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## TWO NEW SPECIES OF *BULBOPHYLLUM* (ORCHIDACEAE) FROM THAILAND

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**ABSTRACT.** Two new species of *Bulbophyllum* (Orchidaceae) are described: *B. sphenoglossum* (sect. *Lemniscata*) and *B. trigonanthum* (sect. *Reptantia*). Both species occur in Thailand.

**KEY WORDS/PALABRAS CLAVE:** *Bulbophyllum* sect. *Lemniscata*, *Bulbophyllum* sect. *Reptantia*, orquídeas, orchids, Tailandia, Thailand

**Introduction.** During revision of *Bulbophyllum* for the Flora of Thailand, we found two undescribed species in the collection of spirit samples brought together by Gunnar Seidenfaden and stored in C. Both species are only known from rather fragmentary samples and the limited information with these samples. Nevertheless, the material is sufficient to establish their identity and describe their morphology in detail, even though the paragraphs on flower color and habitat preferences are somewhat stark and incomplete. The plant habits in figures 1 and 2 are drawn from assembled parts of the plants in the samples.

### TAXONOMIC TREATMENT

***Bulbophyllum sphenoglossum*** J.J.Verm., Watthana & H.A.Pedersen, *sp. nov.* (Fig. 1).

*Bulbophyllum wallichii* auct. Seidenfaden (1973): 234; (1979): 189 (both for specimen *GT 5488* only).

Not *Bulbophyllum wallichii* Rchb.f. (1861): 259.

**TYPE:** Thailand. Chiang Mai Prov.: Doi Pha Hom Pok, *Seidenfaden & Smitinand GT 9534* (holotype: C).

**DIAGNOSIS:** A species of sect. *Lemniscata* Pfitz. (Pfitzer 1889 [1888–1889]: 179; see also Vermeulen *et al.* 2014:

31), characterized by 2-leaved pseudobulbs and deciduous leaves around anthesis. Resembles *B. wallichii* Rchb.f. because the two share the following set of character states: lowermost floral bract (ovate-)triangular; median sepal (long-)acuminate, margins distinctly erose-fimbriate; lateral sepals adnate along their lower margin; lip approximately glabrous adaxially, hirsute abaxially. Differs from *B. wallichii* by the lip, which is 3.4–5.5 mm long (vs. 2.2–2.7 mm), and which distally is only slightly convex on the adaxial side (vs. distinctly convex and with a callus).

*Plant* rather small, a clustered epiphyte, roots spreading. *Rhizome* 2.0–3.8 mm diam., sections between pseudobulbs 0.8–1.5 cm long. *Pseudobulbs* 2-leaved, depressed ovoid to depressed conical, apex often drawn-out, 1.5–3.3 × 1.6–2.8 cm. *Leaves* deciduous at anthesis, not seen. *Inflorescences* racemose, 8–28 cm long, 5–16-flowered; peduncle 6–22 cm long, not thickened, rachis 1.4–6.0 cm long, floral bracts (ovate-)triangular, 3.6–7.0 × 2.2–3.0 mm, acuminate; 3-veined. *Pedicel* and *ovary* 2.5–3.2 mm long. *Dorsal sepal* porrect, triangular, 6.4–8.0 × 1.8–2.9 mm, ratio length/width 3.2–3.6; (long-)acuminate, margins distinctly erose-fimbriate, adaxially hirsute distally, 3-veined. *Lateral sepals* similar but lower margins

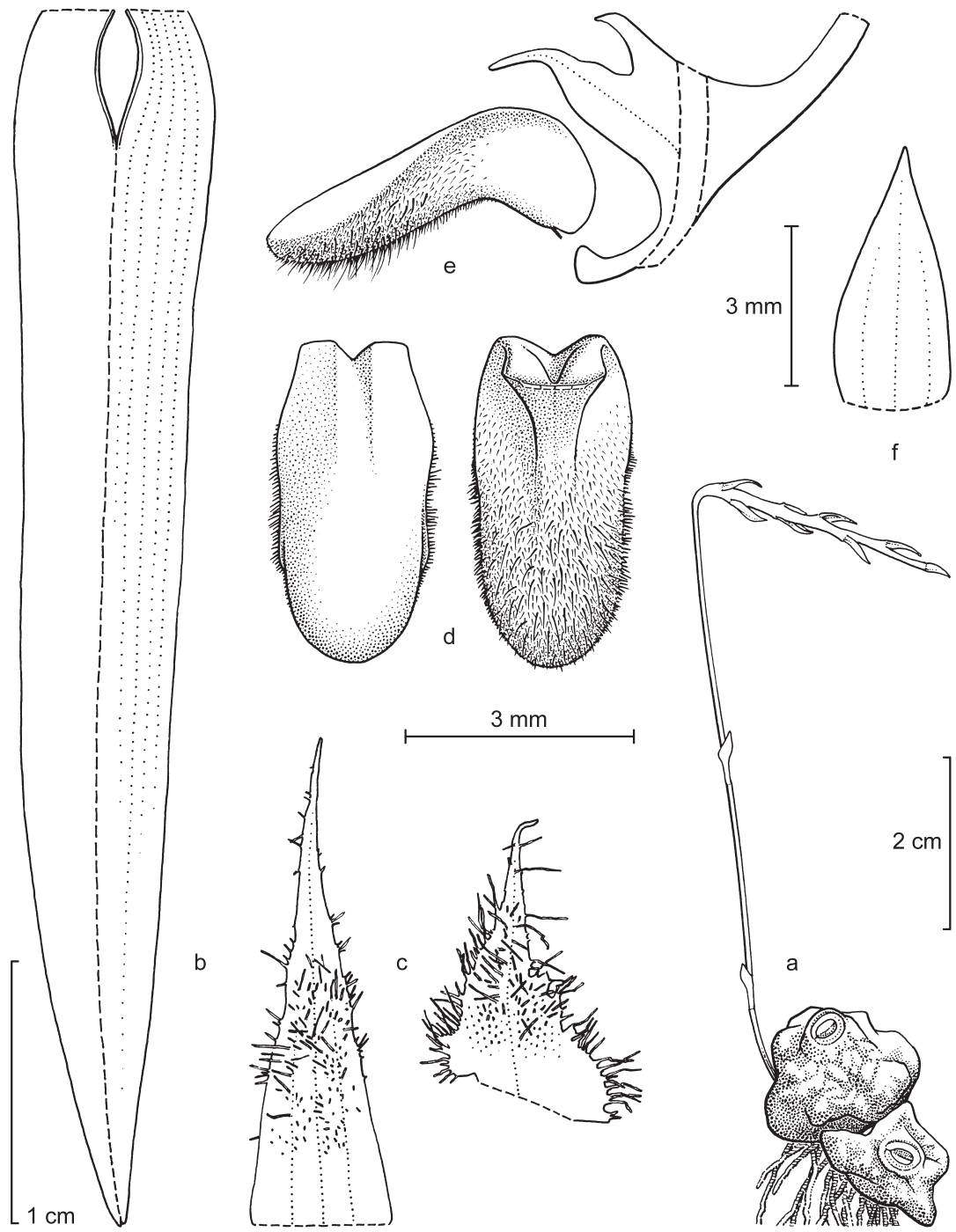


FIGURE 1. *Bulbophyllum sphenoglossum* J.J.Verm., Watthana & H.A.Pedersen. **a.** Habit. **b.** Lateral sepals. **c.** From left to right: median sepal, petal. **d.** Lip, left: adaxial side, right: abaxial side. **e.** Column and lip, lateral view. **f.** Floral bract. Drawn from *Seidenfaden & Smitinand GT 9534*, type (Drawn by © J.J. Vermeulen, from spirit material).

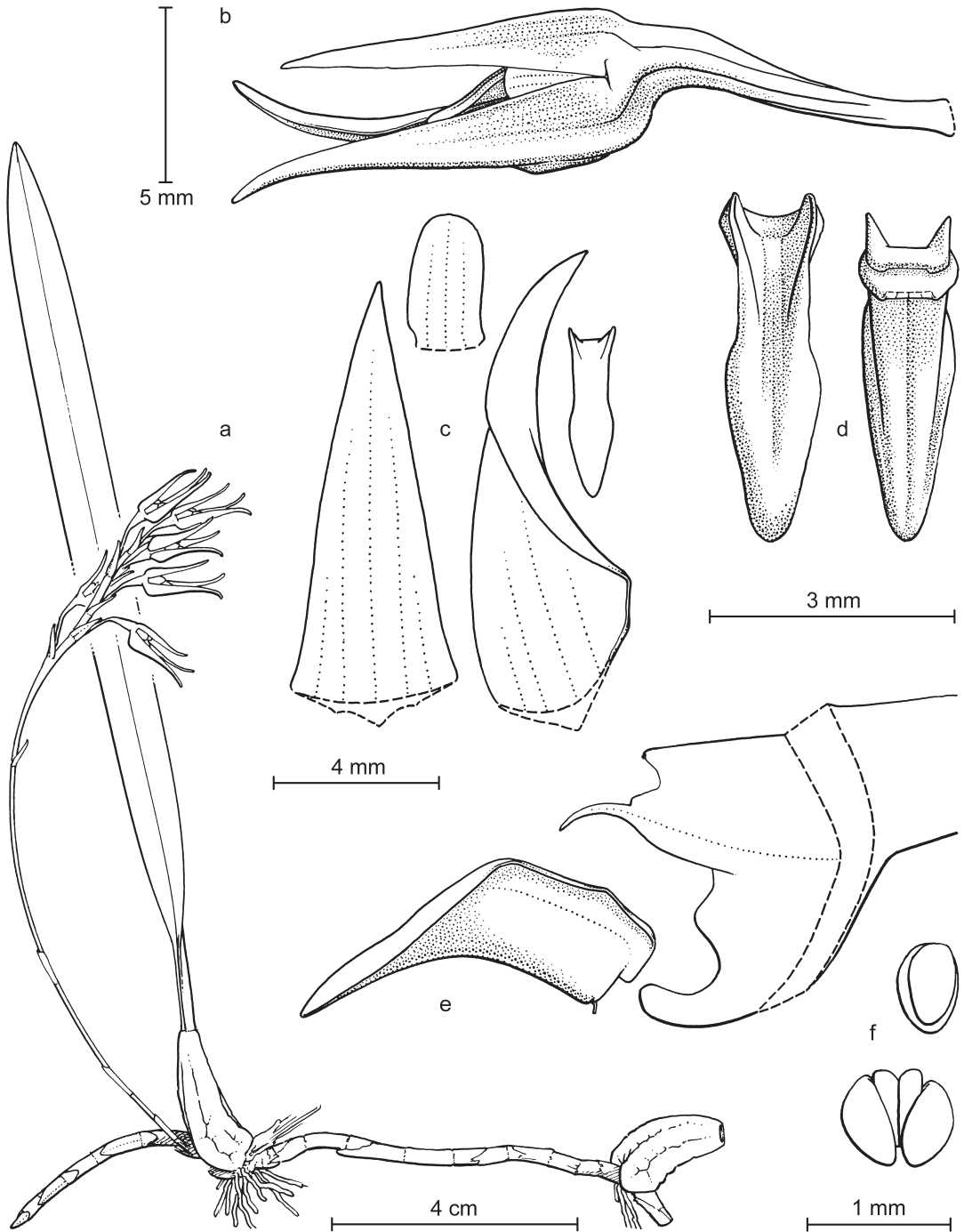


FIGURE 2. *Bulbophyllum trigonanthum* J.J.Verm., Watthana & H.A.Pedersen. **a.** Habit. **b.** Flower. **c.** Flower analysis, from left to right: median sepal, petal, lateral sepal, lip. **d.** Lip left: adaxial side, right: abaxial side. **e.** Column and lip, lateral view. **f.** Pollinia, above: one pair, below: two pairs. Drawn from: a. *Seidenfaden & Smitinand GT 3077*; b–f. *Seidenfaden & Smitinand GT 8927*, type (Drawn by © J.J. Vermeulen, from spirit material).

adnate except near base; oblique, ovate-oblong, 38–46 × 2.5–4.0 mm, ratio length/width 12.0–15.2; acute, margins entire; glabrous, 5-veined. *Petals* recurved, obliquely triangular, 2.8–3.8 × 1.9–2.0 mm, ratio length/width 1.4–2.0; acuminate, margins fimbriate; adaxially papillose to hirsute distally, 1-veined. *Lip* recurved, ovate-oblong, 3.4–5.5 × 1.4–2.3 mm, ratio length/width 2.0–2.5 (without spreading); rounded, margins entire, shortly ciliate distally; adaxially slightly concave proximally, slightly convex distally, surface glabrous; abaxially shortly hirsute and with scattered long hairs distally. *Column* including stellidia 2.8–3.0 mm long; foot stipitate before widened apex. Stellidia downwards falcate, triangular, 1.5–1.9 mm long, acute, lower margin with a slight wing.

COLOURS: Unknown.

HABITAT AND ECOLOGY: Unknown; elevation 1800 m.

MATERIAL EXAMINED: Thailand. Chiang Mai Prov.: Doi Pha Hom Pok ('Doi Phaphompak', 'Doi Pahompok'), *Seidenfaden & Smitinand GT 9534* (C), *GT 9542* (C). Phitsanulok Prov.: Phu Soi Dao ('Phu Mieng'), *Seidenfaden & Smitinand GT 5488* (C).

ETYMOLOGY: The name is derived from Ancient Greek 'σφήν', wedge, and 'γλῶσσα' tongue, referring to the distally thinning lip.

Note: One sample found in the lot identified as *B. wallichii* in Seidenfaden (1979), and two more samples collected after this date.

***Bulbophyllum trigonanthum*** J.J.Verm., Watthana & H.A.Pedersen, *sp. nov.* (Fig. 2)

*Bulbophyllum luanii* auct. Seidenfaden (1979): 109, fig. 69.

Not *Bulbophyllum luanii* Tixier in Guillaumin (1964): 396.

TYPE: Thailand. Loei Prov.: Phu Luang, Lon Tae, *Seidenfaden & Smitinand GT 8927* (holotype: C).

DIAGNOSIS: A species of sect. *Reptantia* J.J.Verm. (in Pearce *et al.* 2001: 121; see also Vermeulen *et al.* 2014: 36), characterized by the racemose, synanthous inflorescences developing at the base of young shoots. Identified among species of this section (including

*B. luanii* Tixier from the same section) by the adaxially sharply keeled sepals, which give the buds and hardly opened flowers a triangular appearance when observed frontally.

*Plant* rather small, a long-creeping epiphyte, roots spreading. *Rhizome* 1.6–3.6 mm diam., sections between pseudobulbs 3.4–6.0 cm long. *Pseudobulbs* ovoid to lenticular, 1.1–2.3 × 0.6–1.2 cm. *Leaves* persistent, blade elliptic-oblong, 5.2–12.4 × 0.5–1.1 cm, ratio length/width 8.4–15.2; obtuse; petiole 0.6–1.8 cm long. *Inflorescence* (rather) lax-racemose, 6.6–19.3 cm long, 3–12-flowered; peduncle 5.5–13.5 cm long; rachis 1.1–7.5 cm long, floral bracts 4.0–8.0 mm long. *Pedicel* plus *ovary* 9.0–12.0 mm long. *Dorsal sepal* porrect, triangular, 7.6–10.7 × 3.0–4.1 mm, ratio length/width 2.5–2.9; acute, margins entire; glabrous, 3–5-veined, midvein abaxially prominent as a sharp keel. *Lateral sepals* similar but distally recurved, 9.0–11.6 × 3.0–4.1 mm, ratio length/width 2.3–2.5; 4–5-veined. *Petals* porrect, oblong, 2.9–3.5 × 1.6–1.9 mm, ratio length/width 1.8–2.0; subtruncate to rounded, margins entire; glabrous, 3-veined. *Lip* recurved, (obovate-)oblong, 2.6–4.3 × 1.0–1.4 mm, ratio length/width 2.6–2.8 (without spreading); obtuse to subacute, margins entire; glabrous; adaxially concave in the basal half, with two high ridges close to the edge, apical half slightly convex. *Column* including stellidia 2.5–3.5 mm long. *Stellidia* triangular with (short-)subulate apex, 1.0–1.3 mm long, acute; upper margin proximally with small tooth or erose, lower with slight, rounded to subacute wing proximally.

COLOURS: Tepals yellow, stained red and with red veins; labellum yellow, stained red.

HABITAT AND ECOLOGY: Unknown. Elevation 1200–1300 m.

MATERIAL EXAMINED: Thailand. Loei Prov.: Phu Kra-dueng ('Phu Krading'), *Seidenfaden & Smitinand GT 3061* (C), *GT 3077* (C), *GT 7943* (C); Phu Luang, Lon Tae, *Seidenfaden & Smitinand GT 8927* (C).

ETYMOLOGY: The name is derived from Ancient Greek 'τρίγωνος', triangular, and 'ἄνθος', flower.

Note: Misidentified in Seidenfaden (l.c.) as *B. luanii* Tixier; the differences between the two species are given in the diagnosis.

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