

THE TWO NEW GUINEA SPECIES OF LEPIDEREMA RADLK.
(SAPINDACEAE)

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SUMMARY

A key to and descriptions of the two New Guinea species of the genus *Lepiderema* are provided: *L. melanorrhachis* Merr. & Perry and *L. papuana* Radlk.

INTRODUCTION

Lepiderema was established by Radlkofer (Sapind. Holl. Ind., 1879, 99). He newly described *Lepiderema papuana*, based on the lack of petal scales and the presence of stomata on both sides of the leaflets. Later more species from Australia were described, together with another one from New Guinea (*Lepiderema melanorrhachis* Merr. & Perry; J. Arnold Arbor. 21, 1940, 521). The genus consists of eight species, of which the six Australian ones were recently revised by Reynolds (Austrobaileya 1, 1982, 488).

Several New Guinea collections were tentatively identified as *Lepiderema*, but proved to belong to different species in other genera, mainly to *Cupaniopsis anacardioides*. Presently the two New Guinea species are only known from their type specimens.

Both well-separable species of New Guinea show the following generic characters: Leaflets with attenuate base and cuspidate apex and without domatia; petals without scales; fruits obovoid, glabrous outside and inside, with arilloid. They differ from the allied *Cupaniopsis* by the presence of scale-like hairs on the pedicels and the inflorescence rachis, the absence of petal scales, and the glabrous fruit.

A generic description based mainly on the New Guinea species will be given, together with short descriptions of the two species.

LEPIDEREMA

Lepiderema Radlk., Sapind. Holl. Ind. (1879) 99; Boerl., Handl. 1 (1890) 279; Radlk. in Engler, Pflanzenr. 98 (1933) 1216; Reynolds, Austrobaileya 1 (1982) 488; Reynolds, Fl. Australia 25 (1985) 52. — Type species: *Lepiderema papuana* Radlk.

(Small) tree. Branchlets terete; flowering ones slightly rough, sparsely hirsute to glabrous. Leaves paripinnate; rachis above grooved, shortly hirsute to glabrous. Leaflets opposite to subopposite, elliptic to narrowly elliptic, symmetric except for



Fig. 1. *Lepiderema melanorrhachis* Merr. & Perry. a. Habit, $\times 0.5$; b. fruit, $\times 3$ (Brass 7432, L).

the base, not punctate; base attenuate, sometimes cuneate, oblique; margin entire, slightly curved; apex cuspidate, very apex obtuse; upper and lower surface smooth, glabrous or only midrib sericeous, domatia absent; venation raised to almost flat above, raised below; nerves looped near the margin or loops indistinct, veins densely reticulate. *Inflorescence* a thyrse, pseudoterminal or axillary or ramiflorous, (shortly) hirsute, sometimes branching at base, branches with scale-like hairs; cymules 1–7-flowered, dichasial. Bracts and bracteoles caducous. Pedicel sparsely hairy, hairs simple and scale-like, glabrescent. *Sepals* 5, petaloid, connate at base, elliptic to sub-orbicular, biseriate, glabrous. *Petals* 5, glabrous to sparsely hairy, claw very small to absent; scales absent. Disc closed, slightly lobed, glabrous. *Stamens* 8; filament densely hairy at least at base; anther basifixed. Ovary 3-locular, one ovule per locule; style pyramidal with apically three stigmatic longitudinal bends. *Fruit* a capsule, obovoid, rough, outside and inside glabrous. Seed obovoid, covered by an ariloid, latter open at apical end. Embryo notorrhizal, only young ones seen.

Distribution – Eight species: 6 in Australia, 2 in New Guinea.

Note – *Lepiderema* has only been found twice in New Guinea: the two type collections. The genus is recognized by leaflets with an attenuate base, a cuspidate apex, absence of domatia; petals without scales; and obovoid, hardly to not lobed, glabrous fruits.

KEY TO THE SPECIES OF NEW GUINEA

- 1a. Rachis of leaf shortly hirsute; midrib of leaflets sericeous on both sides; marginal loops indistinct 1. *L. melanorrhachis*
- b. Rachis of leaf glabrous; leaflets, including midrib, glabrous; marginal loops distinct 2. *L. papuana*

1. *Lepiderema melanorrhachis* Merr. & Perry – Fig. 1.

Lepiderema melanorrhachis Merr. & Perry, J. Arnold Arbor. 21 (1940) 521; van Royen, Man. For. Trees Papua & N.G. 2 (1964) fig. 1k. — Type: *Brass* 7432 (A, holo; iso in L), New Guinea, Oroville Camp, Fly River.

Tree. Flowering branchlets 5–9 mm thick, slightly rough, very sparsely hirsute. *Leaves* 3–5-jugate; rachis 6.7–22 cm long, shortly hirsute; peduncle 2.2–7.8 cm long. Leaflets elliptic to narrowly elliptic, 4.7–14.3 by 2.4–5.7 cm; upper and lower surface both glabrous except for the sericeous midrib; venation almost flat above; nerves curving towards margin, loops indistinct. *Inflorescences* axillary to ramiflorous; rachis 4–9.5 cm long, hirsute; cymules 1–3–7-flowered. Pedicel c. 2 mm long, glabrous to sparsely hairy with scale-like hairs; part above abscission zone c. 1 mm long. Flowers unknown. *Sepals* elliptic to suborbicular, glabrous, outer two c. 1 by c. 0.75 mm, inner three c. 1.5 by 1 mm. Disc closed, not lobed, glabrous. *Fruit* obovoid, 10–12 by 9–10 mm, not lobed, stipe 3–4 mm long. *Seed* obovoid, c. 4.5 by 3 mm, only young ones seen.

Field notes – Tall slender tree; branchlets and petioles black.

Distribution – Papua New Guinea (Fly River).

Habitat & Ecology – Forest canopy. Fruiting time: August.

2. *Lepiderema papuana* Radlk.

Lepiderema papuana Radlk., Sapind. Holl. Ind. (1879) 100; Radlk. in Engler, Pflanzenr. 98 (1933) 1217; van Royen, Man. For. Trees Papua & N. G. (1964) 28. — Holotype: *Teijsmann HB 14250* (M), Irian Jaya, Misool, Waijama.

(Presumably) small tree. Flowering branchlets c. 6 mm thick, glabrous. *Leaves* 3–5-jugate; rachis 10.7–25.5 cm long, glabrous; peduncle 5.4–13.7 cm long. Leaflets elliptic to narrowly elliptic, 4.6–16.5 by 2.2–5.8 cm; upper and lower surface glabrous; venation raised above; nerves looped near the margin. *Inflorescences* pseudoterminal; rachis 3.8–6.9 cm long, shortly hirsute, branching at base; cymules 1-flowered. Pedicel c. 1.75 mm long, shortly, sparsely hairy with simple and scale hairs; part above abscission zone c. 1 mm long. *Flowers* 2.5–3 by c. 1.5 mm, probably only female ones seen. *Sepals* elliptic to suborbicular, glabrous, outer two c. 1 by 0.75 mm, inner three c. 2 by 1.25 mm. *Petals* 5, elliptic, c. 1.75–2 by 0.5–1.25 mm, claw less than 0.1 mm long, hairy at base, apex rounded. *Stamens* 8; filament 0.5–0.75 mm long, densely hairy; anther c. 1 mm long, mainly hairy on connective. *Ovary* c. 1.5–2 mm long, glabrous; style and stigma c. 2 mm long. Fruit and seed unknown.

Distribution – Irian Jaya (Misool).

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