Notes on Carex (Cyperaceae) from China (III): the description of four new species

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Abstract

Carex scopulus, C. bamaensis, C. pararadicalis and C. tingnungii, four new species from China, are described with illustrations in the present paper. Carex scopulus is similar to C. chungii (sect. Mitratae) in having achenes with angles constricted at the middle, but differs by having pistillate scales pale reddish brown and acuminate at apex, staminate scales reddish brown, and perigynia glabrous. Carex bamaensis is similar to C. lancifolia (sect. Clandestinae) in having culms lateral and leaf blades 2.5–6 mm wide, but differs in having culms, leaves and bracts all pilose, and pistillate spikes fairly densely flowered. Carex pararadicalis resembles C. handelii (sect. Chlorostachyae) in having rhizomes long and creeping, but differs by having the terminal spike gynecandrous, lateral spikes pistillate, and pistillate scales obtuse at apex and shorter than the perigynia. Carex tingnungii resembles C. plectobasis (subsect. Ferrugineae) in having 3 stigmas and perigynia that are compressed trigonous and densely whitish hispidulous, but differs in having a solitary staminate spike with 1–4 pistillate flowers at the base, achenes oblong-ellipsoid, and styles that are densely crisped-pilose.

Key words: Carex bamaensis, C. pararadicalis, C. scopulus, C. tingnungii, Cyperaceae, new species, taxonomy

Introduction

Carex Linnaeus (1753: 972), a cosmopolitan genus of ca. 2000 species, contains four subgenera: subg. Carex, subg. Psyllophora (Degland 1828: 285) Petermann (1849: 581), subg. Vignea (B. Beauvois in Lestiboudois 1891: 22) Petermann (1849: 602) and subg. Vigneastra (Tuckerman 1843: 10) (Kükenthal 1899: 516). Recent studies reveal that these subgenera are largely polyphyletic or paraphyletic, with the exception of subg. Vignea (Waterway & Starr 2007, Global Carex Group 2015). With ca. 500 species, China is incredibly rich in Carex, which are distributed from southern to northern regions and in various habitats (Dai et al. 2000, 2010).

Morphologically, the number and arrangement of spikes, whether unisexual or bisexual, and the number of stigmas have been frequently used to divide Carex into subgenera (Kükenthal 1909, Ohwi 1936, Nelmes 1951, Dai et al. 2000, 2010). The characters used to distinguish among species of Carex are diverse: rhizomes elongate or short; culms central or lateral; leaf shape and indumentum; shape and indumentum of staminate and pistillate scales; perigynium shape, size and indumentum; and achene shape and size (Ohwi 1936, Nelmes 1951, Dai et al. 2000, 2010). The features of perigynia and achenes, and inflorescence structure are most important to delimit sections and identify species (Ohwi 1936, Nelmes 1951, Dai et al. 2000, 2010, Jin & Zheng 2013).


Taxonomic treatment

1. Carex scopulus X. F. Jin & W. J. Chen, sp. nov. (Figure 1)

Species nova est proxima C. chungii Z. P. Wang, a qua squamis pistillatis pallide rubro-brunneis, apice acuminatis, perigynii glabris, squamis staminatis rubro-brunneis differt.

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