Taiwania, **52**(1): 106-112, 2007

Dendrobium okinawense Hatusima & Ida (Orchidaceae): A Newly Recorded Species in Taiwan

Shih-Wen Chung[1] and Sheng-You Lu[1,2,3]

(Manuscript received 30 May, 2006; accepted 28 December, 2006)

ABSTRACT: A newly recorded species, *Dendrobium okinawense* Hatusima & Ida, in Taiwan is described and illustrated. This species is rare and endemic to Ryukyu Islands. We recently found it in the mountains along the coast of southeastern Taiwan. Although the flower of *D. okinawense* is somewhat structurally similar to that of *D. moniliforme*, they are evidently different from each other in floral dimension, petals, lip shape and floral color.

KEY WORDS: ***Dendrobium okinawense*, Orchidaceae, new record, Taiwan, rare species.**

INTRODUCTION

Dendrobium with about 1000 species, is one of the largest genera in the Orchidaceae. Species of *Dendrobium* are found throughout the western Pacific and East Asian regions, from as far north as Japan to as far south as Tasmania and southern New Zealand (Lavarack et al., 2000). There are 12 species of the genus in Taiwan (Su, 2000).

D. okinawense was first described from the Okinawa Islands by Hatusima and Ida in 1970. It has been listed as a critically endangered species in Japan (Nagata, 2003).

The newly collected specimens were from southeastern Taiwan. The characters of these plants generally meet the original description of *D. okinawense* (Karasawa, 2001; Hashimoto et al., 1991; Hatusima, et al., 1970). They grow on trunks and thick branches. A drooping stalk and an exceptionally large flower are distinctive features of this orchid. The present species is most closely related to *D. moniliforme* Sw. from which it differs by its longer pendulous stems with longer leaves and its much larger flowers. In addition, its flowers have a strong fragrance.

TAXONOMIC TREATMENTS

Key to *D. moniliforme* and *D. okinawense*

1. Stems 40-70 cm long; dorsal sepals lanceolate, 3-4 cm; petals lanceolate; lip 2.3-2.5 cm, pale yellow, rarely white ……..…….....…. *D. okinawense*
1. Stems 10-40 cm long; dorsal sepals ovate-oblong, 1.5-2.5 cm; petals oblong, lip 1.2-2 cm, white or tinged with pale rose ……..…….....….. *D. moniliforme*

Dendrobium okinawense Hatusima & Ida in J. Geobot. 18: 77. 1970. 琉球石斛 Figs. 1-3

Stems slender, terete, pendulous, 40-70 cm long, 4-7 mm in diam., leafy in upper part, the internodes cylindrical, 2-5 cm long, yellowish green. Leaves linear-lanceolate, about 5.5-10 cm long, 6-8 mm wide, apex acute to obtuse, base rounded. Flowers 1-3, often 2, borne from the upper nodes of stems, usually pale yellow, rarely white, bracts 2-3, imbricate, ovate-triangular, 3-6 mm long, opening up to about 3-4 cm in diameter; dorsal sepals lanceolate, 3-4 cm long, 3.5-4 mm wide, apex acute, lateral sepals similar to dorsal one, base adnate to foot of column forming a mentum 9-12 mm long; petals lanceolate, as long as dorsal petal, apex acute, claw at base; lip oblong-lanceolate, about 2.5 cm long, apex acute, with two keels at the middle of the basal lip, pilose; column ca. 2 mm long, foot 8-10 mm long, concave; anther hood-like, 1.5 mm long; pollinia 1 mm long.

Flowering season: March to April.

Distribution: Southeastern Taiwan and the Ryukyu Island of Japan.

D. okinawense (Fig. 4) though its flower is somewhat similar to that of *D. moniliforme* (Fig. 5), it is clearly distinct from the latter in having longer pendulous stems (40-70 cm vs. 10-40 cm), longer

1. Division of Forestry Biology, Taiwan Forestry Research Institute, 53, Nanhai Road, Taipei 100, Taiwan.
2. Department of Biological Sciences, National Sun Yat-sen University, 70, Lien-hai Rd., Kaohsiung 804, Taiwan.
3. Corresponding author. Email:biflora@gmail.com

臺灣大學學術期刊資料庫

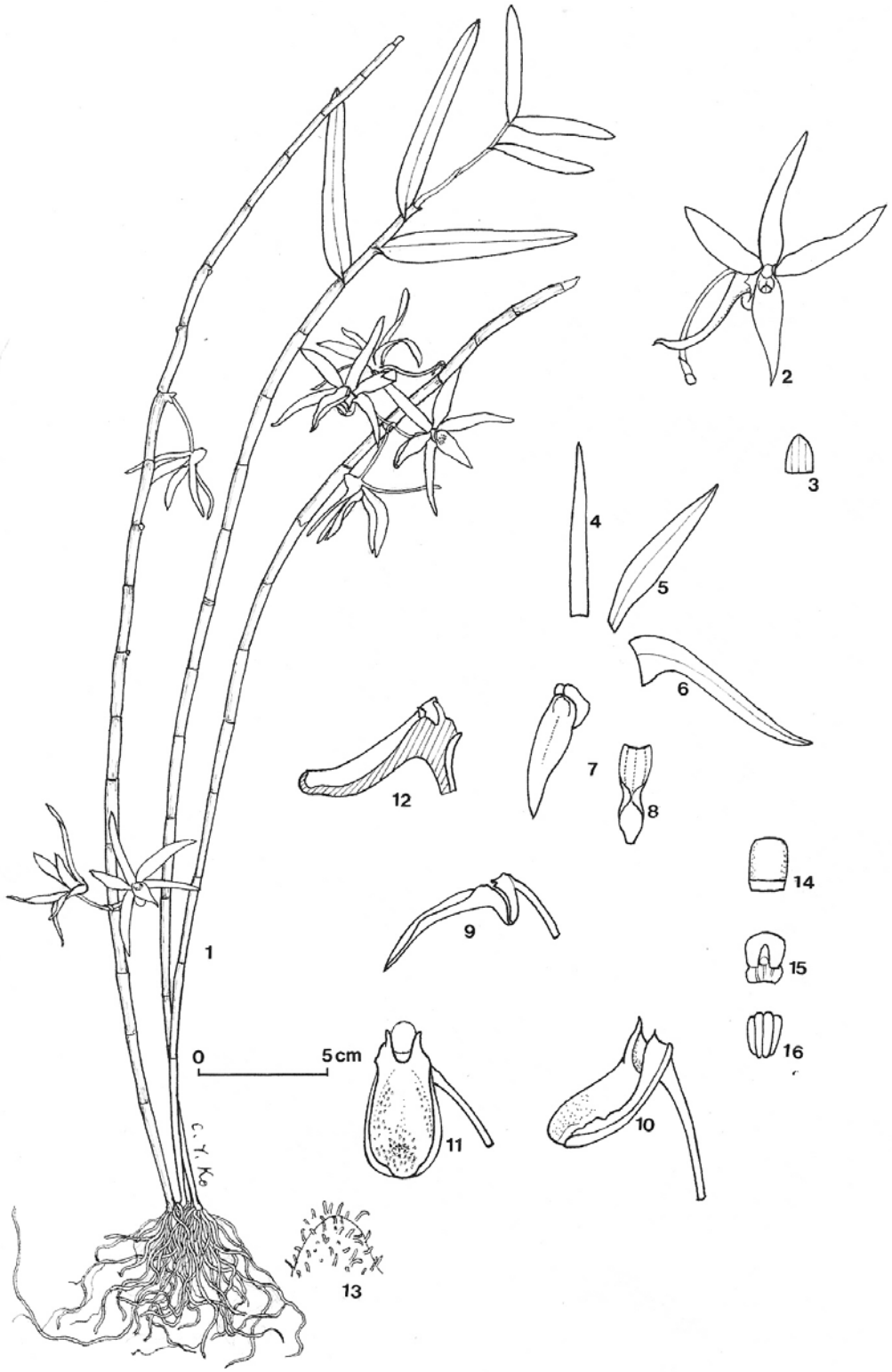


Fig. 1. *Dendrobium okinawense* Hatusima & Ida. 1: Habit. 2: Flower. 3: Bract. 4: Dorsal sepal. 5: Petal. 6: Lateral sepal. 7 & 8: Lip. 9: Lip and column. 10: Lateral view of column. 11: Front view of column. 12: Lip, side view, one side-lobe removed. 13: column foot with hairs. 14 & 15: Different views of anther 16. Pollinia.

臺灣大學學術期刊資料庫



Fig. 2. Habit of *Dendrobium okinawense* Hatusima & Ida.

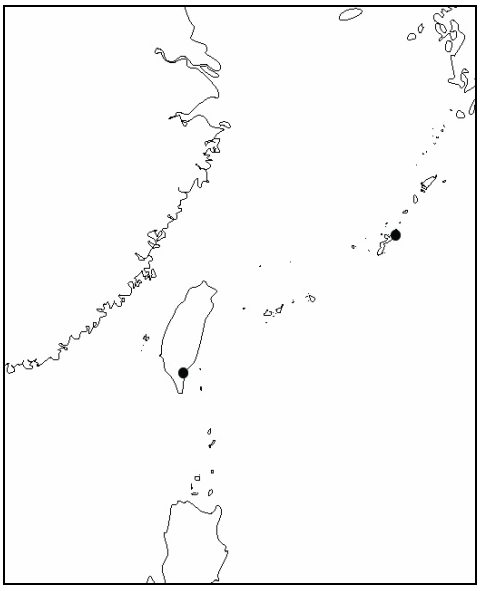


Fig. 3. Distribution map of *Dendrobium okinawense* Hatusima & Ida.

dorsal sepals (3.0-4.0 cm vs 1.5-2.5 mm), lanceolate (vs. ovate-oblong) dorsal sepals, petals lanceolate (vs. oblong) (Fig. 6) and pale yellow, rarely white (vs. white or tinged with pale rose) petals, and longer lip (2.3-2.5 cm vs. 1.2-2.0 cm) (Figs. 7& 8). and pale yellow, rarely white (vs. white or tinged with pale rose).

Specimen examined: Taiwan. Taitung County, Taimali Hsiang, Kueinashan, at 900-1150 m elevation, on mountain ridge, abundant, in broadleaf forest, 12 March 2004, *Chung 6987* (TAIF).

LITERATURE CITED

Hashimoto, T., K. Kanda and H. Murakawa. 1991. Japanese Indigenous Orchids in Colour, Revised and Enlarged. Ienohikari Association, Tokyo. Japan. p. 233.

Karasawa, K. 2001. *Dendrobium – Bulbophyllum*. Orchid Atlas, **4**: 214-215. Orchid Atlas Publishing Society, Tokyo, Japan. p. 233.

Lavarack, B., W. Harris and G. Stocker. 2000. *Dendrobium* and Its Relatives. Timber Press. Portland, Oregon, USA. pp. 14-73.

Nagata, Y. 2003. Red Data Plants of Japan. Yama-Kei Publishers Co., Ltd., Tokyo, Japan. p. 640.

Su, H.-J. 2000. *Dendrobium*. In: Huang, T.-C. et al. (eds.), Orchidaceae. Flora of Taiwan, 2nd ed. **5**: 839-849. Editioil Committee, Dept. Bot., NTU, Taipei, Taiwan.

Hatusima, S. and R. Ida. 1970. A new *Dendrobium* from Isl. Okinawa. J. Geobot. **17**: 3-4.

臺灣大學學術期刊資料庫



Fig. 4. The specimen of *D. okinawense* Hatusima & Ida.

臺灣大學學術期刊資料庫



Fig. 5. The specimen of *D. moniliforme* Sw.

臺灣大學學術期刊資料庫

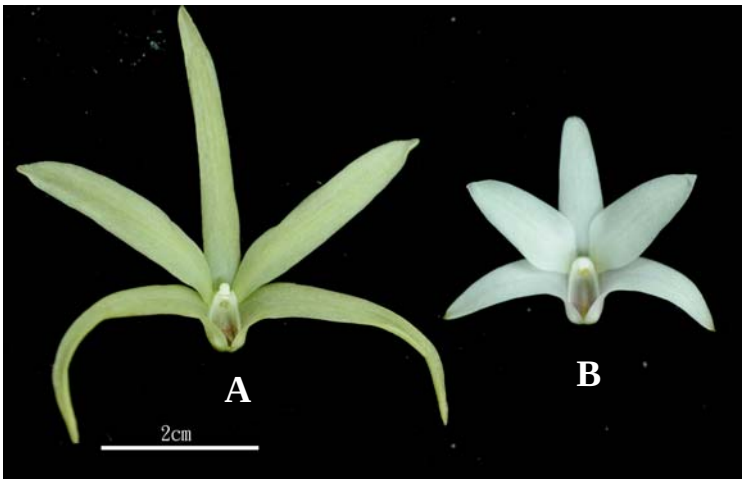


Fig .6. Flowers of *D. okinawense* Hatusima & Ida (A) and. *D. moniliforme* Sw. (B).

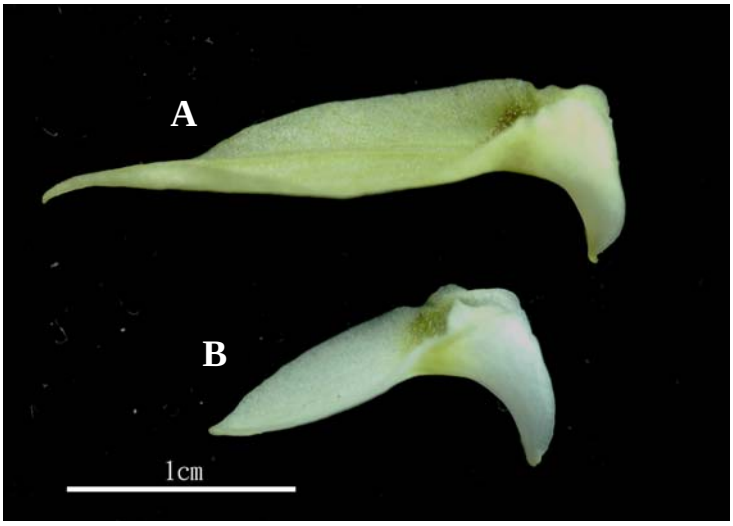


Fig .7. Lips of *D. okinawense* Hatusima & Ida (A) and. *D. moniliforme* Sw. (B).

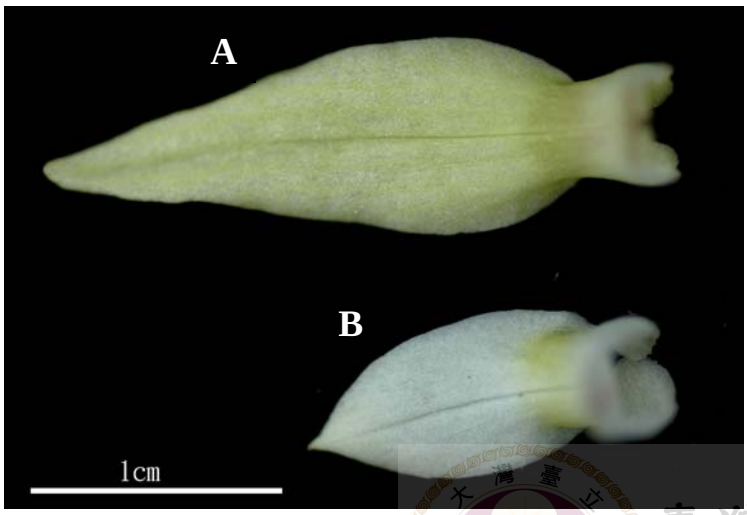


Fig. 8. Lips of *D. okinawense* Hatusima & Ida (A) and. *D. moniliforme* Sw. (B).

臺灣大學學術期刊資料庫

臺灣新紀錄蘭科植物：琉球石斛

鐘詩文[1]、呂勝由[1,2,3]

(收稿日期：2006 年 5 月 30 日；接受日期：2006 年 12 月 28 日)

摘　　要

琉球石斛 (*Dendrobium okinawense*) 為臺灣新紀錄的蘭科植物，這種植物過去僅紀錄於琉球少數地點，我們最近在臺灣東南沿海山脈，海拔約 900 到 1500 公尺的山區發現它的存在。本種在花的構造上雖與石斛 (*D. moniliforme*) 相類似，但可以藉花部的尺寸大小、花瓣和唇瓣的形狀、花色等特徵，明顯區別開來。

關鍵詞：琉球石斛、蘭科、新紀錄、臺灣、稀有植物。

1. 行政院農業委員會林業試驗所生物組，100 台北市南海路 53 號，臺灣。
2. 國立中山大學生物科學系，804 高雄市蓮海路 70 號，臺灣。
3. 通信作者。Tel: 886-2-23039978 ext. 2205; Email: biflora@gmail.com

臺灣大學學術期刊資料庫