Ann. Bot. Fennici 44: 155–156 ISSN 0003-3847
Helsinki 26 April 2007

Two new combinations in *Cephalostachyum* (Poaceae: Bambusoideae)

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Received 17 Aug. 2005, revised version received 19 Oct. 2005, accepted 11 Apr. 2006

Yang, H. Q. & Li, D. Z. 2007: Two new combinations in *Cephalostachyum* (Poaceae: Bambusoideae). — *Ann. Bot. Fennici* 44: 155–156.

The molecular and micromorphological support for current generic concepts in the subtribe Melocanninae (Poaceae) has made it necessary to propose new combinations in *Cephalostachyum*. In this article the following two species are transferred from *Schizostachyum* to *Cephalostachyum*: *Cephalostachyum chinense* (Rendle) D.Z. Li & H.Q. Yang *comb. nova*, and *C. sanguineum* (W.P. Zhang) D.Z. Li & H.Q. Yang *comb. nova*, based on basionyms *Schizostachyum chinense* Rendle and *S. sanguineum* W.P. Zhang respectively.

Key words: Bambusoideae, *Cephalostachyum*, nomenclature, Poaceae, *Schizostachyum*, taxonomy

Schizostachyum chinense was described by Rendle (1904) based on a specimen from southeastern Yunnan, China. According to McClure (1935) that species was different from congeners in having two glumes, sterile lemmas, disarticulating rachilla of spikelets and three lodicules. Chia and Fung (1981) made *S. chinense* the type species their new monotypic genus, *Leptocanna*. They pointed out that *Leptocanna* was characterized by erect blades of the culm sheaths, two glumes and three lodicules; also, the rachilla of spikelets broke down at the articulations below the second glume and sterile lemma. The typical species of *Schizostachyum*, e.g., *S. blumei* usually had reflexed blades of the culm sheaths, and did not bear glumes and lodicules; moreover, the rachilla of spikelets did not disarticulate. However, Xia (1993) deemed the vegetative morphological characters and the structure of spikelet were largely similar between *Leptocanna chinensis* and species of *Schizostachyum*, and recombined that species into *Schizostachyum*. Considering spikelets bearing two glumes, disarticulating rachilla of spikelets and florets bearing three lodicules in *S. chinense*, Xia (1993) placed the species in a separate subgenus of *Schizostachyum*, i.e., subgenus *Leptocanna*.

Schizostachyum sanguineum was described by Zhang (1989) based on a type specimen without inflorescences from southeastern Yunnan. Unfortunately, fertile specimens of the species have not been collected since it was described in 1989, and thus the features of its inflorescence remain unknown.

Recent evidence from molecular phylogeny of subtribe *Melocanninae* (Yang *et al.* 2007),

based on GBSSI and *trn*L-F markers, strongly supported the placement of *Schizostachyum chinense* and *S. sanguineum* in *Cephalostachyum*. The bootstrap percentages of maximum parsimony analysis were 98% and 97%, respectively; and the posterior probabilities of Bayesian analysis were 1.00 for both species. The micromorphological characters of the leaf epidermis (Yang *et al*. 2006) provided further support. *Schizostachyum chinense*, *S. sanguineum* and the typical *Cephalostachyua* have a similar papilla form and distribution pattern above and around the stomatal apparatus on the abaxial surface, i.e., an individual stomatal apparatus is covered by four triangular and overarching papillae surrounded by 8–10 small granular papillae. Morphologically, both *S. chinense* and the type species of *Cephalostachyum*, i.e., *C. capitatum*, have more or less an apically pendulous habit, terminal inflorescences, two glumes and three lodicules (Munro 1868). Furthermore, *S. chinense* and *S. sanguineum* are similar to the typical *Cephalostachya* in being distributed at relatively high elevations (1500–2500 m) in cold temperate habitats.

Based on the above evidence, we propose the following new combinations in *Cephalostachyum*.

Cephalostachyum chinense (Rendle) D.Z. Li & H.Q. Yang, *comb. nova*

Schizostachyum chinense Rendle, J. Linn. Soc. Bot. 36: 448. 1904. — *Leptocanna chinensis* (Rendle) Chia & H.L. Fung, Acta Phytotax. Sin. 19(2): 213. 1981. — Type: China. Yunnan, Mengzi, *A. Henry 10420* (holotype K).

This species is endemic to southeastern Yunnan and occurs in forests and thickets from 1500 to 2500 m. The culm sheaths of *C. chinense* are trapezoidal in shape and nearly truncate or concave at sheath apices; and young culm sheaths are covered by a pubescence of white stiff trichomes on the abaxial surface, later becoming only scabrous and siliceous, distinguishing it from the other *Cephalostachya*.

Cephalostachyum sanguineum (W.P. Zhang) D.Z. Li & H.Q. Yang, *comb. nova*

Schizostachyum sanguineum W.P. Zhang, J. Bamb. Res. 4: 12. 1989. — Type: China. Yunnan, Malipo, 10.X.1985 *Zhang Weiping 840333* (holotype SWFC).

Also this species is endemic to southeastern Yunnan, and occurs in forests at ca. 1600 m. Its culm sheaths are densely covered by yellowish brown and panniform tomentum on the abaxial surface; in addition, the blades of the culm sheaths are covered by dense yellow setae across the adaxial surface and by sparse setae on the abaxial surface, distinguishing it from the other *Cephalostachya*.

Acknowledgements

Authors thank two anonymous reviewers for their constructive comments and suggestions. This work was funded by a project of the National Natural Science Foundation of China (grant no. 30200015 to Z. H. Guo), Yunnan Provincial Natural Science Foundation (grant no. 2002C0056M to Z. H. Guo), and Award from Yunnan Provincial Government for Prominent Contributions in Science and Technology to Prof. Wu Zheng-Yi in 2001 (grant no. KIB-WU-2001-03).

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