



A New Species and Subspecies of *Carex* L. (Cyperaceae) from Arunachal Pradesh, India

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ABSTRACT: *Carex sanjappae* M. Bhaumik & M.K. Pathak and *Carex speciosa* Kunth ssp. *varmae* M. Bhaumik & M.K. Pathak a new species and subspecies respectively are described and illustrated from Arunachal Pradesh, India. New species *Carex sanjappae* M. Bhaumik & M.K. Pathak belongs to the section 'rarae', characterized by longer spikes, utricle longer, wider and truncate aperture at apex. Comparative analyses of characters of closely related species are given in a table. Whereas new subspecies *Carex speciosa* ssp. *varmae* M. Bhaumik & M. K. Pathak is worth recognizing by its longer, strongly hispidulous utricles and narrower leaves. A dichotomous key is provided for easy recognition from other subspecies.

KEY WORDS: Arunachal Pradesh, *Carex*, India, new species, subspecies.

INTRODUCTION

The cosmopolitan genus *Carex* L. represented about 1,800 species mainly in temperate and cold regions of the world (Mabberley, 2008). In India it is represented by 160 species (Karthikeyan *et. al.*, 1989) and 43 species from Arunachal Pradesh (Bhaumik, 2009).

In course of our floristic studies in different districts of Arunachal Pradesh, India, several *Carex* L. specimens were collected. After careful analysis and literature studies shows two collections are distinct. So these are described and illustrated here.

The new species *Carex sanjappae* characterised by solitary terminal androgynous spike and stigmas are three. So it comes under C. B. Clarke's Sub Genus II. Eucarex and section Rarae (Clarke, 1894).

Carex eremostachya S.T. Blake apparently looks alike by habit but differs in broader leaf blade, shorter and wider spikes, ovate, longer and wider female glumes, longer and bidentate aperture of utricle. Due to presence of stipe at utricle base it shows some resemblance with *Carex stipitiutriculata* P. C. Li but it differs by much shorter spikes, narrower, needle like leaf blades in comparison to my specimens (Blake, 1947).

Section Rupestres of Flora of China comes close where regressive branch rachilla present at base (Dai *et al.*, 2010). In spite of regressive branch rachilla *C. sanjappae* have strongly nerved utricle and gradually narrowed at base unlike to its section.

Carex speciosa is a polymorphic species and distributed widely in Southeast Asia (Noltie, 1993, 1994; Kern and Nootboom, 1979). Present state of our knowledge, there are four valid subspecies (Govaerts *et*

al., 2010). Two are Sino Himalayan but others are restricted to Thailand. One of our collections does not fit to the so far described subspecies of *C. speciosa*. So it is named as *Carex speciosa* ssp. *varmae* M. Bhaumik & M. K. Pathak and described here.

TAXONOMIC TREATMENTS

Carex sanjappae M. Bhaumik & M. K. Pathak *sp. nov.*

Fig. 1

Carice rarae rhizomate stolonifero, spicis longioribus (1.7-2.5 cm longis), utriculo longiore latioreque (3.2-4 mm longo, 1.3-2 mm lato) stipitato maturitate non effuso, apertura truncata differt.

Carex sanjappae M. Bhaumik & M. K. Pathak *sp. nov.* differs from *C. rara* Boott by stoloniferous rhizome, longer spikes (1.7-2.5 cm), utricle longer and wider (3.2-4 × 1.3-2 mm), stipitate, not spreading at maturity, aperture truncate.

Type: India. Arunachal Pradesh, Mehao Lake, Lower Dibang Valley district, 1,300 m, 17.04.1999, *Bhaumik 2443A-C* (Holotype: CAL, *Bhaumik 2443A*; Isotype: ARUN, *Bhaumik 2443 B-C*). Known only from type locality.

Rhizome stoloniferous, widely spreading, forming mats. Clum 3-11 in each point on rhizome, 15-40 cm tall, strongly trigonous towards apex, angle scabrous. Leaves lower 3/4 part of the clum, shorter than or just exceeding the inflorescence, flat, grass like, scabrous at margin, 0.8-2 mm broad; bladeless sheath elliptic –