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New Combinations in *Schoenoplectus* (Cyperaceae) from China

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ABSTRACT. Five new combinations in *Schoenoplectus* (Rchb.) Palla (Cyperaceae) are proposed for taxa occurring in China. All these taxa previously had been placed in *Scirpus* L. s.l., which has been split into segregate genera in the recent literature. The following transfers are made for taxa originally described from China: *Schoenoplectus chuanus* (Tang & F. T. Wang) S. Yun Liang & S. R. Zhang, its type from Jiangsu; *S. jingmenensis* (Tang & F. T. Wang) S. Yun Liang & S. R. Zhang, from Hubei; *S. monocephalus* (J. Q. He) S. Yun Liang & S. R. Zhang, from Anhui; *S. pseudoarticulatus* (L. K. Dai & S. M. Huang) S. Yun Liang & S. R. Zhang, from Hainan; and *S. supinus* (L.) Palla subsp. *densicorrugatus* (Tang & F. T. Wang) S. Yun Liang & S. R. Zhang, from Xinjiang.

Key words: China, Cyperaceae, *Schoenoplectus*, *Scirpus*.

The genus *Scirpus* L. (Cyperaceae) has been demonstrated to be heterogeneous, and it has been split into segregate genera (Wilson, 1981; Haines & Lye, 1983; Zhan & Yang, 1987a, b, c; Bruhl, 1995; Goetghebeur, 1998; Kukkonen, 1998; Muasya et al., 1998, 2000, 2001; Smith & Hayasaka, 2001, 2002; Pignotti & Mariotti, 2004). Although previously treated as a single genus in *Flora Reipublicae Popularis Sinicae* (Tang & Wang, 1961), Chinese *Scirpus* s.l. segregates into the six genera *Actinoscirpus* (Ohwi) R. W. Haines & Lye, *Bolboschoenus* (Asch.) Palla, *Isolepis* R. Br., *Schoenoplectus* (Rchb.) Palla, *Scirpus*, and *Trichophorum* Pers. This follows the scheme of Goetghebeur's 1998 classification and will correspond to our treatment of the Cyperaceae for the *Flora of China*.

Accordingly, five taxa from *Scirpus* s.l. distributed in China are transferred here into *Schoenoplectus* as new combinations. Four of these taxa (*Scirpus chuanus* Tang & F. T. Wang, *S. jingmenensis* Tang & F. T. Wang, *S. monocephalus* J. Q. He, and *S. pseudoarticulatus* L. K. Dai & S. M. Huang) were previously considered in *Scirpus* but are all characterized by a group of morphological traits (stolon presence, tuber presence, nodeless culms, culm-like bracts, and pseudolateral inflorescences) that currently delimit *Schoenoplectus* (Wilson, 1981; Smith & Hayasaka, 2001).

1. *Schoenoplectus chuanus* (Tang & F. T. Wang) S. Yun Liang & S. R. Zhang, comb. nov.
Basionym: *Scirpus chuanus* Tang & F. T. Wang, Fl. Reipubl. Popularis Sin. 11: 222. 1961. TYPE: China. Jiangsu: Nanjing, watery places, 17 Aug. 1931, K. L. Chu 341 (holotype, PE).

Distribution. *Schoenoplectus chuanus* is only known from Jiangsu, China.

Specimen examined. CHINA. **Jiangsu:** Jurong, M. B. Deng 3640 (PE).

2. *Schoenoplectus jingmenensis* (Tang & F. T. Wang) S. Yun Liang & S. R. Zhang, comb. nov.
Basionym: *Scirpus jingmenensis* Tang & F. T. Wang, Fl. Reipubl. Popularis Sin. 11: 222. 1961. TYPE: China. Hubei: Jingmen, 27 Sep. 1940, H. Migo s.n. (holotype, PE).

Distribution. *Schoenoplectus jingmenensis* is only known from Hubei, China.

Specimen examined. CHINA. **Hubei:** Jingmen, s.d., H. Migo s.n. (PE).

3. *Schoenoplectus monocephalus* (J. Q. He) S. Yun Liang & S. R. Zhang, comb. nov. Basionym: *Scirpus monocephalus* J. Q. He, Acta Phytotax. Sin. 37(3): 291, f. 1. 1999. TYPE: China. Anhui: Fuyang, riversides, 8 June 1994, J. Q. He & X. L. Hou 5438 (holotype, Herbarium of Resources Plants, Anhui University not seen).

Distribution. *Schoenoplectus monocephalus* is only known from Anhui, China.

Specimen examined. CHINA. **Anhui:** Fuyang, J. Q. He 5493 (PE).

4. *Schoenoplectus pseudoarticulatus* (L. K. Dai & S. M. Huang) S. Yun Liang & S. R. Zhang, comb. nov. Basionym: *Scirpus pseudoarticulatus* L. K. Dai & S. M. Huang, Fl. Hainan. 4: 538. 1977. TYPE: China. Hainan: Yixian, 19–29 May 1935, S. K. Lau 5746 (holotype, IBSC).

Distribution. *Schoenoplectus pseudoarticulatus* is known from Hainan, China, and also occurs in India. No specimens other than the type were seen, and the distributional information is taken from *Flora Hainanica* (Anonymous, 1977).

5. *Schoenoplectus supinus* (L.) Palla, Bot. Jahrb. Syst. 10: 299. 1888. Basionym: *Scirpus supinus* L., Sp. Pl. 1: 49. 1753. TYPE: France. Paris: *Hb. Tournafort 5117* (neotype, designated by Raynal, 1976: 145, P-TRF not seen).

5a. *Schoenoplectus supinus* subsp. *supinus*.

Distribution. *Schoenoplectus supinus* subsp. *supinus* is distributed in Europe, North Africa, Turkey, the Caucasus, southern Siberia, Kazakhstan, Iran, Pakistan, and East Asia, but is not found in China.

Discussion. Subspecies *supinus* is characterized by its larger spikes (5–12 mm) and the conspicuously transversely rugulose nut surface.

5b. *Schoenoplectus supinus* subsp. *densicorrugatus* (Tang & F. T. Wang) S. Yun Liang & S. R. Zhang, comb. et stat. nov. Basionym: *Scirpus supinus* var. *densicorrugatus* Tang & F. T. Wang, Fl. Reipubl. Popularis Sin. 11: 223. 1961. TYPE: China. Xinjiang: s. loc., 7 Sep. 1956, *R. C. Ching 786* (holotype, PE).

Distribution. *Schoenoplectus supinus* subsp. *densicorrugatus* is only known from Xinjiang, China.

Discussion. There are several infraspecific taxa within *Schoenoplectus supinus*, but only two occur in China: *S. supinus* subsp. *lateriflorus* (J. F. Gmel.) Soják and *S. supinus* subsp. *densicorrugatus*. The latter was originally described at varietal rank, differing from subspecies *supinus* by its smaller spikes (3–6 mm) and more densely and finely rugulose nut surface. The rank of subspecies is applied here in order to be consistent with taxonomic precedence otherwise recognized within the species.

Specimens examined. CHINA. Xinjiang: s. loc., *R. C. Ching 786* (PE).

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