



Taxonomic notes on *Encephalartos ferox* (Cycadales: Zamiaceae), with the description of a new subspecies from Mozambique

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Abstract

Continued work on the systematics of the genus *Encephalartos* has been conducted over a large area along the Mozambican coast to determine the infraspecific variation and taxonomic status of *Encephalartos ferox* populations. The northern extent of the species was also investigated based on anecdotal information that it might represent a new taxon. Several (45) vegetative and reproductive (ca. 40) characters were analysed and used to re-circumscribe *E. ferox*. Literature and iconographic citations are included, as is information on ecology, cytology and conservation as available. No specimens of *E. ferox* were located north of the Save River in the Sofala Province, Mozambique, and the northernmost population of the species was found to be anomalous. Accordingly a new subspecies, *E. ferox* subsp. *emersus*, is recognised based on its invariably emergent stems, shorter unarmed petiole length, shorter leaves, greater number and narrower leaflets (in seedlings as well) which are more closely spaced. Strobili and peduncles in subsp. *emersus* are shorter and narrower with strobili having a propensity towards yellow, while internally the megasporophylls are green, grading to white away from the outer surface. The IUCN Red List status is suggested as Critically Endangered A4d + B1a,b(v) + B2a,b(v), with the threat of illegal over-collection highlighted.

Abstracto

Estudos contínuos sobre a sistemática do género *Encephalartos* já foram realizados sobre uma grande área ao longo da costa de Moçambique para determinar variações infra-específicas e estado taxonómico das populações de *Encephalartos ferox*. A extensão da espécie no norte também foi investigada, baseado em evidência anedótica que a espécie pode representar um novo grupo taxonómico. Vários (45) caracteres vegetativos e reprodutivos (ca. 40) foram analisados e usados para circunscrever *Encephalartos ferox*. Literatura e citações iconográficas estão incluídas, também informações sobre a ecologia, citologia e conservação como disponível. Espécimenes de *Encephalartos ferox* não foram encontrados norte do rio Save, na província da Sofala e as populações mais setentrionais foram consideradas anômalas. Consequentemente, uma nova subespécie, *Encephalartos ferox* subsp. *emersus* é reconhecida. Com caules invariavelmente emergentes; peciolas mais curtos e desarmados; folhas mais curtas e quantidade maior de folíolos mais estreitos (em mudas também) e estreitamente espaçados. Estróbilos e pedúnculos de *Encephalartos ferox* subsp. *emersus* são mais curtos e estreitos, com estróbilos mais propensos para o amarelo, enquanto megasporophylls são verdes internamente, tornando brancos distante da superfície externa. O estado da espécie sobre a Lista Vermelha da IUCN é Perigo Crítico A4D + B1a,b(v) + B2a,b(v), onde a ameaça de coleção ilegal é destacada.

Key words: cycad, Gymnosperm, taxonomy

Introduction

Taxonomy of the African endemic cycad genus *Encephalartos* Lehmann (1834: 1; Zamiaceae, Christenhusz *et al.* 2011), though remaining stable over the past two decades (Haynes 2012, Osborne *et al.* 2012), currently with 65

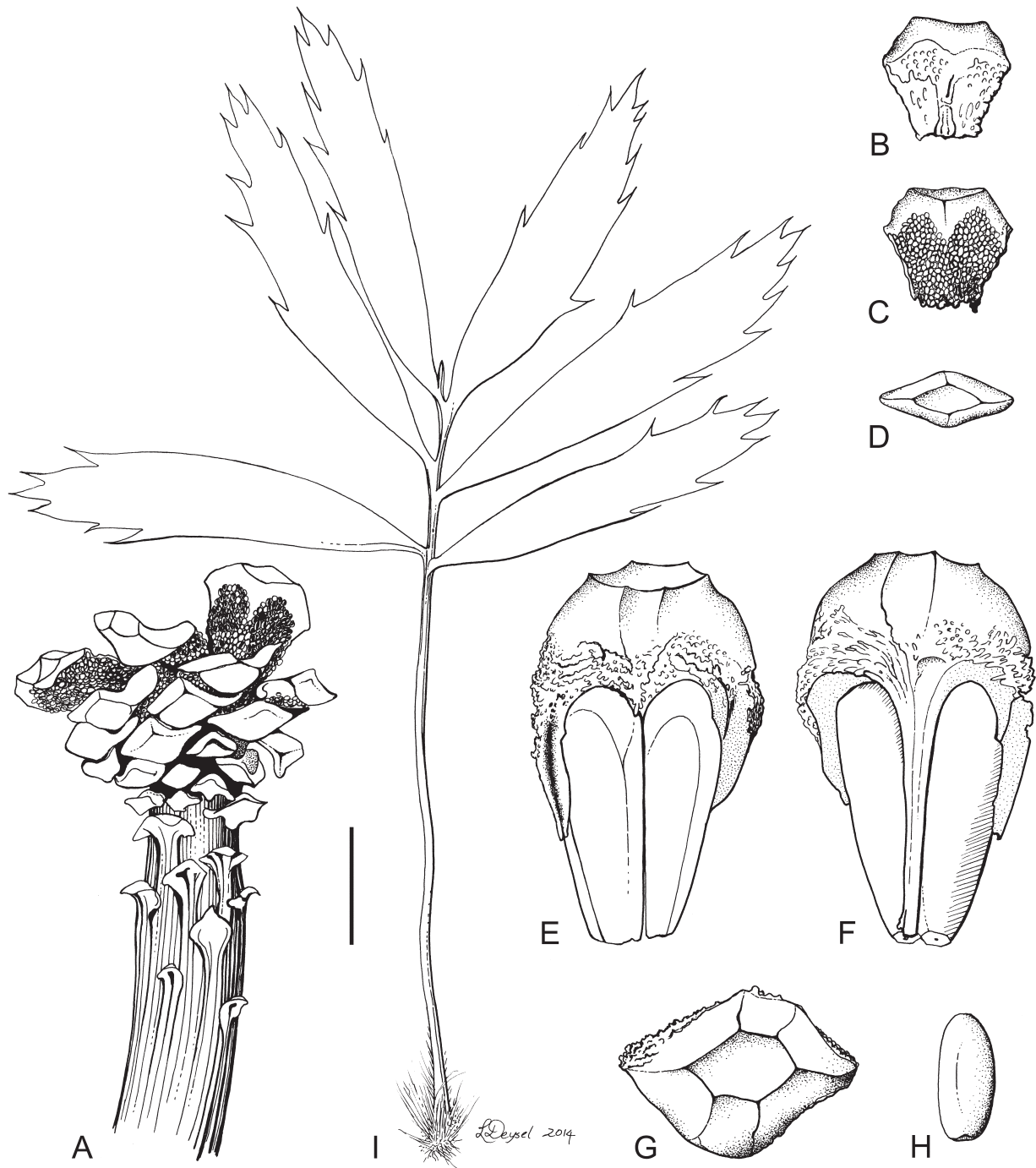


FIGURE 9. *Encephalartos ferox* subsp. *emersus*: reproductive morphology. A. Partial microstrobilus and peduncle; note basal reduced and sterile microsporophylls. B. Microsporophyll; adaxial view. C. Microsporophyll; abaxial view. D. Microsporophyll; distal (front) view. E. Megasporophyll with ovules; abaxial view. F. Megasporophyll with ovules; adaxial view. G. Megasporophyll; distal (front) view. H. Seed kernel with sarcotesta removed. I. Seedling leaf. Scale bar = 20 mm. Voucher: *Rousseau 1175*. Artist: Lesley Deysel.

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