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Microstegium butuoense (Poaceae), a new species from Sichuan, China

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Microstegium butuoense Y.C. Liu & H. Peng, a new species of Poaceae from S Sichuan, SW China, is described and illustrated. It resembles *M. falconeri*, but differs by the internode length, spikelet length, and characters of the upper lemma and upper palea.

Nees von Esenbeck established the genus *Microstegium* in 1836 to accommodate a grass in Willdenow's herbarium, which was stated to have come from Nepal (Bor 1952). This genus now includes about 20 species, most of which are distributed from India to Japan and Southeast Asia; a few species grow in Africa (Chen *et al*. 2006). There are thirteen species in China, three of them endemic in the country.

We have for some years been working on a taxonomic revision of the subtribe Saccharinae of China, which includes *Microstegium*. We went to several herbaria in China to examine as many specimens as possible. We saw a peculiar specimen of *Microstegium* in PE, which was labelled *Ischnochloa* cf. *falconeri*.

Ischnochloa and its type species *I. falconeri* were first described by Hooker in 1896 based on the specimens collected by Falconer in the northwestern Himalayas (Hooker 1896). However, that genus was later treated as a synonym of *Microstegium* in several compilation treatments on grasses (e.g., Clayton & Renvoize 1986, Zuloaga *et al*. 2003: 292).

To permit further examination of the specimen, we borrowed it from PE. After careful study, including comparison with other species, we concluded that it represents a new species of *Microstegium*. The purpose of this paper is to provide a name and description for the species.

Microstegium butuoense Y.C. Liu & H. Peng, *sp. nova* (Fig. 1)

Affinis M. falconeri (Hook. f.) Clayton, sed racemis internodiis ciliatis, spiculis longioribus, lemmatibus superioribus longioribus, paleis superioribus ciliatis differt.

Type: China. Sichuan Province, Butuo County, occurring in alpine meadow, 24.VII.1984 *Zhu Taiping 318* (holotype PE).

Etymology: The specific epithet *butuoense* refers to the locality of this species.

Annual. Culms slender, straggling, eventually becoming more or less vertical for about 35 cm; nodes densely bearded. Leaf sheaths

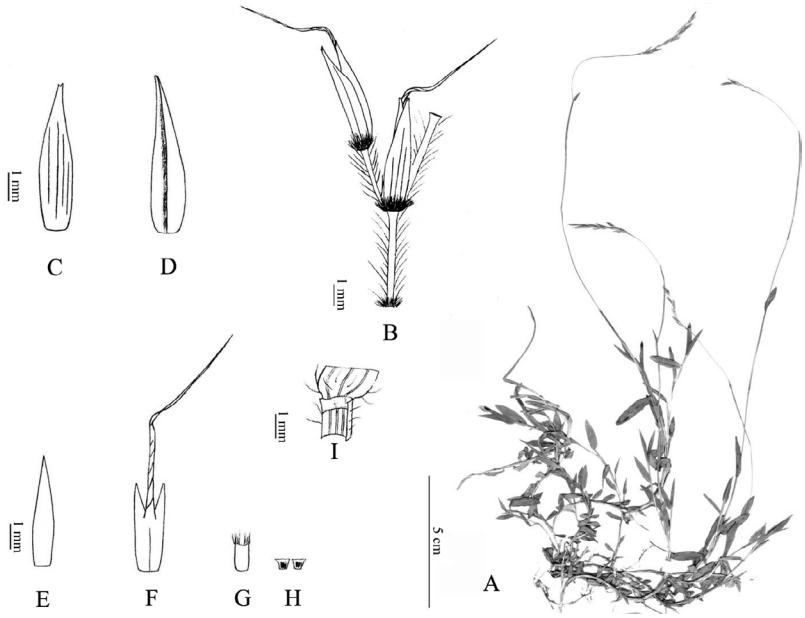

Fig. 1. *Microstegium butuoense* (from the holotype). — **A**: Habit. — **B**: Spikelet pair. — **C**: Lower glume. — **D**: Upper glume. — **E**: Lower lemma. — **F**: Upper lemma. — **G**: Upper palea. — **H**: Lodicules. — **I**: Ligule.

tuberculate-hispid; leaf blades elliptic lanceolate, 0.7(–2) × 0.2(–0.5) cm, both surface sparsely hispid, apex acute; ligule membranous, eciliate, ca. 0.6 mm. Raceme single, 2(–3.5) cm, rachis tough, rachis internodes linear, ca. 4.5 mm, ciliate with ca. 1.5 mm hairs. Sessile spikelets ca. 5.2(–6) mm; callus hairs up to 1 mm; lower glume ca. 5 mm, linear-lanceolate, back flat, 4–5 veined, glabrous, apex truncate or emarginate; upper glume ca. 5.5 mm. sharply keeled, apex acuminate; lower lemma lanceolate, ca. 4 mm; upper lemma 3–3.5 mm, two lobed in upper 1/3, lobes acuminate; awn geniculate, 6–9 mm.; upper palea 1 mm, ciliate with ca. 0.6 mm hairs. Anthers unseen. Pedicelled spikelet similar.

In overall appearance, *Microstegium butuoense* is similar to *Arthraxon*, but the lemma awn arises from the sinus of the 2-lobed lemma, rather than from low down on the lemma back, and the pedicellate spikelets are similar to the sessile spikelets, rather than reduced as in *Arthraxon*.

Within *Microstegium*, *M. butuoense* most closely resembles *M. falconeri*, both species having elliptic leaves, poorly developed lower floret, a tough rachis and a flat lower glume (Hooker 1896, 1897: 148). They differ, however, in the four characteristics shown in Table 1. *Microstegium butuoense* also resembles *M. batangense* in having a solitary raceme (Chen *et al*. 2006), but it differs in having lower glumes that are not grooved, lacking a lower palea, having upper florets with a less strongly lobed lemma and a smaller, ciliate palea.

Butuo County, where the specimen was collected, is in SW Sichuan. Geographically it lies in the Liangshan Mountains which are part of the transition zone between the Tibet Plateau and Yunnan-Guizhou Plateau. It is also locates in the

Table 1. Summary of the key differences between *Microstegium butuoense* and *M. falconeri.*

	M. butuoense	*M. falconeri*
Raceme internodes	ciliate with 1.5 mm hairs	glabrous
Spikelet length	5.2 mm	3–5 mm
Upper lemma	3–3.5 mm, two-lobed in upper 1/3	1.5–1.8 mm, cleft to middle
Upper palea	minute, ciliate with ca. 0.6 mm long hairs	minute, glabrous

upper reaches of the Jinsha River (The Investigation Team of Biodiversity in western Sichuan 2006). The flora of Butuo County contains both temperate and tropical taxa, with the tropical Yangtze River Valley elements being particularly abundant. The discovery of a new speices of a tropical Asian genus in Butuo County is not, therefore, particularly strange (cf. Clayton & Renvoize 1986).

Furthermore, while *M. falconeri* is still known only from NW India, the discovery *M. butuoense* from further east is quite interesting. This probably could be ascribed to the uplift of the Himalayan-Hengduanshan Mountains after the Neogene, which had had an impact on the flora of the Himalayan-Hengduan Mountains (Sun 2002). For example, *Helleborus*, which is disjunctively distributed in Eurasia, has a similar distribution.

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