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# *Nicotiana plumbaginifolia* Viviani (Solanaceae) as a Newly Naturalized Plant to Taiwan

## 台灣新歸化茄科植物 — 皺葉煙草 (*Nicotiana plumbaginifolia* Viviani)

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### Abstract

This paper describes *Nicotiana plumbaginifolia* Viviani as a newly naturalized species of plant to Taiwan. It was found in the northern region of Taiwan, and its population showed to have been increasing. There is a risk for this plant to become a potential ecological pest of the island.

### 摘要

本文報導在台灣北部發現原產美洲之新歸化植物—皺葉煙草(*Nicotiana plumbaginifolia* Viviani)。此一意外引入之雜草成爲台灣植物誌的新成員，且其族群有增加趨勢。本文提供本種植物的形態描述、分布與生態、繪圖及彩色照片。

**Key words:** Solanaceae, *Nicotiana plumbaginifolia*, naturalized plant, Taiwan, Taxonomy

**關鍵詞：**茄科、皺葉煙草、歸化植物、台灣、分類學

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## Introduction

The genus *Nicotiana* L. is comprised of about 65 species. Most of them are distributed in North and South America, and some in Australia and Pacific islands. In our recent plant inventory survey, *Nicotiana plumbaginifolia* Viviani, that is native to the United States, Mexico, West Indies and South America, was found in the northern region of Taiwan. This paper describes *N. plumbaginifolia* as a newly naturalized species of plant to Taiwan and provides it with notes on its habitat and distribution.

Besides *N. plumbaginifolia* is a newly recorded species, *Nicotiana* is a newly recorded genus for the family Solanaceae of Taiwan. In addition to 10 genera that were recorded for this family in the past (William and Peng 1998) with seven naturalized (exotic) genera, up to date there are a total of 11 genera of Solanaceae in the flora of Taiwan. *N. plumbaginifolia* is closely related to *N. longiflora*. They are distinguishable by the length of the corolla tube: 35-45 mm for the former and 80-100 mm for the latter.

viscid-pilosa, becoming rough in age. Leaves sparsely viscid-pilosa; basal leaves obvate or oblanceolate, 15-23 cm long; the lower ones rotund-ovate, sessile, the margin undulate, apex abruptly acuminate, usually twisted, the base clasping to clasping to clasping-auriculate. Upper cauline leaves reduced, lanceolate to linear-lanceolate, margin strongly undulate, auriculate. Inflorescence a false raceme, occasionally somewhat paniculate; pedicels 3-7 mm long. Calyx 8-12 mm long, 10-ribbed, lobes to the middle or more deeply so, the lobes unequal, 4-8 mm long, linear-subulate. Corolla vespertine, salverform; the limb lavender or pink, deeply lobed; the lobes ovate, acute; the tube pale green or purplish, long and slender, 3.5-4.5 cm long, 1.5-2 mm wide, ampliate above to 3-4 mm wide. Stamens unequal, attached just below the mouth of the tube, four nearly sessile, the fifth stamen about 3 mm, lower on the tube. Filaments glabrous, about 1 mm long or less, shorter than that of anthers. Capsules 8-11 mm long, narrowly ovoid, about the same length as the calyx. Seeds round-elliptic, wavy-reticulate, about 0.5 mm long.

*Nicotiana plumbaginifolia* Viviani, Elench. Pl. Hort. Dinegro, 26, t. 5. 1802.

皺葉煙草 Figs. 1&2

Annual, 0.3-1m tall, stems slender, sparsely

**Specimen examined:** TAIPEI: Dadaocheng (大稻埕), alt. 50m, May 2, 2006, *S. W. Chung 10100*; Sanyuanjie (三元街), alt. 50m, May 2, 2006, *S. W. Chung 10101*; National Taiwan

University (台灣大學), alt. 50m, May 2, 2006, *S. W. Chung s.n.* ; Wuku (五股), alt. 10m, May 2, 2006, *S. W. Chung 10103*; Kuantu (關渡), alt. 10m, May 2, 2006, *S. W. Chung 10104*.

**Habitat and Distribution:** *N. plumbaginifolia* is native to the United States, Mexico, West Indies, and South America. It prefers habitats of wet sandy banks along rivers or unutilized human disturbed areas at elevations up to 1,500m. (Gentry and Standley 1974). In Taiwan, it occurred at dry sandy areas of river banks, roadsides and yards with other weeds, such as *Pilea microphylla* (L.) Liebm., *Oxalis corniculata* L., *Eleusine indica* (L.) Gaertn., *Youngia japonica* (L.) DC. and *Hydrocotyle sibthorpioides* Lam. In 2005, we found

it grew at many places in the city of Taipei. In 2006, its populations were found to have been expanding. This accidentally introduced weed has a potential to become an ecological pest to Taiwan.

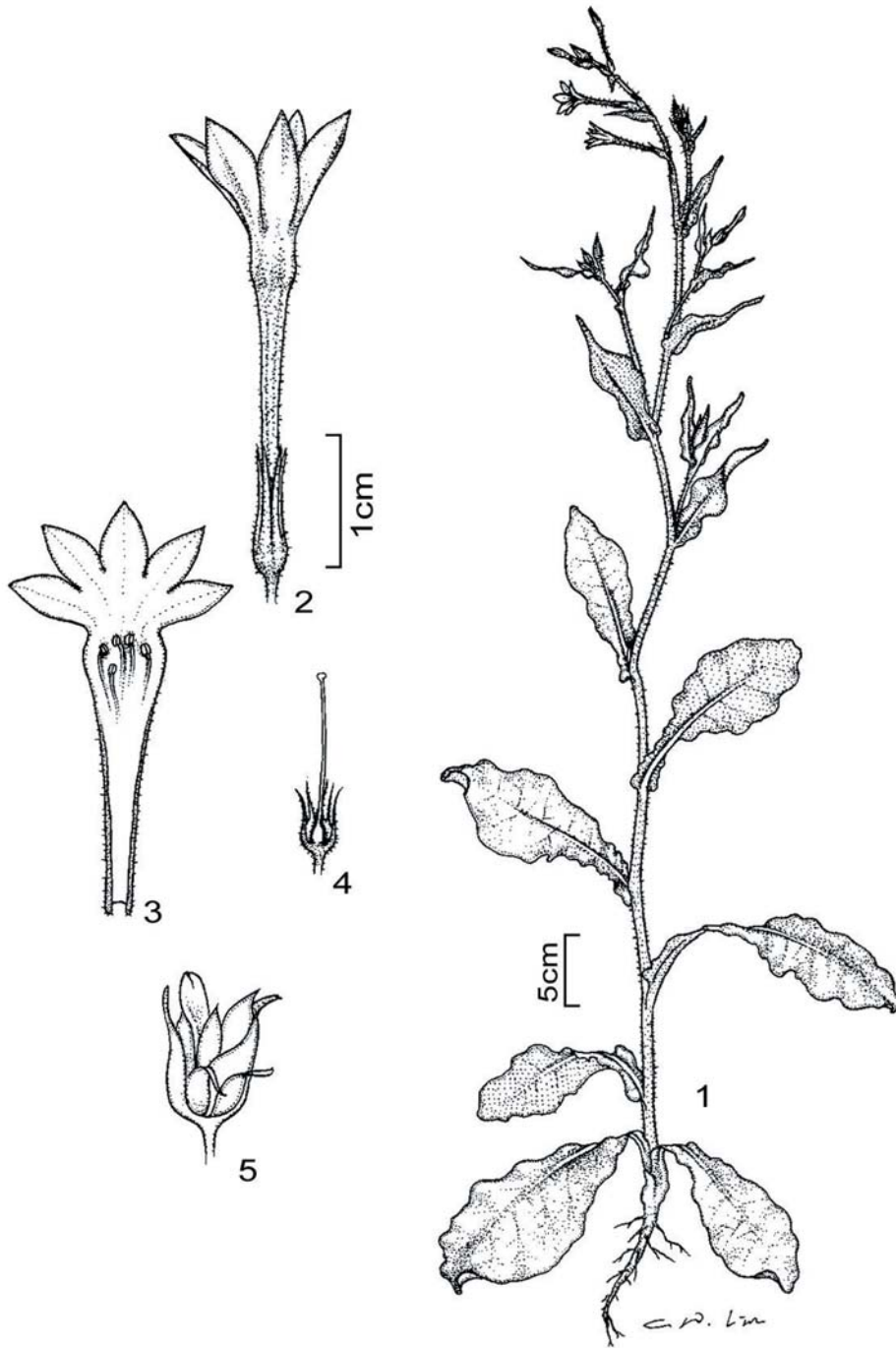
**Phenology:** Flowering from February to May. Withered from October to January.

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**Fig. 1.** *Nicotiana plumbaginifolia*: A, habitat; B, habit; C, upper portion of inflorescence.



**Fig. 2.** *Nicotiana plumbaginifolia*: 1, habit; 2, flower; 3, corolla and stamens; 4, calyx and pistil; 5, calyx.