

An Observation on the *Corymborkis veratrifolia* (Reinw.) Bl. (Orchidaceae) from Lanyu, Taiwan

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ABSTRACT: *Corymborkis veratrifolia* (Reinw.) Bl. (Orchidaceae), stem erect; leaves narrowly elliptic or narrowly elliptic-lanceolate; inflorescences axillary, branched; flowers white, from Lanyu, Taiwan is described and illustrated. The size of this plant found in Lanyu is the smallest *C. veratrifolia* being recorded in the world.

KEY WORDS: Orchidaceae, *Corymborkis veratrifolia*, Morphology, Taxonomy, Taiwan.

INTRODUCTION

Morphological characters of genus *Corymborkis* are similar to those of the genus *Tropidia*. But *Tropidia* has dense inflorescences terminal and/or lateral, in contrast, *Corymborkis*'s inflorescences appear from the leaf axils, often more than one per stem, having short peduncles and are often branched. The genus *Corymborkis* extends to almost all tropical areas, with five species recognized (Comber, 2001). *Corymborkis veratrifolia* is distributed from China, Japan (Ryukyu), Sikkim, India, Thailand, Sumatra, Borneo, Queensland and New Guinea, Fiji, Philippine to the west coast of Africa. Although this plant was not recorded in Flora of Taiwan edited in 2000 (Su, 2000), it was found in Taiwan and described by Fukuyama in 1941 (Ying, 1990), and subsequently being recorded by several investigators (Chen et al., 1999; Lang (ed.), 1999; Ying, 1977). In the year of 2002, we re-found this species at Island Lanyu. After checking the fresh flowers on 19, Aug. 2005, we identified it as *Corymborkis veratrifolia*. The study provides the description, habitat and photographs of *Corymborkis veratrifolia* in Taiwan.

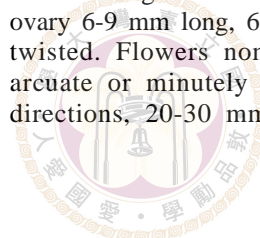
TAXONOMIC TREATMENT

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Corymborkis veratrifolia (Reinw.) Bl., Col. Orch. Ind. 125. pl. 42-43. 1859; Holttum, Fl. Malaya 144-145. fig. 23-24. 1964 "Corymborchis"; Garay et Sweet, Orch. S. Ryukyu Isl. 93. 1974; Ying, Col. Ill. Orch. Taiwan 1: 436. 1977 et 2: 457. 1992; Seidenf. in Dansk Bot. Ark. 32: 114. fig. 70. 1978; Dassanayake, Fl. Ceylon 325-327. fig. 143. 1981; Lang, Fl. Reip. Pop. Sinica 17: 126. pl. 16: 7. 1999. 管花蘭 Figs. 1 & 2

Hysteria veratrifolia Reinw. in Bl., Cat.: 99 (1823); *nom. nud.* & in Syll. Pl. Nov. 2: 5 (1825).
Corymbis veratrifolia Rchb.f. in Flora 158: 184 (1865); King et Pantling, Orch. Sik.-Himal. 274. pl. 354. 1898.
Corymborchis veratrifolia Bl., Fl. Jav. n.s. 1, Orch.: 105 (1858)

Terrestrial herb. Rhizome short, bearing sympodial shoots. Roots fibrous, wiry, smooth, simple or branched, 3-3.5 mm in diameter. Stem 40-45 cm tall, 3.5-5.5 mm in diameter, subterete, rigid, solid, enveloped by leaf sheaths. Leaves many, spiral or more or less in 2 rows, glabrous, plicate, elliptic-lanceolate to oblong-lanceolate, 20-28 cm long, 7-9cm broad, caudate-acuminate at apex, contracted and sheathing at base, bearing 7 primary veins, secondary veins between primary veins 1-3, veinlets between primary veins 15-25, sheath 4-4.8 cm long, longitudinally ribbed. Inflorescence axillary, erect, paniculate, 5-branched, 10 cm long, 19-flowered, each branch with 2-6 flowers in 2 rows; peduncle 4.5 cm long, with most of its length enveloped by leaf sheath; rachis minutely zigzag; bracts triangular-lanceolate, up to 1 cm long; floral bracts triangular-ovate, cucullate, 4-7 mm long; ovary 6-9 mm long, 6-ribbed, straight or minutely twisted. Flowers non-resupinate, more or less arcuate or minutely twisted and facing varied directions, 20-30 mm long, light yellow-green



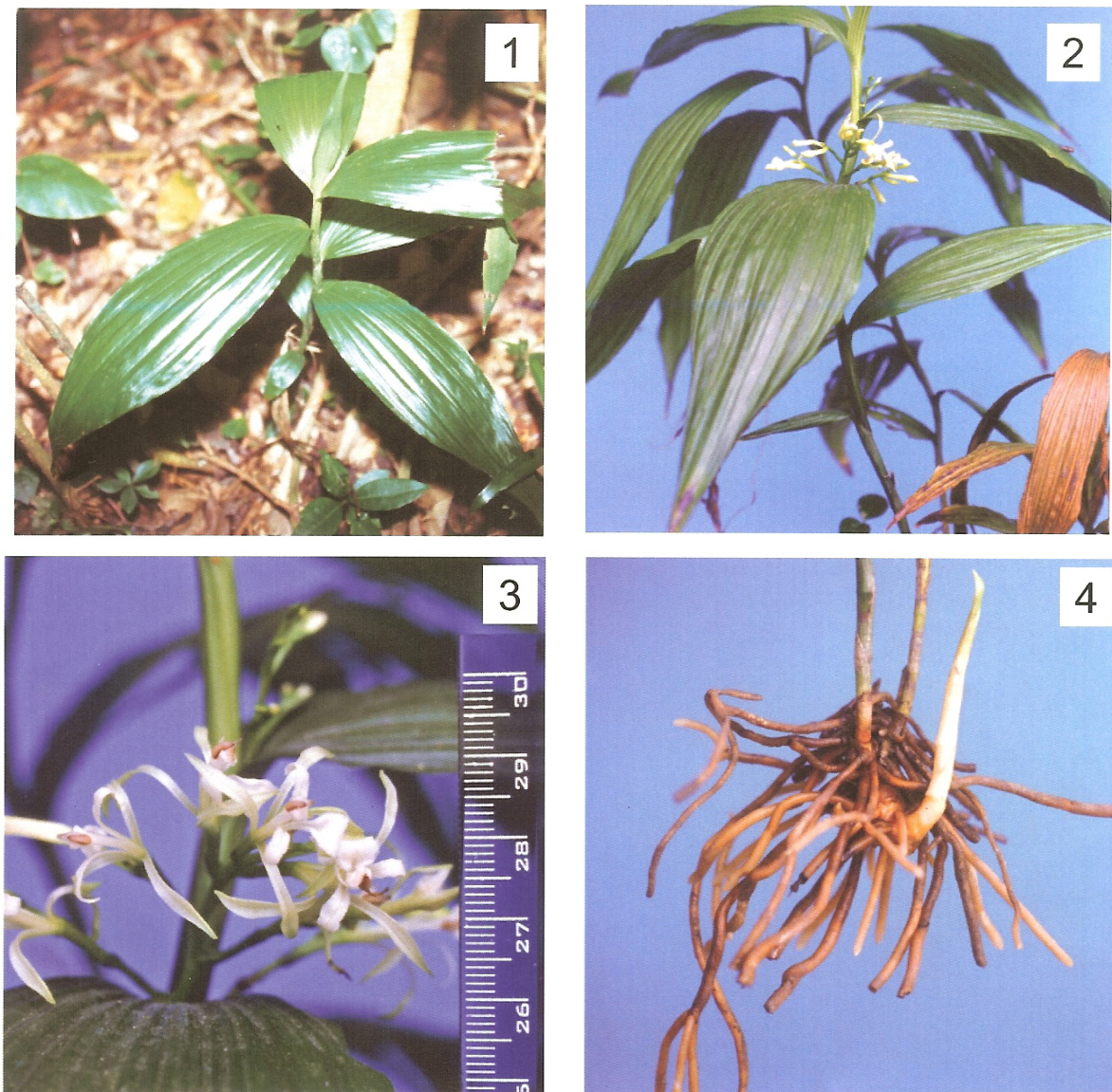


Fig. 1. *Corymborkis veratrifolia* (Reinw.) Bl. A: Habitat. B: Habit. C: Flowers. D: Rhizome, shoots and roots.

turning white, scented, the perianth approximate basally, spreading at upper half; sepals subsimilar, independent at base, separated by the ridges of petals and lip, narrowly spatulate, smooth in abaxial side, without ridges, 15-21 mm long, upper half navicular, with inflexed edges, lower half narrowed and grooved; petals as long as the sepals, ridged abaxially, falcate, upper half lunar, flat, arcuate, with undulate margin, lower half narrowed and shallowly grooved; lip 15-21 mm long, ridged abaxially, spatulate, dilated to form a blade at the upper third, contracted and unguiculate below, then slightly dilated and adpressed to the column near the base, blade ovate in outline, crisped and minutely undulate at edges, arcuately deflexed at apex, 6-7

mm by 5-6 mm and rhombic-ovate when flattened, claw divergent to the column, conduplicate and canaliculate, laterally 2-ridged within, ridges most prominent at the middle part of the claw, decreasing their size and becoming inconspicuous towards both ends. Column erect, slender, clavate, 14-18 mm long, dilated and somewhat fusiform at apex, 2.9-3.2 mm wide, bearing 2 auricles at lateral sides, narrowly cylindric below, auricles triangular; anther 3.1 mm long, 1.1 mm wide, somewhat reniform; stigma 3-lobed, middle lobe occupying the lower half of rostellum, lateral ones deflexed; rostellum long triangular, elongated at apex to form a hamulus.

Distribution: in mountain forest on western



Fig. 2. *Corymborkis veratrifolia* (Reinw.) Bl. 1: Habit. 2: Leaf. 3: Inflorescence. 4: Floral bract. 5: Flower, side view. 6: Flower, ventral view. 7: Cross section of a flower at 5 mm above the ovary. 8: Dorsal sepal. 9: Lateral sepal. 10: Petal. 11: Lip. 12: Lip, flattened, dash lines on the claw showing ridges. 13: Column and lip, side view. 14: Column, ventral view. 15-17: Apex of column, dorsal, ventral and side views. 18: Column, ventral view, anther removed, showing the clinandrium and hamullus. 19: Anther, side view. 20: anther, inside. (Drawn from fresh materials).

region of the island of Lanyu (Orchid Island, Botel Tabago, Fig. 3), Taiwan.

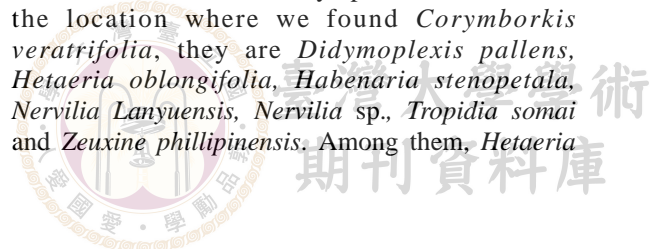
Flowering period: July to September.

Specimen examined: Taitung County : Western part of Lanyu, C.L. Yeh & C.R. Yeh 4031(PPI) 19, Aug., 2005.

Note: Compared to data recroded for *C. veratrifolia* elsewhere (Comber, 2001; Chen et al., 1999; Dassanayake (ed.), 1981), stems 1-3 meter high, leaves 25-45 cm long, 6-15 cm broad,

inflorescences 10-17 cm long, flowers 2.5-4.5 cm long, the size of this plant in Lanyu is the smallest *C. veratrifolia* in the world.

We also observed many species of orchids on the location where we found *Corymborkis veratrifolia*, they are *Didymoplexis pallens*, *Hetaeria oblongifolia*, *Habenaria stenopetala*, *Nervilia Lanyuensis*, *Nervilia* sp., *Tropidia somai* and *Zeuxine phillipinensis*. Among them, *Hetaeria*



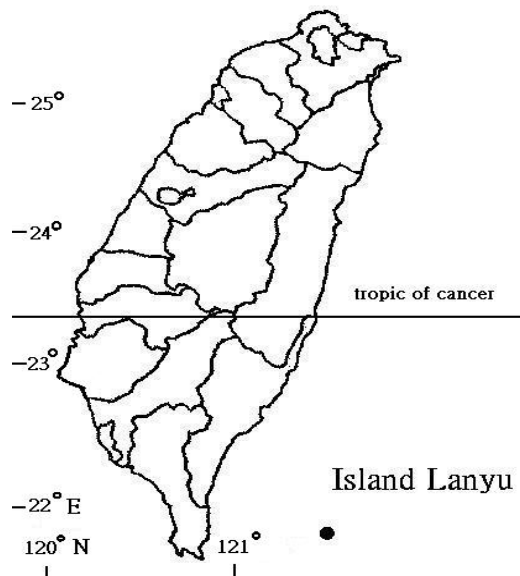


Fig. 3. Location of Island Lanyu, south-eastern Taiwan.

oblongifolia (Yeh et al., 2005a) and *Zeuxine philippinensis* (Yeh et al., 2005b) are new recorded species to Taiwan; *Didymoplexis pallens* and *Tropidia somai* are first records at Isl. Lanyu.

The forest is frequently thinned by the Yami (Lanyu People) for shipbuilding, therefore it provides proper sunlight spots and space for orchids. The forest also confronts the typhoons from Phillipine directly. Due to these two reasons, some new orchids have been found here.

In Lanyu, the species was found at elevations about 200 m, windward, flat understory of the forest. This type of rainforest has two canopy stratum. The upper canopy is about 9 m high, dominated by *Ardisia sieboldii*, *Diospyros maritima*, *Planchonella obovata* and *Ficus benamina* var. *benamina*, accompanied with *Schefflera octophylla*, *Antidesma pleuricum*, *Linociera cumingiana*, *Glochidion lanceolatum*, *Syzygium tripinnatum*, *Elaeocarpus sphaericus* etc. The understory are dominated by *Psychotria manillensis*, accompanied with *Calamus siphonospatus* var. *sublaevis*, *Dracaena angustifolia*, and the seedlings of *Tarennia zeylanica*, *Neolitsea villosa*, *Celtis philippensis* and *Aglaia elliptifolia*.

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LITERATURE CITED

- Comber, J. B. 2001. Orchids of Sumatra. Kew: Royal Botanic Garden, London, U.K. p. 37.
- Chen, S., Z. Tsi and Y. Luo. 1999. Native Orchids of China in Colour. Science Press. Peiking, China. p. 93.
- Dassanayake, M. D. (ed.). 1981. A Revised Handbook to the Flora of Ceylon. Vol. 2. fig. 143. Amerind Publ. Co. Ltd., New Dehli, India. pp. 325-327.
- Garay, L. A. and H. R. Sweet 1974. Orchids of Southern Ryukyu Islands. Bot. Mus. Harvard Univ., Cambridge, USA. pp. 93-94.
- Holtum, R. E. 1964. A Revised Flora of Malaya. Government Printing Office, Singapore, 3rd ed. pp. 144-145.
- King, G. and R. Pantling. 1898. Orchids of Sikkim-Himalaya. Bengal Secretariat Press, U.K. p. 274.
- Lang, K. Y. (ed.). 1999. Flora Republica Popularis Sinica. 17. pl. 16: 7. Science Press, Peiking, China. pp. 551.
- Seidenfaden, G. 1978. Orchid Genera in Thailand VI Neottioideae Lindl. Dansk Botanisk Arkiv, Bind 32, Nr. 2. Kobenharn, Denmark. pp. 114.
- Su, H.-J. 2000. Orchidaceae. In: Huang, T.-C. (ed.), Fl. Taiwan 2nd ed. 5: 729-1086. Editorial Committee of the Flora of Taiwan, Dept. Bot., NTU, Taipei, Taiwan.
- Yeh, C.-L., C.-R. Yeh and C.-S. Leou. 2005a. *Hetaeria Oblongifolia* (Bl.) Bl. (Orchidaceae), a Newly Recorded Orchid in Taiwan. Taiwan Journal of Forest Science 20: 313-317.
- Yeh, C.-L., C.-R. Yeh and C.-S. Leou. 2005b. *Zeuxine Philippinensis* (Ames) Ames (Orchidaceae), a Newly Recorded Plant in Taiwan. Taiwania 50: 1-6.
- Ying, S.-S. 1977. Coloured Illustrations of Indigenous Orchids of Taiwan. Published by the author, Dept. Forestry, NTU, Taiwan. pp. 436.
- Ying, S.-S. 1990. Coloured Illustrations of Indigenous Orchids of Taiwan. Published by the author, Dept. Forestry, NTU, Taiwan. pp. 457.



臺灣蘭嶼所產管花蘭(蘭科)之觀察研究

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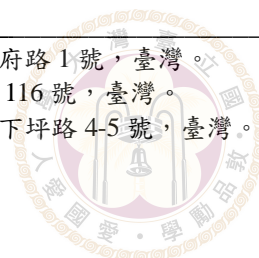
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摘 要

本文記述產自臺灣蘭嶼之蘭科植物「管花蘭」之學名、型態特徵、生育環境、產地、花期之鑑別及標本。管花蘭為直立草本地生蘭，葉狹橢圓形或狹披針形，花序分支，花為白色為主要特徵。相較於世界上其他產區所產之管花蘭，蘭嶼之管花蘭擁有最小型的植物體及花型特徵。

關鍵詞：蘭科、管花蘭、分類學、形態學、臺灣。

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