

# ***Carex polycephala* Boott (Cyperaceae): A New Distribution Record for Western Himalaya**

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*Carex* L. is one of the largest genera among flowering plants and the largest of family Cyperaceae. As per the World Checklist (WCSP, 2015), there are 1,816 species distributed worldwide. Although North America and Eastern Africa are the main centres of diversity (Starr *et al.* 1999), *Carex* is well represented in India with about 160 species, especially in the Himalayas. There are 40 species of *Carex* reported from the Himalayan State of Jammu & Kashmir (Ehtisham-ul-Haq *et al.* 2012).

While working on the Indian specimens of *Carex*, authors came across a collection of two specimens from Burzil in Kashmir. These specimens in CAL were originally identified as *Carex nivalis* Boott, but a critical examination of the specimens and perusal of literature revealed that these are nothing but *Carex polycephala* Boott, found in the Indian states of West Bengal, Sikkim and Arunachal Pradesh, and in the neighbouring countries Bhutan and Nepal. Therefore, based on the present finding, it is reported here as a new distribution record for Western Himalaya and with this new addition, total number of *Carex* species in Jammu & Kashmir has gone up to 41. A detailed description, illustration and other relevant information are provided for easy identification.

## **Materials and methods**

Available literature on the genus *Carex* were consulted and digital image of the type specimen of *Carex polycephala* was downloaded (<https://science.mnhn.fr/institution/mnhn/collection/p/item/p00294230> - accessed on 20.04.2015) to match with the Kashmir specimens. Also the herbarium specimens from West Bengal, Sikkim and Arunachal Pradesh, available in CAL were studied to compare with the Kashmir specimens.

## **Taxonomy**

***Carex polycephala*** Boott, Ill. *Carex* 1: 4. 1858; C. B. Clarke in Hook. f., Fl. Brit. India 6: 722. 1894; R. C. Srivast. in Hajra & D.M. Verma, Fl. Sikkim 1: 209. 1996; Karthik. *et al.* Fl. Ind. Enum. Monocot. 41. 1989; Noltie, Fl. Bhutan 3(1): 382. 1994. Fig. 1

Type: INDIA: Sikkim, 9-10,000 ped, (ft.) J. D. Hooker s.n. - Isotype P (Image) ! (barcode: P00294230).

Perennial with short rhizome, 20-45 cm high. Rhizome ultimately woody, clothed with brownish bladeless sheaths. Culms stout, acutely trigonous, 2-3 mm thick, enclosed by the leaf sheaths. Leaves linear, acuminate at apex, equalling or exceeding the



**Fig 1. *Carex polycephala* Boott - a. Inflorescence, b. Male glume with stamens inside, c. Stamen, d. Female glume (dorsal view), e. Female glume (ventral view) with female flower inside, f. Utricle with stigmas protruding from the beak, g. Achene (C. B. Clarke 29631 CAL)**

culm, 13-36 cm long, 4-6 mm wide, scabrous on the margins towards apex; lower ones reduced to bladeless sheaths; sheaths pale brown at base, ribbed, not persisting as fibres. Inflorescence usually a narrow panicle with 4-6 nodes; peduncles in groups of 2-9, relatively slender, erect, each bearing a single spike or sometimes branched with up to 4 spikes. Bracts foliaceous, sheathing, exceeding the inflorescence. Spikes androgynous, all similar, narrowly ellipsoid, 2.6-2.9 × 0.4-0.8 cm. Male part 7-9 × 2-3 mm, brownish, many-flowered. Glumes membranous, linear-lanceolate, acute at apex, 6-6.1 × 1.2-1.5 mm, hyaline to very light brown, with a prominent midrib. Stamens 3; filaments elongate up to 1.5 mm; anthers linear-oblong, c 2 mm long. Female part oblong, 18-20 × 6-8 mm, densely many-

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flowered. Glumes lanceolate, acute at apex, 4.9-5.2 × 1.1-1.3 mm, hyaline or straw-coloured, with a prominent mid-vein. Style c 2 mm long; stigmas 3, protruding through the apex of the utricle. Utricle trigonous, narrowly ellipsoid, gradually narrowed into a long beak, 3.8-4.2 × c 1.8 mm (including the c 1.8 mm long beak), brownish, glabrous; beak shortly bifurcate at apex. Achene trigonous, ellipsoid, 1.3-1.5 × c 1 mm, brown.

**Flowering & Fruiting:** May-October

**Distribution: India:** Jammu & Kashmir, Sikkim, West Bengal and Arunachal Pradesh. Nepal and Bhutan.

**Specimens examined:** India, **Jammu & Kashmir:** Burzil, 10500 ft., 26.07.1876, *C. B. Clarke* 29631 (CAL). **Sikkim:** Rungporoon Valley, May 1887, *J. L. Lister* s.n. (CAL); Rulhart, 7000 ft., 11-10-1870, *C. B. Clarke* 12986C & 12986E (CAL). **West Bengal:** Darjeeling, 8000 ft., 10.05.1876, *C. B. Clarke* 27875C (CAL); Darjeeling, *A. B. Chowdhury* 46 (CAL); Tonglu, 30.05.1908, *Rhomoo* 293 (CAL); Tonglo, 9000 ft., 05.07.1877, *J. L. Lister*, s.n. (CAL); Tonglo, 1000 ft., May 1887, *G. Watt* 5357 (CAL). **Arunachal Pradesh:** Dibang Valley, Mayudia pass, 2650 m, 19.04.1999, *M. Bhaumik* 2482 (CAL); Dibang Valley, Mayudia, 2520 m, 13.05.1998, *M.*

*Bhaumik* 1713 (CAL); Dibang Valley, Chigupani, 1750 m, 5.04.2002, *M. Bhaumik* 3711 (CAL); Dibang Valley, Mayudia, 2200 m, 24.04.2001, *M. Bhaumik* 3883 (CAL); Dibang Valley, Way to Chigupani, 1750 m, 05.04.2003, *M. Bhaumik* 3711 (CAL); Dibang Valley, Mayudia, 2200 m, 23.04.2001, *M. Bhaumik* 3873 (CAL).

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## Announcement

### Third course on Wildlife Conservation for Wildlife Enthusiasts (5-14 October, 2015)

The Wildlife Institute of India (WII) intends to conduct the 3rd course on wildlife conservation for wildlife enthusiasts from 5-14 October, 2015. Professionals without any formal education, training and experience of wildlife biology/conservation will be given preference in the course. The course will involve five days of class room sessions at WII followed by a five days field visit. The total number of participants in the course will be 20. The training fee for this course is Rs. 30,000/person (Rupees Thirty Thousand only), which includes cost towards food and accommodation at WII and at field site, and travel to the field site and back. At WII accommodation will be provided on twin sharing basis and at field site it will be tented accommodation. Applications from interested candidates must contain a copy of their C.V. and a brief write-up explaining their intention to participate in this short course. Selection of candidates will be based on their write-up and C.V. Applications should reach the Course Director Sh. R. Suresh Kumar, Scientist – D, Department of Endangered Species Management by email ([suresh@wii.gov.in](mailto:suresh@wii.gov.in)) no later than 31st August 2015. Shortlisted candidates will be intimated about their selection for the course by 5th September 2015. Selected candidates will be required to sign an indemnity bond at the time of joining.