

Microstegium japonicum (Miq.) Koidz. as a Newly Recorded Grass to Taiwan

台灣新紀錄禾草—日本莠竹

Chih-Hui Chen and Chang-Sheng Kuoh

陳志輝 郭長生

ENDEMIC SPECIES RESEARCH

Vol. 9, No. 2

July 2007

特有生物研究

第九卷第二期

中華民國九十六年七月

Published by Endemic Species Research Institute, Council of Agriculture
Jiji, Nantou, Taiwan, ROC

行政院農業委員會特有生物研究保育中心 編印
南投、集集



Microstegium japonicum (Miq.) Koidz. as a Newly Recorded Grass to Taiwan

台灣新紀錄禾草—日本莠竹

Chih-Hui Chen^{1, 2, *} and Chang-Sheng Kuoh²

陳志輝^{1, 2, *} 郭長生²

¹ Endemic Species Research Institute, Jiji, Nantou, Taiwan

² Department of Life Sciences, National Cheng-Kung University, Tainan, Taiwan

¹ 行政院農業委員會特有生物研究保育中心 南投縣集集鎮民生東路1號

² 國立成功大學生命科學系 台南市大學路1號

* Corresponding author

* 通訊作者

Abstract

This paper describes *Microstegium japonicum* (Miq.) Koidz. as a newly recorded species of grass to Taiwan. It was collected first by M. T. Kao in 1954, but misidentified as *M. somae*. *M. japonicum* is easily distinguishable from *M. somae*: the former has 1-awned spikelets and awn borne only on the fertile lemma, whereas the latter has 3-awned spikelets and awns borne on upper glume and both lemmas.

摘要

本文報導新近確認的一種台灣新紀錄禾草—日本莠竹(*Microstegium japonicum* (Miq.) Koidz.)。本種最早由高木村先生於1954年採得，當時被誤認為相馬莠竹(*M. somae*)，兩者之區別為日本莠竹之小穗只在上位外稃具一長芒，而相馬莠竹之小穗則在內穎、下位外稃及上位外稃各具一長芒。

Key words: *Microstegium japonicum*, Poaceae, Taiwan

關鍵詞：日本莠竹、禾本科、台灣

Received: December 13, 2006

Accepted: March 13, 2007

收件日期：95年12月13日

接受日期：96年3月13日

Introduction

The genus *Microstegium* Nees belonging to the tribe Andropogoneae of the family Poaceae, comprising 15 species. They are widely distributed in the tropical and subtropical Africa, Asia, Australia, and some of the Pacific islands (Clayton and Renvoize 1986; Koyama 1987; Watson and Dallwitz 1992; Hsu 2000). Of them eight species have been reported from Taiwan (Hsu 1975, 1978, 2000).

Recently, we examined specimens of *Microstegium* deposited at the herbaria of Academia Sinica (HAST), Taiwan University (TAI), Taiwan Forestry Research Institute (TAIF), Museum of Natural Science (TNM), Cheng-Kung University (NCKU), Pingtung University of Science and Technology (PPI) and Endemic Species Research Institute (TAIE). We found the specimens of *Microstegium japonicum* (Miq.) Koidz. that have never been reported from the flora of Taiwan. It was first collected by M. T. Kao in 1954, and deposited at TAI, but misidentified as *M. somae* (Hayata) Ohwi. Since then several individuals of the species have been collected by other collectors but unrecognized. *M. japonicum* is easily distinguishable from *M. somae*; the former has 1-awned spikelets and awn borne only on the fertile lemma, whereas

the latter has 3-awned spikelets and awns borne on upper glume and both lemmas.

This paper describes *M. japonicum* as a species of grass newly recorded to Taiwan with its description and line drawing.

Microstegium japonicum (Miq.) Koidz., Bot. Mag. Tokyo 43: 394. 1929; Ohwi, Acta Phytotax. et Geobot. 11: 135. 1942; Koyama, Grass. Jap. Neighb. Reg. 424. 1987; Osada, Ill. Grass. Japan, Enl. Ed. 696. 1993; Chen & Phillips, Fl. China 22: 596. 2006.

Fig. 1

Pollinia japonica Miq., Ann. Mus. Bot. Lugduno-Batavum 2: 290. 1886.

Leptatherum japonicum Franch. & Sav., Enum. Pl. Jap. 2: 190, 609. 1877.

Microstegium nudum (Trinius) A. Camus subsp. *japonicum* (Miq.) Tzvelev, Zlaki SSSR 695. 1976.

Slender annual. Culms up to 55 cm long, erect from long creeping base, rooting at lower nodes. Leaf sheaths glabrous, margin ciliate; blades ovate-lanceolate, thinly herbaceous, 2.5-5.5 cm long, 0.7-1.1 cm wide, acute at apex, rounded at base, glabrous; ligules 0.3-0.5 mm. Inflorescence with 2-6 racemes digitately arranged;



Fig. 1. *Microstegium japonicum* (Miq.) Koidz.: A, habit; B, a pair of spikelets; C, joint of leaf sheath and leaf blade; D, lower glume; E, upper glume; F, lower lemma; G, upper lemma with awn; H, anthers and pistil; I, lodicules; J, caryopsis.

racemes slender, 3-7 cm long, drooping; rachis internodes glabrous, longer than spikelet. Spikelets paired, alike, both pedicelled; pedicels unequal, 3.5-4.5 mm and 1-1.5 mm long respectively, glabrous; spikelets 3.2-4 mm long; callus hairs very short, even glabrous; lower glume equaling the spikelet, 2-keeled, shallowly concave between the keels, subacute or minutely 2-toothed at apex; upper glume equaling the lower, boat shaped, sharp at apex; lower lemma membranous, oblong to lanceolate, slightly shorter than glumes; upper lemma linear-lanceolate, hyaline, awned at apex, the awn very fine, 8-15 mm long, flexuose; upper palea absent or minute. Stamens 2.

Japan, southern Korea, and China. Along forest margins and roadsides at low and middle altitudes.

Specimen examined: TAIPEI: Tatunshan, *Huang* 9022 (TAI); Yangmingshan, *Kao s. n.* Oct. 24, 1954 (TAI). HSINCHU: Kuanwu, *Kuoh et al. s. n.* Oct. 28, 2001 (NCKU). MIAOLI: Nanchuang, *Chen* 5704 (TAIE). NANTOU: Hsitou, *Chen* 5624; Shanlinhsi, *Chen* 5690 (TAIE). ILAN: Shenmihu, *Jian* 90 (HAST).

Acknowledgements

The authors are grateful to the curators of HAST, PPI, TAI, TAIF and TNM for their kind assistance, and allowing us to examine the specimens in their care.

Literature Cited

- London.
- Hsu, C. C. 1975. Taiwan Grasses. Taiwan Provincial Education Association, Taipei. (In Chinese)
- Hsu, C. C. 1978. Gramineae. *In:* Li, H. L., T. S. Liu, T. C. Huang, T. Koyama and C. E. DeVol (eds.). Flora of Taiwan, 1st ed. 5: 598-610. Epoch Publishing Co., Ltd., Taipei, Taiwan.
- Hsu, C. C. 2000. Andropogoneae. *In:* Huang T. C. *et al.* (eds.). Flora of Taiwan, 2nd ed. 5: 562-567. Editorial Committee, Dept. Bot., NTU, Taipei.
- Koyama T. 1987. Grasses of Japan and Its Neighboring Regions. Kodasha Ltd., Tokyo.
- Watson, L. and M. J. Dallwitz. 1992. The Grass Genera of the World. Cab International, Wallingford.
- Clayton, W. D. and S. A. Renvoize. 1986. Genera Graminum. Her Majesty's Stationary Office,