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A new species of *Bulbophyllum* (Orchidaceae; Epidendroideae; Dendrobiinae) from Yunnan, China

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Bulbophyllum Thouars (1822: 3) is one of the largest orchid genera, including more than 1900 species widely distributed from tropical America, Africa, Madagascar, and mainland Asia to Australasia (Lindley 1830, Pearce & Cribb 2002, Seidenfaden 1979, 1992, Chen *et al.* 2009, Pridgeon *et al*. 2014). The species possess a wide range of vegetative form and floral structure (Bose *et al*. 1980). There are about 103 species (33 endemic) in 18 sections in China (Chen *et al*. 2009).

Section *Stachysanthes* (Blume) Averynov (1994: 276) is distinguished by inconspicuous pseudobulbs and includes 72 species. There are five species (three endemic) of section *Stachysanthes* in China (Tsi 1999, Chen *et al.,* 2009). During our fieldwork in Mengla County of Xishuangbanna, southeastern Yunnan, a new species of *Bulbophyllum* of sect. *Stachysanthes* was found in the limestone forest and described below.

Taxonomy

Bulbophyllum mengyuanense Q.Liu, J.W.Li & X.H.Jin, *sp. nov.* (Figs. 1, 2)

Type:—China. Yunnan: Mengla County, Mengyuan Town, limestone forest, 1000 m, 7 Oct. 2010, Li 1099 (holotype, HITBC!).

Diagnosis: *Bulbophyllum mengyuanense* is similar to *B. drymoglossum* and *B. hainanense*, but can be distinguished from them by having yellow flowers with purple stripes, lateral sepals connate in their basal third, conspicuous column stelids and a labellum without a callus.

Epiphytic herbs. Rhizome creeping, slender, with internodes about 1 cm, each node bearing 1 leaf and 2–3 roots. Pseudobulb reduced to nearly absent. Leaf subsessile, elliptic, 13.0 × 8.5 mm, apex acuminate. Inflorescences arising from base of the reduced pseudobulb, erect, 31 mm, with 1 sheath, solitary flowered; floral bracts ovate, 1.3–3.0 mm, apex acute. Pedicel and ovary 8 mm. Flowers yellow, veins purple. Dorsal sepal ovate-oblong, 10 × 4 mm, apex acuminate, triveined; lateral sepals slightly larger, ovate-oblong, 12.0 × 4.5 mm, apex acuminate, connate in basal 1/3, 3-veined; petals oblong, 4.5 × 1.8 mm, entire, obtuse, univeined; lip elliptic, 5 × 4 mm, triveined, base attached to end of column foot by a mobile joint, apex obtuse; column stout, 2×1 mm, column-wing oblique triangular, 1.1 × 0.8 mm; column foot 4.5–5.0 mm, swollen in the middle, anther cap glabrous, pollinia 2.

Distribution:—Mengla, Yunnan, China (close to the border with Laos).

Ecology:—Epiphytic on trees in the limestone forest, which mainly is composed of *Pterospermum proteum* (Sterculiaceae*)*, *Pistacia weinmannifolia* (Anacardiaceae), *Cleistanthus sumatranus* (Euphorbiaceae), *Quercus yiwuensis* (Fagaceae), *Tetrameles nudiflora* (Tetramelaceae) (Wang *et al*. 1997).

Phenology:—Flowering from October to November.

Conservation status:—At present, *Bulbophyllum mengyuanense* is known from two sites, and just two populations were discovered during four years of botanical surveys. However, it is expected that more populations may be found by thorough botanical investigation in the vicinity of the limestone forest. Moreover, it is possible that other populations occur in similar limestone habitats in the Laos and Myanmar. Therefore, it is premature to conduct a full conservation assessment based on the two known population. We regard the species as Data Deficient (DD: IUCN 2012).

Etymology:—Named for Mengyuan town in Xishuangbanna Autonomous Prefecture, Yunnan Province, where the type was collected.

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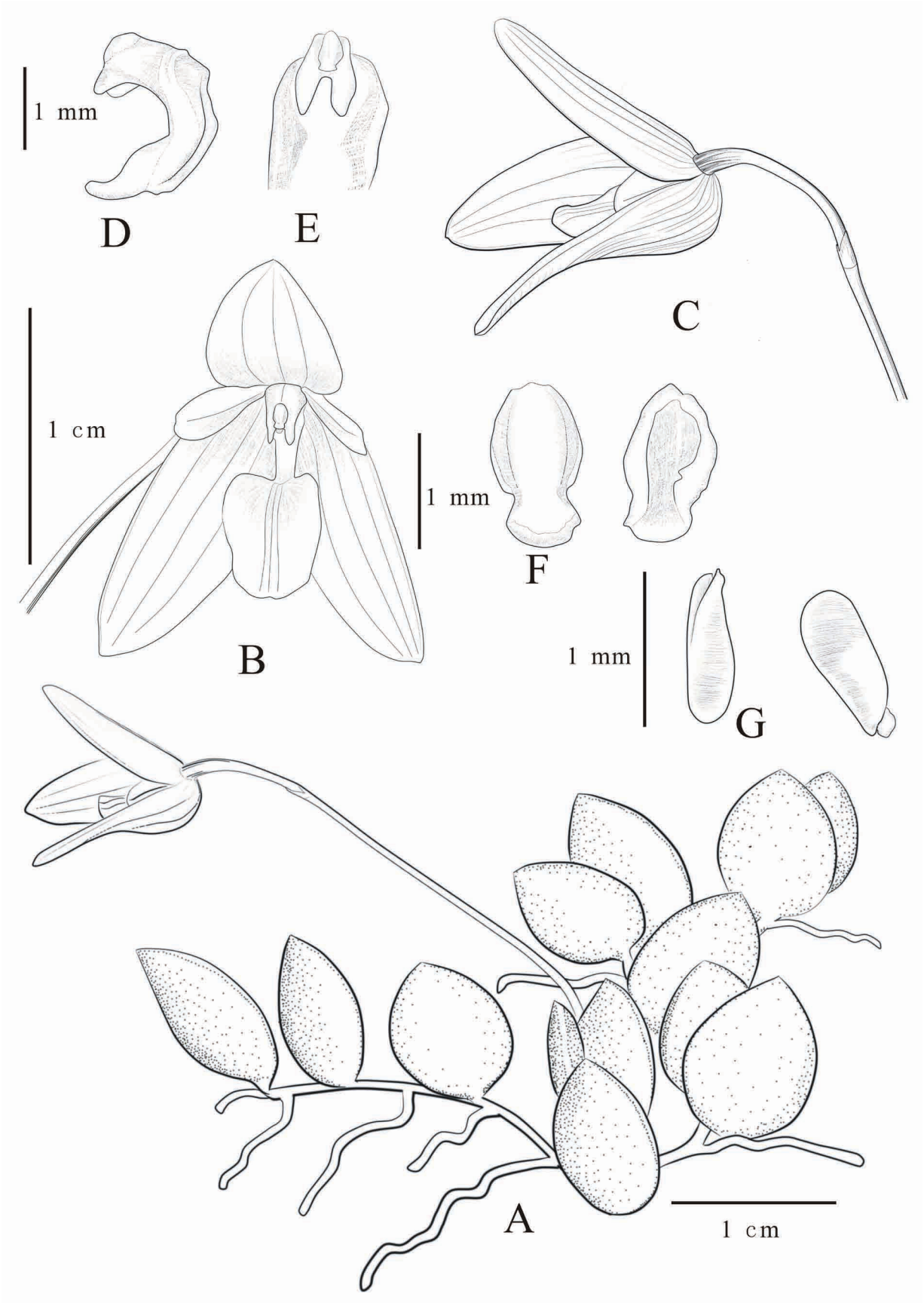

FIGURE 1. *Bulbophyllum mengyuanense*. A. Plant. B. Front view of flower. C. Lateral view of flower. D. Lateral view of column and column foot. E. Column wing. F. Anther cap. G. Pollinia. All drawn by B.Pan from the holotype, *Li 1099* (HITBC).

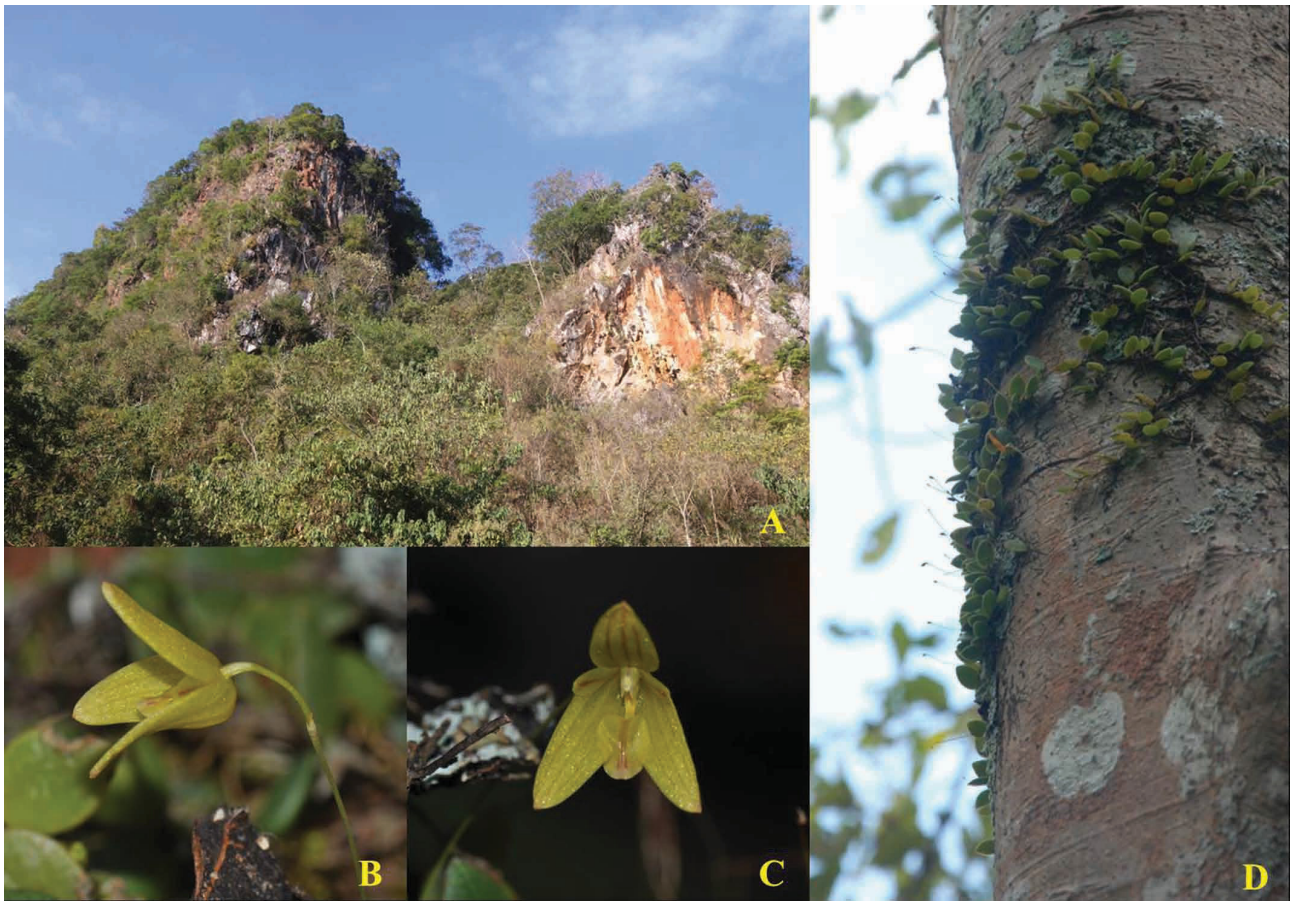

FIGURE 2. *Bulbophyllum mengyuanense*. A. Habitat. B. Front view of flower. C. Lateral view of flower. D. Plant (Photo by Q. Liu).

Additional specimens examined:—China. Yunnan Province, Mengla County, Mengyuan town, Xishuangbanna Autonomous Prefecture, limestone forest, 1000 m, 7 Oct. 2010, *Li 1099* (HITBC!); Paozhuqing, epiphytic on tree, 1100 m, 18 Oct. 2008, *Jin 9457* (PE!).

Taxonomic notes:—The inconspicuous psudobulbs of this new species and the type of inflorescence indicate that this species belongs to sect. *Stachysanthes*. Morphologically, the new species is similar to *B. drymoglossum* Maximowicz ex Okubo (1887: 14) (Tsi 1999, Chen *et al*. 2009), *B. hainanense* Z.H.Tsi (1982: 118) (Tsi 1999, Chen *et al*. 2009) and *B. hymenanthum* J.D.Hooker (1890: 767) (Seidendafen 1979, Saha *et al*. 1980). However, this new species is characterized by having yellow flowers with purple stripes, lateral sepals basally fused and obliquely triangular column stelids; it differs from *B. drymoglossum* by yellow color of flower and conspicuous column stelids, from *B. hainanense* by the lip without callus (the labellum has at the base one pair of calli in *B. hainanense*) and from *B. hymenanthum* by the yellow flowers and elliptic lip (the flower is white with purple stripes and the lip is elliptic with a rounded apex in *B. hymenanthum*).

TABLE 1. Morphological characters of *Bulbophyllum mengyuanensis* and related species.

Character	*B. mengyuanense*	*B. drymoglossum*	*B. hainanense*	*B. hymenanthum*
Flower number/ inflorescence	Solitary flower	Solitary flower	Two flowers	Two flowers
Flower colour	Yellow with purple stripes	Pale yellow with purplish brown stripes	Pure yellow	White with purple stripes
Flower period	November	May	November	April–May
Lateral sepals	Connate in basal third	free	free	free
Labellum	Broadly ovate, triveined	Ovate-elliptic with purplish brown	Broadly ovate with one pair of calli	Elliptic lip with a rounded apex
Column stelids	Conspicuous and obliquely triangular	Inconspicuous	Conspicuous and obliquely triangular	Conspicuous and obtuse

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