



New distributional record of a rare sedge *Kobresia* (Cyperaceae) from Sikkim, India

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Kobresia, a genus established by Willdenow in 1805, is placed in the tribe Cariceae under the subfamily Cyperioideae of the sedge family Cyperaceae. The genus is characterized by its utricles, which are more or less open on one side and in having at least some bisexual spikelets with male flowers above the female flowers. There are about 65 species (Govaerts et al. 2007) distributed in the northern hemisphere, especially at high altitudes in the Himalaya, India, China and central Asia. About 42 taxa are recorded so far from India. It is one of the important genera in the alpine flora of the eastern and western Himalayan region of India. It is also an important pasture plant dominating a vast area of the alpine region where grazing animals feed extensively on it.

While revising the genus *Kobresia* Willd. (Cyperaceae) in India under ‘Flora of India Project’ of the Botanical Survey of India, the authors came across specimens in the BSHC herbarium, which on critical studies were identified as *K. harae* Rajbh. & H. Ohba. A scrutiny of the literature (Clarke 1894; Karthikeyan et al. 1989; Kuekenthal 1909; Koyama 1978; Noltie 1994; Noltie & Zhang 2010) and herbaria revealed that this species is known so far from Nepal only. Therefore, the present collection from northern Sikkim forms the first report for India.

Kobresia harae Rajbh. & H. Ohba

in J. Jap. Bot. 62(7): 193, f.1. 1987.

(Image 1)

Type: Nepal: Janakpur Zone, Ramechhap District, Serdingma-Dubikharka, 3400–3720 m, 7.vii.1985, Ohba et al. No.8570278 Holotype (TI)

Specimen examined: 13.vii.1996, 3520m, Yumthang, North Sikkim District, Sikkim, India, coll. G.P. Sinha & D.G. Long, 17821 (BSHC) (Image 2).

Perennial herbs. Rhizome elongated, ca. 4 x 0.3 cm covered with brownish-black scales. Culms slender, erect, 9.5–10.1 cm x 0.5 mm, triquetrous, smooth; base covered with brownish-black lamina bearing outer sheaths. Leaves ca. 2–7 cm x 1.5–2 mm, much shorter than the culm; lamina linear, slightly scabrid at apex, midrib smooth, greenish in colour; sheath 1–2 cm long. Inflorescence erect, racemose, oblong, ca. 2.4 cm x 1 mm with 4–6 spikes; axis slightly triquetrous. Spikes oblong, 9–11 x 3 mm, with about 5 or 6 spikelets. Spikelets all unisexual, lowest and lateral ones female and terminal one male. Glumes of the lowest spikes broadly ovate, ca. 4 x 1 mm, glabrous, brownish, margin slightly hyaline, prominently, 1-nerved, apex long attenuate, scabrid, base slightly sheathing. Lowest spikelets female, elliptic, ca. 4 x 0.75 mm. Glumes of the female spikelets ovate to ovate-elliptic, ca. 2.5 x 0.5 mm, apex slightly acute to obtuse, glabrous, brown, margin slightly hyaline at apex. Prophyll linear to oblanceolate, ca. 4 x 0.75 mm, membranous, smooth, brownish, upper portion hyaline, margin

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BSHC - Botanical Survey of India Sikkim Himalayas Circle Herbarium

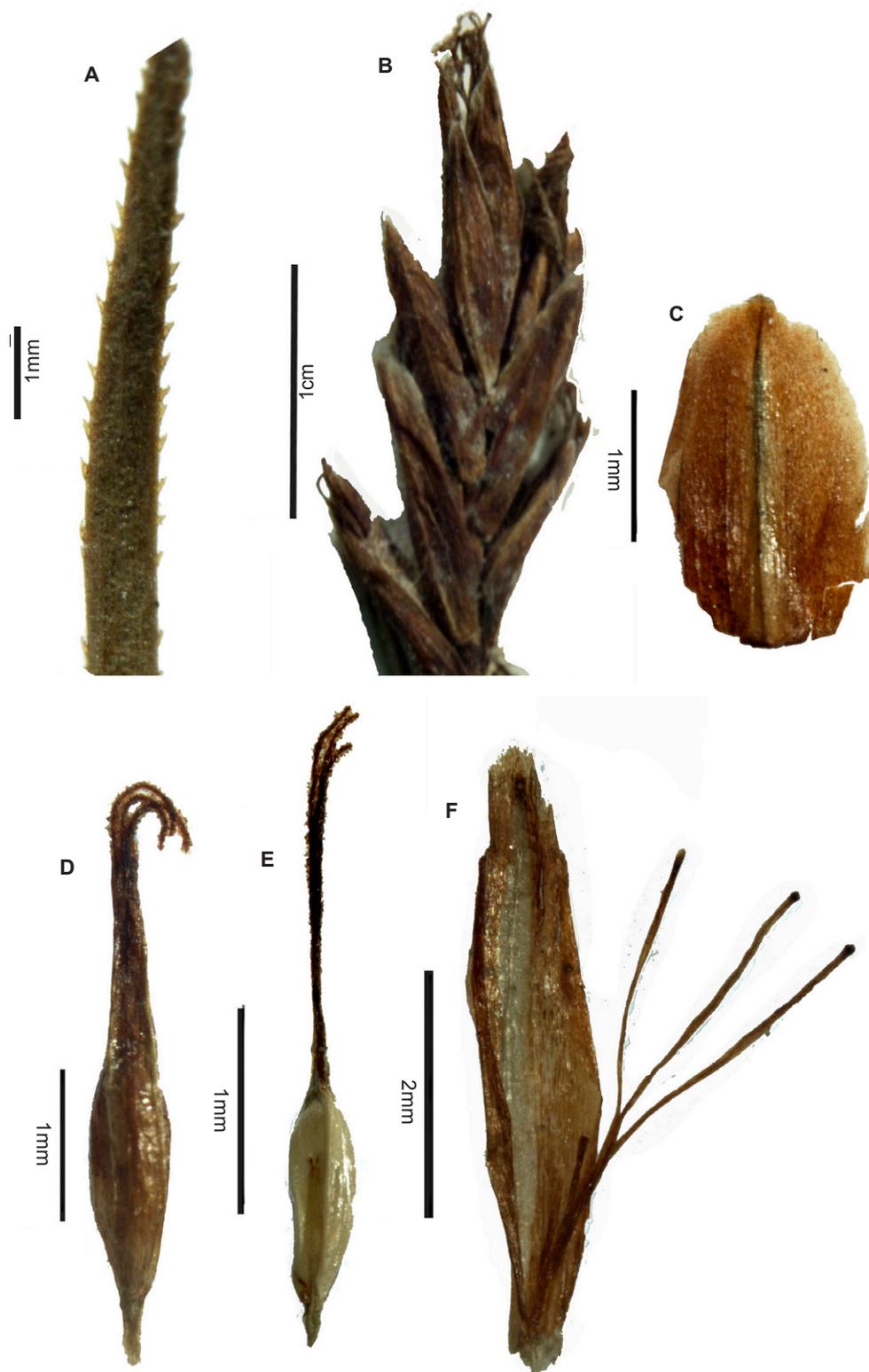


Image 1. *Kobresia harae* Rajbh. & H. Ohba
A - close-up of apical portion of leaf; B - apical portion of inflorescence; C - female glume; D - prophyll with gynoecium; E - gynoecium; F - Male spikelet.

Image 2. Herbarium of *Kobresia harae*

Kobresia harae Rajb. et H. Ohba

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open in upper half from apex to the middle. Male glume broadly elliptic-lanceolate, ca. 5 x 0.5 mm, apex obtuse, glabrous. Stamens 3; filaments slender. Gynoecium ca. 3 x 0.5 mm; style 3-fid, ca. 1 mm long; ovary trigonous, obovate, ca. 2 x 0.5 mm, smooth, light yellow in colour. Rachiola $\frac{3}{4}$ th of the ovary, 1-nerved, smooth, greenish-yellow in colour.

Flowering and Fruiting: July.

Distribution: India: Sikkim (Yumthang); Nepal.

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