

# *Lecanorchis flavicans* var. *acutiloba* (Orchidaceae), A Newly Recorded Orchid in Taiwan

## 白髭皿蘭(蘭科)，台灣新紀錄蘭科植物

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### Abstract

*Lecanorchis flavicans* Fukuy. var. *acutiloba* T. Hashim. (Orchidaceae) is reported as a newly recorded species in Taiwan. It is most similar to *L. triloba* J. J. Sm. but can be distinguished by its 3–5-flowered inflorescences, longer tepals and lip without a pair of calli on the disc. In this study, we provide a description, illustration and distribution map of *L. flavicans* var. *acutiloba*.

### 摘要

本文報導台灣新紀錄的蘭科植物白髭皿蘭(*Lecanorchis flavicans* Fukuy. var. *acutiloba* T. Hashim.)。此物種最接近三裂皿蘭(*L. triloba* J.J. Sm.)，但花序僅有 3 至 5 朵花，花被較長且唇盤上不具有一對胼胝體。本研究提供白髭皿蘭的描述、圖片及分布圖。

**Key words:** *Lecanorchis flavicans* var. *acutiloba*, new record, Orchidaceae, Taiwan, taxonomy.

**關鍵詞:** 白髭皿蘭，新紀錄，蘭科，台灣，分類學。

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var. *acutiloba*, new to Taiwan

## Introduction

*Lecanorchis* (Orchidaceae) is a genus of myco-heterotrophic orchids containing about 25 species distributed from Japan and southern China, through SE Asia to New Guinea (Cameron, 2003; Suddee and Pedersen, 2011) with about 11 species reported in Taiwan (Su, 2000; Hsu and Chung, 2009; 2010; Lin *et al.*, 2011). This genus can be recognized by the presence of a cup-like calyculus that encircles the base of perianth and persists in fruit (Cameron, 2003; Suddee

and Pedersen, 2011). They mainly grow in moist humus of primary forest and are often overlooked because of their leafless, dull-colored habits. Recently, a newly recorded species, *L. flavicans* Fukuy. var. *acutiloba* T. Hashim., was found in northern Taiwan during our field investigation. The morphological description, illustration and distribution map (Fig.1) of *L. flavicans* var. *acutiloba* are herein provided. Since a comprehensive taxonomic revision of the genus *Lecanorchis* in Taiwan is still in preparation, a provisional key is presented in this paper for diagnosing this new species.

### Provisional key to the *Lecanorchis* species in Taiwan:

1. Inflorescence always annual and simple; scape ± soft and fleshy, dull, grayish brown or yellowish brown at anthesis; floral bracts ovate-deltoid, 3–8 mm long .....2
- 1a. Inflorescence often perennial and branched, occasionally annual and simple; scape ±stiff, glossy, dark brown or blackish at anthesis; floral bracts broadly ovate, 1–3 mm long.....3
2. Sepals (15–)18–28 mm long; side-lobes of lip obtuse at apices; capsule 2–3 cm long.....  
.....*L. cerina* var. *cerina* and *L. thalassica*

- 2a. Sepals 14–19 mm long; side-lobes of lip acute at apices; capsule 1.5–2 cm long.....  
 .....*L. cerina* var. *albida*, *L. suginoana* and *L. virella*
3. Lip free from column.....*L. bihuensis*, *L. latens* and *L. subpelorica*
- 3a. Lip connate with column at base.....4
4. Lip unlobed or obscurely 3-lobed, apparently cucullate.....  
 .....*L. amethystea*, *L. nigricans* var. *nigricans* and *L. nigricans* var. *yakushimensis*
- 4a. Lip apparently 3-lobed, not cucullate.....5
5. Inflorescence, pedicels and capsules tuberculate; sepals 16–19 mm long; lip 15–16 mm long, mid-lobe  
 ca. 2 mm long.....*L. trachycaula*
- 5a. Inflorescence, pedicels and capsules almost glabrous; sepals 9–12 mm long; lip 10–14 mm long,  
 mid-lobe 3–5 mm long.....6
6. Inflorescence many-flowered; sepals 9–11 mm long; lip 10–12 mm long, side-lobes rounded at apices,  
 disc with a pair of pubescent calli.....*L. triloba*
- 6a. Inflorescence 3–5-flowered; sepals 12–14 mm long; lip 12–14 mm long, side-lobes acute at apices,  
 disc without a pair of calli.....*L. flavicans* var. *acutiloba*

## Taxonomic Treatment

*Lecanorchis flavicans* Fukuy. var. *acutiloba* T.  
 Hashim, Ann. Tsukuba Bot. Gard. 8: 8, fig.  
 3. 1989. Figs. 2–3.

**Type:** JAPAN. Kagoshima: Yakushima, Mt.  
 Motchomu, 24 Jul 1979, *Y. Hanei s.n.* (holotype:  
 TNS photo!).

**Morphology:** Herbs, mycotrophic. Rhizomes  
 usually branched, crooked. Roots many, brown,  
 1.5–2 mm in diameter. Inflorescences usually  
 perennial and branched, occasionally annual and  
 simple, 15–30 cm tall, slender, indurate, blackish  
 brown, less than 1 mm in diameter. Raceme up to  
 5 cm, loosely 3–5-flowered, somewhat flexuose.  
 Pedicellate ovary 15–25 mm long, with a  
 ring-like excrescence below the calyculus; apical  
 portion including calyculus somewhat rugose.

Flower ascending or slightly nodding, not widely  
 opened. Sepals similar, pale-yellow tinged with  
 brownish purple, 3-veined, oblanceolate-oblong,  
 somewhat cucullate, 11–13 × ca. 3 mm, apices  
 obtuse. Petals pale-yellow, 3-veined, obliquely  
 obovate-oblong, 11–13 × ca. 4 mm, apices  
 obtuse. Lip whitish, slightly longer than other  
 tepals, 12–14 × 8–9 mm when expanded and  
 flattened, clawed at base, canaliculate, connate  
 with column forming tube, 3-lobed; tube ca. 3  
 mm long, pubescent inside; lateral lobes erect,  
 triangular, ca. 2 mm long, acute at apices,  
 margins slightly irregularly denticulate; midlobe  
 semiorbicular, slightly recurved, 3–4 × 4–5 mm,  
 densely hairy; hairs on the disc and mid-lobe  
 flexuous, sometimes branched, up to 2.5 mm  
 long, smooth on surfaces. Column ca. 6 mm long,  
 clavate, about halfway connate with the lip, with

obtuse-trapezoid lateral wings. Anther white, pubescent around the dehiscent slits. Capsules cylindrical, 18–25 mm long.

**Distribution:** Japan (Yakushima, Amami-oshima, Kagoshima, Okinawa) and Taiwan (New Taipei and Ilan).

**Ecology:** Under broadleaved forests with deep leaf litter at the elevation of 500–1000 m.

**Phenology:** Flowering from May to August; fruiting all year round.

**Chinese name:** 白髭皿蘭.

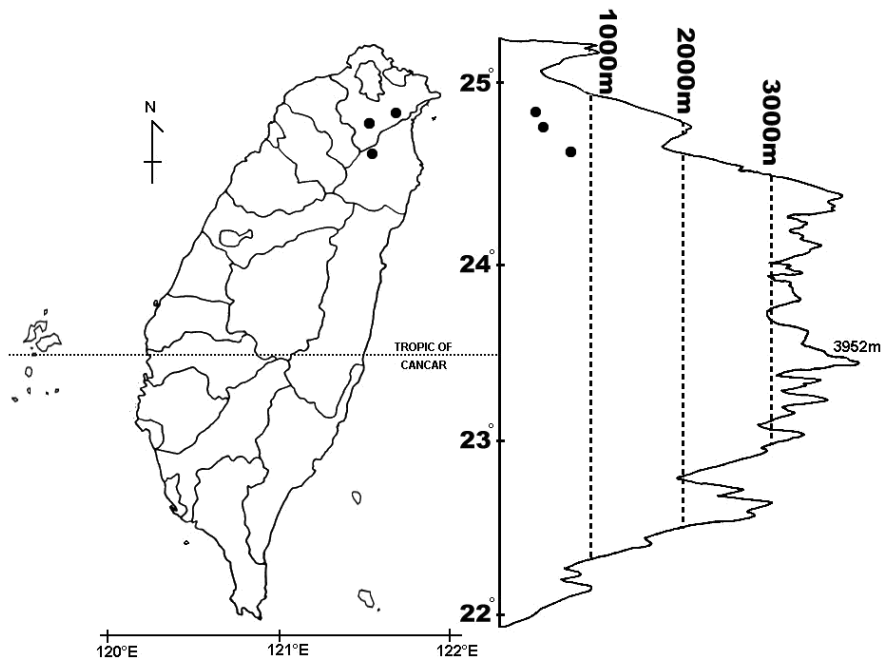
**Additional specimens examined:** TAIWAN. New Taipei City: Mt. Tatao (大刀山), ca. 500 m, *T. C. Hsu* 6577 (TAIF); Mt. Chichouliiao (紀州寮山), 500–700 m, *T. C. Hsu* 6822 (TAIF). Ilan County: Songlohu trail (松羅湖步道), 800–1000 m, *T. C. Hsu* 6726 (TAIF).

**Note:** The specimens collected in Taiwan

match descriptions of *Lecanorchis flavicans* var. *acutiloba*, which differs from *L. flavicans* var. *flavicans* described from Iriomote Island of Japan, by having more connate lip and column (ca. 1/2 vs. 1/3–1/4 length of column) (Fukuyama, 1942; Hashimoto, 1989; 1990). Since *L. flavicans* var. *flavicans* is so far only known from the type collection (Hashimoto, 1990; K. Suetsugu, pers. comm. in Nov 2015) and the type specimen is not traced in any herbaria to date, further investigation in its type locality is critically necessary to clarify whether these varieties are indeed recognizable.

## Acknowledgements

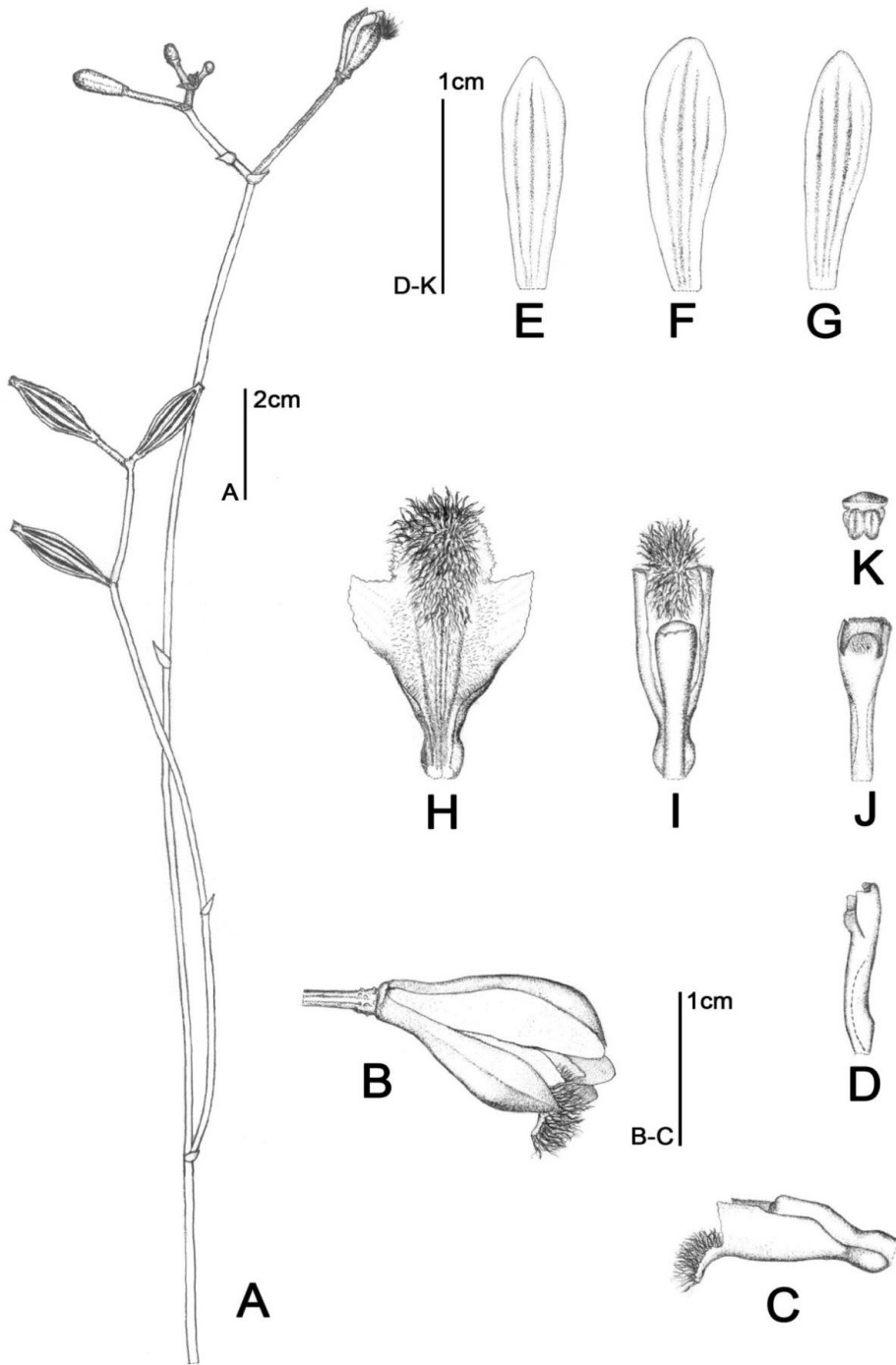
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**Fig 1.** Distribution of *Lecanorchis flavicans* var. *acutiloba* in Taiwan.



**Fig. 2.** *Lecanorchis flavicans* var. *acutiloba*. A: Habit *in situ*. B: Flower, front view. C: Flower, side view. D: Capsule. Photographed by T. C. Hsu.



**Fig. 3.** *Lecanorchis flavicans* var. *acutiloba* (based on T. C. Hsu 6577). A: Inflorescence. B: Flower, side view. C: Lip and column, side view. D: Column, side view. E: Dorsal sepal. F: Petal. G: Lateral sepal. H: Lip, flattened. I: Lip and column, dorsal view. J: Column, ventral view. K: Anther. Illustrated by C. L. Hsieh.

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