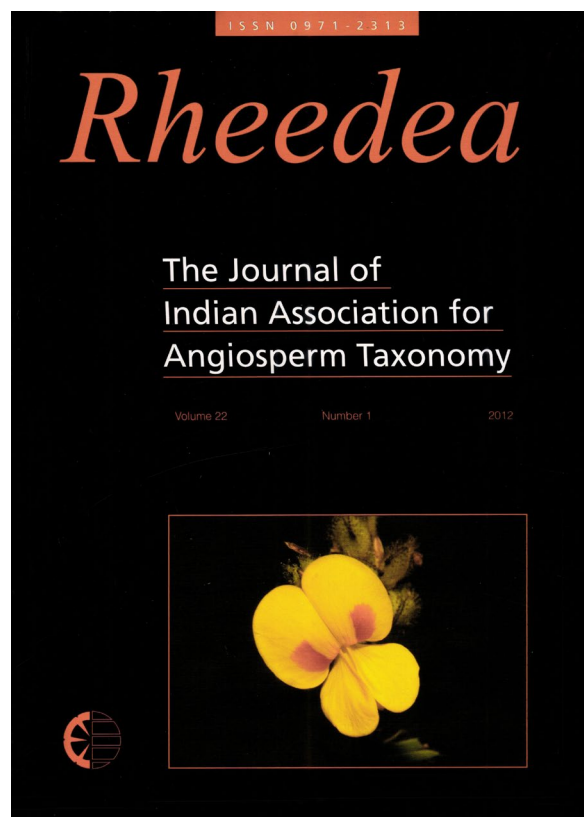




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## *Kobresia kansuensis* (Cyperaceae): An addition to flora of India

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### Abstract

*Kobresia kansuensis* Kük. (Cyperaceae) is reported for the first time from India. A detailed description with nomenclature, distribution and an illustration of the species is provided.

**Keywords:** Addition, Cyperaceae, India, *Kobresia*

### Introduction

*Kobresia* Willd. comprises *c.* 65 species, distributed in Northern hemisphere, especially in the higher altitudes of Himalayas (Govaerts & Simpson, 2008); few are in Europe and America (Mabberley, 2008). In Asia, it is mainly distributed in India, China, Nepal, Bhutan, Malaysia and Pakistan. There are 32 species and 5 varieties in India (Karthikeyan *et al.*, 1989), confined to Eastern (Sikkim, Arunachal Pradesh and West Bengal) and Western Himalayan (Kashmir, Himachal Pradesh and Uttarakhand) regions. During the revision of *Kobresia* Willd. in India, the authors came across a specimen (*D. Maity* 23093) collected from Thila in Sikkim had identified as *K. pseuduncinoides* Noltie and housed at BSHC (Fig. 2). *Kobresia pseuduncinoides* has been treated as a synonym of *K. kansuensis* Kük. by Govaerts & Simpson (2007).

A scrutiny of literature (Clarke, 1894; Kükenthal, 1909, 1930; Koyama, 1978; Karthikeyan, 1989; Rajbhandari & Ohba, 1991; Noltie, 1994; Srivastava, 1996; Govaerts & Simpson, 2007; Chowdhery *et al.*, 2009; Noltie & Shuren, 2010) revealed that this species is not reported from India and known so far only from China, Nepal and Bhutan. A distributional map available at [www.gwannon.com](http://www.gwannon.com) shows the species is also distributed in India but without any precise locality. However, a scrutiny of literature as well as the Indian herbaria revealed that there is neither a report nor a representative specimen (except for the present one) of this species available. Therefore, it is reported here as an addition to the sedge flora of India.

***Kobresia kansuensis* Kük.**, Acta Horti Gothob. 5: 38. 1930; Zhang Shuren & Noltie in Z. Wu & P.H. Raven, Fl. China 23: 274. 2010. *K. pseuduncinoides* Noltie, Edinburgh J. Bot. 50: 47. 1993 & Fl. Bhutan 3: 337. 1994.

**Fig. 1**

Herbs, perennial. Rhizomes short, thick, woody, covered with brownish scales. Culms tufted, erect, 10.3(–70) cm high, 2(–6) mm in diam. (incl. inflorescence), acutely triquetrous. Leaves basal, equaling culms; blade flat, sometimes folded at base, 3–4 cm across; midrib distinct below. Inflorescence densely paniculate, *c.* 7.3 × 2–2.3 cm, narrowly oblong to lanceolate with 8 simple branches, brown or dark brown. Lowest involucre bract glume-like, aristate, not exceeding inflorescence. Terminal spikelets of inflorescence branches male; lower one bisexual with unisexual female spikelets. Glumes of female spikelets oblong-elliptic, (5–)10–11 × (2–)4 mm excluding 1.5–2 mm long arista, narrowly hyaline at margins near apex, strongly aristate at apex, brown; midvein yellowish green. Prophylls narrowly oblong, *c.* (4.5–)8 × 1 mm, 2-keeled; keels minutely scabrid, margin open to base, yellowish green. Male glumes elliptic-oblong, *c.* 9 × 2 mm, hyaline at margins, mucronate at apex, scabrid, yellowish brown. Stamens 3; filaments slender, *c.* 5 mm long, whitish hyaline; anthers *c.* 3.5 × 0.5 mm, brownish black. Styles slender, *c.* 3 mm long, 3-fid; ovary oblong, *c.* 3 mm long. Racheola *c.* 4 mm long.

*Flowering & Fruiting:* June – July.

*Distribution:* India (Thila, Sikkim), Bhutan, China and Nepal.

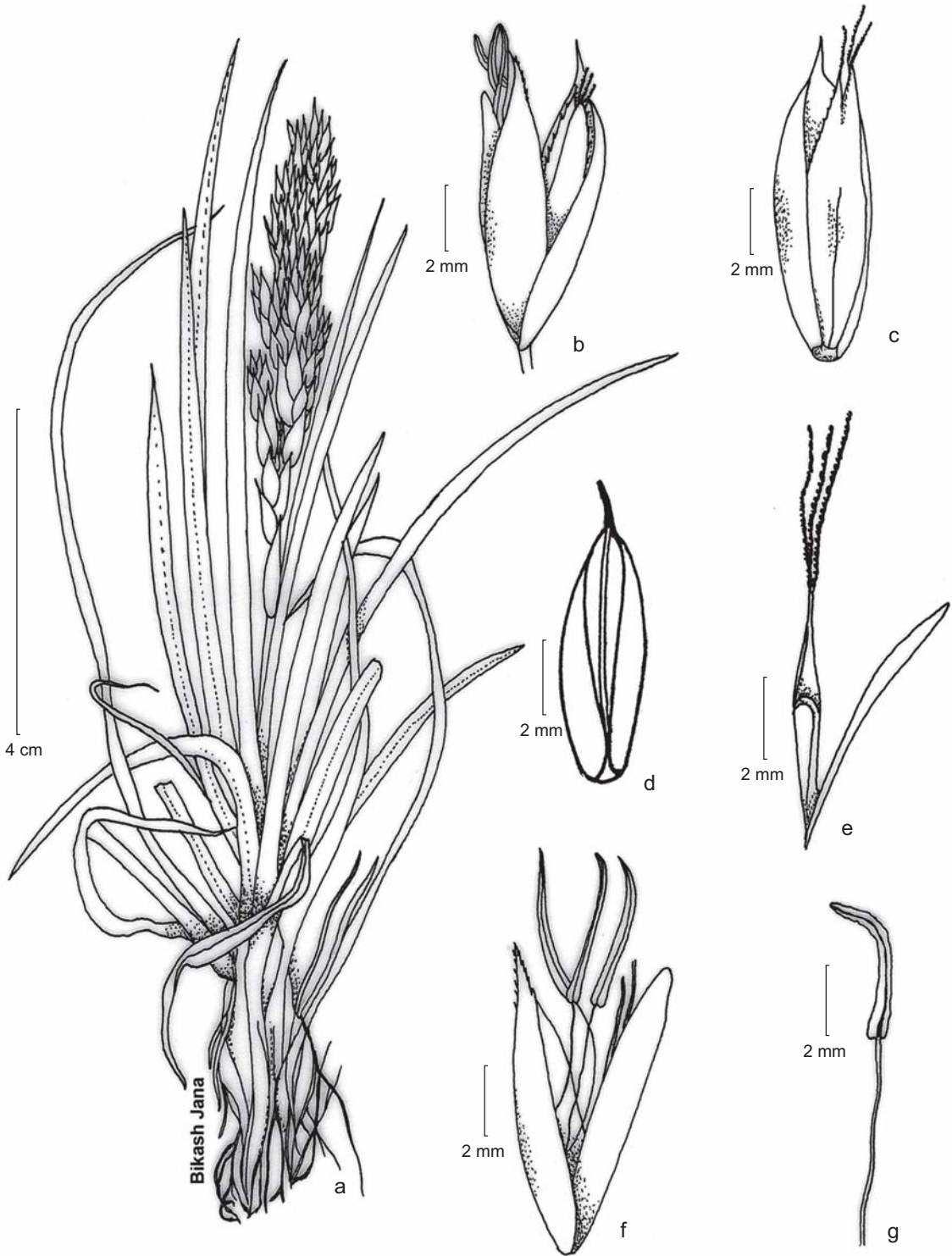


Fig. 1. *Kobresia kansuensis* Kük.: a. Habit; b. Male and female spikelets; c. Female spikelet; d. Female glume; e. Gynoecium; f. Male spikelet; g. Stamen.



Fig. 2. Scanned image of herbarium specimen (D. Maity 23093, BSHC) of *Kobresia kansuensis* Kük.

*Specimens examined:* CHINA, China boreali-occidentalis, Kansu Province, T'ao River basin', Swampy meadow of mountains, west of Adjuan, 3500 m, October, 1925, J.F. Rock 13714 (Isotype, A!). INDIA, Sikkim, North Sikkim district, Thila, 4000 m, 13.7.2000, D. Maity 23093 (BSHC).

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