

Bothriochloa macera (Steud.) S.T. Blake, a Newly Naturalized Grass (Poaceae) in Taiwan

新歸化的臺灣禾草-大穗孔穎草

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Abstract

A newly naturalized grass species, *Bothriochloa macera* (Steud.) S. T. Blake, was found in central Taiwan recently. This species can be easily distinguished from the native *Bothriochloa* species by the obvious circular pit on the lower glume. The key to species of the genus *Bothriochloa* and a description of this newly naturalized grass with line drawing for identification are provided in this article.

摘要

近日於中臺灣發現新歸化物種：大穗孔穎草，該物種可依據小穗外穎顯著圓孔構造與其他孔穎草屬物種區別。本文提供此物種描述、手繪圖以及臺灣孔穎草屬之檢索表供鑑定。

Key Words: *Bothriochloa macera*, Poaceae, Taiwan

關鍵字：大穗孔穎草、禾本科、臺灣

Received: March 13, 2015

Accepted: September 01, 2015

收件日期：2015 年 03 月 13 日

接受日期：2015 年 09 月 01 日

Introduction

The genus *Bothriochloa* Kuntz (Poaceae: Andropogoneae) comprises about 30 species that mainly distribute throughout the tropics and subtropics (Chen and Phillips 2006). *Bothriochloa* is closely related to the genera *Capillipedium* and *Dichanthium*. Rachis internodes and pedicels with translucent longitudinal groove are the most useful and diagnostic characters to identify *Bothriochloa* from these two genera. Another special character is lower glume with circular pit that can be found in certain species of this genus. In Taiwan, three species were recorded previously (Hsu 1975,

1978; Hsu 2000).

Recently, a newly naturalized species, *Bothriochloa macera* (Steud.) S.T. Blake was found in Miaoli County. This species is native to eastern Australia and often occurs in tablelands and slopes, especially in overgrazed grasslands. *B. macera* can be easily distinguished from other species in *Bothriochloa* by the slender habit, larger spikelet and circular pit on the lower glume.

This article provides a description of *B. macera* with its line drawings and a key to species of genus *Bothriochloa* in Taiwan for identification.

Key to species of *Bothriochloa* in Taiwan

1. Main axis of inflorescence shorter than lower racemes; inflorescence of digitate racemes.
 2. Sessile spikelets 3-4 mm long; lower glume of sessile spikelets without pit on back.
..... *B. ischaemum*
 2. Sessile spikelets 5-6.5 mm long; lower glume of sessile spikelets with one pit on the back.
..... *B. macera*
1. Main axis of inflorescence longer than lower racemes; inflorescence a panicle.
 3. Branches of panicle simple, rarely lower ones once divided, usually pedunculated. *B. intermedia*
 3. Branches of panicle 4~8-divided. *B. glabra*

Taxonomic Treatment

Bothriochloa macera (Steud.) S. T. Blake, Proc. Roy. Soc. Queensland 80: 64–65. 1969; Jessop *et al.*, Grasses of South Australia. 510. 2006. 大穗孔穎草 Fig. 1

Andropogon macer Steud., Syn. Pl. Glumac. 1: 371. 1854.

Perennials, tufted. Culms geniculately ascending, slender, 20-70 cm tall, glabrous, culm nodes glabrous. Leaf sheaths surface glabrous, joint between sheath and blade glabrous or bearded. Ligule a ciliolate membrane, 1-1.5 mm long. Blades mainly basal, linear, flat, 5-15 cm long, 2-5 mm wide, margins scaberulous, apex acuminate, surface glabrous or sparsely pilose. Inflorescence of digitate racemes, contracted, 3-5 cm long. Raceme 3-5, erect or ascending, straight, pubescent at base. Peduncle of raceme glabrous. Rachis fragile, flattened, margins ciliate, internodes linear. Spikelets paired, one sessile and one pedicellate at each node, dimorphic. Pedicels linear, flattened, with a translucent longitudinal groove, margins ciliate. Sessile spikelets bisexual, deciduous with the adjacent rachis internode and pedicel, dorsally compressed, 5-6.5 mm long, with 2 florets, lower floret reduced and sterile, upper floret fertile. Callus hairy. Lower glume narrowly lanceolate, as long as spikelet, 5-6.5 mm long, chartaceous, slightly concave and with 1 pit, 7-9-veined, 2-keeled on the upper part, keels not winged, hispidulous on keels, surface moderately pilose

below the middle, apex acute, awnless. Upper glume scaphoid, as long as spikelet, 5-6.5 mm long, subcoriaceous, midvein keeled, glabrous or hispidulous on keels, surface glabrous, margins smooth, apex acuminate, awnless. Lower florets present but reduced, barren, epaleate. Lower lemma lanceolate, 3-3.5 mm long, membranous, surface glabrous, margins smooth, apex acute, awnless. Lower palea absent. Upper lemma linear, 3 mm long, membranous, surface glabrous, awned, awn geniculate, arising from apex, 15-25 mm long, column twisted. Upper palea absent or minute. Anthers 3, 1-1.5 mm long. Pedicellate spikelets reduced and sterile, much reduced to minute stump. Caryopsis glabrous, dorsoventrally compressed, elliptic, 3 mm long.

Distribution: Native in Australia: South Australia, Queensland, New South Wales, Victoria, Tasmania, and Norfolk. Naturalized in New Zealand (Edgar and Connor 2000).

Habitat: Tablelands and slopes, especially in overgrazed grasslands.

Note: The scientific name, *Bothriochloa macra*, used in the original publication was invalid.

Examined Taiwan specimen: MIAOLI: Tahu, *Chen 7080 & Chen 7169* (TAIE).

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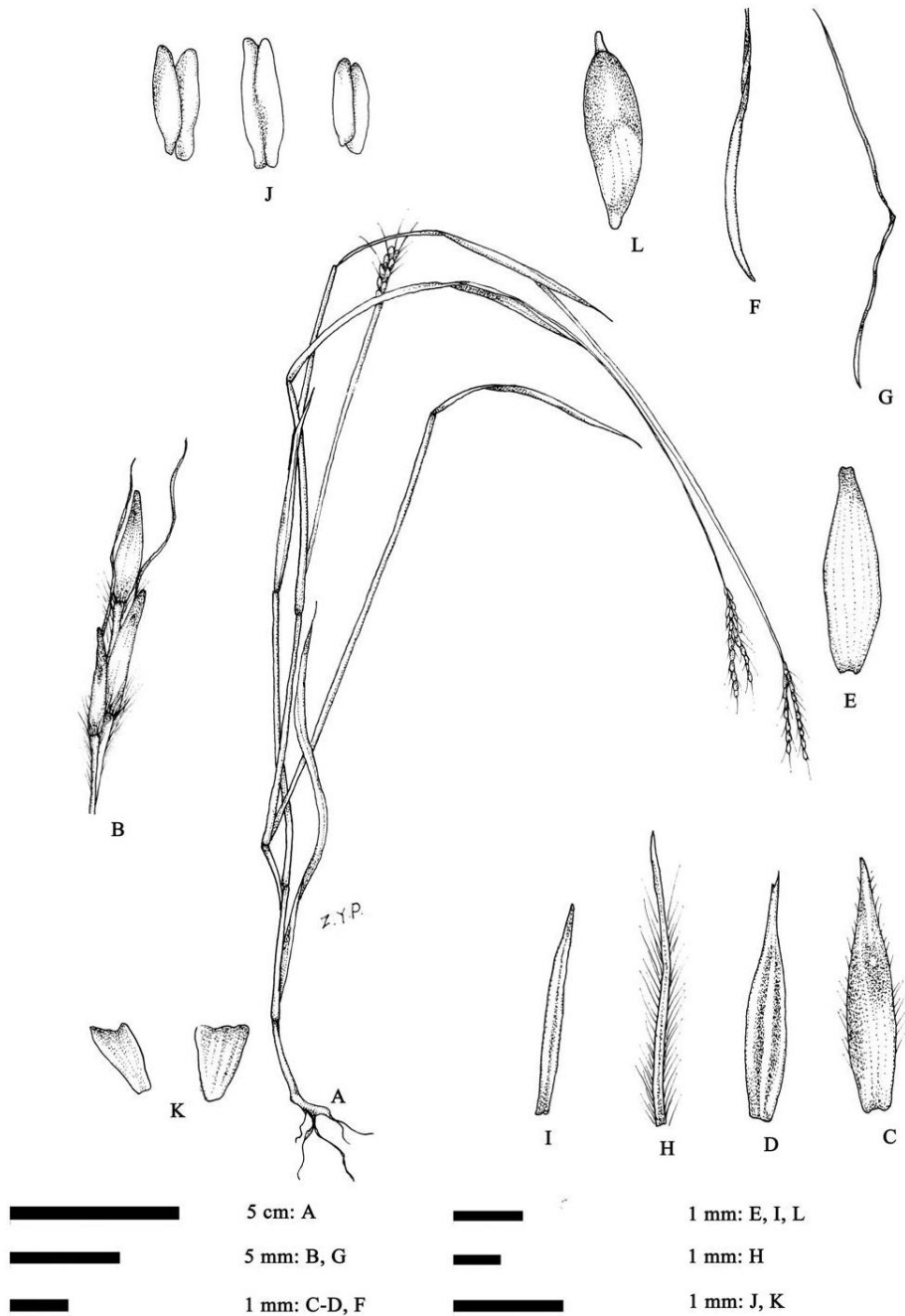


Fig. 1. *Bothriochloa macera* (Stued.) S. T. Blake.

A. habit; B. part of raceme; C-G: sessile spikelet: C. lower glume; D. upper glume; E. lower lemma; F. upper lemma (basal part); G. upper lemma (with apical awn); H. pedicelled spikelet with pedicel; I. pedicelled spikelet; J. anthers; K. lodicule; L. caryopsis.

