

研究報告

臺灣一新馴化植物—亞麻 (亞麻科)

趙建棟¹ 陳柏豪² 曾彥學^{1*}

【摘要】本文報導臺灣中部發現的一種新馴化植物亞麻(*Linum usitatissimum* L.)，亞麻為世界廣泛栽培的纖維作物，臺灣過去亦有相關引進記錄。本文提供亞麻的線繪圖、彩色照片及分布圖，提供後續鑑定之用。

【關鍵詞】亞麻科、亞麻、新馴化植物、亞麻。

Research Paper

Linum usitatissimum L. (Linaceae), a newly naturalized species in Taiwan

Chien-Ti Chao¹ Po-Hao Chen² Yen-Hsueh Tseng^{1*}

【Abstract】A newly naturalized species flax, *Linum usitatissimum* L. found in central Taiwan was described in this study. This is the first record of the family in Taiwan. Flax is a wide cultivated fiber crop, which has been also introduced to Taiwan since 1921. This was the first formal record of flax naturalized to Taiwan. Line drawings, photos, and distribution map were provided for identification.

【Key words】Linaceae, *Linum usitatissimum*, new naturalized plant, Taiwan.

INTRODUCTION

Linaceae comprised fourteen genera and ca. 250 species distributed worldwide, mainly in temperate and subtropic areas (Liu & Zhou 2008). The family was characterized by herbs, liana or shrubs, leaves simple, spiral to opposite, inflorescences cyme or raceme, flowers bisexual, often pentamerous, the lower part of filaments

often formed a tube, anther longitudinal dehiscent, styles often free, capsule (Mabberley 2008). The most famous crop of the family is flax (*Linum usitatissimum* L.), this species is wide cultivated for yield their fiber. The utility history could be traced back to 30,000 years ago (Kavavadze et al. 2009). Nowadays, the seeds and oil of flax even serve as a kind of functional food in the market

1. 國立中興大學森林學系

Department of Forestry, National Chung Hsing University

2. 國立屏東科技大學森林系

Department of Forestry, National Pingtung University of Science and Technology

* 通訊作者，40227台中市南區興大路145號

Corresponding author. 145 Xingda Rd., South Dist., Taichung City 40227, Taiwan

Email: tseng2005@nchu.edu.tw

(Alister et al. 2003). The scientific name *Linum* was derived from Celtic word *lin* or thread, and *usitatissimum* was a Latin word means most useful, the word "line" also derived from which (Alister et al. 2003). The archaeological and linguistic evidences indicate the importance of the flax to the human being. Flax also introduced to Taiwan as a fiber crop since 1921 (杜金池&林祖輝 1966). Recently, we found flax naturalized in central Taiwan, and provide the description, line drawing pictures and photos for identification. This is also the first record of Linaceae in Flora of Taiwan.

TAXONOMIC TREATMENT

Linum L., Species Plantarum 1: 277. 1753.

Annual to perennial herbs or subshrubs. Stem often erect, glabrous or rarely pubescent. Stipules

small or absent. Leaves alternate, opposite or whorled, simple, with 1 or 3 (or 5) vein basally, margin entire or sometimes ciliate. Inflorescences usually racemes, panicles, cymes or scorpioid cymes. Flowers bisexual, pentamerous. Sepals 5, imbricate, margin entire, sometimes ciliate. Petals 5, color various, contorted. Stamens 5, alternate with sepals; filament bases connate into a tube; staminodes present or not. Ovary 5-loculed, or 10-loculed by the intrusion of false septa, 2 ovules per locule. Style 5, filiform, often twisted, free or connate, stigma capitate, linear or clavate. Capsule globose. Seeds compressed, shiny.

ca. 180 species distributed worldwide, usually in the tempered and subtropical region.

Linum usitatissimum L., Species Plantarum 1: 277. 1753. (Figure 1, 2) 亞麻.

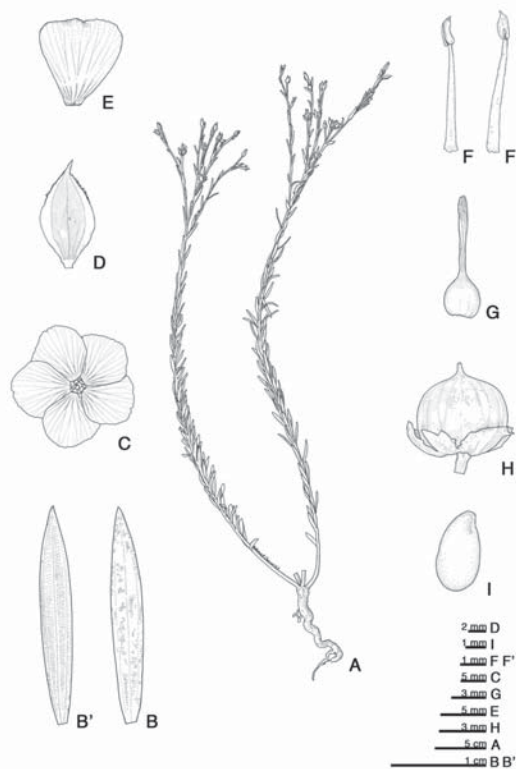


Figure 1. *Linum usitatissimum* L. A. habit B. leaf adaxial surface B'. leaf abaxial surface C. flower D. sepal E. petal F. stamen inner surface F'. stamen outer surface G. pistil H. fruit I. seed

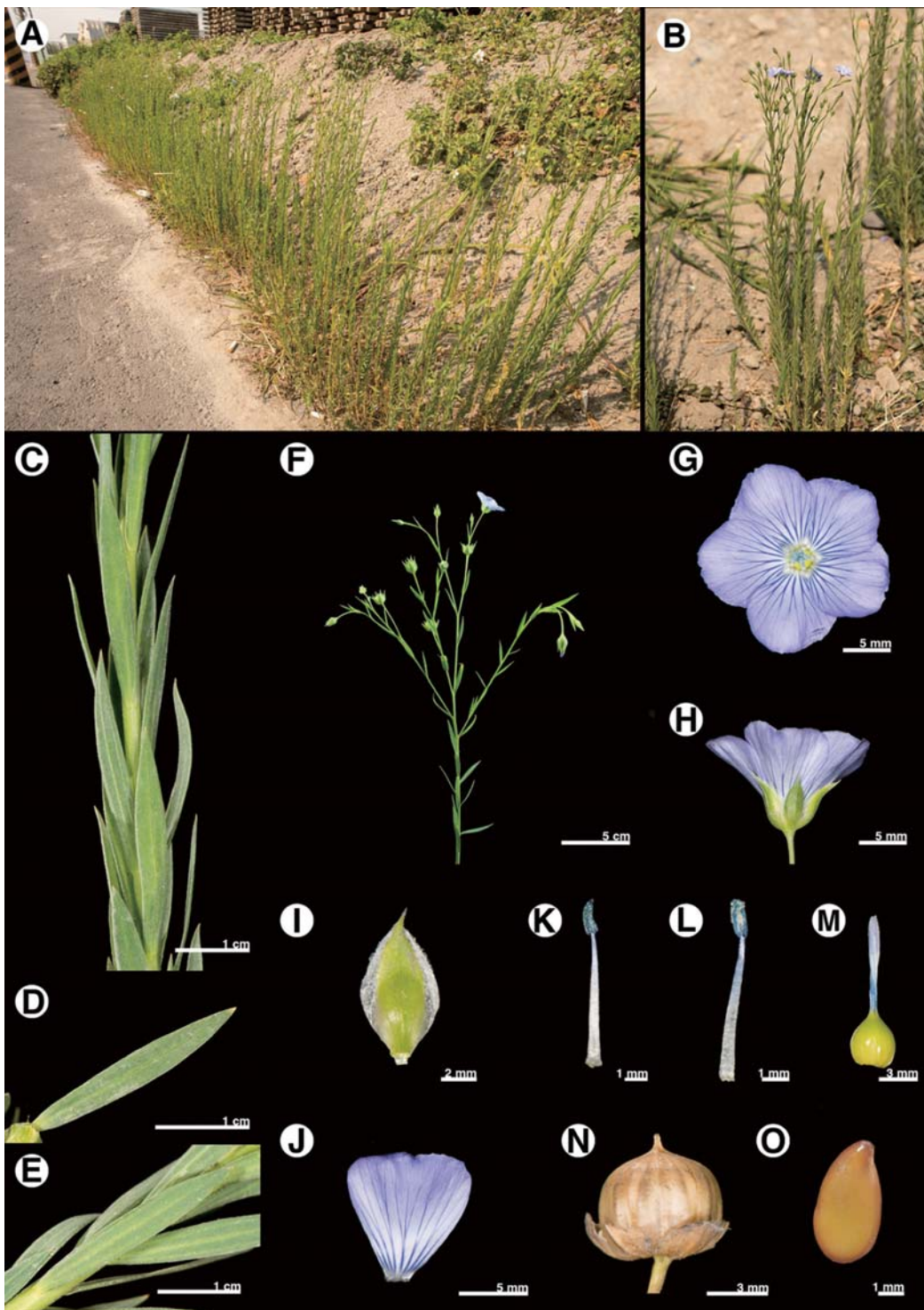


Figure 2. *Linum usitatissimum* L. A. habitat B. habit C. phyllotaxis D. leaf adaxial surface E. leaf abaxial surface F. inflorescence G. flower front view H. flower side view I. sepal J. petal K. stamen inner surface L. stamen outer surface M. pistil N. fruit O. seed

Linum crepitans Dumort., Fl. Belg. (Dumortier) 111. 1827.

Linum humile Mill., The Gardeners Dictionary 8th edition no. 2. 1768.

Linum indehiscens (Neilr.) Vavilov & Elladi, Kul't. Fl. SSSR 5(1): 117. 1940

Annual herbs. Stem 30-80 cm tall, erect, woody at base. Leaves simple, alternate, linear-lanceolate or lanceolate, 1.7-3.5 cm long, 2-5 mm wide, apex acuminate, margin entire, glabrous, 3 or 5 basal veins, sessile. Inflorescences corymbose. Flowers bisexual, actinomorphic, 2.5-3.0 cm in diam., pedicel 1.5-3.0 cm, erect. Sepals 5, imbricate, glabrous, ovate, 7-8 mm long, 3-4 mm wide, apex caudate or aristate, 5-veined, main vein are prominently raised on the outer surface, margin membranous, white, upper part ciliate. Petals 5, blue or purplish-blue, obovate,

13-15 mm long, 10-12 mm wide, apex irregulate serrate. Stamens 5, 6-7 mm long; filaments connate basally, ca. 1 mm long; anthers basifixed, longitudinally dehiscent, purple, 1.5 mm long. Ovary ovate, glabrous, 3 mm long, 5-loculed, ovules 10; styles 5, free, 4 mm long, twining; stigma slightly expanded, linear, ca. 1 mm long. Capsule subglobular, 7-9 mm in diam., brown, apex mucronate. Seeds 10, ovate or ellipsoid, flattened, ca. 5 mm long, ca. 3 mm wide, dark brown, shiny.

This species was cultivated widely, the origin was uncertain, but possibly from Mediterranean region (Liu & Zhou 2008). We found this species from central Taiwan (Figure 3), grows in roadside, the habitat was very dry. The habitat was under artificial disturbance, despite this, the regeneration of the population was very well.

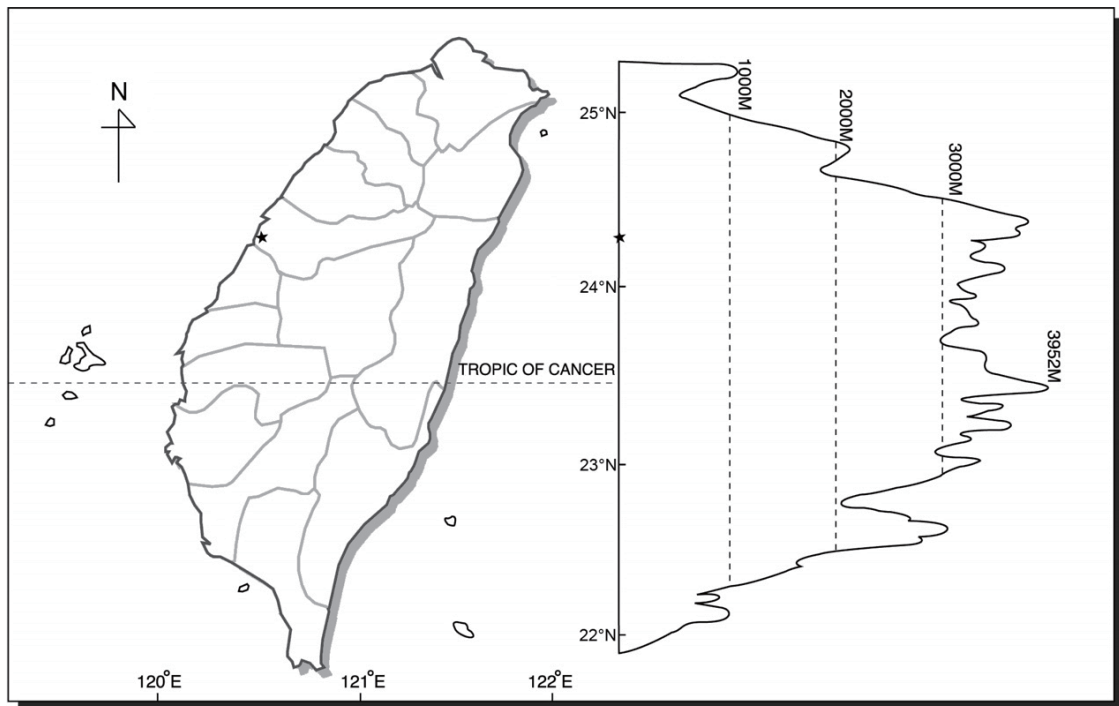


Figure 3. Distribution map of *Linum usitatissimum* L. in Taiwan.

Additional specimen examined

Taichung City, Longjing Dist., Kungyeh Rd.,

P. H. Chen 1189 (TAIF); same loc. C. T. Chao
4408 (TCF).

LITERATURE CITED

Alister DM, Westcott ND (2003) Flax: the Genus
Linum. Taylor and Francis press.

Liu Q, Zhou L (2008) Linaceae. In: Wu ZY,
Raven PH (eds) Flora of China vol. 11 St.
Louis: Science Press, Beijing and Missouri
Botanical Garden Press. pp 34-38.

Morin NR (2016) Linaceae. In: Flora of North

America Editorial Committee (eds) 1993+.
Flora of North America North of Mexico.
16+ vols. New York and Oxford. Vol. 12, pp
371-403.

Mabberley DJ (2008) Mabberley's Plant Book, 3rd
edition. Cambridge University Press.

Kvavadze E, Bar-Yosef O, Belfer-Cohen A,
Boaretto E, Jakeli N, Matskevich Z,
Meshveliani T (2009) 30,000-year-old wild
flax fibers. *Science* 325(5946): 1359.

杜金池、林祖輝 (1966) 亞麻夜蛾科害蟲發生種
類調查。臺灣農業研究 15(1):42-52。

