn 2: 640. Laurentius Salvius, Stockholm.
- LINNAEUS, C. 1771. *Mantissa plantarum*: 242. (1961 Facsimile). Cramer, Weinheim.
- MEDIKUS, F.K. 1789. *Philosophische Botanik* 1: 95. Neue Hof- und Akademische Buchhandlungen, Mannheim.
- SIMS, J.K. 1813. *Talinum reflexum*. *Reflex-flowered Talinum*. *Curtis's Botanical Magazine* 37: t. 1543.
- SMALL, J.K. 1903. *Talinum* Adans. *Flora of the southeastern United States*: 415. Small, New York.
- SMITH, G.F., VAN JAARSVELD, E.J., ARNOLD, T.H., STEFFENS, F.E., DIXON, R.D. & RETIEF, J.A. (eds). 1997. *List of southern African succulent plants*: ii. Umdaus Press, Pretoria.
- TÖLKEN, H.R. 1969. The genus *Talinum* (Portulacaceae) in southern Africa. *Bothalia* 10: 19–28.
- VON POELLNITZ, K. 1933. Zur Kenntnis der Gattung *Talinum* Adans. (Portulacaceae). *Berichte der Deutschen Botanischen Gesellschaft* 51: 123.
- VON POELLNITZ, K. 1934. Monographie der Gattung *Talinum* Adans. *Reptorium specierum novarum regni vegetabilis* 35: 1–34.
- WILLDENOW, C.L. 1799. *Talinum patens*. *Species plantarum* 2, Part 2: 863. Nauk, Berlin.

E.M.A. STEYN\* and G.F. SMITH\*

\* National Botanical Institute, Private Bag X101, 0001 Pretoria. MS. received: 2001-04-06.

## ZAMIACEAE

## ENCEPHALARTOS RELICTUS: A NEW SPECIES FROM SOUTHERN AFRICA

In a continuing attempt to document biodiversity in the African Zamiaaceae, an evaluation of material from Swaziland (Hurter 1993) has led to the conclusion that there exists a distinct undescribed species, that may already be extinct in the wild. Due to the fact that no new material has been forthcoming in more than 20 years it was decided that this relict species should be described for posterity.

***Encephalartos relictus* P.J.H. Hurter, sp. nov., *E. heenanii* R.A. Dyer** foliis rigidis caesiis similis, sed pinnis linearo-lanceolatis ascendentibus inflexis, microsporophyllis ovoidis tomentosis, et habitatione nemorali differt.

**TYPE**.—Swaziland: Siteki, Farm Muti-Muti, (leaf and part of male cone), 15-03-1971, J.J.P. du Preez s.n. (PRE33123, holo.). *Moltz Altia* (16 km west)

Plant arborescent, suckering from base. *Trunk* up to 2.5 m long, 400–450 mm diam., leaf bases persistent, crown and cataphylls tomentose, golden brown, becoming subglabrous with age. *Leaves* numerous in dense, spreading crown, rigid, subsessile, waxy blue-grey in colour, 1.0–1.2(–1.4) m long, pinnae ascending. *Petiole* apparent, woolly, becoming subglabrous with age, except pulvinus. *Rachis* straight, woolly, becoming subglabrous with age, apex slightly incurved. *Pinnae* woolly, becoming glabrous with age, entire, veins raised abaxially, margins slightly thickened, inflexed, directed towards apex of leaf at an angle of  $\pm 60^\circ$  to rachis, opposing leaflets inflexed, set at an angle of  $\pm 40^\circ$  to each other and orientated succubously, proximal pinnae gradually reduced to a few prickles. *Median leaflets* oblong-lanceolate, pungent, 200–250  $\times$  14–17 mm, margins entire, 20–25 prominent veins abaxially.

*Strobili* glabrous, scale facets smooth, light greenish yellow. *Megastrobili* unknown. *Microstrobili* 1–3 per trunk, subconical, 200–240  $\times$  120–150 mm, stalked on peduncle 30–50 mm long. *Median microsporophylls* spreading, more or less at right angles to axis, lamina oblong, tapering to base,  $\pm 35$ –40 mm long, 30–35 mm wide and 10–15 mm high, margins contracted to pedicel, bulla with terminal facet projecting slightly as drooping lip-like structure, edges verrucose, microsporangia separated from lateral margins. Figure 5.

*Diagnostic features and affinities*

*E. relictus* superficially resembles *E. heenanii* R.A. Dyer (Dyer 1972), on account of its stiff waxy blue-grey leaves and pinnae with the veins prominently raised abaxially. However, it differs markedly from *E. heenanii* in morphology, habit and habitat. *E. relictus* used to occur in mixed deciduous woodland (Figure 6), whereas *E. heenanii* occurs in high rainfall, high altitude, sour grassland. The important morphological differences between the two species are summarized in the following table.

TABLE 1.—Differences between *E. heenanii* and *E. relictus*

	<i>E. heenanii</i>	<i>E. relictus</i>
Pinnae	ovate-lanceolate markedly deflexed from rachis	oblong-lanceolate inflexed
Leaves	inflexed, crown wine-glass-shaped	straight, crown spreading
Microstrobili	ovate, tomentose	subconical, glabrous (Figure 7)

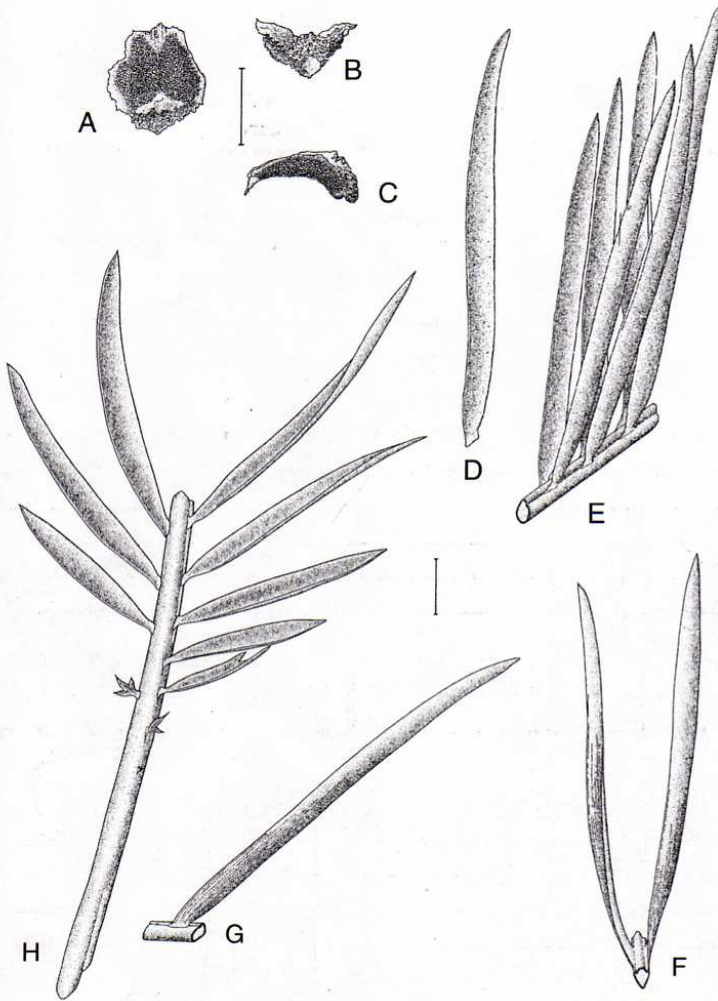


FIGURE 5.—*Encephalartos relictus* P.J.H. Hurter. A–C, microsporophyll: A, abaxial view; B, frontal view; C, side view. D, median pinna, adaxial view; E, F, median section of leaf showing inflexed nature of pinnae; G, median pinna, abaxial view and orientation towards apex of leaf; H, petiole and proximal pinnae. Scale bars: A–H, 30 mm. Artist: S.J. Burrows.



FIGURE 6.—*Encephalartos relictus* in habitat (photo: J.J.P. du Preez).

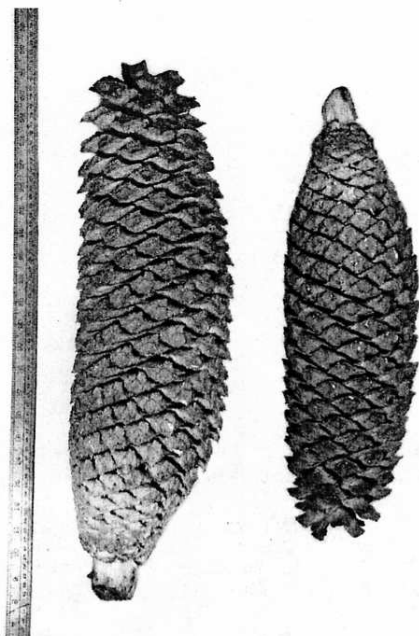


FIGURE 7.—*Encephalartos relictus* microstrobili (photo: J.J.P. du Preez).

#### Geographical distribution

As far as is known, this species used to grow only at a single locality in Swaziland, at an altitude of 1 000 m (Figure 8). Its present conservation status code (IUCN 1994) is ExW.

#### Other specimen examined

SWAZILAND.—Siteki, Farm Muti-Muti, P.J.H. Hurter 95s/hl (GLOW).

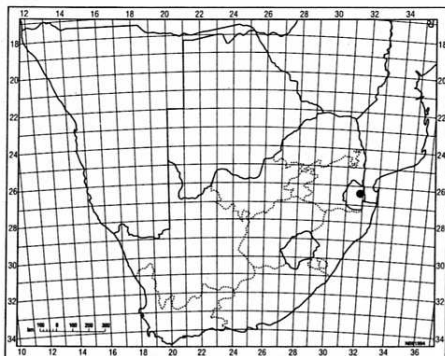


FIGURE 8.—Known former distribution of *Encephalartos relictus*. The species no longer occurs in the wild (Red List category ExW).

#### ACKNOWLEDGEMENTS

The research of which this publication is a result was financed by the National Botanical Institute. The artist is Sandie Burrows. The director of the National Botanical Institute (PRE) is thanked for permission to use the accompanying photographs.

#### REFERENCES

- DYER, R.A. 1972. A new species of *Encephalartos* from Swaziland. *Bothalia* 10: 539–546.  
 HURTER, P.J.H. 1993. Focus on: *Encephalartos heenanii*. *Encephalartos* No. 40: 4–7.  
 IUCN 1994. IUCN Red List Categories. IUCN, Gland, Switzerland.

P.J.H. HURTER\* and H.F. GLEN\*\*

\* Lowveld National Botanical Garden, P.O. Box 1024, 1200 Nelspruit, South Africa.

\*\* National Botanical Institute, Private Bag X101, 0001 Pretoria. MS. received: 2000-03-08.

## NEW RECORDS AND DISTRIBUTIONAL DISJUNCTIONS FROM SOUTH AFRICA, ZIMBABWE AND MOZAMBIQUE

### INTRODUCTION

Floristic evidence for the continuity of vegetation types often lingers in the form of relicts which inhabit isolated refugia. This evidence can be ambiguous in families with adaptations to long distance dispersal. However, in a number of families, vicariance is the only logical explanation for distributional anomalies. This paper records disjunctions in Acanthaceae, Thymelaeaceae and Lamiaceae, all families renowned for the parochial dispersal of seeds and fruits.

### ACANTHACEAE

Recent research (Edwards & Harrison 1998) revealed a distributional extension to the range of *Pseuderanthemum hildebrandtii* Lindau (Acanthaceae) which re-creates the floristic links between tropical East Africa and northern KwaZulu-Natal. This species is associated with woodlands and provides compelling evidence of the continuity of dense savanna and forest habitat between the eastern seaboard of South Africa and populations in Tanzania. Acanthaceae have explosive fruits with elastic