

A spectacular new species of *Licuala* (Arecaceae, Coryphoideae) from New Guinea

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Summary. A new species of *Licuala* is described from Papua New Guinea that combines several unique characters for the genus such as a more than 4 m long pendent inflorescence and a three-ridged endocarp.

Introduction

Licuala Wurm. is the most speciose genus of the coryphoid palms in New Guinea. The genus is under revision as part of the Palms of New Guinea (PONG) project and so far 27 species have been recorded within the political borders of the Indonesian Province of West Papua and Papua New Guinea. In 1999, J. Wiakabu of the PNG Forest Research Institute and J. Worimbangu of the PNG Forest Authority in Lae collected an aberrant species of *Licuala* in the Green River District, Amanab subdistrict, Sandaun Province. The specimen was presented to us at the LAE herbarium and the collectors mentioned that it had a very long, pendent inflorescence that reached the forest floor. From the height of the palm indicated on the label we deduced that the inflorescence was at least 4 m long, the longest ever recorded in the genus. During one of the field campaigns organised within the framework of the PONG project we recollected the species at Pual River near Vanimo in the Sandaun Province.

***Licuala longispadix* Banka & Barfod sp. nov.** arbor statura mediocris, 3–4 m alta; lamina folii plus quam 2 m diametro, in 36 segmentis divisa; a congeneris inflorescentiis plus quam 4 m longis, unusquisque 12–13 ramis lateralibus ferentibus, endocarpiis conspicue longitudinaliter tricristatus distinguitur. Typus: Papua New Guinea, Sandaun Province, Vanimo subdistr., Pual River, Barfod, Banka & Kjaer AB508 (holotypus AAU!; isotypi LAE!, BRI!).

Solitary palm up to 3–4 m tall. *Stem* about 14 cm in diam., with short internodes, covered by grey crustaceous lichens. *Leaves* about 15 in crown; *leaf*

sheaths tubular and intact in the centre of the crown, about 20 cm long, transition into petiole gradual, extended on the opposite side of the petiole into an up to 76 cm long, brown chartaceous ligule, eventually disintegrating into a fibrous mesh; *petiole* variable in length, up to 3 m long in fully developed leaves, 1.5–1.8 cm wide at the base, 1–1.3 cm wide below insertion of lamina, greenish with deciduous ferruginous ramenta, the basal 60 cm armed with up to 5 mm long spines, mixed long and short to evenly sized, greenish-brown to greyish, flattened distally and rounded at the base, recurved to straight; *lamina* rounded in outline, somewhat darker green above, divided in 36 segments, position of hastula slightly eccentric; mid segment wedge shaped, with 18–20 adaxial ribs, 1.2 m long and 45 cm wide at the apex, basal segments with 3 adaxial ribs, about 1 m long and 5–7 cm wide at the apex; indentations leading to adaxial ribs 2–3 cm long, those leading to abaxial ribs about 0.5 cm long. *Inflorescences* about 3 on one palm, 4–4.5 m long, pendent and reaching the ground, with 12–13 partial inflorescences, branched to third order basally, *peduncle* 82 cm long as measured to the base of the first primary branch, about 3.5 × 1 cm in cross section; *prophyll* 35–40 cm long, 6.5 cm wide at the base; one *peduncular bract* present 60–80 cm long, thick and chartaceous, splitting irregularly at the apex only; *rachis* 3.4–3.7 m long; *rachis bracts* about 80 cm long, like peduncular bract in texture and colour; the basal partial inflorescence branched distally for about 40 cm, with approx. 42 pendent rachillae. *Flowers* solitary, hermaphrodite; *calyx* cylindrical, 2.5–3 mm long, glabrous or with few minute trichomes, breaking up regularly in three lobes, about 1 mm long and apically acute to obtuse; *corolla* about 5 mm long, lobes 2–2.5 mm long;

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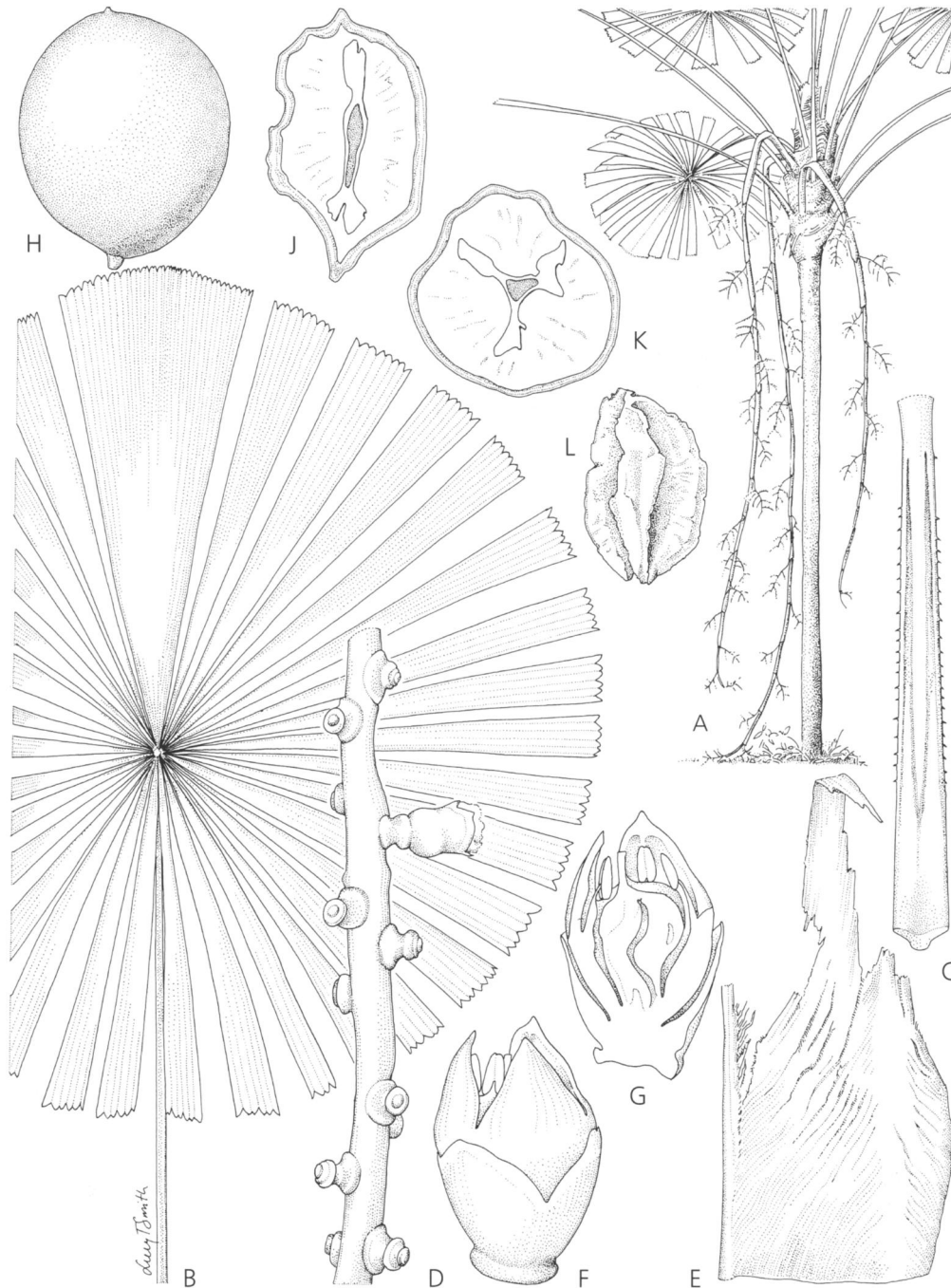


Fig. 1. *Licuala longispadix*. **A** habit $\times 1/400$; **B** leaf $\times 1/180$; **C** sheath $\times 1/5$; **D** petiole with sheath scars $\times 1/5$; **E** rachilla $\times 3$; **F** flower $\times 8$; **G** l.s. flower $\times 8$; **H** fruit $\times 1 1/2$; **J** l.s. fruit $\times 1 1/2$; **K** fruit t.s. $\times 1 1/2$; **L** endocarp $\times 1 1/2$. **A – G** from Barfod, Banka & Kjær AB508; **H – L** from Wiakabu & Worimbangu 75798. DRAWN BY LUCY T. SMITH.

androecium fused to corolla for 1.8 – 2 mm, staminal ring about 0.5 mm long; *anthers* inserted in one level, 0.3 – 0.4 mm long; receptacle and calyx fused for about 0.3 – 0.4 mm; *ovary* glabrous 2 – 2.5 mm long, truncate apically; *style* about 0.5 mm long; *locules* in upper half, about 0.3 mm long. Fruit pedicel widened basally. *Fruit* globose, 2 – 2.5 × 1 – 1.5 cm, red at maturity; *endocarp* 2 – 2.2 × 1 – 1.2 cm, reinforced with three, up to 5 mm wide, longitudinal ridges; *seed* narrow fusiform to elliptic, about 5 × 2 mm.

DISTRIBUTION. Only known from two localities in the Sandaun Province where it is quite rare locally.

MATERIAL EXAMINED. PAPUA NEW GUINEA. Sandaun Province, Amanab Subdistr., Near Guriaso village, Oct. 1999, *Wiakubu & Worimbangu* 75798 (AAU!; LAE!); Vanimo Distr., Pual R., March 2000, *Barfod, Banka & Barfod* AB 508 (AAU!, LAE!, BRI!)

HABITAT & ECOLOGY. Rare in lowland forest on alluvial plains dominated by species of *Vatica*, *Intsia* and *Pometia*.

VERNACULAR NAMES. ‘Marim’ (Amanab dialect).

NOTES. The collections available to us only comprise old inflorescences and fruiting material. We were able to retrieve two flowers stuck to a spiders’ web. The gynoecium in both is rather stunted, maybe an effect of the aborted embryos. The question of whether the flowers are hermaphroditic or dioecious awaits further study.

The fruits of New Guinea licualas are often presented near the forest floor either by bending of the infructescence due to the weight of the fruits, as in *L. beccariana*, or due to long pendent inflorescences, as in *L. longispadix*. This phenomenon is probably an adaptation to dispersal by ground-dwelling animals such as the cassowaries that roamed the forests of New Guinea prior to the advent of man and domesticated pigs.

CONSERVATION STATUS. Endangered. *Licuala longispadix* is recorded from just two localities that are both under threat due to logging. At the type locality near Pual River, a careful search within a radius of 100 m revealed only one additional individual and no regeneration.

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