

Croton bonplandianus Baillon (Euphorbiaceae), a Plant Newly Naturalized to Taiwan

台灣大戟科的新歸化植物—波氏巴豆

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Abstract

Croton bonplandianus Baillon, a plant belonging to the family Euphorbiaceae and native to South America, was recently found to be invasive in the southern Taiwan. This paper describes this newly naturalized species with line drawings and photographs to aid identification.

摘要

本文報導最近在台灣南部發現原產於南美洲之新紀錄種—波氏巴豆 (*Croton bonplandianus* Baillon)。波氏巴豆有可能成爲入侵植物，宜早防除。本文提供該植物的描述、手繪圖及彩色照片以資辨識。

Key words: *Croton bonplandianus*, Euphorbiaceae, naturalized plant, Taiwan, taxonomy

關鍵詞：波氏巴豆、大戟科、歸化植物、台灣、分類

Received: June 13, 2005

Accepted: October 4, 2005

收件日期：94年6月13日

接受日期：94年10月4日

Introduction

The family Euphorbiaceae is comprised of about 315 genera (Webster 1994) and 7,000 species (Webster 1967). They are common plants abundant in the tropic region of the New World and the Old World, and gradually diminish toward the temperate region (Keng 1955). Twenty-seven genera, 77 species and 4 varieties are recorded in the second edition of "Flora of Taiwan" (Hsieh *et al.* 1993). Recently, Chen and Wu (1997, 2004) revised herbaceous *Phyllanthus* and recorded *Chamaesyce hypericifolia* (L.) Millsp as a species newly naturalized to Taiwan, and Lu and Hsu (2003) described *Glochidion ovalifolium* as a new species to the island.

Croton is a large, diverse genus of the family Euphorbiaceae, comprising at least 800 species in the tropic and subtropic regions (Webster 1993). The majority of the species are found in America, particularly South America and the West Indies (Woodson *et al.* 1967). For Taiwan there were two species of *Croton* (*Croton cascarilloides* Raeusch. and *C. tiglium* L.) that had been reported (Hsieh *et al.* 1993). In our recent inventory survey of plants on the island, a weedy species, *Croton bonplandianus* Baillon, was found in the southern Taiwan. This

paper describes this newly naturalized species with line drawings and photographs to aid its identification.

Croton bonplandianus Baillon 波氏巴豆 Figs. 1 and 2.

Croton bonplandianus Baillon, *Adansonia* 4: 339. 1864; Chakrabarty and Balakrishnam, *Bull. Bot. Surv. India* 34 (1-4): 31. 1992.

Erect herbs or subshrubs to 50 cm tall; young shoots densely whitish tomentose, stellate, flat; branches sparsely whitish stellate-scaly or nearly glabrous. Stipules small, filiform. Leaves alternate, clustered at ends of branchlets, simple; petioles 4-7 mm long, scatteredly pubescent, glabrescent; blades narrow to ovate-elliptic or triangular-ovate, lanceolate, 3.4-5 cm long, 0.7-1.6 cm wide, membranous, base obtuse, with 2 glands, margin shallowly serrate, apex acute, pinnately veined but somewhat 3-veined basally. Inflorescence a terminal raceme, 5-14 cm long, with 2-8 pistillate flowers, sparsely tomentose and stellate. Staminate flowers subglabrous to glabrous outside; pedicels 1-1.5 mm long; sepals green, ca. 1 mm long; petals white, ca. 1.5 mm long; stamens 13-16, filaments 1.5 mm long, glabrous, anthers 2-loculate. Pistillate flowers sparsely stellate,

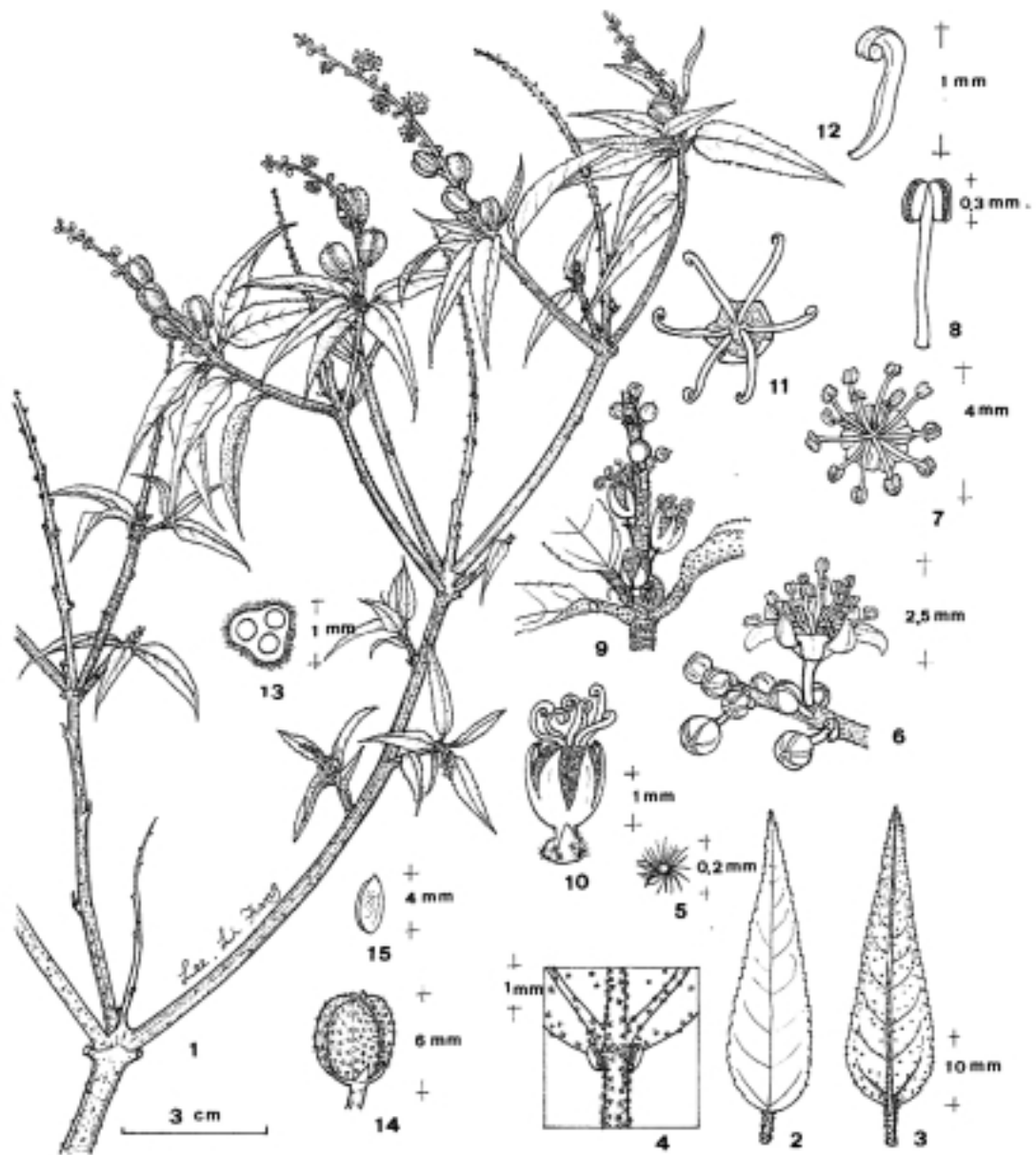


Fig. 1. *Croton bonplandianus* Baillon: 1, habit; 2, leaf, adaxial surface; 3, leaf, abaxial surface; 4, leaf base, showing a pair of glands; 5, stellate-scales; 6, staminate part of inflorescence; 7, staminate flower; 8, stamen; 9, pistillate part of inflorescence; 10 and 11, pistillate flower, different views; 12, style; 13, ovary, cross-section; 14, capsule; 15, seed.



Fig. 2. *Croton bonplandianus* Baillon: A, habitat; B, seedling; C, habit, close-up view; D, staminate flower; E, pistillate flower.

pedicels very short or nearly absent; sepals 5, ca. 1 mm long, subglabrous; petals absent; ovary 3-locular, ca. 1.5 mm long, densely or sparsely pubescent; stigmas free, 1.5-2 mm long, deeply bifid. Capsules green, 6-11 mm long, 4-5 mm in diameter, sulcate, densely or sparsely pubescent; seeds 2-3, 4-5 mm long, about 3 mm in diameter, blackish-brown.

Specimen examined: The specimens were collected at a wasteland near the Chia Nan University of Pharmacy and Science (嘉南藥理科技大學) in the Rhshin village (二行村), Rende District (仁德鄉), Tainan County, Taiwan, Jun. 8, 2004, *T. W. Hsu 11570* (HAST, TESRI [Endemic Species Research Institute]) and Aug. 16, 2004, *T. W. Hsu 11598* (TESRI).

Remarks: *Croton bonplandianus* Baillon is native to the southern Bolivia, Paraguay, southwestern Brazil, and northern Argentina of South America (Chakrabarty and Balakrishnan 1992). It has been naturalized to Bhutan (Long 1987), Sri Lanka, India, Pakistan, Nepal, Bangladesh, Myanmar, Malay Peninsula, and Africa (Chakrabarty and Balakrishnan 1992), where it has become an invasive alien weed (Pallewatta *et al.* 2003).

In the southern Taiwan *C. bonplandianus* is found as a weed commonly in wastelands, roadsides, and orchards. It is locally abundant in the areas of sandy or sandy clay soils. It blooms and fruits all the year round. This accidentally introduced weed has a potential to become an agricultural pest in Taiwan.

Acknowledgments

We would like to express our gratitude to Drs. Peter H. Raven, Hans-Joachim Esser and

Paul E. Berry for their assistance in identification of plant specimens. We are also thankful to Messrs. J. J. Peng and S. H. Lin for their assistance in field works. This study was supported in part by the research grant of the Council of Agriculture, Taiwan.

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