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Chikusichloa Koidz. (Poaceae): A Newly Recorded Genus in the Flora of Taiwan

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ABSTRACT: *Chikusichloa mutica* Keng, a native species of the Poaceae within Malesia and mainland China, was recently found at low elevations of northern Taiwan, providing a new record for this species and the genus for the flora of Taiwan. *Chikusichloa* Koidz. can be easily distinguished from the other five genera of the subfamily Oryzoideae by its bisexual spikelets, stipitate florets, and only one stamen per floret. Herein, the authors provide a line drawing, photographs, distribution map, and description of *Chikusichloa mutica*.

KEY WORDS: ***Chikusichloa mutica*, Flora, *Oryzoideae*, Poaceae, Taiwan, Taxonomy.**

INTRODUCTION

The subfamily Oryzoideae (Poaceae) is composed of 6 species in 5 genera, including 2 cultivated crop species and three rare species in Taiwan (Hsu, 1975, 2000). The genus *Chikusichloa* Koidz. includes 3 species distributed in eastern Asia: southeastern China, Japan including the Ryukyus, and Indonesia (Sumatra) (Koyama, 1987; Osada, 1993; Liu and Phillips, 2006), but until now, the genus had not been recorded in Taiwan (Hsu, 1975; Boufford et al., 2003). *Chikusichloa* species are rare and can be distinguished from other Oryzoideae species by several diagnostic characters (Koyama, 1987; Osada, 1993; Liu and Phillips, 2006). One particular species *Chikusichloa mutica* Keng, previously known only in mainland China and Malesia (Clayton et al., 2002; Liu and Phillips, 2006), was recently found in northern Taiwan. This newly recorded species and its genus within the native grass flora of Taiwan are reported here with accompanying distribution map (Fig. 1), description, illustration (Fig. 2) and color photos (Fig. 3).

TAXONOMY TREATMENT

Chikusichloa Koidzumi, Bot. Mag. (Tokyo) 39: 23. 1925. 山澗草屬

Perennial; rhizomes short; culms erect. Inflorescence a panicle, spikelet with one floret, glumes absent; callus linear, articulate at base; lemma acuminate or with an awn at apex, 5-7-veined, palea usually 3-veined; stamen 1.

Three species: mainland China, Taiwan, Japan including the Ryukyus, and Malesia.

Chikusichloa mutica Keng, J. Wash. Acad. Sci. 21: 527. 1931; Liu and Phillip in Wu and Raven, Flora of China 22: 185. 2006.
無芒山澗草 Figs. 2 & 3

Perennial; rhizome shorter than 1 cm; culms nearly tufted, erect, 1-3-noded. Nodes articulate, with 4-6 cauline leaves, occasionally rooting; internodes 4-12 cm long, thick, glabrous. Sheath keeled, longer than internodes, glabrous; ligule brown-gray, 2-5 mm long, apex truncate; blade linear, margin scabrous; basal leaf blade 4-6 × ca. 1 cm, withered at anthesis; cauline leaf blade 20-35 × 1-1.3 cm. Inflorescence a panicle, apical, constricted to open, 16-40 cm long; branches filiform; primary branch 5-8 cm long. Spikelet lanceolate, with one fertile floret; glumes absent; callus stipe linear, 1.5-2 mm long, scabrous, falling with spikelet when caryopsis matures. Lemma lanceolate, 3-3.5 mm long, apex acuminate, 5-veined, veins ribbed and scabrous. Palea lanceolate, ca. 3 mm long, apex acuminate, 3-veined, veins ribbed, scaberulous. Anther 1.5-2 mm long; caryopsis brown, elliptic, 1.5-2 mm long, with adherent pericarp.

Specimens examined: mainland China: Hu-Bei Province, Tong-Shan Co., Jou-Gong-Shan, 21 Oct 1996, *Chen S.-L. s. n.* (TNM). Taiwan: Miaoli Co., Nan-juang Town, Shiang-tian Lake, 9 Dec 2006, *M.-J. Jung y120904*(NCKU); same loc., 30 Dec 2006, *M.-J. Jung y123004* (NCKU).

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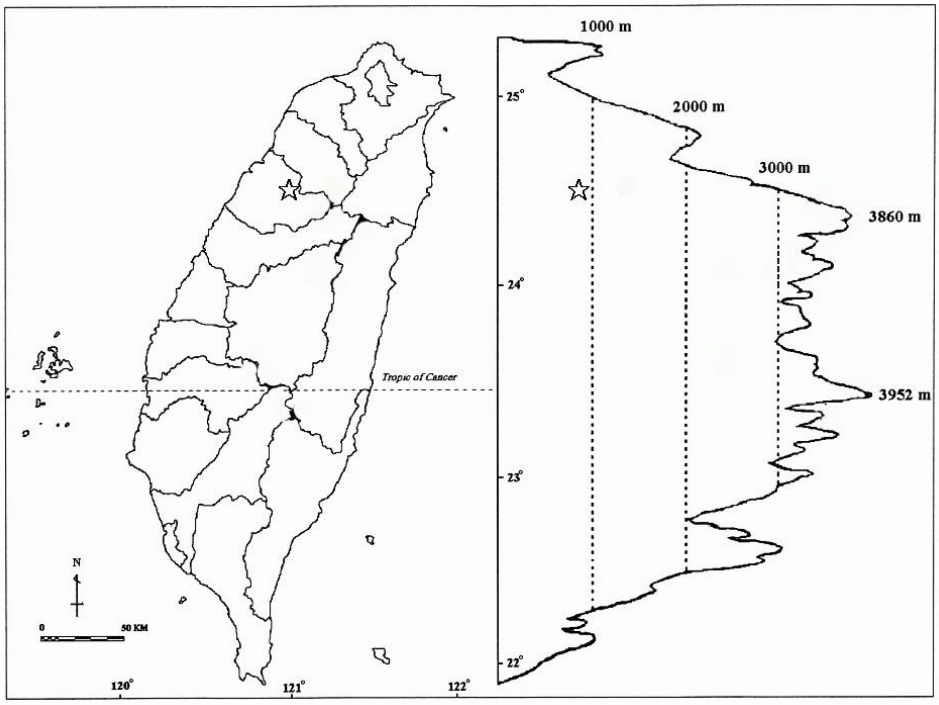


Fig. 1. Distribution map of *Chikusichloa mutica* Keng (☆) in Taiwan.

Distribution and notes: *Chikusichloa mutica* Keng occurs in southeastern China and Indonesia (Sumatra). In Taiwan, this grass was found in shade near a stream, within a forest near the Shiang-Tian Lake; *Acorus gramineus* Soland. and *Lindsaea japonica* (Bak.) Diels were found at the same site. Inflorescence branches of *C. mutica* which we collected were constricted, rather than open panicles with spreading branches (Clayton et al., 2002; Liu and Phillips, 2006). Meanwhile the culms of our specimens were much shorter than those of other reports (Clayton et al., 2002; Liu and Phillips, 2006). *Chikusichloa mutica* Keng can be distinguished from *C. aquatica* Koidz. and *C. brachyathera* Ohwi by the wider leaf blade, shorter callus stipe, and awnless lemma (Clayton et al., 2002; Koyama, 1987; Liu and Phillips, 2006).

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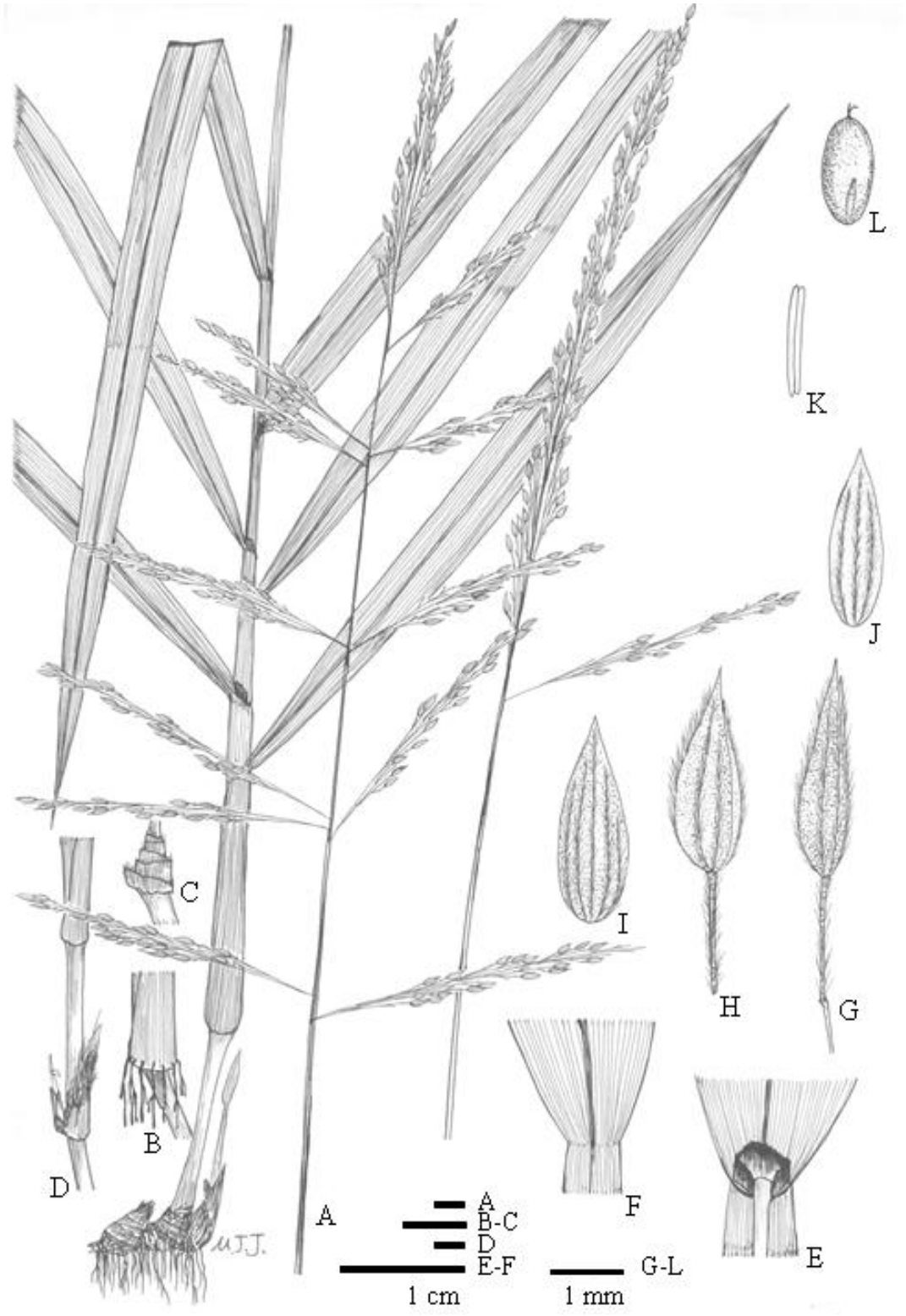


Fig. 2. *Chikusichloa mutica* Keng. A: Habit. B: Node with roots. C: Node with sheaths removed. D: Node with bud. E: Ligule and leaf base. F: Abaxial view of leaf base. G: Lateral view of spikelet. H: Lateral view of fruiting spikelet. I: Lemma. J: Palea. K: Anther. L: Caryopsis.

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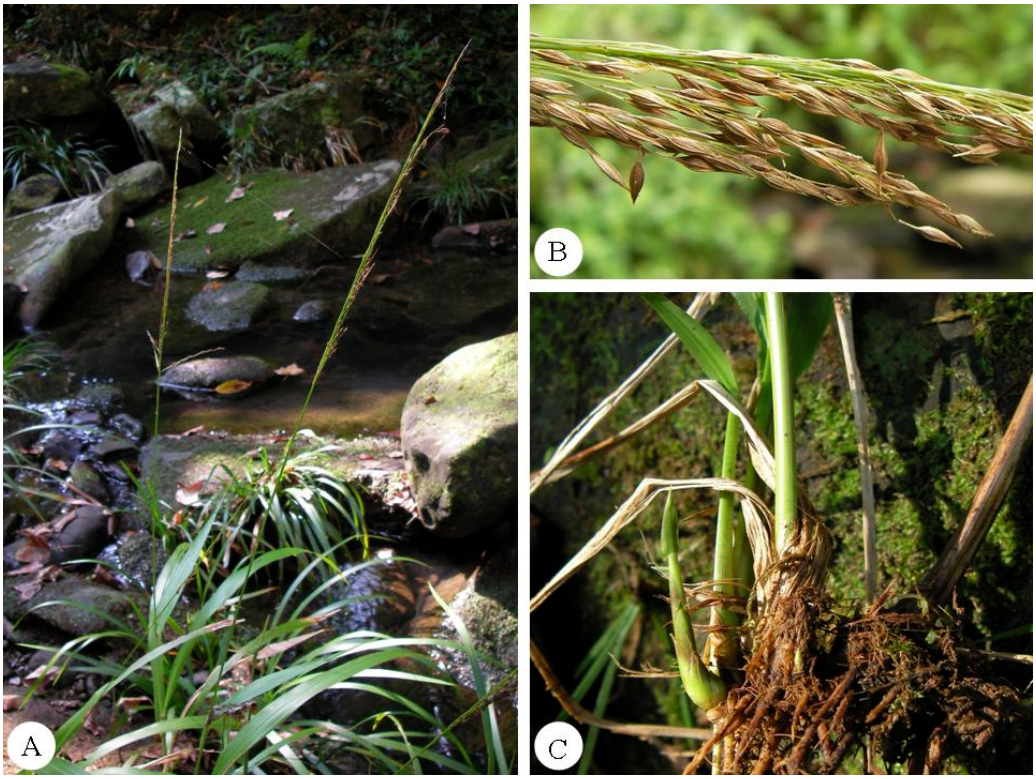


Fig. 3. *Chikusichloa mutica* Keng. A: Habit. B: Panicle with fruiting spikelets. C: Rhizomes and culms.

臺灣新紀錄屬：山澗草屬

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摘　　要

本文報導於北部低海拔山區發現的植物：無芒山澗草(*Chikusichloa mutica* Keng)，山澗草屬 (*Chikusichloa* Koidz.) 為臺灣新紀錄屬。山澗草屬小穗兩性，小花具長柄僅有一枚雄蕊，可與台灣產其他五屬稻亞科(Oryzoideae)植物區分。本文提供無芒山澗草描述、線繪圖、照片及台灣分佈圖。

關鍵詞：無芒山澗草、植物誌、稻亞科、禾本科、臺灣、分類學。

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