CAREX BILATERALIS HAYATA (CYPERACEAE): A NEW DISTRIBUTIONAL RECORD FOR INDIA

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ABSTRACT: Carex bilateralis Hayata, a perennial sedge species, known from Malaysia and China has been reported for the first time from India. The study provides a detailed taxonomic description, photographs and relevant information based on fresh collection.

Key Words: Carex, Cyperaceae, Western Ghats, Nilgiri Biosphere Reserve.

INTRODUCTION
Carex L. is one of the most species-rich genera in the family Cyperaceae with more than 2000 species, distributed in temperate and cold regions, especially in the higher altitudes in the tropics [1, 2, 3]. In India, it is represented by 160 species [4, 5]. It is an interesting genus and can be easily recognised by the presence of unisexual flowers and perigynium (utricle) enclosing the nut [6]. As part of the taxonomic revision of the family Cyperaceae in Nilgiri Biosphere Reserve, an interesting specimen of Carex belongs to section Graciles was collected from the Upper Bhavani grasslands, Western Ghats, India. The section Graciles is characterised by the presence of sheathed involucral bracts, two to numerous spikes and plano-convex or biconvex utricles [7] distributed in tropical and subtropical regions of Asia, Australia, Pacific Islands etc. with thirty species. On critical examination and perusal of literature the specimen was identified as Carex bilateralis Hayata hitherto known from Malaysia and China [7, 8]. Thus, our collection represents a new record for India and therefore a detailed description, photographs and other relevant notes are provided for easy identification.

TAXONOMIC TREATMENT

Perennial herbs. Rhizome short, woody. Culms tufted, 20 – 95 cm tall, 0.5 – 1.5 mm thick, slender, erect, trigonous, smooth except on the angles above; the base surrounded by shining, fuscous to blackish sheaths and its remnants. Leaves 15 – 95 cm long, 1 – 2.5 mm wide, rigid, keeled, often flexuious at the long attenuate apex, scabrid. Inflorescence with 5 – 10 fascicles of spikelet, narrow, 5 – 15 cm long; involucral bracts shorter than inflorescence, lower ones shortly leaf-like, upper ones setaceous, sheathed. Spike narrowly lanceolate, upper spikes contiguous, lower ones rather spaced. Spikelets erect, linear-cylindric, 1 – 5 cm long, simple, rather densely flowered, androgynous, upper spikelets sessile or subsessile on included peduncles, lower one included to long-exserted, smooth or scaberulous peduncles. Glumes slightly shorter than utricles, oblong-lanceolate, 3.5 – 4 mm long, translucent, glabrous or sparsely hispidulous on the midrib towards apex, 3–nerved in the centre, fimbriate at the base, with rather wide, whitish-hyaline margins, acute to obtuse, muticous or apiculate. Stamens 3; anthers linear, 1 – 1.4 mm long; filaments ca. 0.5 mm long. Ovary obovoid; style slightly short, base thickened; stigma 2, 3 – 7 mm long, persistent. Utricles narrowly elliptic, plano-convex, ca.4 mm long, membranous, slenderly multi nerved, sub erect, reddish brown, whitish hispidulous on the margins in the upper half and often on the nerves, contracted below into a stout stipe, 0.5 – 1mm long, beak bidenticate, 1 – 1.75 mm long. Nut elliptic, oblong-elliptic, compressed–biconvex, 1. 5 – 2.3 x 1 – 1.3 mm, not stipitate, shortly beaked, brown (Fig. 1).
**Flowering & Fruiting:** May – December.

**Habitat & Ecology:** Shola-Grasslands Mountain ridges from 2000 – 2371 m ASL. The associated species in the community are Carex longipes D. Don., C. longicruris Nees, Eulalia phaeothrix (Hack.) Kuntze, Eragrostis nigra Nees ex Steud., Crysopogon nodulibarbis (Steud.) Henrard etc.

**Distribution:** Malaysia, China. **India:** Western Ghats, Upper Bhavani in Nilgiri Biosphere Reserve.

**Specimen examined:** India, Tamil Nadu, Nilgiri Distr., Upper Bhavani, ± 2371m, 11°13′32.6″ N & 76°31′43.06″ E, 09-11-2012, A. R. Viji & A. G. Pandurangan 75087 (TBGT).
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