

研究報告

臺灣新歸化狸藻科植物—禾葉挖耳草

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【摘要】禾葉挖耳草最近被發現新歸化於臺灣北部山區，本種為狸藻科植物，原產於印度、錫蘭、緬甸、泰國及中國，早期引進台灣作為觀賞用途。本種外觀形態近似臺灣原生的二裂挖耳草，主要的區別在於花冠的顏色及葉片的長度。本報告描述其形態特徵、地理分佈並提供彩色照片及手繪圖。

【關鍵詞】狸藻屬、狸藻科、新歸化植物、台灣

Research paper

Utricularia graminifolia Vahl (Lentibulariaceae): a Newly Naturalized Plant in Taiwan

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【Abstract】A newly naturalized species, *Utricularia graminifolia* Vahl, has been found in north Taiwan. This Lentibulariaceae species, native to India, Ceylon, Burma, Thailand and China, was introduced to Taiwan for aquarium ornamental many years ago. The morphology of this species is very similar to *U. bifida* L., and is distinguished from the latter by its blue-purple corolla and longer linear leaves. A taxonomic treatment, color photographs, line drawings, and distribution from the wild were provided to aid in identification.

【KEY WORDS】*Utricularia*, Lentibulariaceae, newly naturalized

INTRODUCTION

The family Lentibulariaceae comprise 3 genera, *Genlisea* A.-St. Hil., *Pinguicula* L. and *Utricularia* L. about 240 species. The distribution of this family is cosmopolitan but mostly in tropical regions. The *Utricularia*, comprises 200 species native to south East Asia, China and Japan

(Komiya, 1972; Tanukimo, 1965). A total of 25 species has been found in China (Li and Martin, 2011) and 7 species in Taiwan (Li, 1993).

The genus includes epiphytic, terrestrial and aquatic plants, without true roots and stems modified to rhizoids and stolons. The most important of character in morphology is bladder-

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like trap on rhizoids, stolons or leaves. *Utricularia* was various color on corolla, such as yellow, violet, purple, blue, mauve, red or white (Li and Martin, 2011). Most species in this genus are aquatic plants, growing in wetland or swamps.

In this study we report one naturalized species *Utricularia graminifolia* Vahl, that has been established for more than a decade in northern Taiwan.

TAXONOMIC TREATMENT

Utricularia graminifolia Vahl, Enum. 1:195, 1804

禾葉挖耳草 Fig. 2& 3

Terrestrial herbs, rhizoids minority, stolons majority, filamentous, many branches. Leaves numerous, petiolate, the lamina linear or obvate, up to 6mm wide, total length up to 4cm, 3 nerved. Traps bladder-like, side flat, 0.5-2 mm long, with a stalk, trapdoor-based. Inflorescence erect, 4-30 cm, glabrous, alienation 1-6 flowers, with 1-3 scales, bracts and scales, basal rosette, ovate, apex acuminate, 2-2.5 mm length, with 3-5 veins; pedicels filiform, 2-13 mm. Calyx bilobes; upper sepal slightly larger than the lower sepal, lobes ovate, apex acute to acuminate, entire. Corolla pale blue to purple, 7-13 mm, upper lip narrowly oblong, slightly longer than the top of the sepals, top round or entire, lower lip larger, oval, apex rounded, entire, 5-7 mm, throat convex bulge. Spur narrow cone-shaped or diamond-shaped, apex acuminate, longer than the lower lip. Stamens glabrous, filaments linear, bent, the upper enlarged, about 1.5 mm, 2 chamber convergence. Pistil glabrous, ovary wide oval, style short and clear, lower lip of stigma semicircular, upper lip disappeared, truncate. Capsule oblong, 2-3 mm. Seeds numerous, oval, about 0.3-0.4 mm, seed coat glabrous, network processes, the grid vertically extended. Flowering from May to

December (Li and Martin, 2011; Taylor, 1994).

Specimens examined: Taiwan. Taipei City, Neihu District, elev. ca. 350 m, 25° 07'07.45" N, 121° 36'51.57" E. on the roadside. 24 June. 2010, Liou 22. (TCF)

DISTRIBUTION AND HABITAT

Utricularia graminifolia Vahl native to south-east Asia and China, found in wet or swamp from altitude 100-2,100 m. Now it was found in suburbs of Neihu District, Taipei City, Taiwan, and the habitat is a wetland beside the road, associated with *Utricularia bifida* L., *Drosera spathulata* Lab., *Eriocaulon sexangulare* L., and *Eriocaulon truncatum* Buch.-Ham. ex Mart. This wetland has sufficient water year round. Regular weeding in roadside wetlands showed the sunny environment which supported some small wetland plants grow here .

NOTE

Utricularia graminifolia Vahl is a popular aquarium ornamental for excellent prospect under the water. The correct import record of this species is uncertain and no specimen was collected in herbarium of Taiwan . This new naturalized one resembles *U. bifida* L. and *U. uliginosa* Vahl, but easily distinguished by its nerve and flower color. (Table 1).

REFERENCE

- Chao, Y. S. (2003) A taxonomic study on Lentibulariaceae of Taiwan. Department of Biological Sciences, National Sun Yat-sen University, master thesis. pp. 100.
- Komiya, S. (1972) Systematic studies on the Lentibulariaceae. Tokyo, Dept. Biol., Nippon Dental Coll.(II) pp. 124.
- Li, Z. Y. (1990) Lentibulariaceae In: Wang W. T. *et al.* (eds.) Flora of China Tomus. 69. Science

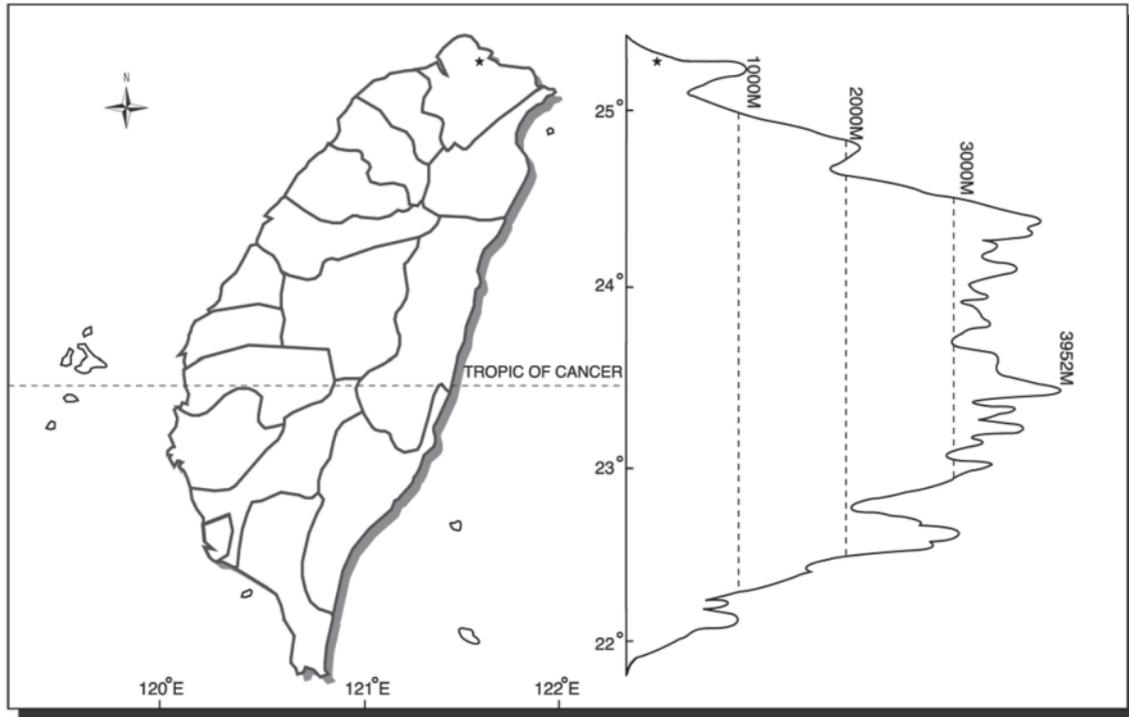


Figure 1. Distribution of *Utricularia graminifolia* Vahl in Taiwan.

Table 1. Comparison of diagnostic characters among closely related species of *Utricularia graminifolia* Vahl.

	<i>U. graminifolia</i> Vahl	<i>U. bifida</i> L.	<i>U. uliginosa</i> Vahl
stolons	many	few	few
leaf nerves	3	1	3
leaf length (cm)	1-4	0.7-3	2.5-4.5
corolla color	blue-purple	yellow	purple-white
corolla length (mm)	7-15	6-10	3-7
Number of flower in every inflorescence	1-6	1-16	1-10

Press. p. 582-605.

Li, Z. Y., R. C. Martin (2011) Lentibulariaceae. In: Wu, Z. Y. *et al.* (eds.) *Flora of China* 2nd ed. Vol. 19. Science Press. p. 480-491.

Li, Z. Y. (1993) Lentibulariaceae. In: Huang, T. C. *et al.* (eds.) *Flora of Taiwan* 2nd ed. Vol. 4. Editorial Committee. Department of Botany,

National Taiwan University. p. 718-730.

Tanukimo K., Z. Tanukimo, Z. Mushitorisumire (1965) Lentibulariaceae. In: Jisaburo, O. *et al.* (eds.) *Flora of Japan* 3rd ed. National Science Museum. p. 813-816.

Taylor, P. (1994) *The Genus Utricularia—a taxonomic monograph*. Royal Botanic

Garden. p. 370-374.

Lentibulariaceae. Council of Agriculture. p.
56-59.

Yang, Y. P., S. H. Yen and C. K. Lin (2001)
Illustrated Guide to Aquatic Plants of Taiwan:

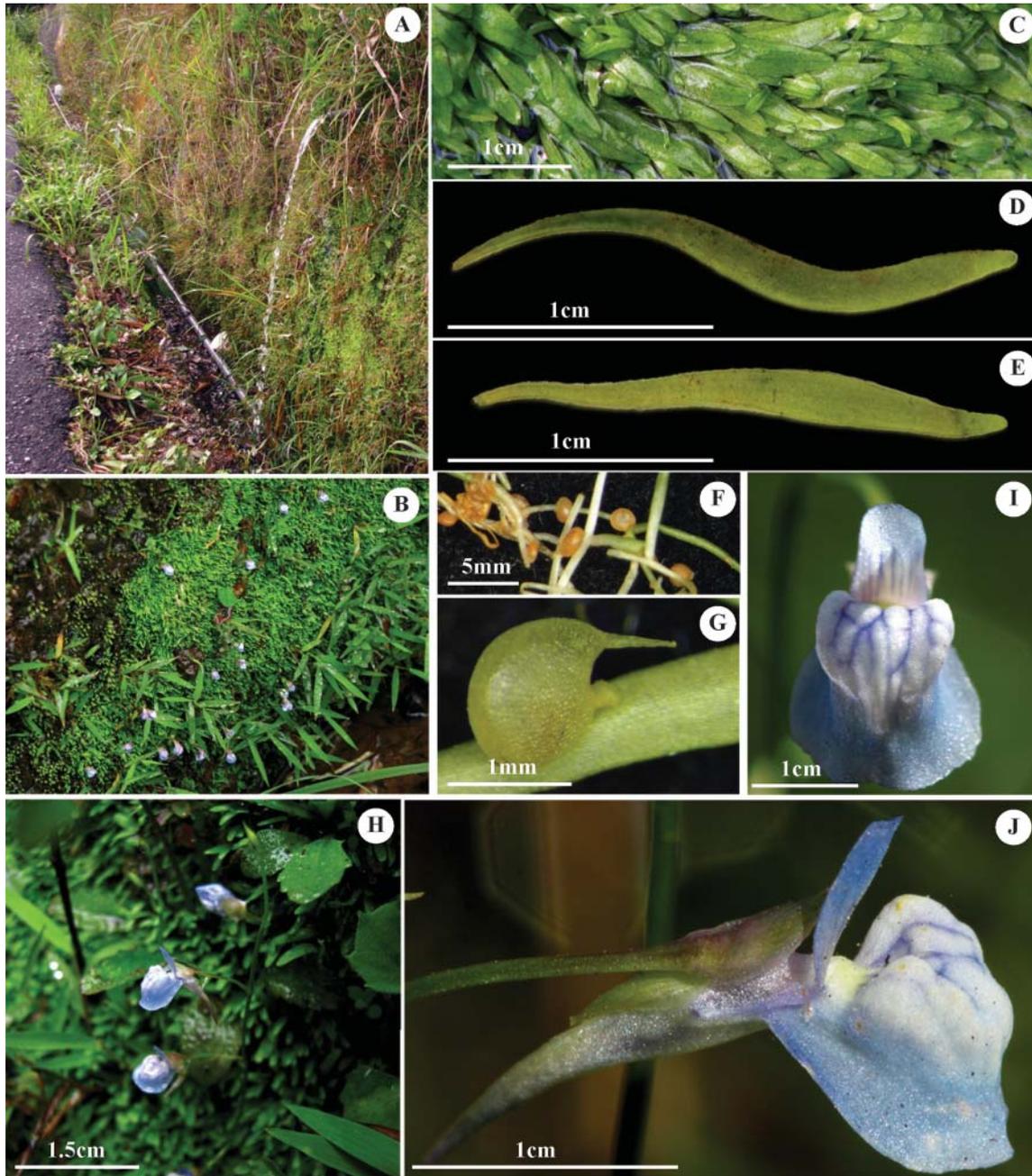


Figure 2. *Utricularia graminifolia* Vahl A, Habitat(large scale); B, Habitat(small scale); C, Leaves; D, Leaf adaxial; E, Leaf abaxial; F, Stolons; G, Trap; H, Inflorescence; I, Flower (front view); J, Flower (lateral view).

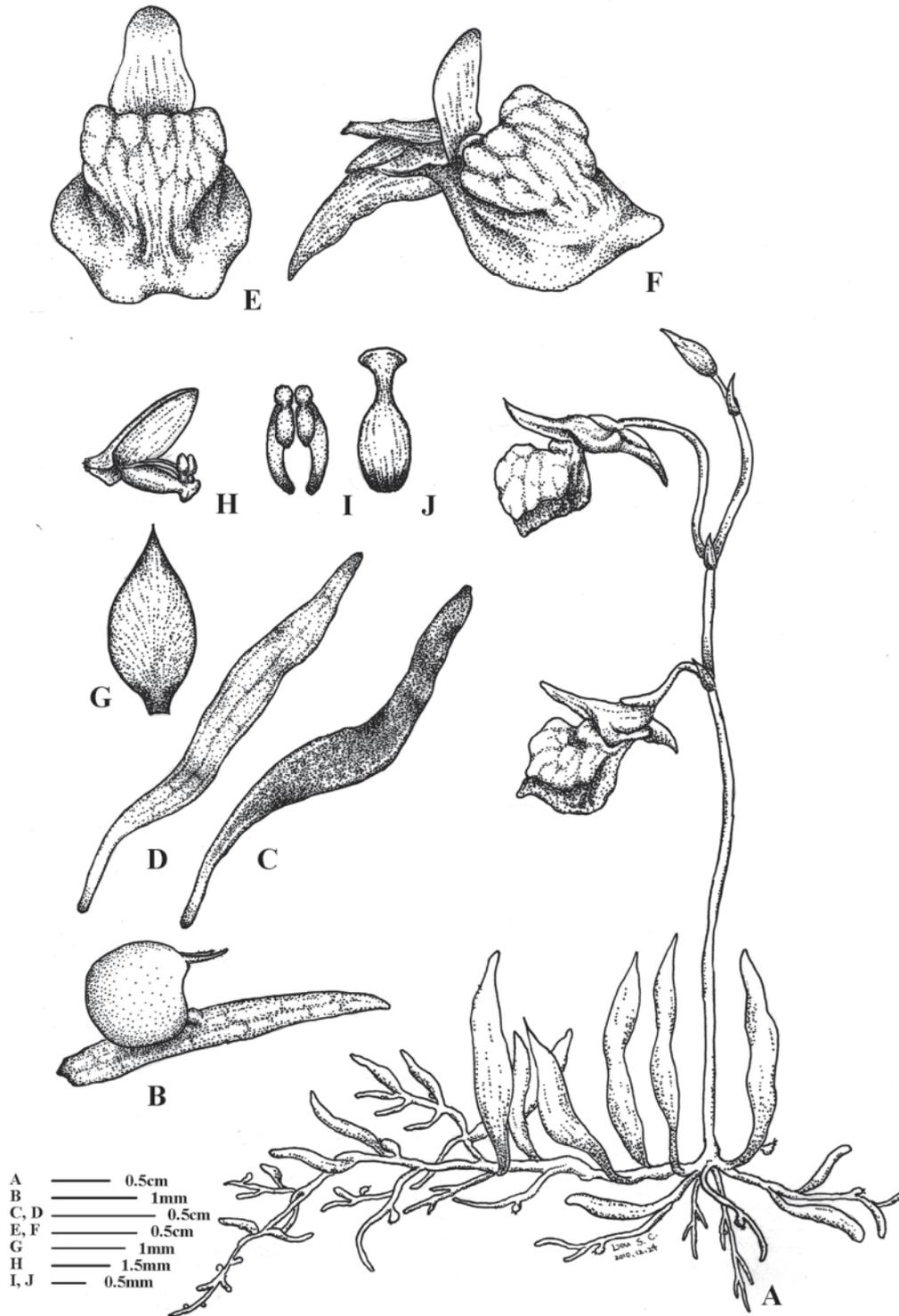


Figure 3. *Utricularia graminifolia* Vahl A, Habit; B, Trap; C, Leaf adaxial surface; D, Leaf abaxial surface; E, Flower (front view); F, Flower (side view); G, Bract; H, Pistil and ovary; I, Pistil; J, ovary.

