



Loxocarpus pauzii (Gesneriaceae), a new species from Peninsular Malaysia

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Key words

Gesneriaceae
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Abstract A new species of *Loxocarpus* (*Gesneriaceae*) from Gunung Stong, Kelantan, Peninsular Malaysia, is described and illustrated.

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INTRODUCTION

A *Loxocarpus* R.Br. (*Gesneriaceae*) was discovered during a botanical expedition to the Gunung Tera area, Kelantan, Peninsular Malaysia, in February 2007 (Chew et al. 2007). The plant was growing on the wet, dripping surface of a large granite boulder beside the Stong Waterfall. Although sterile, its leaves were so different from any known *Loxocarpus* species that living plants were collected and grown in the Kepong Botanic Garden nursery, Forest Research Institute Malaysia. On flowering, unique characters of its flower confirmed its status as a new species. Subsequently, flowering and fruiting material was collected from the wild.

Based on a combination of its rosette habit, the indumentum of densely silvery hairs, and the short capsule, the new species is placed within *Loxocarpus*.

The new species is distinct from all other *Loxocarpus* species by a combination of its thick fleshy leaves with long petioles, its slender much-branched, many-flowered inflorescences, its small flowers with a deeply divided, four-lobed pointed corolla, the vestigial nectary, and the style that projects well beyond the corolla mouth.

Among *Loxocarpus* species, *L. pauzii* is most similar to *L. semitortus* (C.B. Clarke) Ridl., *L. holttumii* M.R. Hend., and *L. stapfii* (Kraenzl.) B.L. Burtt, that have broadly ovate laminas and long petioles (Banka & Kiew 2009) but *L. pauzii* is distinct from these species in having slender, lax, three- or four-times branched panicles bearing 11–42 flowers.

Although Weber & Burtt (1998) included *Loxocarpus* as a synonym of *Henckelia* Spreng. (*Gesneriaceae*), molecular analyses (Weber et al. 2011) show that *Loxocarpus* species are distinct from *Henckelia*. Thus, this species is named in reinstated *Loxocarpus*.

Loxocarpus pauzii T.L. Yao, sp. nov. — Fig. 1

Ab omnibus speciebus *Loxocarpi* in corolla profunde divisa 4-lobata (non 5-lobata) differt. — Typus: Yao et al. FRI 65371 (holo KEP; iso E, L), Peninsular Malaysia, Kelantan, Gunung Stong State Park, Stong Waterfall, 315 m alt., 05°20'N, 101°58'E, 26 July 2008.

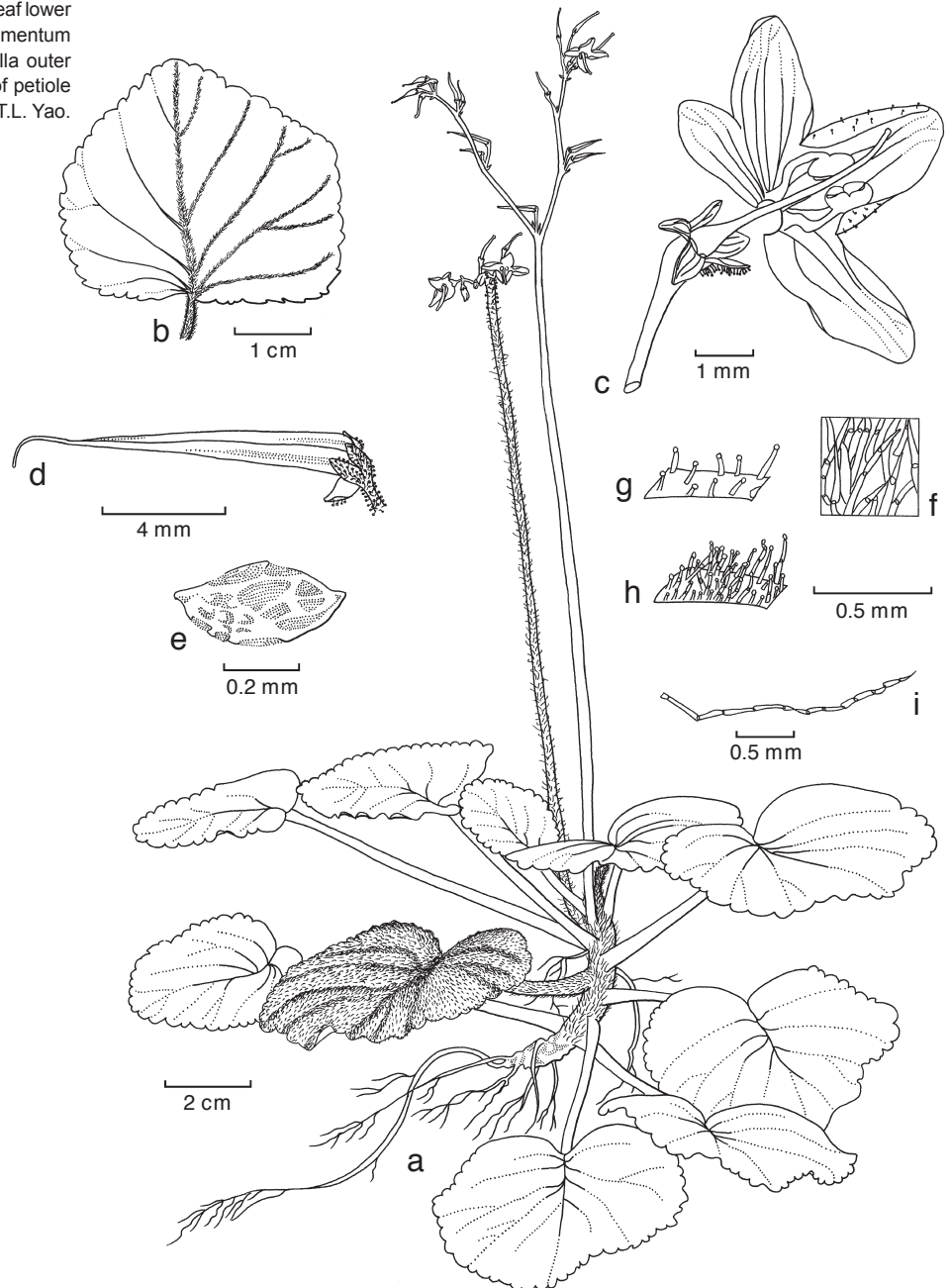
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Etymology. This species is named after Pauzi Husin (1976–2011), a nature guide who first discovered it.

Rosette plant. *Rootstock* short, woody, to 3 cm long, 5 mm diam, with wiry adventitious roots. Indumentum of stem and leaves silvery when dry, mainly of straight uniseriate, multicellular silky non-glandular hairs: on rootstock dense, 1–1.5 mm long, on the petiole very dense, 1–2 mm long, on the upper surface of the lamina dense, c. 0.85 mm long, on the veins of the lower surface of the lamina less dense, 0.4–0.85 mm long, on the lower surface of the lamina sparse, c. 0.3 mm long, on the bracts and bracteoles dense, 0.3 mm long; indumentum of inflorescences and flowers a mix of non-glandular and glandular hairs: on the peduncle with dense, non-glandular hairs c. 1 mm long and glandular hairs c. 0.25 mm long; on the pedicel, the outer surface of the calyx, corolla, and ovary with dense, glandular purple hairs c. 0.25 mm long, turning brown with age. *Leaves* alternate, crowded; petioles in life pale green, slender, the uppermost ones 2–3 cm long, the lowermost ones elongating to 5–11 cm long, terete, c. 1 mm diam; laminas in life dull dark green to greyish green above, paler beneath and concolourous with the petiole, suborbicular to reniform, 1.5–3 by 2–3 cm, c. 0.6 mm thick, base cordate to truncate, margin crenulate, apex acute in young leaves becoming rounded in fully expanded ones; secondary veins 4–5 pairs, sunken above, prominent beneath. *Inflorescences* axillary, many-flowered paniculate cymes up to 4-times branched with 11–42 flowers, young peduncle brownish red becoming purplish, slender, 14–18 cm long, to 2 mm thick; bract pair green, narrowly oblanceolate, c. 1.4 by 0.3 mm, apex rounded; bracteoles single or paired, green, narrowly oblanceolate, apex rounded, c. 0.6 by 0.2 mm, pedicels purple, 5–7 mm long. *Flowers*: calyx light green, 5-lobed, divided to the base, lobes c. 2 by 1 mm, surface of the inner lobe with three darker coloured veins; corolla plain lilac, tube very short, c. 2 mm long, limb deeply divided, lobes 4, darker toward the base, upper lobe deltoid, c. 3 by 3 mm, apex scarcely notched, lateral 2 lobes spreading, narrowly ovate, c. 4 by 2 mm, apex narrowly rounded, lower lobe longest, concave, margin incurved, c. 5 by 2.5 mm; stamens 2, positioned below the pistil, filaments curved, white tinged light green near base, pale lilac above, c. 2 mm long, bowed towards the lower corolla lobe; anthers connate face-to-face, bilobed, partly exposed in the corolla mouth, yellow, c. 1.3 by 0.5 mm; nectary a narrow, thin rim, partly encircling the ovary

Fig. 1 *Loxocarpus pauzii* T.L. Yao. a. Habit; b. leaf lower surface; c. flower; d. capsule; e. seed; f. indumentum of leaf upper surface; g. indumentum of corolla outer surface; h. indumentum of ovary; i. trichome of petiole (all: Yao et al. FRI 65371, KEP). — Drawn by T.L. Yao.



base; ovary conical, c. 1.5 by 0.7 mm, style lilac, c. 6 mm long, protruding beyond the corolla lobes, stigma minute, rounded, deep purple. *Capsules* dark brown, straight, slender, 4-angled, 7.5–8 by 0.8–0.9 mm; splitting open dorsally; calyx and style persistent. *Seeds* ellipsoid, 320–430 by 150–230 μm , apex acute, surface pattern reticulate.

Distribution — Endemic in Peninsular Malaysia: Kelantan, Gunung Stong State Park, Stong Waterfall.

Habitat — On shaded to partially shaded wet granite cliff faces or on boulders c. 500 m altitude or on soil with thin humus layer under bamboo clumps at c. 315 m altitude.

Other specimens examined. PENINSULAR MALAYSIA, Kelantan, Gunung Stong State Park, Stong Waterfall, *Paupi* FRI 65285 (KEP), FRI 65370 (KEP); Yao FRI 55876 (KEP).

Note — All other *Loxocarpus* species have a 5-lobed corolla. The deeply divided 4-lobed corolla of this species is the result of fusion of the upper two lobes.

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