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NOTE

Supplements to the Orchid Flora of Taiwan (III): A Newly Recorded Species, *Peristylus gracilis*

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ABSTRACT: *Peristylus gracilis* Bl., previously known from Indochina, is here newly reported from Lanyu Island, Taiwan. A description, illustration and distribution map of *P. gracilis*, and a key to the genus *Peristylus* in Taiwan are presented. This species is characterized by leaves presented at the upper part of the stem, the laxly arranged small flowers, and by the cylindrical spur that is much longer than the sepals.

KEY WORDS: *Peristylus gracilis*, Orchidaceae, Taxonomy, Lanyu, Taiwan.

INTRODUCTION

In a recent field investigation on Lanyu Island, several new or newly recorded orchid species were collected, including *Zeuxine philippinensis* (Ames) Ames, *Erythrodes triantherae* C.-L. Yeh & C.-S. Leou, and *Didymoplexis micradenia* (Rchb. f.) Hemsl. (Yeh et al., 2005; 2006b; Hsu and Chung, 2007). Early in 1997, a distinct orchid species which might belong to *Habenaria* or *Peristylus* was found in Lanyu by the first author, but the plant had no flowers for further confirmation. Due to difficulties in accessing the habitat, and a lack of information about the plant's flowering season, flowering materials were not collected until 2004. Examination of the flowering specimens from Lanyu revealed that this species is a new member of *Peristylus* in Taiwan and shows great affinity to *P. gracilis* Bl. from NE India, Indochina and West Indonesia. However, the plants found on Lanyu (Fig. 3) have a smaller habit and fewer leaves than indicated in the descriptions of *P. gracilis* from other areas (Comber, 1990; 2001; Seidenfaden and Wood, 1992) although floral morphology is nearly identical. This variation may be caused by unknown environmental factors, as has been reported for another terrestrial orchid, *Corymborkis veratrifolia* (Reinw.) Bl. (Yeh et al., 2006a) in Lanyu. Therefore, we treated the Lanyu material as conspecific with *P. gracilis*. Concerning the unusual disjunction between Taiwan and other distribution areas (Fig. 3), and the high floristic affinity of vegetation between Lanyu and the Philippines (Chang, 1986), we infer that *P. gracilis* may also occur in the Philippines.

Key to *Peristylus* species in Taiwan

1. Flowers green or pale green; spur clavate or club-shaped, nearly as long as or longer than sepals.
2. Leaves present a distance above the ground; spur acute at apex ……
…… *P. gracilis*
2. Leaves tufted on the ground; spur emarginate at apex ….. *P. calcaratus*
1. Flowers often white tinged; spur globose or ovoid, less than 1/2 length of sepals.
3. Leaves present a distance above the ground; spur globose ……
…… *P. goodyeroides*
3. Leaves tufted on the ground; spur ovoid.
4. Lateral lobes of lip longer than 5 mm ……..……..… *P. formosanus*
4. Lateral lobes of lip shorter than 3 mm.
5. Flowers more or less greenish; lateral lobes of lip longer than the central one ……..…… *P. lacertiferus*
5. Flowers nearly white; lateral lobes of lip shorter than the central one …
…….. *P. taipoensis*

TAXONOMIC TREATMENT

Peristylus gracilis Bl., Bijdr. Fl. Ned. Ind. 8: 404. (1825); Smith, Orch. Java: 31. (1905); Smith, Orch. Java, fig.-atlas: f. 13. (1908); Seidenfaden, Dansk. Bot. Ark. 31(3): 30, f. 11. (1977); Comber, Orchids Java: 69. (1990); Seidenfaden & Wood, Orchids Penins. Malaysia Singapore: 103, f. 42a-c. (1992); Wood et al., Pl. Mount Kinabalu 2: 280. (1993); Comber, Orchids Sumatra: 110, pl. (2001); Beaman et al., Orchids Sarawak: 368. pl. 25E. (2001). －Type: Java, *Blume s.n.* (holotype L). 纖細闊蕊蘭 Figs. 1 & 2

Plants 15-70 cm tall. Tuberoids ellipsoid or conic ellipsoid, 1-1.5 cm long, 0.5-0.7 cm in diameter. Stem leafy at upper part, 7-50 cm long, bearing 3-5 sheathing

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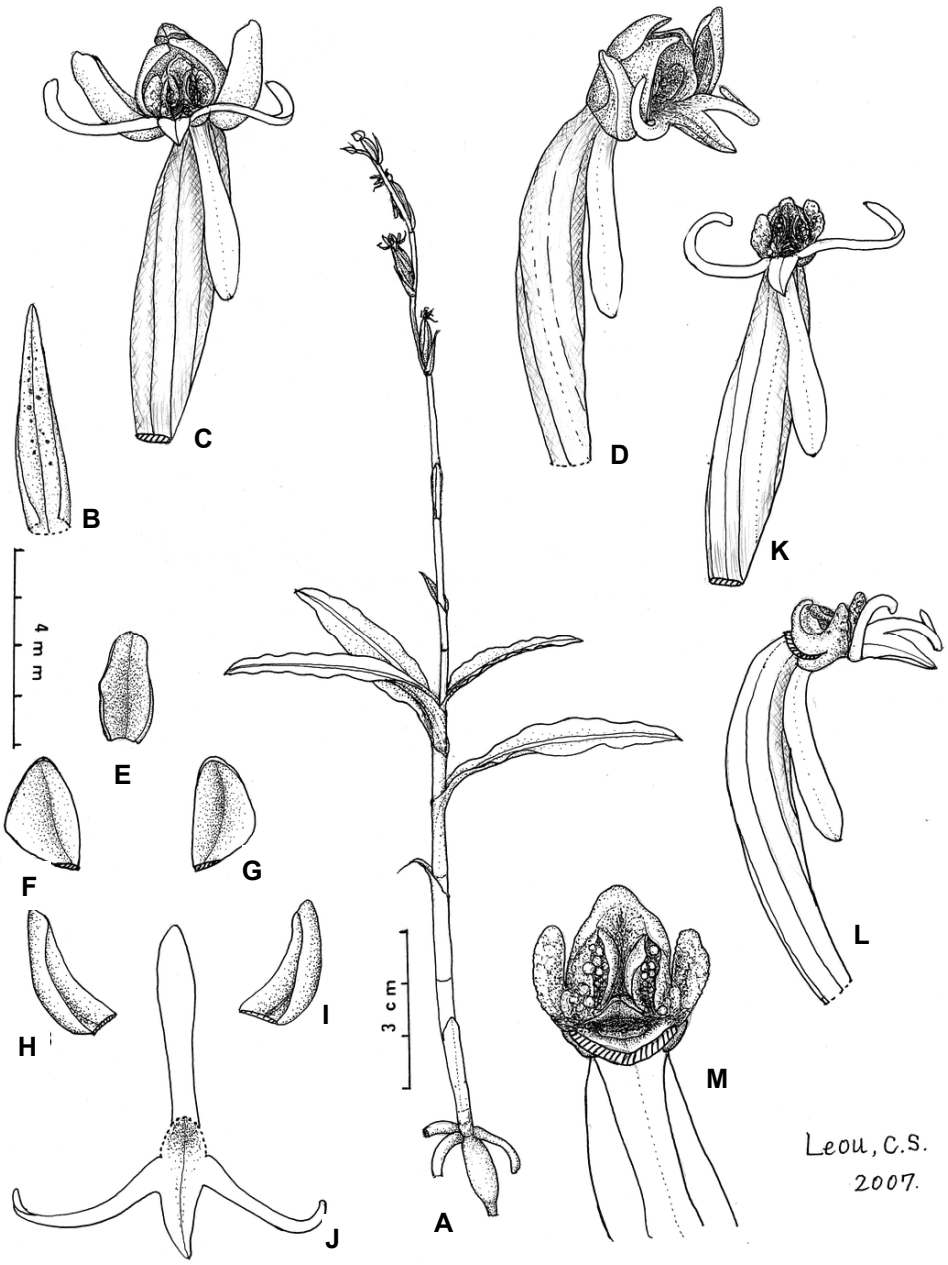


Fig. 1. *Peristylus gracilis* Bl. A: Habit. B: Floral bract. C: Flower, front view. D: Flower, side view. E: Dorsal sepal, inside. F, G: Petals, inside. H, I: Lateral sepal, inclined side view. J: Lip, flattened. K: Column and lip, front view. L: Column and lip, side view. M: Column and basal part of lip, front view, enlarged (all: *Yeh s. n.*).

bracts below. *Leaves* 3-10, pale green on lateral sides and pale yellow-green along the midrib, linear oblong, 4-14 cm long, 0.6-2.5 cm wide, entire or undulate at margins, acute at both ends, sheathing at base. *Peduncle* 6-10 cm long, glabrous, with 2-3 sheathing bracts. Raceme 3-17 cm long, bearing 3-20 flowers, floral bracts light green, lanceolate, 4-6 mm long, scattered with few dark brown spots. *Flowers* resupinate, light green; pedicel and ovary 6-8 mm long; dorsal sepal and petals form a hood over the column, dorsal sepal ovate, concave, 2-2.5 mm long, ca. 1.8 mm wide, blunt at apex, the petals obliquely triangular, shallowly concave, 2.5-3 mm long, ca. 2 mm wide, thick and subsimilar to sepals in texture; lateral sepals spreading, concave, 2.5-3 mm long, ca. 2 mm wide, cucullate at apex; lips deeply 3-lobed, lateral lobes spreading, linear lanceolate, 4-5 mm long, middle lobe triangular lanceolate,

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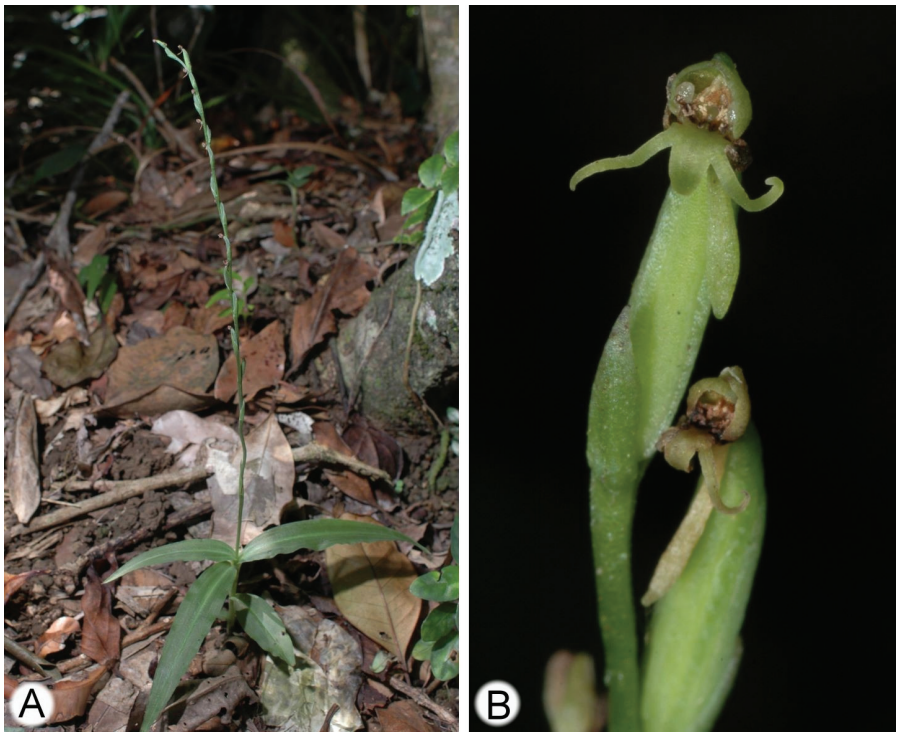


Fig. 2. *Peristylus gracilis* Bl. A: Habitat and habit. B: Flower.

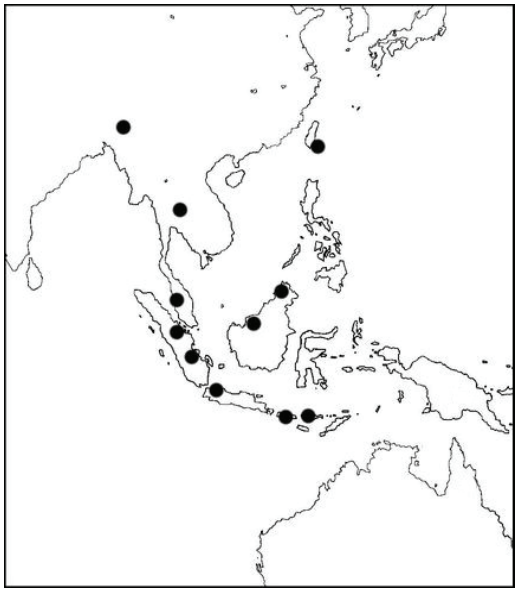


Fig. 3. Distribution map of *Peristylus gracilis* Bl.

2-3 mm long, ca. 2 mm wide, acute at apex, spur cylindric, 5-8 mm long, ca. 1 mm across, fusiform-clavate below; column ca. 1.2 mm tall, with rather large auricle on both sides; stigma small, placed beside auricles; rostellum minute, triangular, emarginated at apex.

Distribution: India (Khasia), Taiwan (Lanyu Isl.), Thailand, Peninsular Malaysia and Indonesia (Sumatra, Java, Borneo, Sumbawa and Flores).

Habitat and Ecology: Populations in Taiwan were found under tropical rain forest at 100-200 m alt. Flowering was observed from October to early November and fruiting from November to February.

Additional specimens examined: TAIWAN. Taitung Co.: Lanyu: Tienchih trail, ca. 150 m alt., 14 Nov 2004, *Hsu 132* (TAIF); 27 Oct 2006, *Chung 8389, 8390* (TAIF); 31 Jan 2006, *Yeh & Yeh s. n.* (PPI). Oubenlin, ca. 200m alt., 23 Feb 2007, *Yeh & Yeh s. n.* (PPI); 2 Nov 2007, *Yeh s. n.* (PPI).

Note: *Peristylus gracilis* is characterized by leaves presented on the upper part of the stem, by laxly arranged, small flowers, and by a cylindrical spur that is much longer than the sepals. Further studies may prove that *Peristylus tradescantiifolius* (Rchb. f.) Kores from New Guinea, *P. papuanus* (Kraenzl.) J. J. Sm. from the Pacific Islands and *P. chlorandrellus* D. L. Jones & M. A. Clem. from NE Australia are synonyms of *P. gracilis* since their morphology descriptions are nearly identical (Dockrill, 1992; Cribb and Whistler, 1996; Jones and Clements, 2004).

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臺灣蘭科植物誌補註 (三)：新紀錄種纖細闊蕊蘭

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摘要：纖細闊蕊蘭原紀錄分布於東南亞一帶，近期則發現於臺灣離島蘭嶼。本研究提供纖細闊蕊蘭之種的敘述、檢索表、線描圖、彩色照片以及在世界上之分布地點。本種之主要特徵為葉片生長在莖的上端，具有較疏的花序、較小的花，以及長於側萼片的長圓柱狀距。

關鍵詞：纖細闊蕊蘭、蘭科、分類學、蘭嶼、臺灣。

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