

**Etymology** — The specific epithet is from *lepidotus* – scaled, and refers to the densely lepidote inflorescence axes and bracts.

**Note** — *Calyptrocalyx lepidotus* is distinguished by the densely lepidote petiole, rachis, inflorescence and peduncular bract, pinnae brown lepidote on the abaxial surface, 1–7-spiked inflorescence, a densely fibrous mesocarp and homogeneous endosperm.

## 16. *Calyptrocalyx leptostachys* Becc.

*Calyptrocalyx leptostachys* Becc., *Webbia* 1 (1905) 306. — Type: *Loria s.n.* (holo FI), Papua New Guinea, Central Province, 'Towards Mt Yule', 17 Dec. 1890.

Solitary, small palms. *Stem* 2 m tall, 10–20 mm diam.; internodes elongate. *Leaves* irregularly segmented with pinnae united, 50–70 cm long; leafbase to 25 cm long, margins densely lacerate-fibrous, particularly at the apex; petiole 8–10 cm by 4–10 mm, adaxially shallowly channelled; rachis 25–60 cm long, with sparse orange-brown scales; pinnae 3–10 per side, single or united, alternate, narrowly-lanceolate, gradually tapered, apex acuminate, chartaceous, green adaxially, lighter green abaxially, largest 30 by 3 cm, ribs 5–7, prominently raised adaxially, not so prominent abaxially, marginal veins thicker than secondary veins, distal pinnae narrow and short, terminal segments uneven. *Inflorescence* 60–70 cm long, 2-spiked, filiform; peduncle c. 4 mm wide; rachilla c. 4 mm diam.; floral pits shallow, lower lip rounded, crescentic. *Staminate flower* to 5 mm long; stamens c. 15. *Pistillate flower* globose in bud, c. 4 mm long; sepals c. 2 mm long, ovate, moderately concave, striate, dorsally ridged, thick at the apex; petals c. 3 mm long, semiorbicular, triangular, pointed at the apex, striately-nerved throughout; staminodes 6, well spaced, small. *Fruit* globose to obovoid, 16–17 mm long, c. 12 mm diam., attenuate at the base, colour not known; epicarp smooth, thin, minutely granular when dry; mesocarp fibrous, layered and compact. *Seed* globose, c. 9 mm diam.; endosperm ruminant.

**Distribution** — Papua New Guinea: Central Province, Mt Yule.

**Etymology** — The specific epithet is from *lepto* – slender, and *stachys* – spiked.

**Note** — *Calyptrocalyx leptostachys* is distinguished by a solitary habit, multi-spiked inflorescence, globose to obovoid fruit, and ruminant endosperm. It is not a well-known species, with only two collections additional to the type having been made.

## 17. *Calyptrocalyx merrillianus* (Burret) Dowe & M.D. Ferrero, *comb. nov.*

*Paralinospadix merrillianus* Burret, *J. Arnold Arbor.* 20 (1939) 201, syn. nov. — Type: *Brass 6815* (holo A; iso BRI), Papua New Guinea, Western Province, Fly River, '528 mile Camp', just S of Palmer River junction, 80 m, May 1936.

Clustering, small palms. *Stems* 2 or 3, 2–4 m high, to 13 mm diam.; internodes elongate; crown with 7–9 leaves. *Leaves* regularly pinnate, 80–200 cm long; leafbase 30 cm long, glabrous, margin lacerate-fibrous; petiole 14–24 cm by 10–12 mm, channelled to flat adaxially; rachis dark lepidote; pinnae 14 or 15 per side, regularly arranged, basal 1 or 2 very narrow, all but the apical pinnae with strong midrib, prominent adaxially and abaxially, flatly lanceolate linear to sigmoid, becoming falcate toward the apex, finely acuminate, dark green adaxially, lighter green abaxially, 2 or 3 secondary

veins prominent abaxially, pinnae widest in the middle, 30–38 by 1.5–3.3 cm, apical pinnae with many veins, c. 15 each side. *Inflorescence* 80–90 cm long, 2–4-spiked, filiform; prophyll c. 21 cm long; peduncular bract 30–33 cm long, with dark scaly tomentum; peduncle to 60 cm long, 3–4 mm diam., with scaly tomentum; rachilla to 30 cm long, 3–4.5 mm diam.; floral pits well spaced in the lower part, becoming congested distally. *Staminate* flower 4–5 mm long, ovoid in bud; sepals 1.5–2 mm long, ovate, dorsally carinate; petals 3–4 mm long, ovate, dorsally densely nerved; stamens 8; filaments 3–4 mm long; anthers linear, 2 mm long, deeply sagittate, versatile; pistillode c. 4 mm long. *Pistillate* flower not seen. *Fruit* ovoid, beaked, 18–20 mm long, 8–10 mm diam., scarlet to purple-black; epicarp smooth, densely coarsely granular when dry. *Seed* globose, c. 10 mm diam.; endosperm ruminant.

*Distribution* — Papua New Guinea: Western, Gulf, and Southern Highlands Provinces.

*Habitat & Ecology* — In rain forest at 80–600 m.

*Etymology* — This species was named for the American botanist, Elmer Drew Merrill (1876–1956), who examined much of the material collected on the Archbold Expedition during which the type for this species was collected.

*Vernacular name* — Gurrinem (Drimskai language – upper Fly River, Western Province).

*Notes* — 1. *Calyptrocalyx merrillianus* is distinguished by a clustering habit, regularly pinnate leaves, multi-spiked filiform inflorescence, ovoid scarlet to purple-black fruit and ruminant endosperm.

2. This species occurs commonly on the banks of the upper Fly River, growing in full sun, an unusual habitat for *Calyptrocalyx* species.

3. Leaves are used to wrap fish and other food, and stems are used to make hunting and fishing spears.

## 18. *Calyptrocalyx micholitzii* (Ridl.) Dowe & M.D. Ferrero, *comb. nov.*

*Linospadix micholitzii* Ridl., Gard. Chron. 18, 454 (1895) 262. — *Paralinospadix micholitzii* (Ridl.) Burret, Notizbl. Bot. Gart. Berlin-Dahlem 12 (1935) 334, syn. nov. — Type: *Micholitz s.n.* (holo BM), Papua, 1895.

*Linospadix pauciflora* Ridl., Trans. Linn. Soc. London, Bot. 9 (1916) 233. — *Paralinospadix pauciflorus* (Ridl.) Burret, Notizbl. Bot. Gart. Berlin-Dahlem 12 (1935) 335, syn. nov. — Type: *Boden Kloss s.n.* (holo BM), Indonesia, Papua, Paniai Division, Snow Mts, Setakwa River, 'Camp III, 2500 ft' Observation Point, 800 m, Feb. 1913.

Solitary or clustering, small palms. *Stems* 1–5, 0.5–1 m tall, to 10 mm diam.; internodes 2–4 cm long; crown with 10–16 leaves. *Leaves* bifid, obcuneate to elongate, infrequently with 1 or 2 divisions each side, 16–100 by 8–18 cm, margins  $\pm$  parallel, new leaf emerges burgundy to purple; leafbase 6–8 cm long, with brown scaly tomentum; margins lacerate-fibrous; petiole absent. Leaves, when bifid, with c. 14 ribs each side, prominent on the upper surface, abaxially scarcely elevated; segmented leaves with broad bifid apical section, lower pinnae much narrower, in opposite pairs, apical pair to 5 cm wide, lowest pair to 1 cm wide, lamina coriaceous, glossy bright green adaxially, lighter green abaxially. *Inflorescence* 35–90 cm long, filiform, 1–3-spiked; prophyll 2.5–13 cm long, narrow linear-lanceolate; peduncular bract 20–25 cm long; peduncle 13–75 cm long, 3–4 mm diam., sparsely lepidote; rameal bracts 2–3 mm long in dis-