

Dendrobium crassilabium (Orchidaceae: Dendrobieae), a new species from Papua New Guinea, Northern Province

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Abstract

Spence, Phil (PO Box 3525, Wamberal NSW 2260, Australia) 2004. *Dendrobium crassilabium* (Orchidaceae: Dendrobieae), a new species from Papua New Guinea, Northern Province. *Telopea* 10(4): 781–785. A new species, ***Dendrobium crassilabium***, discovered in the Northern Province of Papua New Guinea, is described and illustrated. It is distinguished from other members of section *Lautouria* by having green flowers with a thick and fleshy, narrowly spathulate labellum midlobe, and spreading narrow sidelobes.

Introduction

In 1994 I collected material of an unnamed species of the genus *Dendrobium* section *Lautouria* from dense forest about 10 km from the nearest small village of Waja, near the mission station of Sangara, which is about half way along the road from the towns of Popondetta and Kokoda in the foot-hills of the Kekend mountains in the Guava Range, Northern Province, Papua New Guinea. Most plants in this region were destroyed when Mount Lamington erupted on 21 January 1951. This small, dense colony of plants survived a c. 200° C flash that killed the entire village population and burnt the forest badly. The ground was covered with volcanic ash to the extent that when the trees started to grow they produced a new root system in the ash several meters above the old forest floor. Some 40 years later the roots remain and most of the ash has been washed away, leaving a trampoline-like structure of roots several meters above the forest floor. In this forest at the edge of the Roduna River (which is a tributary of the Kumusi River) nine plants were removed with the consent of the land owners and the village people. Export and import permits were arranged, and plants were quarantined for approximately four months at a registered quarantine nursery. Four plants did not survive fumigation.

These plants were not in flower when found and did not flower until several months after being released from Quarantine. I compared these plants with the type specimens of the following closely related species at CANB (then on loan from BO and AMES): *Dendrobium euryanthum* Schltr., *Dendrobium subquadratum* J.J.Sm. and *Dendrobium sikini* Schltr. In addition, observation of live plants of *Dendrobium sikini* Schltr. in the wild and pressed flowers in my personal herbarium, supported the view that this was a new undescribed species. Comparisons were also made with the drawings and descriptions of *Dendrobium euryanthum*, *subquadratum*, *sikini*, and other related species, obtained from Smith (1911: 553, 1913:42, 1929:417) and Schuiteman and de Vogel (2002). As a result of this research, it was clear that these plants are representatives of an unnamed species and accordingly it is described here as new. It should be noted that in the future this species may be placed in the genus *Sayeria* (Clements, pers. comm.).

Dendrobium crassilabium P. Spence, sp. nov.

Ab aliis speciebus sectionis Latouriae labello crassissimo calosissimoque differt.

Type: cultivated Sydney, 19 Aug 1994, P. Spence & Clements 8190 (holotype: NSW; iso: CANB, Herb. P. Spence 37). Ex Papua New Guinea, Dense forest, at edge of Roduna River about 10 km from the nearest small village of Waja, near the mission station of Sangara. On tree boughs, alt. c. 2500 m, P. Spence s.n., 1994.

Epiphytic herb, erect or somewhat spreading, 12 to 28 cm tall. *Rhizome* abbreviated 0–0.2 mm long. *Roots* threadlike, glabrous. *Stems* pseudobulbous, cylindrical, slightly attenuated towards the base, finely furrowed lengthwise, with 1–3 leaves, 3–8 mm diam. *Leaves* terminal to sub-terminal, spreading at an angle of about 45° to the vertical, lanceolate to elliptic, acutely tapering from inwardly curved sides to a narrow point, cuneate at the base, 12–18 cm long, widest at or below the middle, 3–5 cm wide. *Inflorescence* terminal or sub-terminal, shorter than the leaf, 6–10 cm long slender, slightly thickening along the rachis: rachis 4–8 cm long with 4–14 flowers; peduncle thin 20–40 mm long, 1.8 mm diam.; bracts ovate or elliptic, shortly acuminate, glabrous, 3 to 4 times shorter than the pedicels, at a c.15° angle to rachis at base, 3–4 mm long. *Flowers* at a c. 45° angle to rachis, with sepals and petals light apple-green to almost olive-green; labellum similar or darker. *Lateral sepals* oblong, slightly falcate, acute, 12 mm long, 8 mm wide, apex cuspidate. *Dorsal sepal* oblong, acute, apex apiculate to cuspidate, 14 mm long, 6–8.5 mm wide. *Petals* obliquely lanceolate, acute or acuminate, c. 11 mm long, 3–4 mm wide. *Labellum* 3-lobed; attached at the base by a narrow claw, non-articulate; lateral lobes small, spreading, oblong, slightly falcate, obtuse, 3 mm long, 2.5 mm wide; mid-lobe much larger, porrect, with slightly intoned margins, c. 12 mm long, c. 7 mm wide; epichile fleshy, rigid, medially sulcate, transversely elliptic-reniform, thick for the section, cordate to almost square, truncate with a downturned apicule, 6.5 mm wide, not exceeding the lateral lobes; callus ligulate, expanded and thickened in front, abruptly obtuse, extending from the base of the labellum to base of the mid-lobe. *Column* broadly elliptical, hooded, exceeding length of the lateral lobes of the labellum, 8–9 mm long, 0.28–0.3 mm wide. *Anther* broadly elliptical, hooded, slightly truncated, glabrous, c. 0.12 mm long × 0.18–0.2 mm wide. *Ovary* thick for the size of the flower, almost cylindrical, 4–6 mm long, 3.4–4 mm wide, tapering to a slender pedicel, 8 mm long, 2 mm wide. Fig. 1.

Derivation of name: the Latin for ‘wood-like labellum’.

Habitat and ecology: Epiphytic on main trunk and heavy boughs of trees overhanging a fast flowing river. This species forms large colonies on its host trees and was found in the humus of long ribbon ferns that secured its roots. The plants that I observed were exposed to full sun and constant high humidity that was lifting from the fast-flowing water not far below.

Distribution: Papua New Guinea, Northern Province, Guava Range near Sangara, at the base of Kekend mountains. Only known from type locality. The cultivated plants from which the holotype and isotype duplicates were made, were originally separate plants adjacent on the same bough; these are considered duplicates under Article 8.3, ICBN St Louis 1999.

Notes: The new species differs, and can be readily distinguished, from the closely related species, *D. subquadratum* (J.J. Smith 1908), and *D. sikini* (Schlechter 1912) as shown in Table 1.

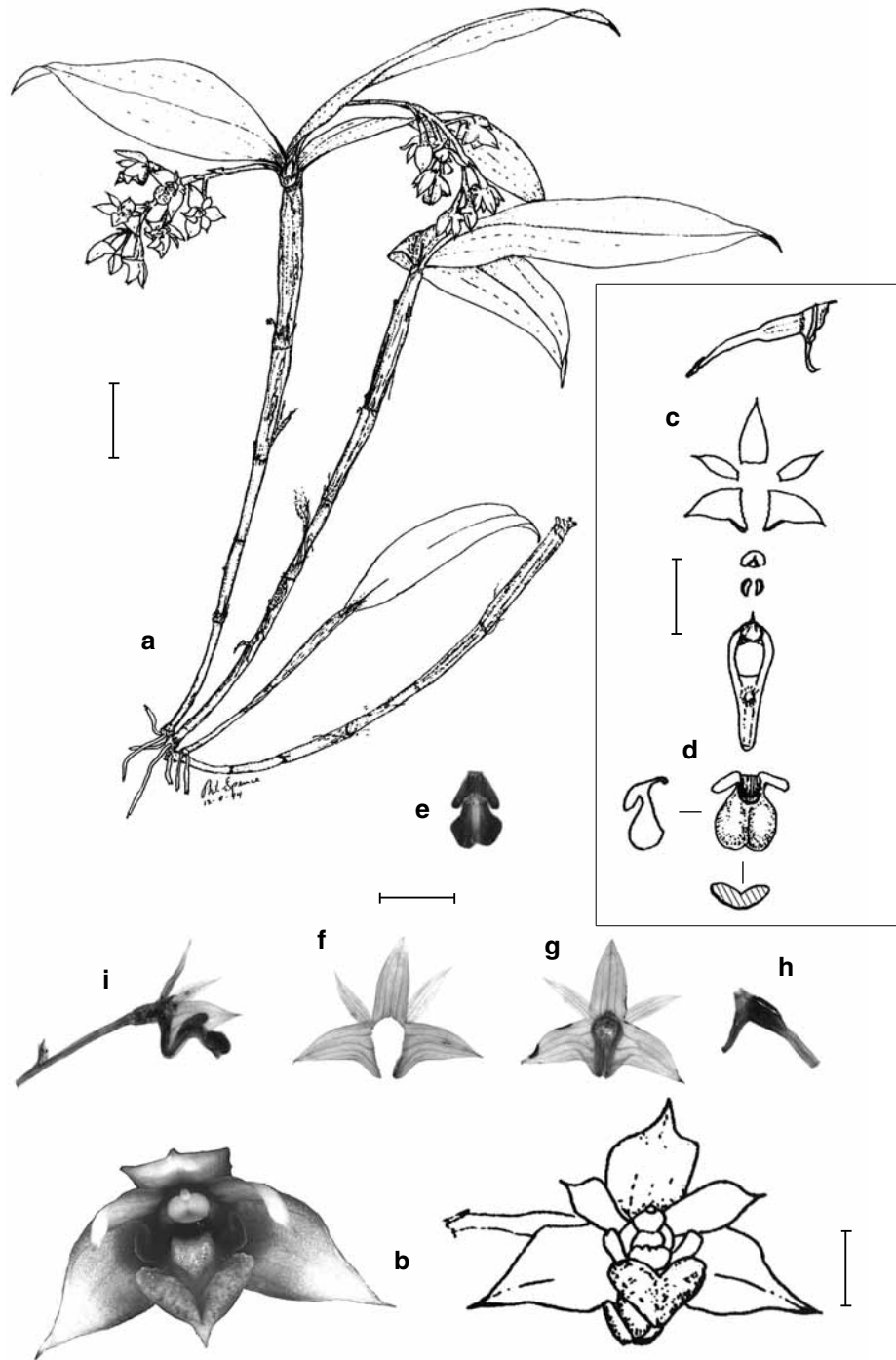


Fig. 1. *Dendrobium crassilabium* P. Spence. **a**, habit; **b**, flower; **c**, flower dissection; **d**, labellum with cross-sections (latitudinal below, longitudinal to left); **e**, labellum pressed flat; **f**, sepals and petals with column removed; **g**, sepals and petals with column, front view; **h**, column, column foot, pedicel and ovaries; **i**, complete flower, longitudinal section, pressed flat. Scale bars: a= 3.4 cm, b= 0.57 cm, c-i = 0.8 cm.

Table 1. Comparison chart for *Dendrobium subquadratum*, *D. sikini*, and new species, *D. crassilabium*.

	<i>D. subquadratum</i>	<i>D. sikini</i>	<i>D. crassilabium</i>
Plant habit	pendent	pendent	erect, spreading
No. of flowers	8	1–5	4–14
Inflorescence length, cm	12	5–8.5	6–12
Callus, mm	15.5	8.5	5
Ovary width, mm	-	2.5	3.4–4
Dorsal sepal, width at base, mm	13.5	12.2	8.5
Dorsal sepal, length, mm	15	9.2	14
Pedicel length including ovary, mm	20	8.8	11.5–12
Colour petals and sepals	white-pale green to orange	white-yellow	white-pale green
Colour labellum	pale green-yellow to dark orange	deep yellow	olive green–brown green

The proposed new species is an erect-growing plant whereas the other two are pendent, and *D. crassilabium* generally has significantly more flowers.

The sepals and petals are similar on all three species. From the above table it can be seen that there are marked differences in the length and width of the dorsal sepals. The ovary of *D. crassilabium* is shorter and wider than in *D. sikini*.

The callus on the labellum of *D. crassilabium* is yellow and fleshy and much shorter than in the other two species. The side lobes of the middle extension of the labellum are thicker, with a more pronounced wood-like texture than in the other two species. The side lobes of the labellum of *D. subquadratum* are much wider than in the other two species.

Cultural notes: The plant was raised from seed and distributed under the horticultural name of 'Nuff' (as it came from the village of a Mr. Nuffield). *Dendrobium crassilabium* responds to pot culture and is extremely easy to cultivate. I use a medium-sized pine bark being careful not to cover the rhizome as new growths have a tendency to tunnel rather than grow erect especially if good light is not provided from directly above. My plants are housed in a glasshouse with a minimum winter temperature of 8° C. The plants grow best with high humidity and air movement and hung just under the glass. This species is very free-flowering and is almost constantly in flower. Flowers will last up to two or more months.

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