

## *Bulbophyllum kuanwuensis* (Orchidaceae), a New Species in Taiwan

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**ABSTRACT:** *Bulbophyllum kuanwuensis*, a new orchid species from Taiwan is described, illustrated and compared with related species. The new species belonging to section *Cirrhopetalum* is rare and recorded only from two localities in northern and central Taiwan. This species is related to *B. albociliatum* and *B. electrinum*, from which it differs by thick rhizome, short scape, red to orange flowers, dorsal sepal and petal margins with densely long white ciliate, and dorsal sepal 5-nerved.

**KEY WORDS:** *Bulbophyllum kuanwuensis*, Orchidaceae, New species, Taiwan, Rare plant.

### INTRODUCTION

*Bulbophyllum* Thouars is one of the largest orchid genera, with over 1100 species. It has a pantropical distribution, that concentrates especially in the Old World Tropics (Dressler, 1993). *Bulbophyllum* is a genus of Orchidaceae commonly found throughout the forests of the island Taiwan. There are 21 species of *Bulbophyllum* in the island, according to the most recent revision (Su, 2000). The newly collected specimens were from north and central Taiwan. After careful examination, we found the floral morphology of the specimens is different from any of the species described in this island or in eastern Asia (Ohwi, 1965; Seidenfaden, 1973; Tsi et al., 1999). Consequently, we described it as a new species, and the description of which follows.

### TAXONOMIC TREATMENT

*Bulbophyllum kuanwuensis* S. W. Chung & T. C. Hsu sp. nov. — Type: Hsinchu: Chudong downtown, Kuanwu, 2000 m, 2004, July 11, epiphytic on *Tsuga chinensis*, Hsu 500, not common, in *Tsuga* forest, pathside, middle humidity, semi-shaded (TAIF). 觀霧豆蘭 Figs. 1-5

Haec species *Bulbophyllum albociliatum* similes, sed sepalum medianum ovatum, rubro-fusco-striata, labello profunde sulcate differt.

Plants epiphytic. Rhizomes long creeping, terete, ca. 2 mm in diam. Pseudobulbs 1-2 cm apart, globose to ovoid, 7-10 mm long, 6-9 mm in diam. Leaves sessile, solitary at apex of pseudobulbs, elliptic to obovate, 1.8-4 cm long, 1.0-1.5 cm wide, apex obtuse to rounded or slightly retuse, base cuneate, thickly coriaceous. Scape arising from base of pseudobulbs, stout, 2-3 cm long, 0.8 mm thick; with 2 enclosed by a tubular sheath from near middle to base, bract with wide oblique opening, 8-9 mm long, minutely spotted; pedicel and ovary 4-5 mm long. Flowers 3-7 in a very short raceme or subumbel; dorsal sepal reddish to orange, tinged with white near the base, with 5 red-brown veins, strongly concave, ovate, 6.0-7.0 mm long, 3-3.5 mm wide, apex acuminate, base contract, long white ciliate on margins except at base, 3-5 mm; lateral sepals reddish to orange, often slightly connate except at apex, linear-oblong, 1.2-1.4 cm long, 2-3 mm wide at base, acute at apex, incurved along margins, short ciliate on margins, sparsely; petals reddish, ovate, 3.5 mm long, 1.5-2 mm wide, acute at apex, with 3 slightly veins, long white ciliate to 5 mm on margins except at base; lip attached to tip of column foot, orange, thickly horn-like, 2-2.5 mm long, strongly recurved, disc with clearly ridges, with minute papillae at base and apex; column whitish-orange, with 2 slender stylids at apex, foot 3 mm long, upcurved; anther cap whitish, semiglobose, slightly erose at base; two pollinia-pairs.

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Additional specimens examined: TAIWAN. Nantou Co., Chushan downtown, Luqushan, 120°47'00" E, 23°36'30" N, elev. ca. 2,000 m, in *Chamaecyparis* forest on mountain ridges, April 15, 2005, Shih-Wen Chung, 9000.

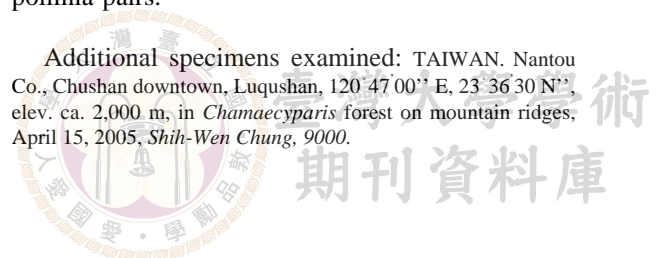




Fig. 1. *Bulbophyllum kuanwuensis* S. W. Chung & T. C. Hsu. (Kuanwu, ca. 2000 m, July 11, 2004, epiphytic on *Tsuga chinensis*, Hsu, 500)



Fig. 3. *Bulbophyllum kuanwuensis* S. W. Chung & T. C. Hsu. (Luqushan, ca. 2,000 m, epiphytic on *Chamaecyparis* forest, April 15, 2005, Shih-Wen Chung, 9000)

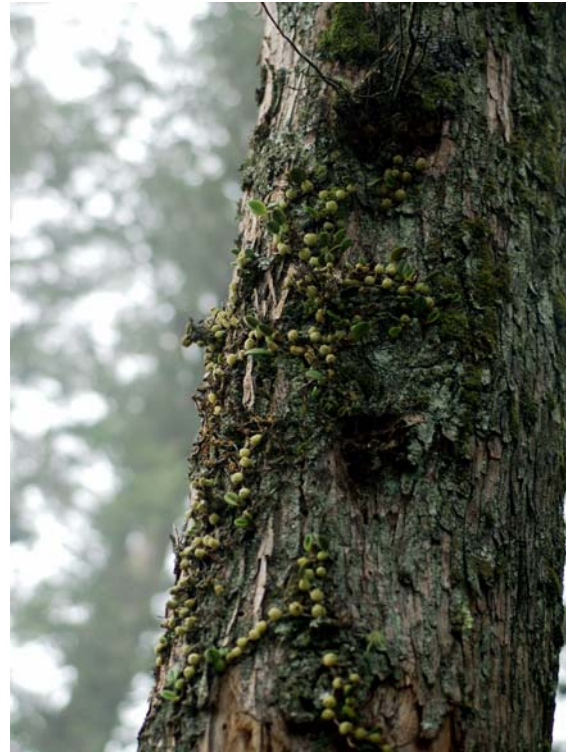


Fig. 2. *Bulbophyllum kuanwuensis* S. W. Chung & T. C. Hsu. (Luqushan, ca. 2,000 m, epiphytic on *Chamaecyparis* forest, April 15, 2005, Shih-Wen Chung, 9000.)

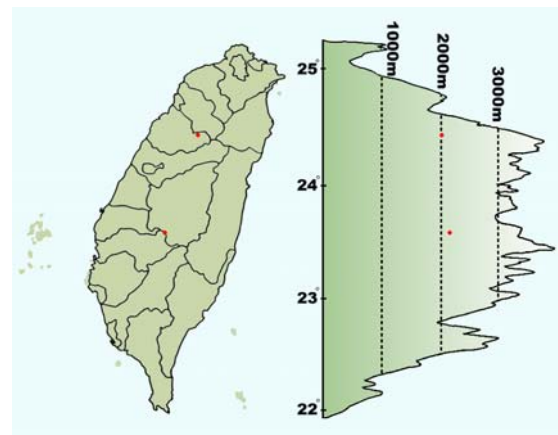
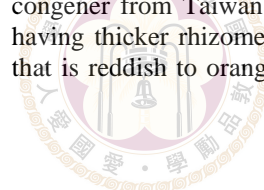


Fig. 4. Distribution map of *Bulbophyllum kuanwuensis* S. W. Chung & T. C. Hsu. in Taiwan.

Notes: *Bulbophyllum kuanwuensis* belongs to section *Cirrhopetalum*, suggested by its floral and vegetative morphology – it has flowers tightly packed, forming a half-circle around the axis; its lateral sepals are much longer than the dorsal ones, and both sepals twisted so their upper edges meet. There are 148 species in this section, which can be found throughout eastern Asia from east India to the Pacific islands (Seidenfaden, 1973). This species can

be easily distinguished from other members of sect. *Cirrhopetalum* by its dark-red or orange flowers, margins of dorsal sepal and petal with long dense white cilia, and stelids with very long and slender setae. In habit the new species somewhat resembles *B. albociliatum* (Liu & Su) Nackejima, an endemic congener from Taiwan, but it is clearly distinct in having thicker rhizome, shorter scape, dorsal sepal that is reddish to orange, tinged with white at base



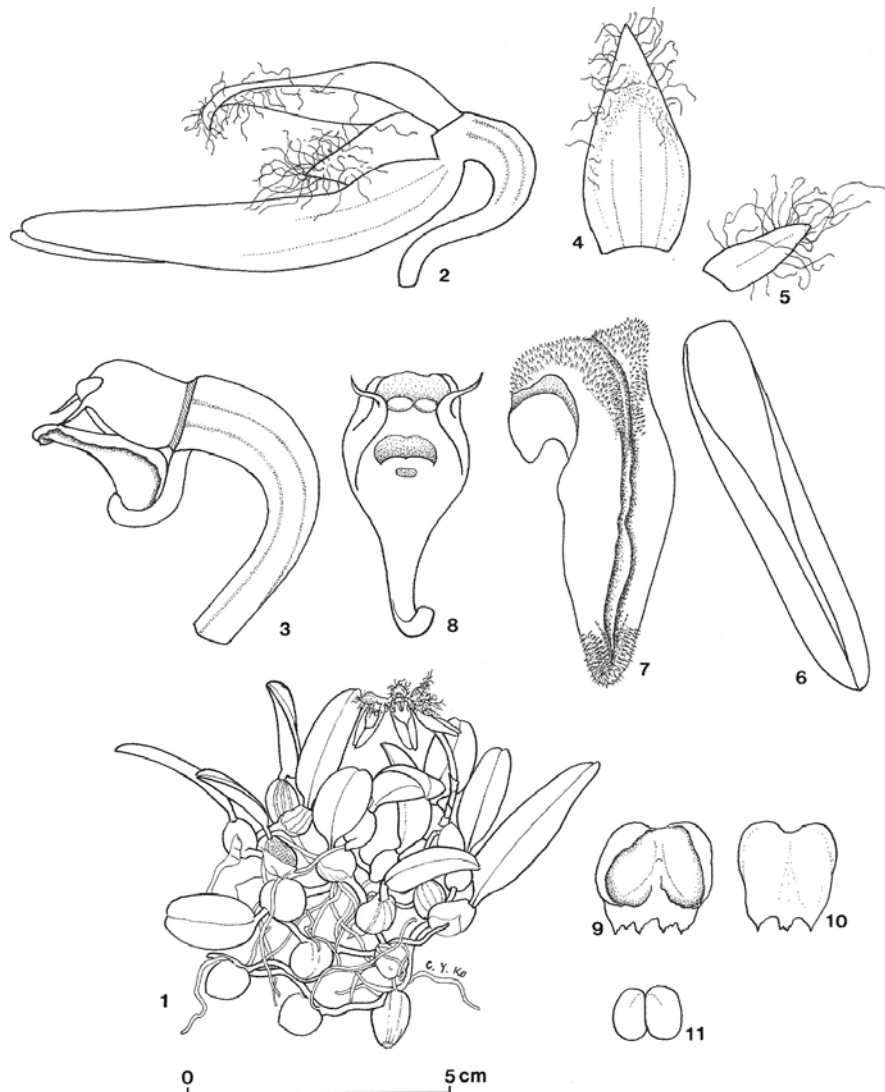


Fig. 5: *Bulbophyllum kuanwuensis* S. W. Chung & T. C. Hsu. 1: Habit and inflorescence. 2: Flower. 3: Ovary, lip, and column in side view. 4: Dorsal sepal. 5: Petal. 6: Lateral sepal. 7: Lip. 8: Column. 9: Anther. 10: Anther. 11: Pollinia. (*Shih-Wen Chung, 9000*)

(vs. same color throughout the sepal), with dark orange brown veins (vs. obscure veins), longer and densely white ciliate on sepal and petal margins (3-5 mm vs. 1 mm), with sparse short ciliate on margins (vs. smooth abaxially and entire). The new species is similar to *B. electrinum* morphologically, but differs from the latter by its white cilia in dorsal sepal and petal, shorter lateral sepals, color of the lateral sepals, and the distribution of papillae in the lip.

This particular species has only been found on conifer in forests 2,000 m above sea level in central and northern parts of Taiwan so far, and is a high-bud epiphyte. Though the subject found in Luqushan has narrower dorsal and lateral sepals of than the one found in Kuanwu, the former is still regarded as a variation within the species.

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## 臺灣新種蘭科植物—觀霧豆蘭

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### 摘 要

觀霧豆蘭 (*Bulbophyllum kuanwuensis*) 屬於捲瓣蘭屬 *Cirrhopetalum* 節的新種植物，此報告予其形態描述、繪圖及與相近種的比較。該植物目前僅在臺灣北部和中部二個中海拔地方發現，均著生於針葉樹幹上。其與白毛捲瓣蘭及長軸捲瓣蘭外表很相近，但它的走莖甚粗，花莖短，花紅色或橙色，上萼片與花瓣邊緣密生白色長毛，及上萼片先端銳尖，有五條明顯脈紋等特徵足以區別。

關鍵詞：觀霧豆蘭、蘭科、新種、臺灣、稀有植物。

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