



## A new species of *Ephedra* (Ephedraceae, Ephedrales) from India

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*Ephedra* Linnaeus (1753: 1040) is a genus with approximately 40 species Christenhusz *et al.* (2011), although the estimates range from 31 Stapf (1889) to ca 50 Price (1996). Sahni (1990) lists eight species for India and adjoining regions, but three additional species (*E. kardangensis* P.Sharma & P.L.Uniyal in Sharma *et al.* 2010: 730, *E. khurickensis* P.Sharma & P.L.Uniyal in Sharma *et al.* 2010: 731, *E. sumlingensis* Sharma & Uniyal 2008: 179), have recently been added from the Western Himalayas since (Sharma & Uniyal 2014).

Repeated field explorations during the past twelve years were carried out. Each population of *Ephedra* from Uttarakhand to Ladakh has been surveyed and documented. During these field studies in 2003 some populations near Rekong Peo, Pangi Nala, Purvan Jhula and Spello in District Kinnaur, Himachal Pradesh, grabbed our attention. Specimens of *Ephedra* kept at DD and BSI were examined and morphological characters compared. Literature on *Ephedra* taxonomy (e.g. Stapf 1889, Pearson 1929, Florin 1933, Atal & Sood 1964, Sahni 1990, Mikage & Kondo 1998) has also been consulted. We found that these unusual populations of *Ephedra* could not be assigned to any of the existing Western Himalayan species. At this elevation *E. intermedia* Schrenk & C.A.Mey., is a dominant species, but on the basis of several critical morpho-anatomical parameters of vegetative and reproductive parts the unusual *Ephedra* populations of the Kinnaur District are hereby segregated as a new taxon.

### Taxonomy

*Ephedra pangiensis* Rita Singh & P.Sharma, *sp. nov.* (Fig. 1)

*Species similar to E. intermedia but distinguished by the anatomy of the stem, grayish bark, non-bluish branches and its stalked male and female strobilus.*

**Type:**—INDIA. Himachal Pradesh: Pangi nala, Kinnaur, 3000 m, 10 October 2003, Singh & Sharma 86 (holotype IPUH!).

Plants dioecious, erect, 1 m tall. Bark grayish black, branchlets dark green, 1–2 mm in diameter with ridges and furrows, internodes 4–5 cm long. Leaves scaly usually two, sometimes three confined to the nodes, opposite decussate, turning brown at maturity, awl shaped, acuminate, 2–3 mm in length, mostly ½ connate, sheath membranous, later fissured. Male strobilus stalked, subglobose to globose, 3–4 mm long, 1.5–2.0 mm wide with six pairs of flowers, bracts binate in six pairs, cuspidate, 1.5–3.0 mm long, 1.0–2.5 mm wide, perianth almost equaling the subtending bract, urceolate, acuminate, 2.0–2.5 long, 1–2 mm wide, synangiophore with synangia 3–4 mm long, 1.5–2.0 mm wide, synangia 5–6, usually 3 sessile and 2–3 stipitate, pollen grains golden yellow, dimorphic, ellipsoidal or widely ellipsoidal with protrusion visible at the meridional poles. Female strobilus stalked, 7 × 4 mm, three to four pairs of bracts, bracts mucronate, connate, 1.5–4.0 mm long, 1–3 mm wide. Seeds two, ovate to elliptic, black, 4.5–5.5 mm long, 2.0–2.5 mm wide, two enveloped, micropylar tube twisted, 3–5 mm long, exserted.

**Etymology:**—The new species is named after the place of occurrence where it was first located, Pangi Nala near Rekong Peo (Distt. Kinnaur) in Himachal Pradesh.