NOTE

A Newly Naturalized Species in Taiwan: *Rauvolfia tetraphylla* L. (Apocynaceae)

Yung-Nan Ko[(1)], Fu-Shan Chou[(1)] and Chun-Kuei Liao[(2*)]

1. Liukuei Research Center, Taiwan Forestry Research Institute, 198, Chunghsing Village, Liukuei 84443, Kaoshiung, Taiwan.
2. Department of Biological Science, National Sun Yat-sen University, 70 Lianhai Rd., Kaohsiung 80424, Taiwan.
** Corresponding author. Tel: 886-7-5252000 ext. 3622; Email:chunkuei.liao@gmail.com*

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ABSTRACT: A newly naturalized plant, *Rauvolfia tetraphylla* L., a native species of the Apocynaceae distributed in the tropical Americas, has recently been found in southern Taiwan. It is a newly recorded species to the flora of this island. A detailed description, line-drawings, photographs and geographic distribution are provided for identification of this species.

KEY WORDS: Apocynaceae, naturalized plants, *Rauvolfia tetraphylla*, Taiwan.

INTRODUCTION

The genus *Rauvolfia* has attracted much attention in recent years because *Rauvolfia serpentina*, an Indian species, has yielded a drug for the treatment of high blood pressure and certain mental illnesses (Little and Wadsworth, 1964). Through further investigations, the alkaloids from another American *Rauvolfia tetraphylla* also been found to have a similar pharmacological properties and commercial importance (Rao, 1956; Kurian and Sankar, 2007). So, the species has been introduced worldwide for medicine. Taxonomically, the genus *Rauvolfia* is composed of approximately 60 species (Mabberley, 1997) with pantropical distribution and characterized by whorled leaves, cymose inflorescence, relatively small flowers with eglandular calyx and esquamellate corolla, and ovary with one or two ovules developing into one-seeded variously connate or free drupelets (Rao, 1956).

In Taiwan, according to Flora of Taiwan, 2nd ed. (Li and Huang, 1998), there are one native species, *Rauvolfia verticillata*, and one dubious species, *Rauvolfia taiwanensis*. We recently found that *R. tetraphylla* has naturalized in the southern Taiwan while conducting an inventory project of naturalized plants of the Hengchun Peninsula. So far, there are two populations in Hengchun (恆春) and Checheng (車城) respectively. It is easily distinguished by its four unequal-sized leaves. Herein, the taxonomic description, distribution map, line drawing and colored photographs taken from the natural habitat to aid in identification of this species are offered.

TAXONOMIC TREATMENTS

Rauvolfia tetraphylla L., Sp. Pl. 1: 208. 1753.
四葉蘿芙木 Figs. 1, 2 & 3

Shrubs with latex, tomentose when young, glabrescent with age. Leaves verticillate, (3-)4 unequally-sized at each node, petioles 2-4 mm, leaf blades chartaceous to thin coriaceous, obovate-elliptic to elliptic, base acute or round, apex acute, the largest 9.5-11 cm long, 4-5 cm wide, the smallest 5-6 cm long, 3.5-4cm wide. Inflorescences in axillary compound dichasium; flowers small, 2 mm long; calyx lobes 5; corolla white, urceolate, throat pilose within, tube ca. 3-4 mm long, lobes 5, aestivation in bud sinistrorse (overlapping to the left), obliquely obovate to suborbicular, 1.5-2 mm long; ovary superior, 2-carpellary, connate, style filiform, stigma bilobed; stamesn 5, inserted, filaments short. Drupes subglobose, glabrous, 8-10 mm in diam., deep red or dark purple when ripe. Seeds 2, rugose. Flowering and fruiting March to July.

Specimens examined: TAIWAN. Pingtung County: Hengchun Township, Lungtsaipu (籠仔埔) N 24º 14' 05" E, 120º 35' 32" N (WGS84), elev. ca. 200 m, 15 Apr. 2010, *Y.-N. Ko 1640* (HAST, PPI & TAIF).

Distribution and habitat: Native to the tropical Americas from Mexico to Ecuador and the Antilles Islands; cultivated worldwide for medicine and naturalized in India, Australia (Rao, 1956), China (Tsiang and Li, 1977) and the Hengchun Peninsula of Taiwan (Fig. 3). In its native lands, it has extremely varied habitat, near road-sites, in waste places, on hills, on lake banks, on rocky cliffs, in dry fields and in

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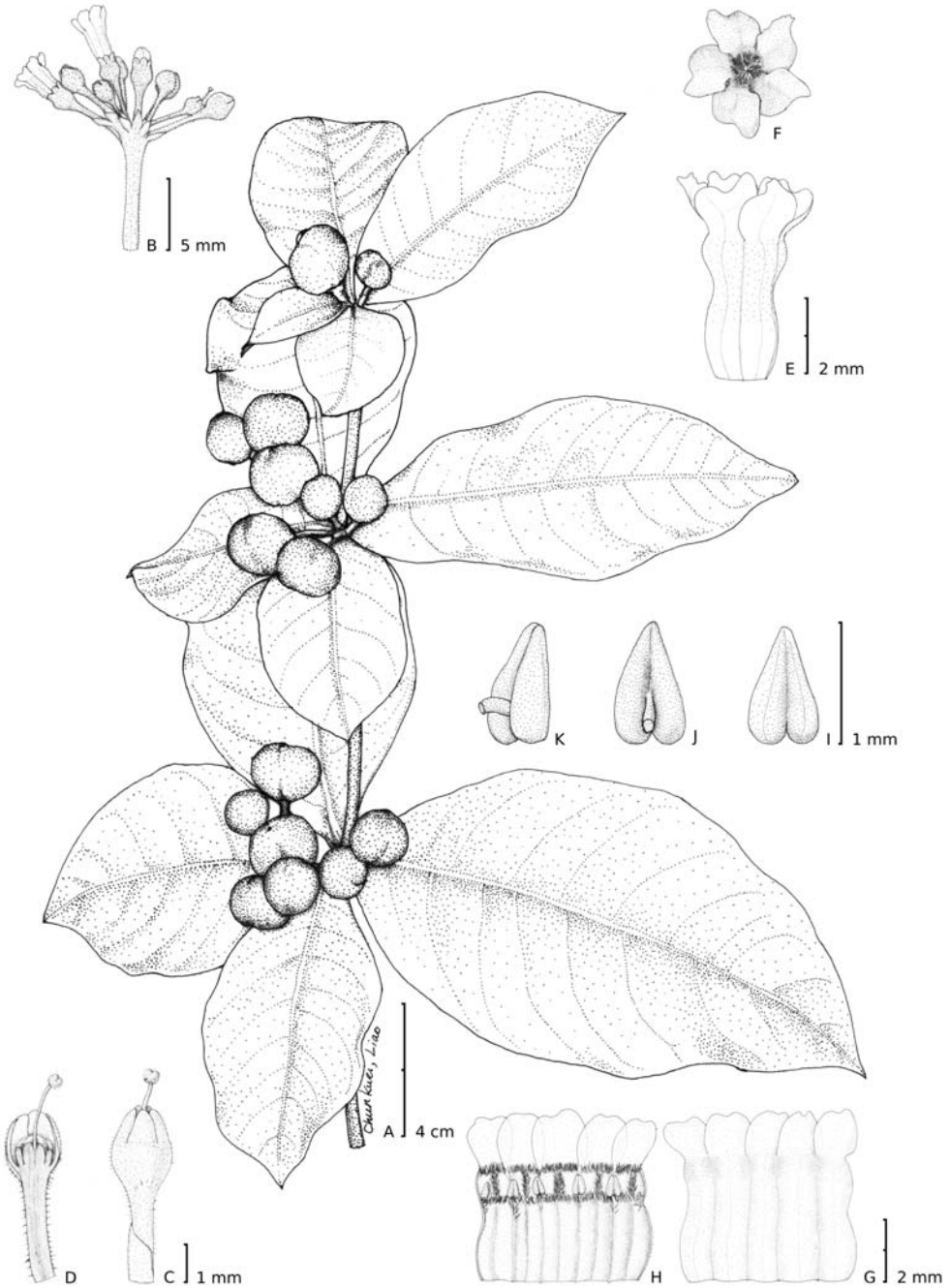


Fig. 1. ***Rauvolfia tetraphylla*** **L. A: Fruiting branch. B: Inflorescence. C: Calyx and pedicel. D: Longitudinal section of calyx, ovary and pedicel. E: Lateral view of corolla. F: Upper view of corolla. G: Outer part of corolla. H: Inner part of corolla. I-K: Anthers.**

hedges, in moist rich soil, in full sun or under shade of trees; at altitudes from sea-level to about 2,000 meters Rao, 1956). So far it occurs in the exposed wasteland or roadside in Taiwan.

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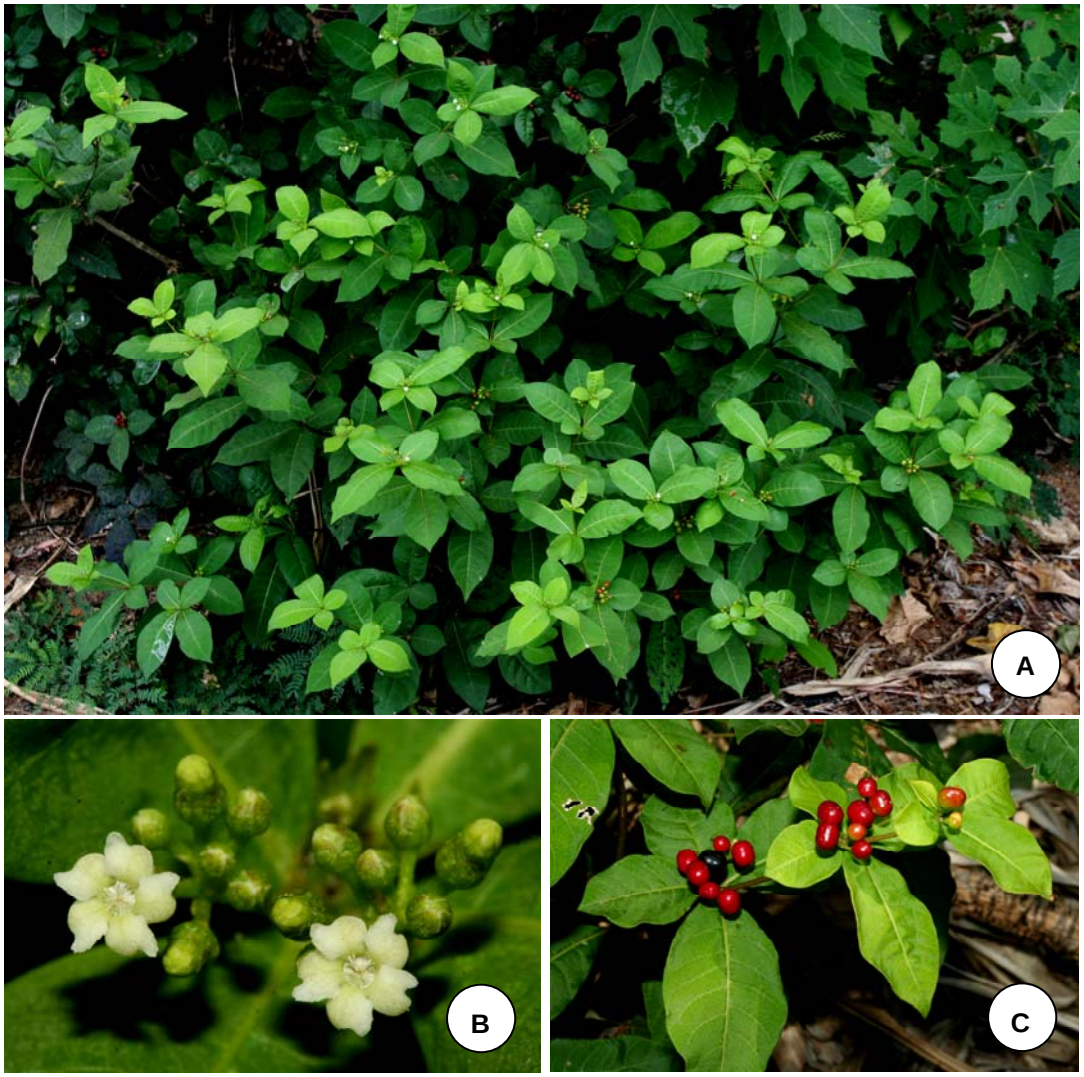


Fig. 2. Photographs of *Rauvolfia tetraphylla* L. A: Habitat of naturalized population. B: Inflorescence and flowers. C: Upper branch with fruits.

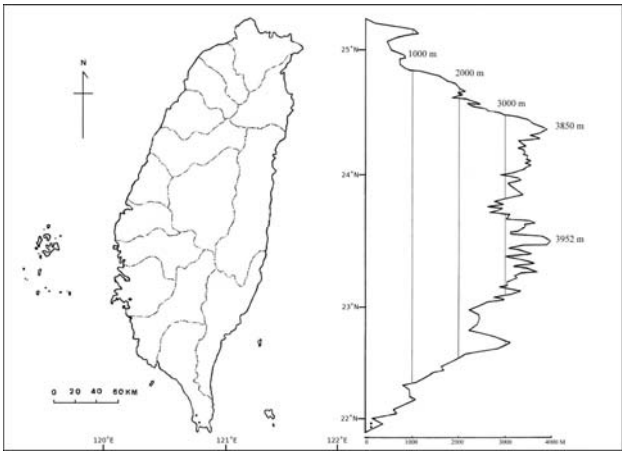


Fig. 3. Latitudinal, longitudinal and altitudinal distributions of *Rauvolfia tetraphylla* L. in Taiwan.

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臺灣新歸化植物 – 四葉蘿芙木(夾竹桃科)

柯勇男[(1)]、周富三[(1)]、廖俊奎[(2*)]

1. 林業試驗所六龜研究中心，84443高雄市六龜區中興村198號，臺灣。
2. 國立中山大學生物科學系，80424高雄市蓮海路70號，臺灣。
* 通信作者。*Tel: 886-7-5252000 ext. 3622; Email: chunkuei.liao@gmail.com*

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摘要：本文記錄一種臺灣新歸化植物，四葉蘿芙木（夾竹桃科），原產於熱帶美洲，最近被發現歸化於本島南部。本報告描述其形態特徵、地理分布並提供彩色圖片與繪圖作為鑑定之用。

關鍵詞：夾竹桃科、歸化植物、四葉蘿芙木、臺灣。

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