

Zanthoxylum acanthopodium DC. (Rutaceae), a Newly Recorded Plant in Taiwan

台灣芸香科的新紀錄植物—岩花椒

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Abstract

Zanthoxylum, comprising about 200 species in the world, is a large genus of the family Rutaceae. Nine species were recorded in the 2nd edition of Flora of Taiwan. In the course of our botanical inventory, *Z. acanthopodium* DC., heretofore unknown in Taiwan, was collected from central and eastern part of the island. *Z. acanthopodium* is easily distinguished from other congeners by leaf rachises with conspicuous wings, and secondary veins of leaflet adaxially blades evident. In this report we provide a description and colored photographs taken from the wild to aid identification.

摘要

花椒屬為芸香科的一個大屬植物，全球包含約有200種，台灣植物誌第二版紀錄有9種，最近我

們在中部及東部植物調查時發現另一新紀錄植物—岩花椒；該植物以其葉軸具明顯的寬翼以及葉下表面側脈清楚等特徵，可明顯與台灣產本屬其他物種區別。本文提供該種的形態描述、線畫圖與彩色圖片。

keywords : New record, Rutaceae, Taiwan, Taxonomy, *Zanthoxylum*, *Z. acanthopodium*.

關鍵詞：新紀錄、芸香科、台灣、分類、花椒屬、岩花椒

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Introduction

Rutaceae consists of 162 genera and 1,650 species (Thorne & Reveal 2007). The genus *Zanthoxylum* (Rutaceae) consists of about 200 species in the world (Hartley 1966; Porter 1976; Reynel 1995). Primarily pantropical, the two subgenera sometimes are regarded as distinct genera (Brizicky 1962). Taiwanese *Zanthoxylum* were recorded seven species by Liu (1955), nine species by Chang (1974), nine species by Chang and Hartley (1993) and Ho (2007) recorded ten species. In the course of our botanical inventory, *Z. acanthopodium* DC. was found in central and eastern Taiwan, representing a new record for this island. *Z. acanthopodium* belongs to the subgenus *Zanthoxylum* L. that comprises about 15 species, and is primarily found in the temperate zone of eastern Asia and north America (Brizicky 1962).

Key to the subgenus of *Zanthoxylum*

A1: Perianth in a single series -----*Zanthoxylum*

A2: Perianth in two series ----- *Fagara*

Key to the species of subgenus *Zanthoxylum* in Taiwan

A1: Leaf rachises with conspicuous wings

B1: secondary veins of leaflet adaxially blades evident----- *Zanthoxylum acanthopodium*

B2: secondary veins of leaflet adaxially blades faint -----*Z. armatum*

A2: Leaf rachises terete or with narrow wings extending to not more than 1 mm on each side

B1: Leaves 3-foliolate ----- *Z. pistaciiflorum*

B2: Leaves 3- 7(or 9)-foliolate

C1: Leaflet membranous, ovate, 2.5-3 cm long ----- *Z. simulans*

C2: Leaflet coriaceous, oblong-lanceolate, 10 cm long ----- *Z. wutaiense*

Taxonomic Treatment

Zanthoxylum acanthopodium DC., Prodr. 1:727.

1824. 岩花椒

Dioecious shrub. Branchlets, glabrous, shallowly rimose, bears lenticels and straight prickles. Prickles, 1.5 cm long, 8 mm wide at base 1.5 mm thick. Young branchlets, glabrous. Leaves odd-pinnate, alternate; leaflets 5~7, lateral leaflets opposite, terminal leaflet the largest. Rachis conspicuously winged, width 1.4~2.5 mm (including the width of petiole), widest near terminal leaflet; glabrous, straight prickles on both surfaces, unequal in length, 1.5~4.5 mm long. Straight prickles paired at base of petiole, subequal in length; tinged red at apex; widened and flattened at base. Terminal leaflet elongate elliptic, 2.9~5.2 cm long, 8.3~12.7 mm wide, thin chartaceous, glabrous on both surfaces. Petiolules 0 (~4.5) mm. Apex acute; base cuneate; margin obtusely serrate, bears pellucid glands at tip. Surface of leaflet blades flat. Midrib straight and glabrous, elevated and bears ca. ascending short prickles abaxially. Lateral veins and veinlets inconspicuous. Lateral leaflets 2~3 pairs, elliptic, 1.3~2.5 cm long 0.6~0.9 cm wide, sessile, the shape and size of each leaflet pairs unequal; glabrous on both surfaces; thin chartaceous. Apex acute; base cuneate to widely cuneate; margin obtusely serrate, bears pellucid glands at tip. Surface of leaflet blades flat. Midrib straight and glabrous. Lateral veins and veinlets inconspicuous.

Flowers unisexual. Pistillate inflorescences terminal on twigs, raceme or short panicle, 1.2 cm long (including peduncle) 0.8 mm across, ca.

9 flowers. Peduncle subsessile, bears short hairs. Bracteole 1, elongate deltoid, brownish, ca. 1 mm long. Pedicels 1.5 mm long 0.4 mm across, bear short hairs. Pistillate flowers: Sepals 6, lanceolate. Petals absent. Staminodes absent. Carpels 2, subovoid, conspicuous, glabrous, bear translucent gland dots on surface, fused at lower part. Gynophore 1, subglobose, about the same size as a carpel, glabrous. Hypogynous. Styles ca. 1 mm long, glabrous, recurved. Stigmas capitate. Ovules 2 per carpel.

Distribution: Bhutan, Burman, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Pakistan, Sikkim, Thailand, Vietnam, and China. (Hartley, 1966; Zhang *et al.*, 2008.) In Taiwan, found at medium elevations in the central and eastern part.

Specimen examined. **TAIWAN. Nantou County:**

Sinyi Township (23°29'54" N/120°52'52" E)

alt. 2226m *Hsu 14240* (TAIE); **Hualien**

County: Zhuilu Old Road

(24°10.581' N/121°31.335' E) alt. 671 m

Hsu 16762 (TAIF).

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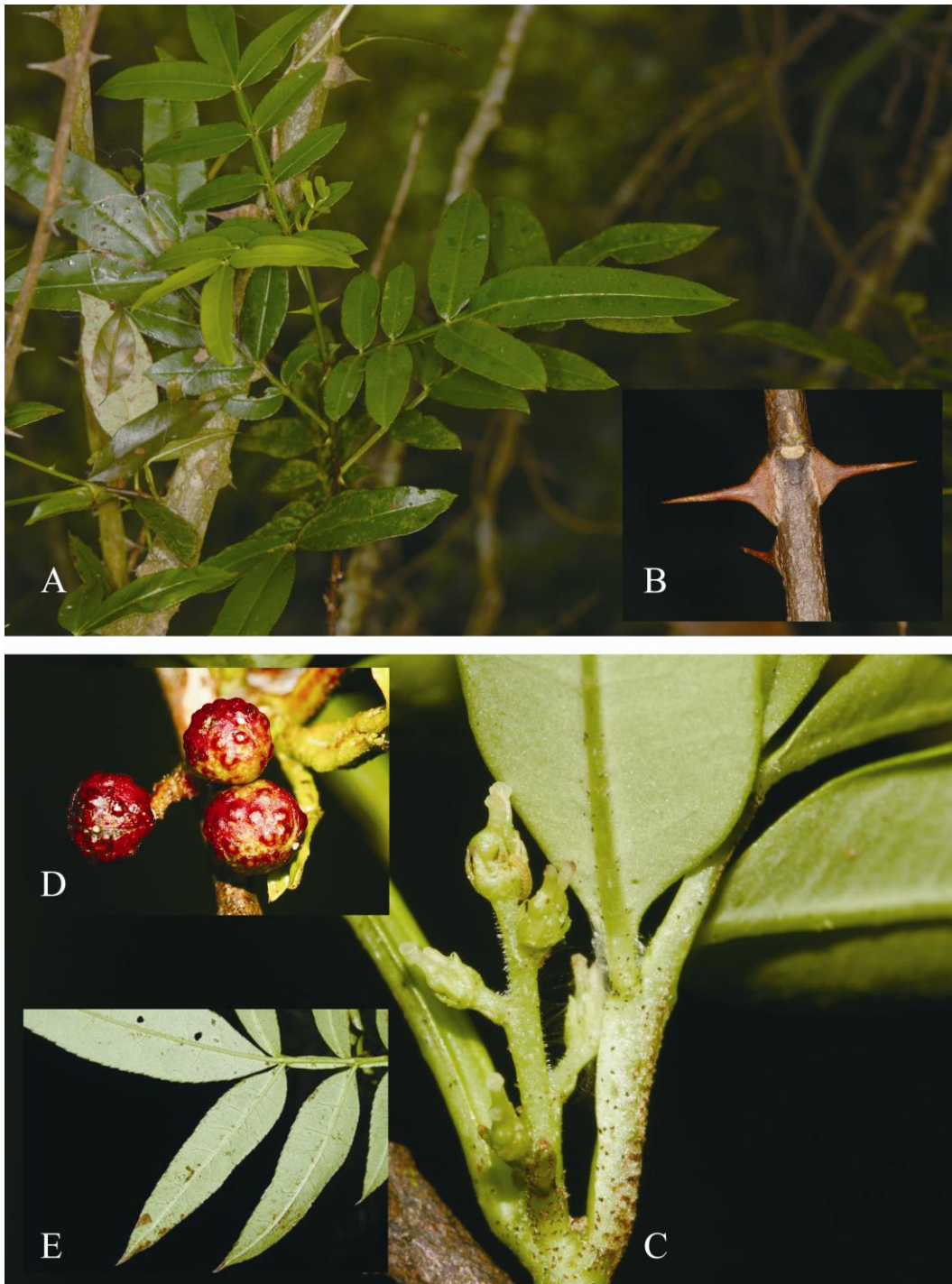


Fig. 1. *Zanthoxylum acanthopodium* DC. A: habit; B: spine; C: female inflorescences; D: fruits; E: secondary veins of leaflet.



Fig. 2. *Zanthoxylum acanthopodium* DC. A: habit; B: female inflorescences; C: fruits; D: secondary veins of leaflet.

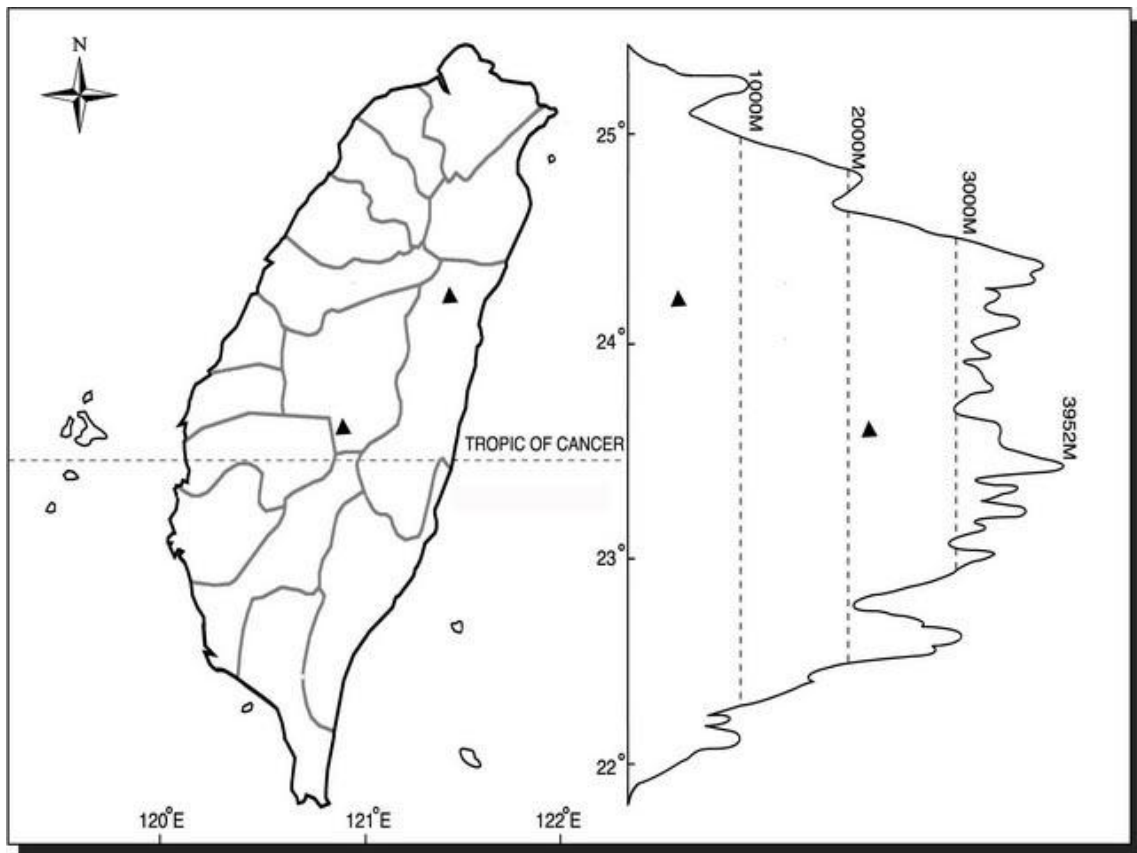


Fig. 3. Distribution of *Zanthoxylum acanthopodium* DC. in Taiwan.

