

Spiranthes hongkongensis (Orchidaceae): Newly recorded from Taiwan

香港綬草(蘭科)：台灣新紀錄種

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Abstract

Spiranthes hongkongensis (Orchidaceae), previously thought as an endemic species of Hong Kong, is newly recorded in northern Taiwan. This species is closely related to *S. sinensis* but is distinguishable by having glandular pubescent rachis, floral bracts, ovary and sepals, whitish flowers, and distinctly 3-lobed stigma.

摘要

本文報導香港綬草 *Spiranthes hongkongensis* 新紀錄於台灣北部。香港綬草原被認為是香港特有種，其形態與綬草 *S. sinensis* 十分接近，但藉由花序軸、花苞片、子房及花萼均被腺毛，花白色，柱頭明顯三裂等特徵可明確區辨。

Key words: Orchidaceae, *Spiranthes hongkongensis*, Taiwan, Taxonomy.

關鍵詞: 蘭科、香港綬草、台灣、分類學

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Introduction

Spiranthes (Orchidaceae: Cranichideae, Orchidoideae) contains ca. 50 species predominately occurring in North America and also widely distributed in Central and South America, Eurasia and Australia (Pridgeon *et al.* 2003; Chen *et al.* 2009). They are all terrestrial orchids with basal rosettes, erect racemes and spirally arranged small flowers. In Taiwan, two species have been recognized, including *S. sinensis* (Pers.) Ames and a recently described new species *S. nivea* T. P. Lin & W. M. Lin (Leou 2000; Chen *et al.* 2009; Lin and Lin 2011). In this paper, *S. hongkongensis* S. Y. Hu & Barretto, previously thought as endemic to Hong Kong (Chen *et al.* 2009; Barretto *et al.* 2011), is reported as a newly recorded species in Taiwan. Morphological description, color photos and a key to the congeneric species in Taiwan are presented to aid identification.

Key to the *Spiranthes* species in Taiwan

1. Lip ovate when flattened, disc glabrescent.....
.....*S. nivea*

1. Lip broad oblong when flattened; disc distinctly papillate2
2. Rachis, floral bracts, ovary and sepals glabrous; sepals pink or purplish red, rarely white; stigma discoid, not distinctly lobed.....*S. sinensis*
2. Rachis, floral bracts, ovary and sepals glandular pubescent; sepals white; stigma shield-shaped, distinctly 3-lobed.....*S. hongkongensis*

Taxonomic Treatment

Spiranthes hongkongensis S. Y. Hu & Barretto, *Chung Chi Journal* 13(2): 2. 1976; Chen *et al.*, *Fl. China* 25: 84. 2009. 香港綬草 **Fig. 1**.
TYPE: Hong Kong, Taipo, Garden of G. Barretto, 4 Apr 1975, *S. Y. Hu 13658* (holotype: K; isotypes: A photo!, CUH).

Terrestrial herbs 10-44 cm tall, acaulescent. Roots fasciculate, fusiform, fleshy, 1.5-3.5 mm in diam. Leaves basal, 2-6, erect and spreading, linear to oblanceolate, 3-12 × 0.5-1 cm, apex acute. Inflorescence terminal, erect, 9-42 cm, becoming moderately to densely glandular pubescent distally; sterile bracts 3-5, glabrous; rachis 3-13 cm, with many spirally arranged flowers; floral bracts lanceolate, 5-6 mm,

sparsely glandular pubescent. Flowers whitish; ovary green, 4-6 mm, glandular pubescent. Dorsal sepal forming a hood with petals, oblong, ca. 3.5-4 × ca. 1.5 mm, outer surface sparsely glandular pubescent, apex obtuse; lateral sepals oblong-lanceolate, slightly oblique, 3.5-4 × ca. 1.5 mm, outer surface sparsely glandular pubescent, apex obtuse. Petals sometimes tinged

with pale pink, oblong, 3.5-4 × ca. 1.3 mm, apex obtuse; lip broadly oblong, 4-5 × 2-2.5 mm, basal portion with 2 transparent, spherical calli, lateral margins erect and crisped, apex truncate-obtuse and recurved; disk papillate. Column erect, ca. 1.5 mm; anther ovoid, ca. 1 mm; rostellum lanceolate-triangular; stigma shield-shaped, distinctly 3-lobed.

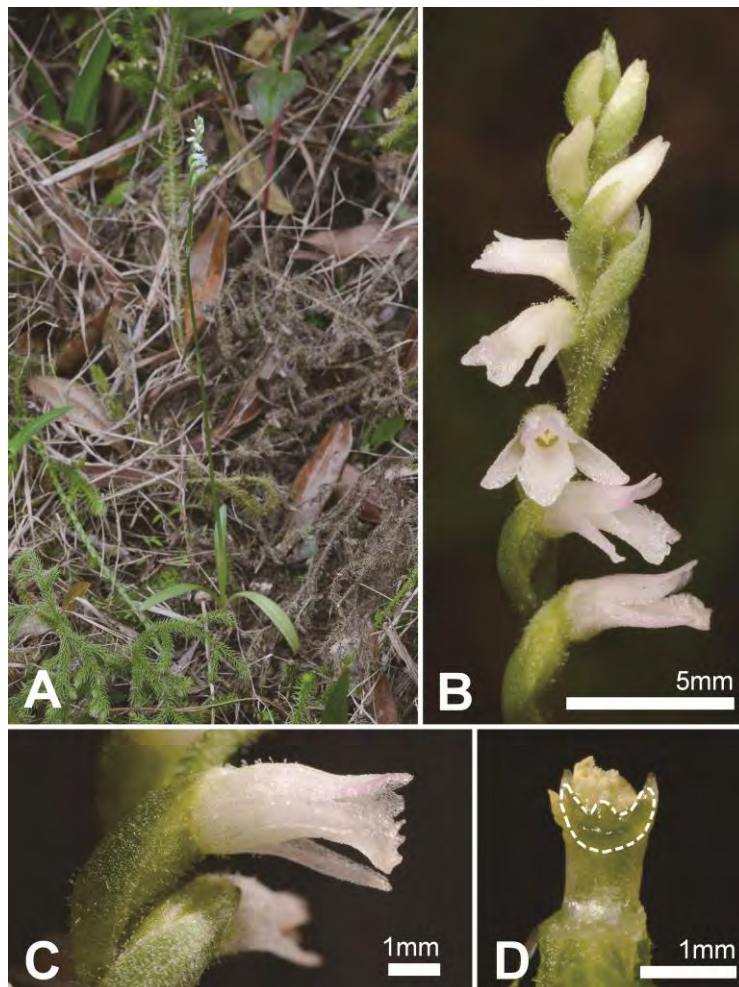


Fig. 1. *Spiranthes hongkongensis* S. Y. Hu & Barretto (*T. C. Hsu 7079*). A: Habitat and habit. B: Inflorescence and flowers. Note the glandular pubescent rachis. C: Flower, side view. Note the glandular pubescent bracts, ovary and sepals. D: Column, bottom view. Note the distinct three-lobed stigma (circled by white dotted line). Photographed by T. C. Hsu from *Hsu 7079*.

Distribution: China (Hong Kong) and Taiwan (New Taipei City).

Habitat: Moist grassy slopes on hillsides, semi-shaded, accompanied with *Lycopodium cernuum* L., *Miscanthus* sp., *Gahniatristis* Nees, *Viola* sp., *Juncusles chenaultii* J. Gay ex Laharpe, *Eriocaulon truncatum* Buch.-Ham. ex Mart. and *E. sexangulare* L.

Phenology: Based on observations during 2009-2014, the wild population of *Spiranthes hongkongensis* in Taiwan flowers from April to May and fruits from May to June.

Specimens examined in Taiwan: New Taipei City (新北市), Xichi Dist. (汐止區), Chepingliao (車坪寮), 300-400 m elev., 20 Apr 2014, T. C. Hsu 7079 (TAIF).

Note: *Spiranthes hongkongensis* shows significant morphological resemblance to the widespread and common *S. sinensis* but is readily distinguishable by having glandular pubescent rachis, floral bracts, ovary and sepals, whitish flowers, and distinctly 3-lobed stigma (Hu and Barretto 1976; Chen *et al.* 2009; Barretto *et al.* 2011). The wild population in Taiwan has been observed by the first authors since 2009, but its identity was not confirmed until 2014 when flowering specimens were collected and carefully dissected. Sun (1996) demonstrated that this species is an allopolyploid probably derived from natural hybridization between *S. sinensis* and *S. spiralis* (L.) Chevall. However,

since *S. spiralis* is so far not reported in the range where *S. hongkongensis* grows (Chen *et al.* 2009), further study is still necessary to ascertain the origin and speciation history of *S. hongkongensis*.

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