

Research paper

Appendicula lucbanensis (Orchidaceae): A Newly Recorded Orchid in Taiwan

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【Abstract】 *Appendicula lucbanensis* (Ames) Ames (Orchidaceae), an epiphytic orchid previously known only from the Philippines, is newly recorded in southern Taiwan. *A. lucbanensis* is easily distinguished from other known *Appendicula* species in Taiwan by having frequently branched stems, 2-4 cm long inflorescences, loosely arranged flowers, and flowers with ca. 4 mm long mentum.

【Key words】 *Appendicula lucbanensis*, Orchidaceae, Taiwan, Taxonomy.

研究報告

多枝竹節蘭(蘭科)：台灣新紀錄蘭花

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【摘要】 本文報導台灣南部發現的新紀錄附生蘭花多枝竹節蘭(*Appendicula lucbanensis* (Ames) Ames)。本種以往僅紀錄於菲律賓群島，由莖多分枝，花序長達2-4 cm，花朵疏鬆排列，以及花具有長約4 mm之頰等特徵易與台灣其它竹節蘭屬植物區辨。

【關鍵詞】 多枝竹節蘭、蘭科、台灣、分類學

【Introduction】 *Appendicula* (Orchidaceae: Podochileae, Epidendroideae) comprises ca. 60 species distributed from tropical Asia to Pacific Islands and NE Australia (Pridgeon *et al.* 2005, Chen & Wood 2009). This genus is characterized by a combination of elongate, non-pseudobulbous stems, distichous leaves with their blades all lie in one plane, persistent and often conspicuous floral bracts, small flowers with obtuse mentums, and pollinia fix on a solitary viscidium (Pridgeon *et al.* 2005). In Taiwan, two species were

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recognized in recent regional floras (Su 2000, Chen & Wood 2009). However, as noted by Chung (2008), we consider that *A. kotoensis* Hayata should be treated as an independent species rather than a synonym of *A. reflexa*. In this paper, we further report *A. lucbanensis* (Ames) Ames as a newly recorded species in Taiwan. This species was previously known only from the Philippines (Valmayor 1984, Agoo *et al.* 2003). Morphological description, photos and a revised key to the species in Taiwan are also provided.

Key to the *Appendicula* species in Taiwan

1. Stem frequently branched; inflorescence terminal, 2-4 cm, loosely flowered; lip 6-7 mm, with a large horse-shoe-shape basal appendage; mentum ca. 4 mm.....*A. lucbanensis*
1. Stem unbranched; inflorescence terminal and lateral, up to 1.5 cm, densely flowered; lip 2-5 mm, with a small ligulate basal appendage; mentum 1-2 mm2.
2. Leaves lanceolate oblong, 4-5 cm; flowers white; lip with a hirsute appendage.....*A. fenixii*
2. Leaves elliptic or oblong, 1.5-4.0 cm; flowers pale greenish white or pale red-brownish white; lip with a glabrous appendage 3.
3. Stems 10-30 cm; leaves 1.5-2.0 × 0.7-1.0 cm; flowers pale red-brownish white; lip ca. 2.0 × 1.5 mm.....
.....*A. kotoensis*
3. Stems 20-50 cm; leaves 2.5-4 × 1.0-1.5 cm; flowers pale greenish white; lip 2.3-3.0 × 2.0-2.5 mm.....
.....*A. reflexa*

TAXONOMIC TREATMENT

Appendicula lucbanensis (Ames) Ames, Philipp. J. Sci. 8: 415. 1914. 多枝竹節蘭 Fig. 1.

Basionym: *Podochilus lucbanensis* Ames, Leaflet. Philipp. Bot. 5: 1566. 1912.

TYPE: PHILIPPINE. Luzon, Quezon Prov., Lucban, May 1907, A.D.E. Elmer 8068 (holotype: AMES photo!; isotypes: F photo!, MO photo!, NY photo!).

Plants epiphytic. Stems tufted, ascending or pendulous, subterete, 30-60 cm, 1.5-3 mm in diam., frequently branched; branchlets 10-20 cm; internodes 5-10 mm, completely enclosed in tubular sheaths of leaves. Leaves many, distichous, alternate; blade narrowly ovate-oblong, 25-40 × 4-8 mm, apex unequally 2-lobed or emarginate, apiculate, tubular-sheathed at base, margin cartilaginous, minutely serrulated toward apex; sheaths persistent, ca. 1 cm, amplexicaul. Inflorescence terminal, 2-4 cm, 6-10-flowered;

floral bracts persistent, strongly reflexed, ovate, 4-5.5 mm. Flowers pale yellowish green, gradually turning yellow, 6-7 mm in diam.; pedicel and ovary 4-5 mm. Dorsal sepal ovate, ca. 4 × 3 mm, concave, obtuse-rounded; lateral sepals obliquely broad-ovate, 5-6 × 6-6.5 mm; mentum ca. 4 mm. Petals oblong, 3-4 × ca. 2 mm; lip suboblong, 6-7 × ca. 3 mm, slightly contracted near middle, apex rounded or slightly retuse, distal part with a thickened central appendage, with another large appendage arising from base to middle; basal appendage horse-shoe-shaped, margin slightly incurved basally and incurved distally. Column ca. 2 mm, foot ca. 4 mm. Anther cap ovate-deltoid, ca. 1.3 mm; purplish red; pollinia 6; viscidium ovate.

Distribution: The Philippines and Taiwan.

Ecology: Epiphytic on mossy trunks in ridge-top forest. Flowering observed from late May to June.

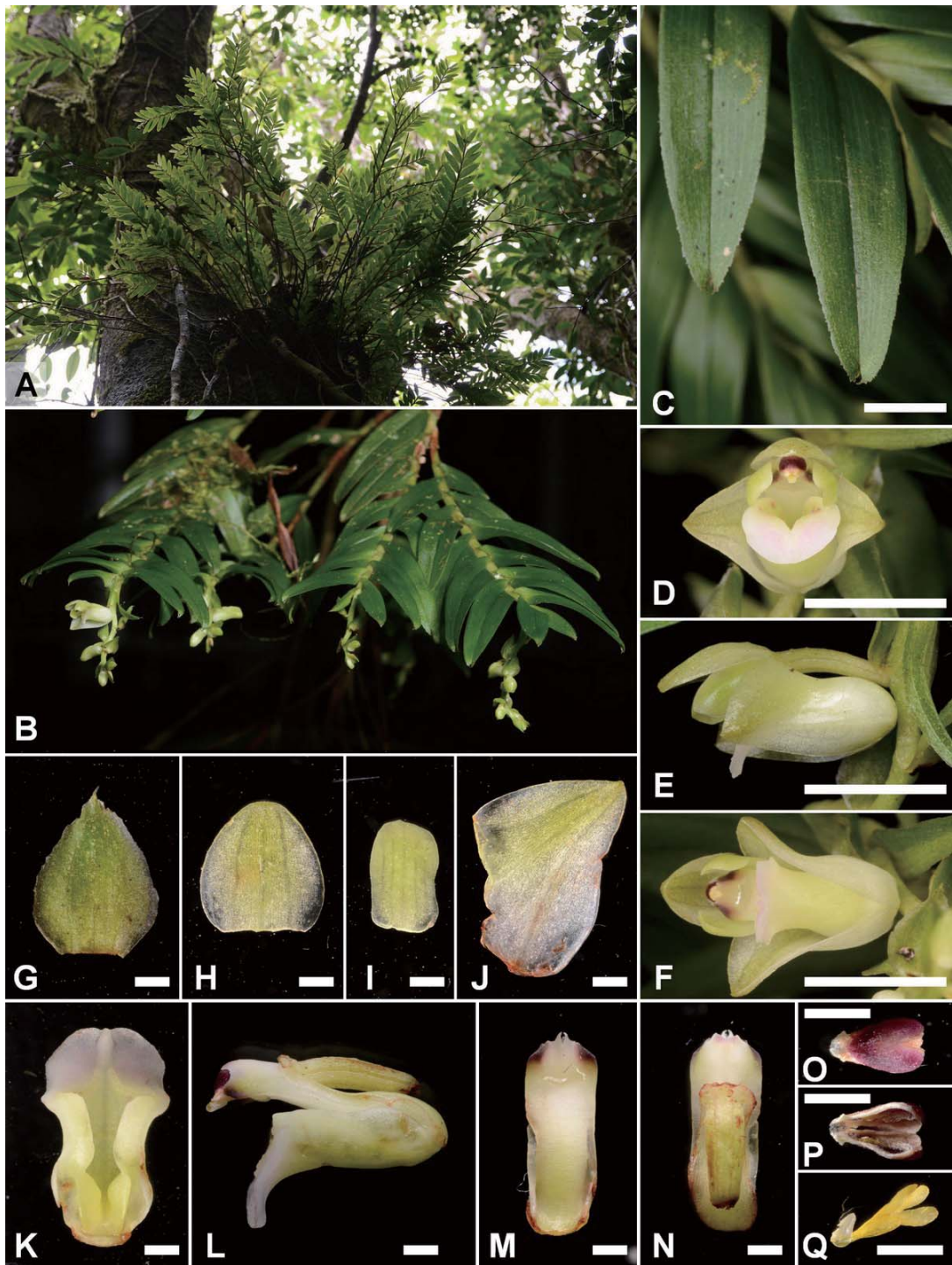


Fig. 1. *Appendicula lucbanensis* (Ames) Ames (from T.C. Hsu 7117). A: Habitat and habits. B: Flowering habit. C: Leaves. D: Flower, front view. E: Flower, side view. F: Flower, bottom view. G: Floral bract. H: Dorsal sepal. I: Petal. J: Lateral sepal. K: Lip. L: Lip and column, side view. M: Column, bottom view. N: Column, top view. O: Anther cap, top view. P: Anther cap, bottom view. Q: Pollinia. Scale bars: C-F = 5 mm; G-Q = 1 mm.

Specimens examined from Taiwan: Taitung, Daren Township, Mt. Chiapuan (佳善安山), 800-1000 m elev., 28 May 2014, *T. C. Hsu 7117* (TAIF).

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LITERATURE CITED

Agoo, E. M. G., Schuiteman, A. and de Vogel, E. F. (2003) *Flora Malesiana: Orchids of the Philippines Vol. I. Illustrated Checklist and Genera*. ETI, Amsterdam, Nationaal Herbarium Nederland, Leiden.
Chen X. and Wood. J. J. (2009) *Appendicula*

Blume. In: Wu, Z., P. H. Raven and D. Hong (eds.), *Flora of China*. 25: 363-364. Science Press, Beijing, and Missouri Botanical Garden Press, St Louis.

Chung, S. W. (2008) *Orchids of Taiwan (Vol. 1)*. Forest Bureau, Taipei.

Su, H. J. (2000) *Appendicula*. In: Huang, T. C. et al. (eds.), *Flora of Taiwan*, 2nd ed. 5: 751-753. Editorial Committee of the Flora of Taiwan, Taipei.

Pridgeon, A. M., Cribb, P. J. and M. W. Chase. (2005) *Genera Orchidacearum Vol. 4, Epidendroideae (Part One)*. Oxford University Press, Oxford.

Valmayor H. (1984) *Orchidiana Philippiniana*. Eugenio Lopez Foundation Inc., Manila

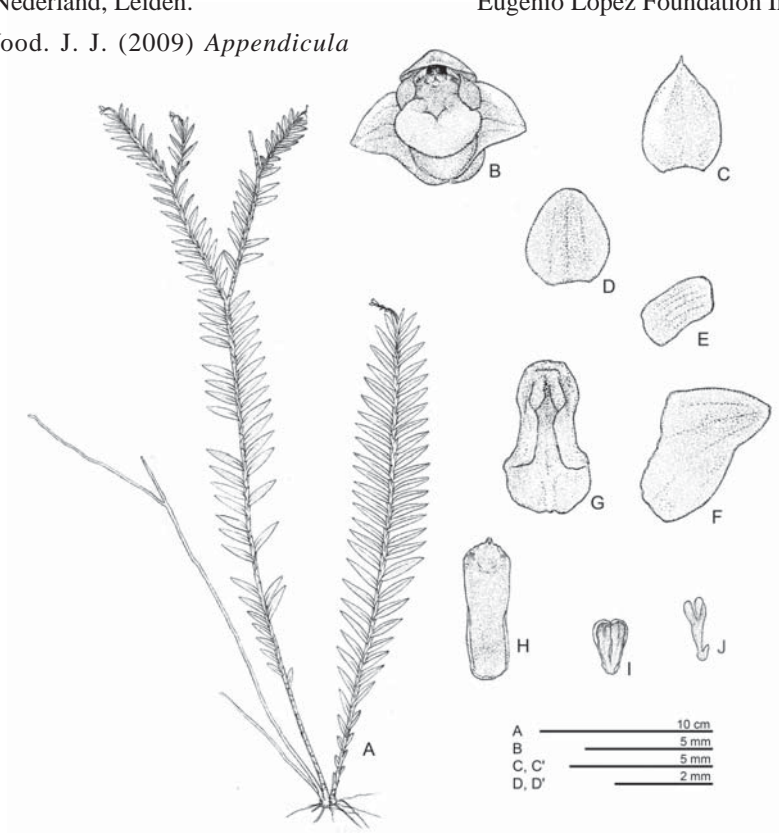


Fig. 2. *Appendicula lucbanensis* (Ames) Ames. A: Habit. B: Flower, front view. C: Floral bract. D: Dorsal sepal. E: Petal. F: Lateral sepal. G: Lip. H: Column, bottom view. I: Anther cap, bottom view. J: Pollinia.