

***Carex brownii* Tuckermen (Cyperaceae) – a new record for India**

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Abstract

Carex brownii Tuckermen (Cyperaceae) is reported as a new record for India from the Kashmir Himalaya. The species belongs to the section *Confertiflorae* Franchet of sub-genus *Carex*. A brief description of the species along with illustration and photographs are provided.

Key words: *Carex brownii*, *Confertiflorae*, Kashmir Himalaya, New record.

INTRODUCTION

Carex Linnaeus (Cyperaceae) is one of the largest and the most widespread genera of flowering plants, with *ca.* 2,000 species in the world (Reznicek 1990). In India, the genus is represented by *ca.* 230 species (Karthikeyan *et al* 1989), which are distributed within 4 subgenera: *Psyllophora* (Degland) Petermann, *Vigneastra* (Tuckermen) Kükenthal, *Vigneae* (Beauverd *ex* Lestiboudois) Petermann, and *Carex* Linnaeus. The genus is distinct from other genera of Cyperaceae in having consistently unisexual flowers and a perigynium - the latter is a sac-like structure of prophyllar origin that surrounds the naked gynoecium (Blaser 1944). The variations in the structure of perigynium are often used as the key features in the taxonomy of *Carex*, mainly the subtle differences in its shape, size, texture and nervation (Nelmes 1951).

The subgenus *Carex*, with largest number of species among the sub-genera, shows almost a world-wide distribution, although mainly concentrated in temperate, cold and subtropical belts of the Northern Hemisphere. The subgenus is characterized by racemiform, rarely spiciform or capitate, inflorescence, usually with 2-10, occasionally more spikes. It includes about 60 sections and 1,400 species. The new record, as reported in the present paper, shows all the characters of the Section *Confertiflorae* Franchet.

During botanical explorations in the Kashmir Himalaya, the present authors collected some hitherto unrecorded specimens of *Carex*. After detailed taxonomic studies and perusal of literature, these specimens have been identified as *Carex brownii* Tuckermen, which turned out to be a new record for India. A brief description of the plant species with illustration is provided here to facilitate easy identification.

Carex brownii Tuckermen, Enum. Meth. Carec. 21. 1843. (Fig. 1)

Synonym: *Carex nipposinica* Ohwi, Acta Phytotax. Geobot. 11: 255. 1942.

Perennial, 30 – 55 cm high, rhizomatous herb. Rhizome short; roots long-clustered at the base of culms, light-brown. Culms tufted, erect, sharply trigonous, smooth, differentiated into nodes and internodes. Leaves cauline, long-sheathed, 3 – 5 mm wide, margins and midvein on abaxial side scabrous, upper leaves equaling or overtopping the stem; sheaths 5 – 17 cm long, loosely enveloping the culms, strongly nerved, smooth; ligule rounded, hyaline, up to 1 mm wide. Bracts leaf-like, longer than the inflorescence, with 5 – 40 mm sheath, upper bracts shortly sheathed to sheathless,

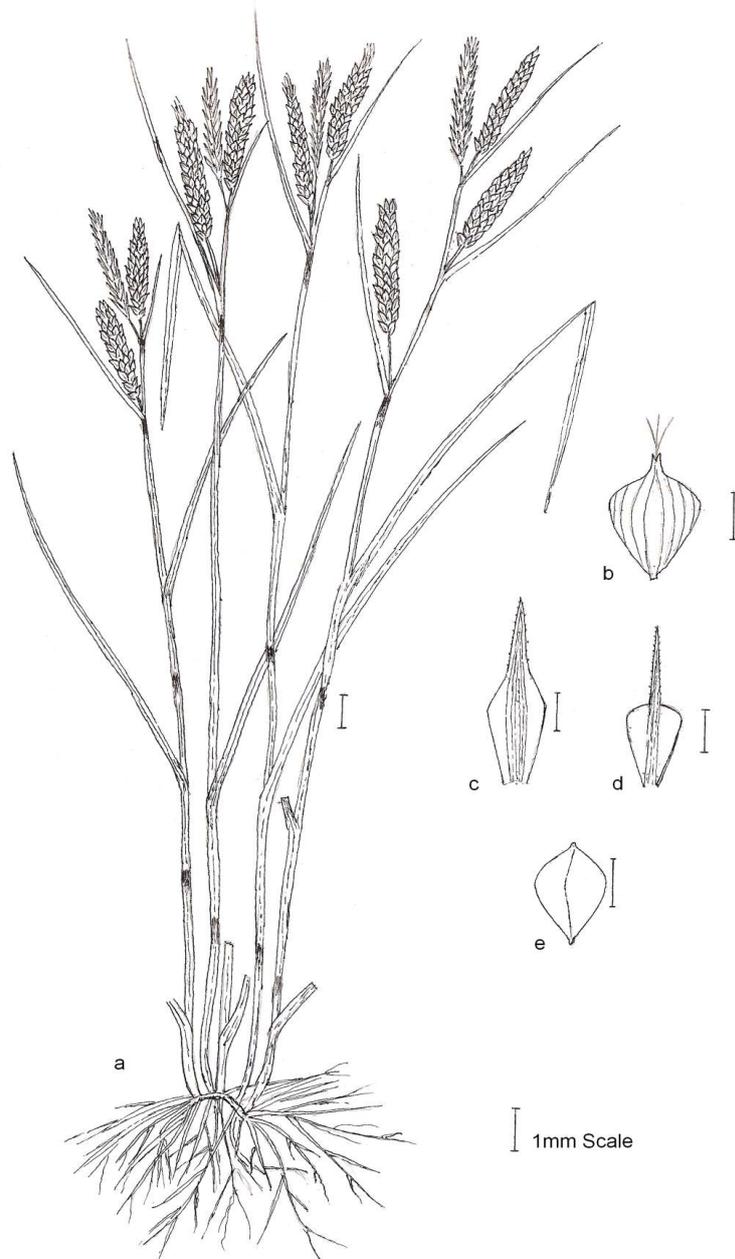


Figure 1: *Carex brownii* Tuckermen: **a.** Habit; **b.** Perigynium; **c.** Staminate glume; **d.** Pistillate glume; **e.** Nutlet

blade margins scabrous. Inflorescence 3 – 9 cm long, with 3 – 4 spikes. Male spike mostly 1, terminal, rarely with a few pistillate flowers at the base, 15 - 30 × 2.5 - 3.5 mm, peduncle 2 – 3 cm long; glumes oblanceolate to oblong, brown, 5 - 7 × 0.9 - 1.1 mm, including 2 – 2.5 mm barbed awn, upper end scarious. Pistillate spikes 2 - 3, 15 - 35 × 3 - 5 mm, upper 2 spikes mostly approximate, sub-sessile to shortly pedunculate, the lowest spike usually remote with peduncle up to 4 cm long; glumes obovate to oblanceolate, 3 - 5 × 1 - 2 mm, including 1.5 - 2.5 mm barbed awn, midrib region green, margins wide hyaline. Perigynia obovate to globular, 2.8 - 3.8 × 2 - 2.5 mm,

strongly nerved, glabrous, green to grayish-green, abruptly contracted above to a beak; beak up to 0.7 mm, distinctly notched. Stigma 3-branched. Nut triangular, obovate, loosely enveloped, 2 - 2.5 × 1.7 - 2.2 mm, pale brown to yellowish.

Diagnostic features: Culms sharply trigonous, smooth, differentiated into nodes and internodes; leaf-blades 3 – 5 mm wide, margins and midvein on abaxial side scabrous; perigynia obovate to globular, 2.8 - 3.8 × 2 - 2.5 mm, strongly nerved, glabrous, green to grayish-green, abruptly contracted above to a distinctly notched beak up to 0.7 mm.

Distribution: China, Jiangsu, Zhejiang, Anhui, Henan, Sichuan, Shanxi, Gansu, Taiwan, Australia, New Zealand, Indonesia, Japan, Korea, and now in India

Field note: Along water channels, under-story of forests, moist meadows; 1,600 – 1,700 m

Flowering and fruiting: April – June

Specimens examined: Bandipora, Papchan ricefields, especially along sides of water channels, 07.06.2005 *Ehtisham, Dar & Wafai* 701-702 (KASH); Mulkihama, along the water channels, *Ehtisham, Dar & Wafai* 820-821 (KASH); Srinagar, Dachigam National Park, *Ehtisham, Dar & Wafai* 1263 (KASH).

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