

Research note

***Tragus berteronianus* Schultes (Poaceae),
a Newly Naturalized Grass in Taiwan**

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[Summary]

The newly naturalized genus, *Tragus* Haller (Poaceae), and its species newly recorded in the flora of Taiwan, *T. berteronianus* Schultes, which is broadly distributed in Africa, the Americas, and Eurasia, are described and illustrated herein. This grass species was stably found in a coastal region of the Penghu Archipelago, and its habitat and diagnosable characters are also described herein.

Key words: *Tragus*, new record.

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研究簡報

蝨子草(*Tragus berteronianus* Schultes, Poaceae), 台灣新歸化禾草

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摘要

本文描述台灣禾本科新歸化屬：鋒芒草屬(*Tragus* Haller)及本屬中廣布於美洲、非洲與歐亞大陸，及其新紀錄於澎湖群島海濱的禾草：蝨子草(*T. berteronianus* Schultes)，並描述其生育地與鑑定特徵。

關鍵詞：鋒芒草屬、新紀錄。

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The Poaceae is one of the main contributors to the flora of Taiwan, and more than 80 alien species have been newly recorded and naturalized in Taiwan (Hsu 2000, Boufford et al. 2003, Wu et al. 2010, Chen et al. 2011, 2012, Ku et al. 2011). *Tragus* Haller is a small genus, including 7 species native to the Paleotropics, and 2 species have been introduced to the Neotropics (Antón 1981, Osada 1972, 1993, Chen and Sylvia 1994). In recent botanical surveys, the author found a sustainable population of *Tragus* sp. in a coastal region at Chimei, Penghu Archipelago (Fig. 1). After reviewing the relevant literature (Antón 1981, Osada 1972, 1993, Chen and Sylvia 1994), the author confirmed these plants to be *T. berteronianus* Schultes, which is new to the flora of Taiwan. In this brief research note, the author describes this newly naturalized plant and its genus, and offers a line drawing for identification. All vouchers were deposited in the herbarium of the Taiwan Forestry Research Institute (TAIF).

Tragus Haller, Hist. Stirp. Helv. 2: 203. 1768; Antón, Kew Bull. 36(1): 55, 1981; Chen and Sylvia Fl. China 22: 495, 1994.

..... 鋒芒草屬

Annual or perennial herb. Leaf ligule a row of hairs. Panicle constricted, linear and cylindrical in outline, spikelike; branches short. Spikelets elliptic to lanceolate, floret 1; lower glume minute; upper glume 5~7-veined, veins ribbed, with hooked spines on ribs.

Tragus berteronianus Schultes, Mant. 2: 205. 1824. Antón, Kew Bull. 36(1):58, 1981; Chen and Sylvia Fl. China 22:495, 1994.
..... 蝨子草(Figs. 2, 3)

Annual, caespitose. Culms decumbent at base, 10~15 cm tall. Lower internodes enclosed by leaf sheaths. Leaf sheath glabrous; leaf blades broadly linear, flat with sinuate margins, glaucous, 1~5 cm long, to 1 cm wide, margins thick, with a pectinate spine from middle to base, apex acute to acuminate. Flowering culm with 1 or 2 exposed nodes. Inflorescence a constricted panicle, 4~11 cm long, to 1 cm wide; spikelets paired on peduncle, peduncle coated spreading ciliate, cilia ca. 0.1 mm long; lower spikelet sessile or nearly so, upper spikelet pediceled; rachis 0.2~0.4 mm long, coated with cilia and with

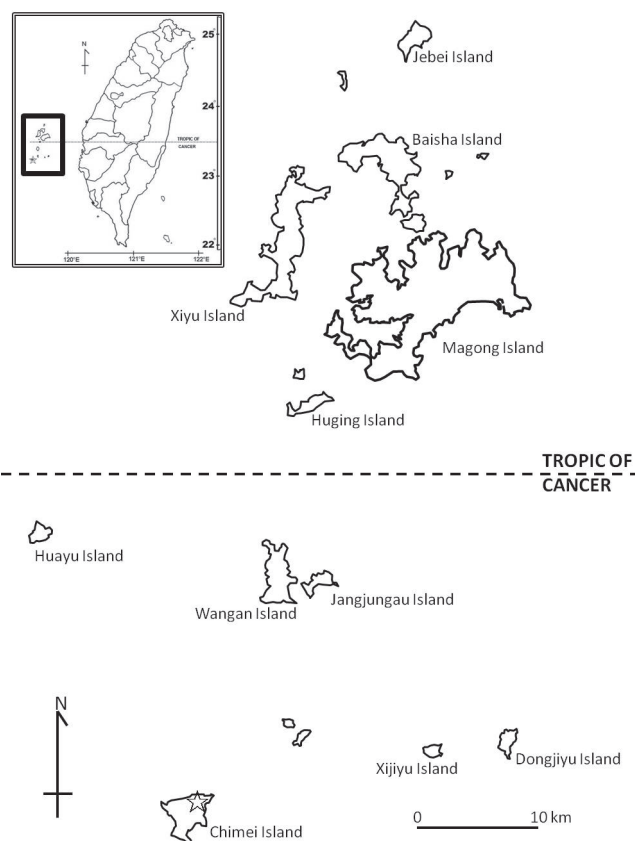


Fig. 1. Distribution map of *Tragus berteronianus* (☆) in Taiwan.

hooked spines on dorsal side, spines 0.1~0.2 mm long. Lower spikelet fertile, ovate, ca. 2 mm long; lower glume ovate, membranous, suppressed, ca. 0.1 mm long; upper glume ovate, boat-shaped, apex acute, 5-veined, ribbed, with hooked, swollen-based spines, spines 0.2~0.5 mm long; lemma ovate, to 2 mm long, shorter than upper glume, apex acute, 1-veined, membranous; palea ovate, to 1.8 mm long, apex acute, 2-veined, membranous. Upper spikelet shorter than lower one, to 1.8 mm long.

Specimens examined: TAIWAN. Penghu County, Chimei District, Chimei, 6 Sept. 2014, *Ming-Jer Jung* 6063 (TAIF), same location, 4 Aug. 2015, *Ming-Jer Jung* 6088 (TAIF).

Notes: *Tragus berteronianus* is native

to tropical and temperate areas of Africa and Eurasia, and has been naturalized in the Americas (Antón 1981, Osada 1972, 1993, Chen and Sylvania 1994). In Taiwan, this plant was found in a coastal grassland on Chimei Island, Penghu Archipelago (Figs. 1, 3) in fullsun. Based on the following morphological characters of a sinulate and spinous leaf margin, constricted panicle, and conspicuous hooked spines on the upper glumes (Fig. 2), this plant can easily be discriminated from other Poaceae species that have been recorded and naturalized in Taiwan.

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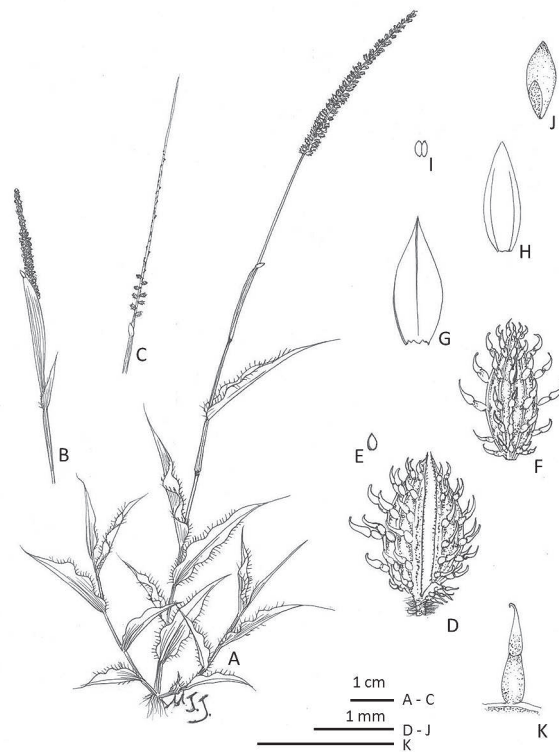


Fig. 2. *Tragus berteronianus* Schultes. A, B, Flowering habit, B, panicle in early flowering season; C, inflorescence; D, pair of spikelets, lateral view; E, lower glume; F, upper glume; G, lemma; H, palea; I, anther; J, ovary; K, hooked and swollen-based spine. Bars: 1 cm in A to C, 1 mm in D to J and K.



Fig. 3. Habit of *Tragus berteronianus* Schultes.

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