A New Species of *Encephalartos* (Zamiaceae) from Northeastern Zaire

PAUL BAMPS AND STANISLAS LISOWSKI

Abstract

BAMPS, P. (National Botanical Garden of Belgium, Meise B 1860, Belgium) and S. LISOWSKI (A. Mickiewicz University, Department of Geobotany, PL 61-713 Poznan, Poland). A new species of *Encephalartos* (Zamiaceae) from northeastern Zaire. Memoirs of the New York Botanical Garden 57: 152–155. 1990.—*Encephalartos ituriensis*, a new cycad from northeastern Zaire, is described and illustrated and its relationship with its nearest relatives is presented.

Résumé

Description illustrée d'une nouvelle espèce d'*Encephalartos* en provenance du nord-est du Zaire et discussion de sa position taxonomique vis-à-vis des espèces les plus proches.

Key words: Zamiaceae; *Encephalartos*; Zaire.

Introduction

During a trip to the vicinity of Nduye (01°50'N 28°59'E), about 50 km north of Mambasa, one of the authors (S.L.) discovered some patches of *Encephalartos* on granitic domes which emerge from a rain forest dominated by *Cynometra alexandri* (Caesalpiniaceae) and inhabited by Bambuti pygmies. Provisionally determined as *Encephalartos hildebrandtii* A. Br. & Bouche, it appears upon further examination that it is quite erent from that species and from *E. laurentianus* De Wild., which was probably erroneously reported from Ituri on the basis of sterile material, by W. Robyns (1948). It is, in fact, a new species. The differences between this new species, *E. ituriensis*, and *E. hildebrandtii* and *E. laurentianus* are summarized in Table I.

Encephalartos ituriensis Bamps et Lisowski, sp. nov. Type. Zaire. Mt. Mukonza, near Nduye, border of rain forest, alt. 1180 m, Apr 1976, *Lisowski 42909* (holotype: BR; isotype: POZG). Figs. 1–3.

Figs. 1–3 Affinis *E. hildebrandtii* A. Br. & Bouche et *E. laurentiano* De Wild. sed ambobus foliis apice haud dentatis, nervis vix conspicuis, strobilorum ♂ et ♀ squamarum forma mensurisque differt.

Trunk to 6 m high and 50 cm diam., sometimes prostrate. *Leaves* several together at the apex of the trunk, to 2–3 m long and 40 cm wide, the leaflets reduced in size towards the base; median leaflets more or less opposite, sessile, lan-

Table 1

Differences between *Encephalartos ituriensis*, *E. hildebrandtii* and *E. laurentianus*

Species	Median leaflets	Male cone	Female cone	Seeds
E. ituriensis	end in one spine; up to 25 cm long and 3 cm wide	26 cm long and 7 cm diam.; bulla 2.5–3 cm wide and 0.6–0.7 cm deep	20 cm long and 12 cm diam.; bulla 5 cm wide and 2 cm deep	2.5–3.5 cm long and 1.5–2.5 cm diam.
E. hildebrandtii	end in 2 or more spiny teeth; up to 35 cm long and 4.5 cm wide	up to 50 cm long and 9 cm diam.; bulla 1.9–2.8 cm wide and 0.9–1.7 cm deep	up to 80 cm long and 25 cm diam.; bulla up to 5 cm wide and 3.3 cm deep	up to 3.8 cm long and 2.6 cm diam.
E. laurentianus	end in 2 or more spiny teeth; 35–50 cm long and 4–7 cm wide	20–35 cm long and 6–10 cm diam.; bulla 1.8 cm wide and 1.2 cm deep	35–45 cm long and about 20 cm diam., bulla 5–6 cm wide and 3–3.5 cm deep	3–5 cm long and 2–3 cm diam

oblate-oblong, shortly narrowed at the base, long attenuate and spinose (one spine) apically, to 25 cm long and 3 cm wide, coriaceous, with 3–9 spinules more or less developed on each side, the longitudinal nerves scarcely visible. *Male cone* fusiform, 26 cm long and 7 cm diam., with a stout peduncle to 16 cm long and 18 mm in diam., microsporophylls deltoid, median ones to 3 cm long and 2.5 cm wide, slightly curved upwards; bulla with a more or less rhomboid terminal facet, 15 mm wide and 6 mm deep. *Ovulate cone* cylindrical-ovoid, 20 cm long and 12 cm diam., somewhat truncate at the base and rounded at the apex with some reduced sterile sporophylls; peduncle short and stout; bulla of median sporophylls rhomboid, to 5 cm wide and 2 cm deep; terminal facet more or less rhomboid, 2 cm wide and 1 cm deep, concave and smooth. *Seeds* ovoid, more or less angular, 2.5–3.5 cm long and 1.5–2.5 diam., smooth, drying reddish brown; micropyle whitish, to 10 × 6 mm.

Paratypes ZAIRE. Mt. Mukonza, near Nduye, border of rain forest, alt. 1200 m, Apr 1976, *Lisowski 42234* (O BR, POZG); ibid., on rocks, Aug 1975, *Lisowski 41057* (O BR); Mt. Tofintodu, near Nduye, on slope to forest, alt. 1100 m, Apr 1976, *Lisowski 42482* (young plant BR).

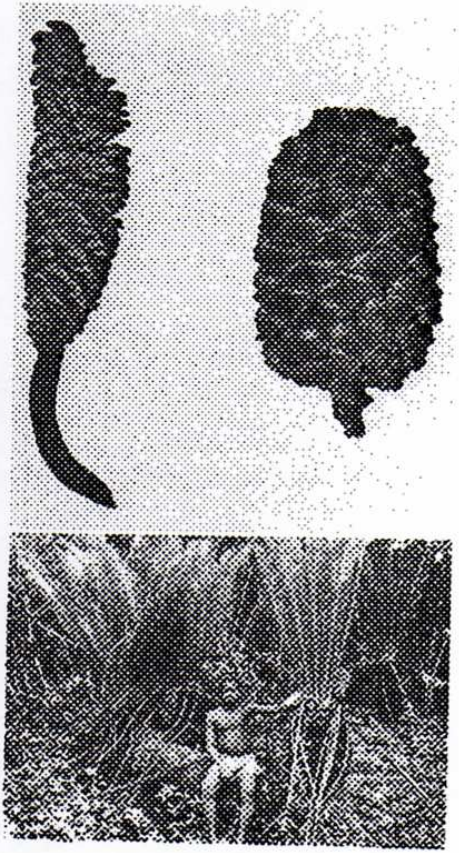

Fig. 1. *Encephalartos ituriensis* Bamps & Lisowski. a. Male cone (*Lisowski 42234*) (× ⅓). b. Female cone (*Lisowski 42909*) (× ⅓). c. Female plants at the Mukonza Mount, Nduye. Photographs by Lisowski.

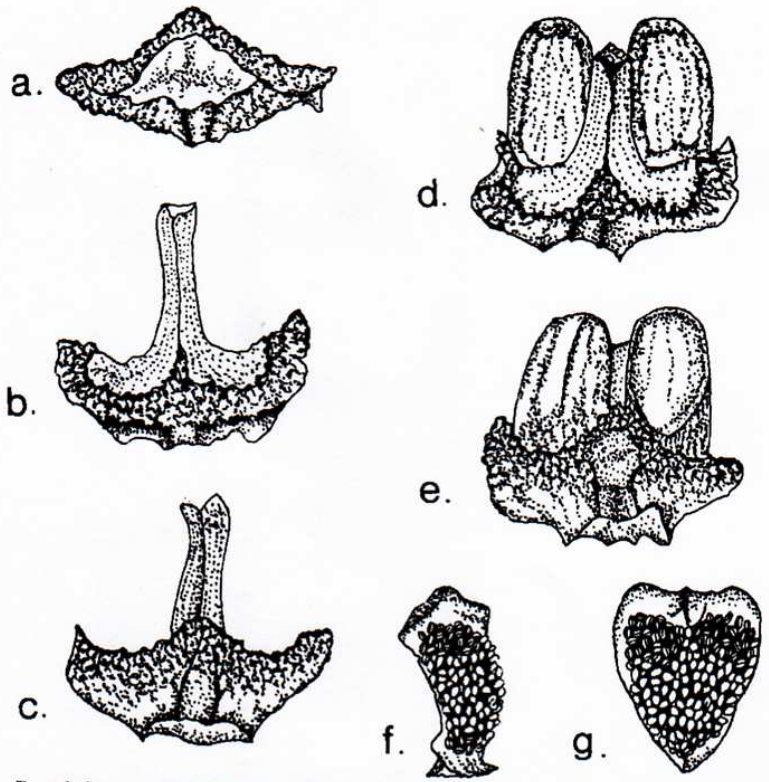

Fig. 2. *Encephalartos ituriensis* Bamps & Lisowski. **a–e.** Sporophylls of a female cone (*Lisowski 42938*). **a.** Apical view (bulla). **b.** Adaxial view. **c.** Abaxial view. **d.** Adaxial view with seeds. **e.** Abaxial view with seeds. **f, g.** Sporophylls of a male cone (*Lisowski 45310*). **f.** Lateral view. **g.** Adaxial view. All natural size.

Discussion

Other specimens, namely *Bequaert 4886* (Irumu, gallery forest in savanna, just one young leaf, Jul 1914), *Christiaensen 1243* (Nyankunde, Bunia Zone, fallow in grass savanna, sterile, Dec 1955), and *Pilette 2* (Ituri, without precise locality or date, mature leaves and photographs of the plant and ovulate cone, about twice as long as that of Lisowski specimens) could belong to *E. ituriensis*, but further investigation and more complete material are needed to confirm this assumption. The specimens collected in Uganda, namely *Lock 68/125* (Mpanga River gorge, Toro, alt. 1230 m, rocky places in grassland, Apr 1968; BR); *Osmaston s.n.* (Toro District, 1956; BR, K); *Osmaston 4055* (Mpanga River falls, on escarpment east of Lake George, short grass on outskirts of gallery forest, Jul 1957; K); and *Bagshawe 1054* (valley of the Mpanga River as cited by Eggerling, 1952), were determined by Melville (1957, 1958) as *Encephalartos hildebrandtii* but are surely different, as noted by Heenan (1977), and could also belong to *E. ituriensis*.

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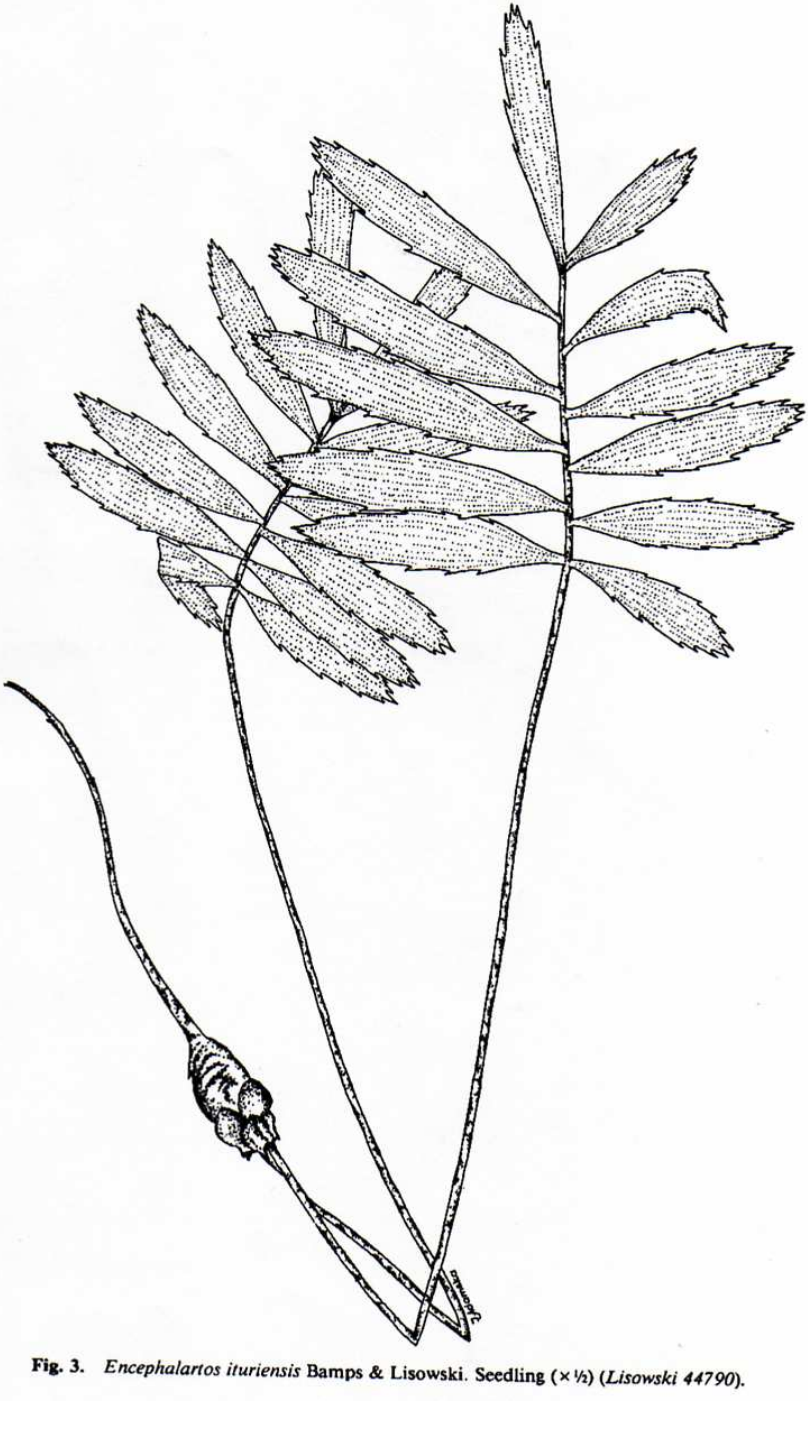

Fig. 3. *Encephalartos ituriensis* Bamps & Lisowski. Seedling (× ½) (*Lisowski 44790*).