研究報告

臺灣新歸化錦葵科植物—疏花茵麻

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【摘要】本文首次報導原產熱帶美洲，目前已歸化於臺灣中部低海拔區的疏花茵麻 (*Abutilon hulseanum* (Torr. & A. Gray) Torr. *ex* A. Gray)。描述其形態特徵、地理分佈及生育地環境，並提供彩色圖片與線繪圖以資辨識，另外比較與其相似種大葉茵麻 (*A. grandifolium* (Willd.) Sweet) 在外觀形態特徵差異。

【關鍵詞】錦葵科、疏花茵麻、歸化植物、臺灣

Research paper

Abutilon hulseanum (Torr. & A. Gray) Torr. *ex* A. Gray (Malvaceae), a Newly Naturalized Plant in Taiwan

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【**Abstract**】A newly naturalized plant, *Abutilon hulseanum* (Torr. & A. Gray) Torr. *ex* A. Gray (Malvaceae), native to the tropical Americas, has recently been found in low elevation of central 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. The morphology of *A. hulseanum* is very similar to *A. grandifolium* (Willd.) Sweet, and is distinguished from features of petiole, flowers and mericarps.

【**Key words**】Malvaceae, *Abutilon hulseanum*, naturalized plant, Taiwan.

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INTRODUCTION

The family Malvaceae consists of 100 genera and ca. 1,000 species, distributed in tropical and temperate regions of N and S Hemisphere (Tang *et al.*, 2007) . *Abutilon Mill* is one of the larger and most difficult genera of the family Malvaceae without a solid, up-to-date reversionary treatment (Fryxell, 1997).

Over 150 species of *Abutilon are* distributed in tropical and subtropical areas (Chang, 1993). The genus is delimited from most other genera in Malvaceae by the lack of an epicalyx, by its mericarps that lack wings, have an endoglossum, and generally show dorsal dehiscence, and by the sub-entire to markedly serrate leaves (Esteves and Krapovickas, 2002). In Taiwan 4 species of *Abutilon* have been reported (Boufford et al., 2003; Liu and Ou, 1982; Ou and Liu, 1981). Recently, in our botanical exploration, *Abutilon hulseanum* (Torr. & A. Gray) Torr. *ex* A. Gray was found in central Taiwan. The present study gives the species description and illustrations, based on live plant materials from Taiwan.

TAXONOMIC TREATMENT

Abutilon hulseanum (Torr. & A. Gray) Torr. *ex* A. Gray, Mem. Amer. Acad. Arts, n.s. 4 (Pl. Fendl) : 23. 1849.

Sida hulseana Torrey & Gray, Fl. N. Amer. 1(2): 233. 1838.

Abutilon pauciflorum A.St.-Hil, Fl. Bras. Merid. (quarto ed.). 1: 206. 1827.

疏花茵麻 Fig. 1-4

Perennial subshrub 0.5-2 m tall, the stems and petioles minutely stellate-tomentulose and with long simple hairs, 2-4 mm long. Leaf blades mostly 4-16 cm long, ovate, cordate, margin crenate, rounded-acute, softly tomentulose on both Surfaces, petioles subequal to blades or somewhat shorter; stipules ca. 1cm long , linear caducous. Flowers solitary in the leaf axils; pedicels up to 12 cm long, articulated 6-24mm below the flowers; calyx 12-15mm long in flower, accrescent to 15-20 mm long in fruit, stellate-tomentulose, more than half-divided, the lobes cordate; corolla rotate, the petals ca. 2 cm long, pink or pale pink; staminal column 4-5 mm long, the filaments 2-3 mm long, the anthers yellow; styles ca. 12 mm, dark red. Fruits 12-15 mm long, 2-2.5 cm in diameter; mericarps ca. 12-15 mm long, apically apiculate, blackish at maturity, prominently hirsute, the hairs 1-2 mm long; seeds ca. 2mm long, minutely pubescent. Chromosome number：2n=14 (Fryxell, 1988).

Specimen examined： Taiwan. Changhua County (彰化縣). Xiushui Township (秀水鄉), Yixing Village (義興村), elev. ca. 15 m, 24° 04'48.51" N, 120° 29'45.34" E, 12 Dec.2011, Lin 612 (TCF)； Yunlin County (雲林縣). Mailiao Township (麥寮鄉), Sansheng Village (三盛村), elev. ca. 10 m, 23° 48'13.70" N, 120° 14'41.24" E, 4 Aug. 2011, Lin 514 (TCF).

Notes：*A. hulseanum* closely resembles *A. grandifolium* ,but it is distinct for having red stems (branches) and red petioles in mature, pink flowers, entire petals, smooth staminal column and each fruit with ca.12 mericarps (vs. green stems (branches) and green petioles in mature, yellow flowers, serrulated petals, sparse hair staminal column and each fruit with ca.10 mericarps.) (Table 1).

Table 1. Comparision of *Abutilon hulseanum* (Torr. & A. Gray) Torr. *ex* A. Gray and *Abutilon grandifolium* (Willd.) Sweet

Feature \Species	*Abutilon hulseanum*	*Abutilon grandifolium*
Stem (Branch)、Petiole	From green to red	green
Flower	pink	yellow
Petal	entire	serrulated
Staminal column	smooth	with sparse hair
Number of mericarp	ca. 12	ca. 10

Distribution：This species is believed to have originated from southern Texas to Tabasco and in Florida, Honduras, and the West Indies (Puerto Rico, Jamaica, Cuba, and the Lesser Antilles) (Fryxell, 1988). In Taiwan, this species was found in the central part of western Taiwan . It occurs in open area such as roadsides, upland field, ditch, and in open sunny sandy soils. It Flowers all year round, but principally from May to October.

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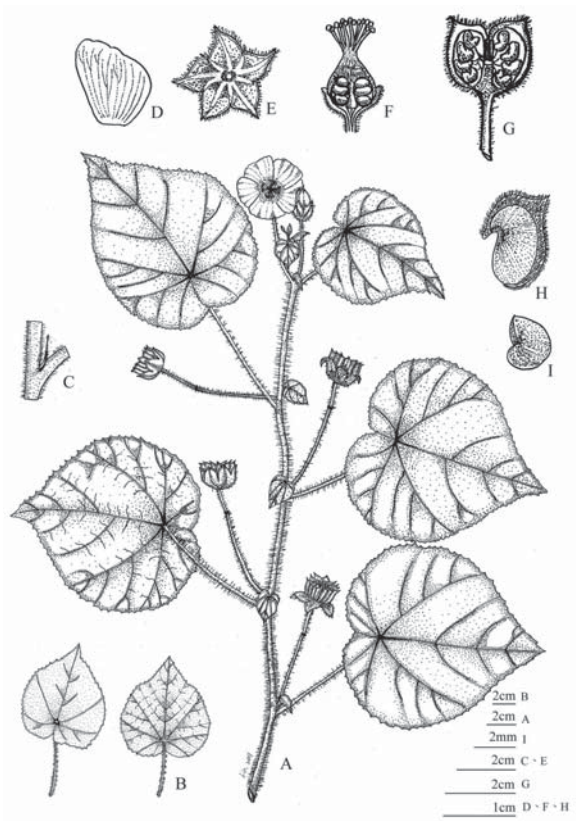

Fig. 1. *Abutilon hulseanum* (Torr. & A. Gray) Torr. *ex* A. Gray. A：Habit. B.Leaves. C. Stipule. D：Petal. E：Calyx. F：Longitudinal section of stigma. G：Longitudinal section of carpel. H：Mericarp. I：Seed.

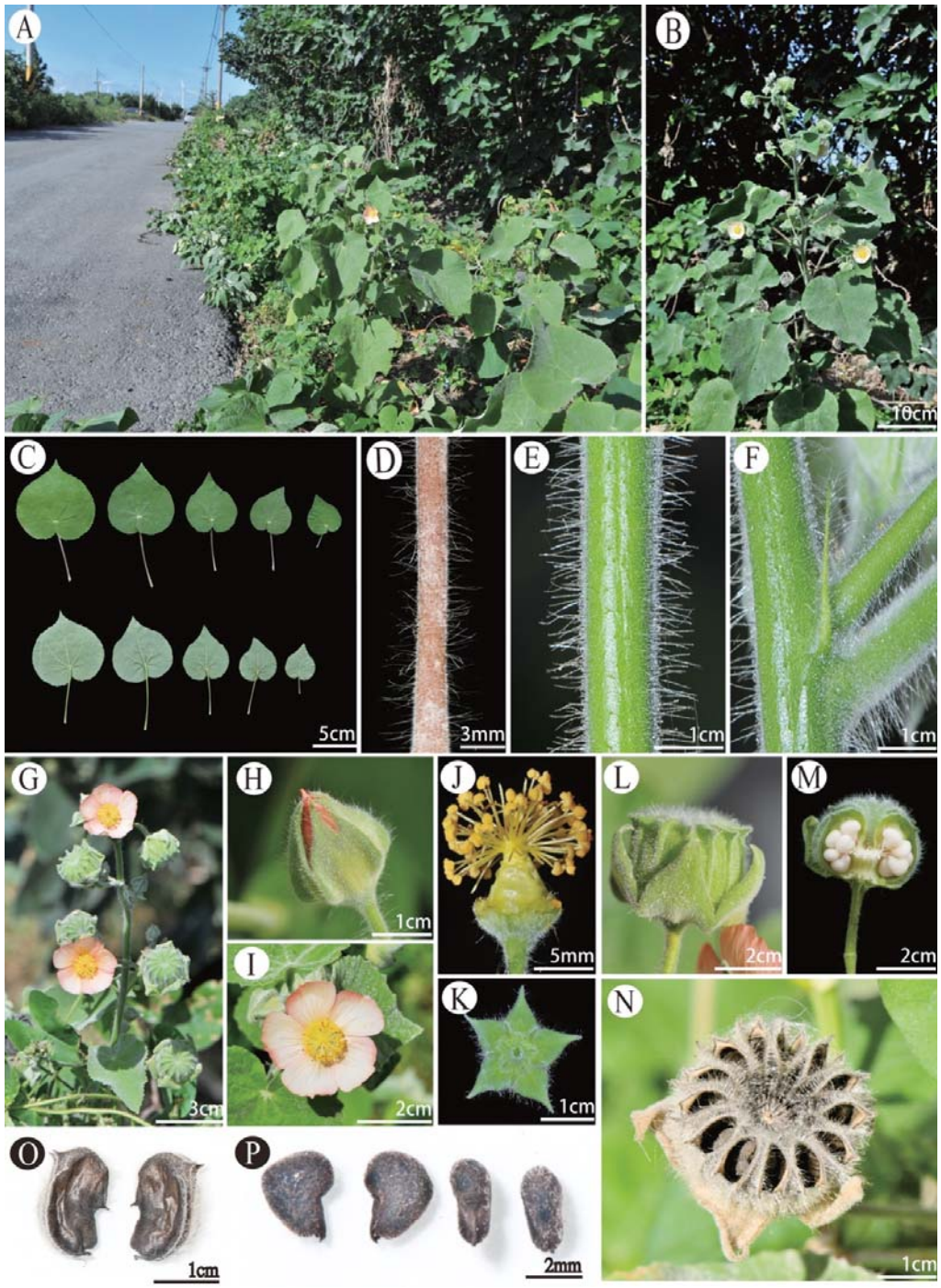

Fig. 2. *Abutilon hulseanum* (Torr. & A. Gray) Torr. *ex* A. Gray. A. Habitat. B. Habit. C. Types of leaves. D. Petiole. E. Stem with long hairs. F. Stipule G. Inflorescence. H. Flower bud. I. Flower. J. Flower remove perianth. K. Calyx. L. Young fruit. M. Longitudinal section of carpel. N. Mature fruit. O. Mericarps. P. Seeds.

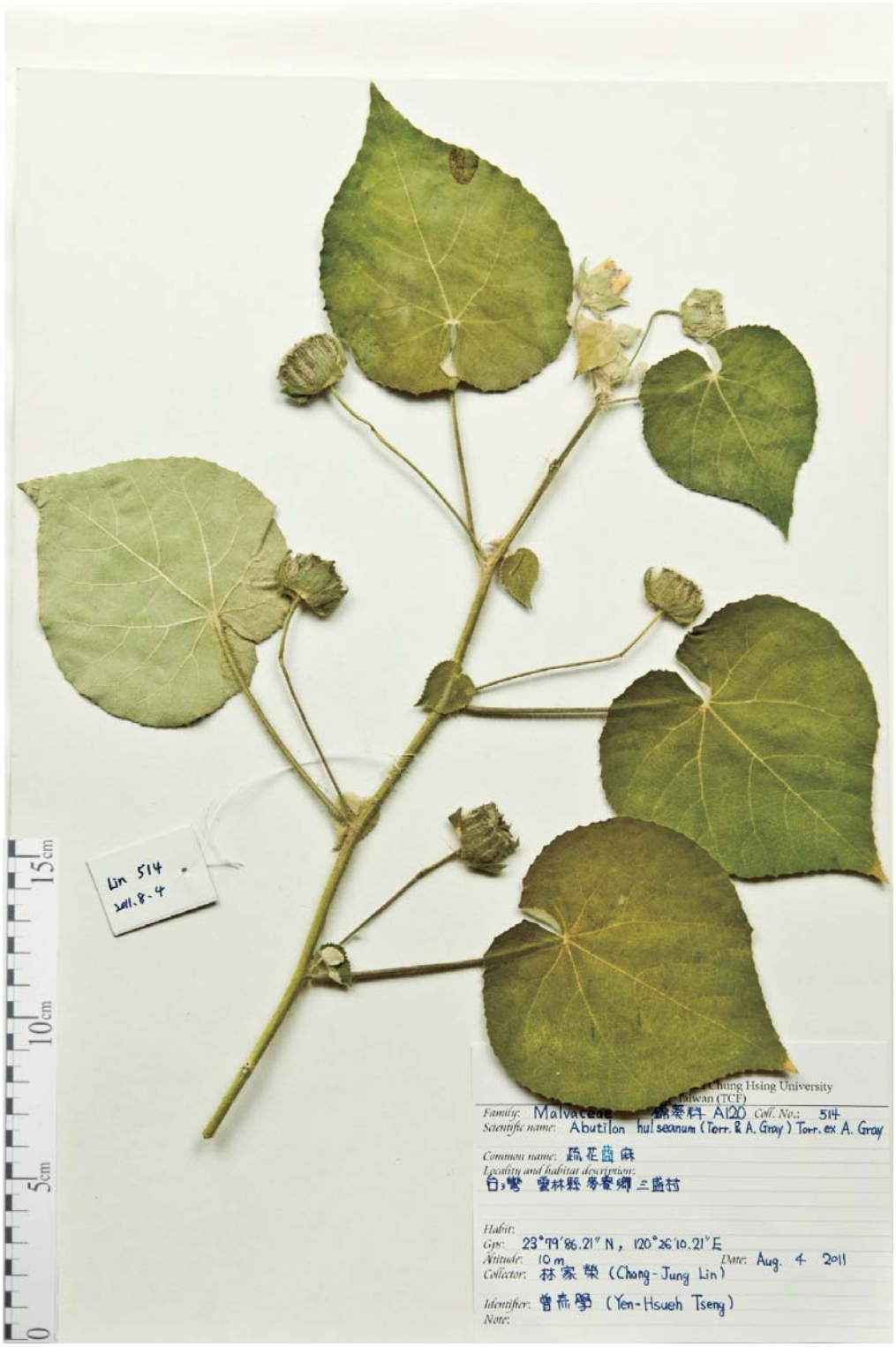

Fig. 3. Cited specimen of *Abutilon hulseanum* (Torr. & A. Gray) Torr. *ex* A. Gray (Lin 514)

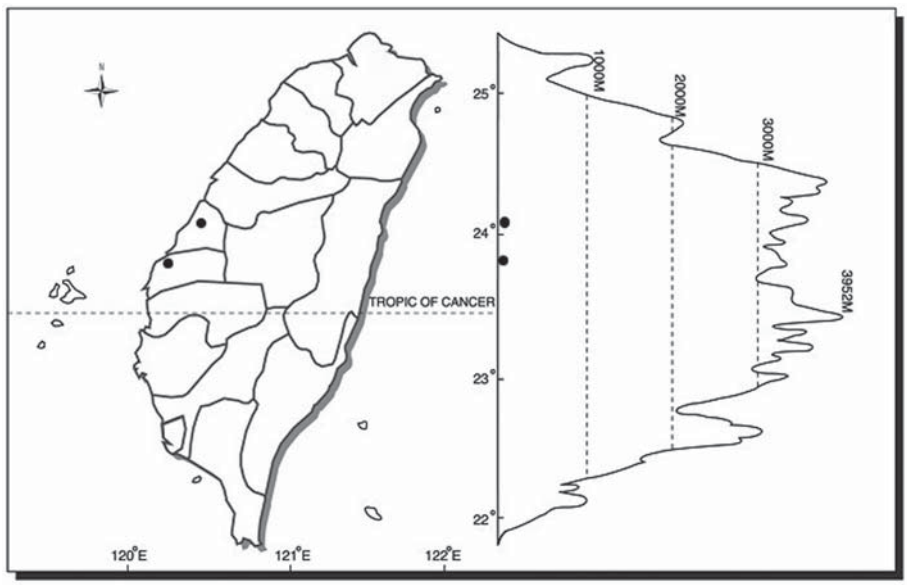

Fig. 4. Distribution of *Abutilon hulseanum* (Torr. & A. Gray) Torr. ex A. Gray in Taiwan.

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