



***Bistorta tenuifolia* var. *gidarensis* (Polygonaceae), a new variety from India**

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Abstract

During a botanical excursion of the alpine meadows in the state of Uttarakhand, we came across a viviparous species under the genus *Bistorta* (Polygonaceae). Subsequently, the taxon was also recorded from the Great Himalayan National Park, Himachal Pradesh. The gross morphology suggested this plant belong to *B. tenuifolia* but we found differences in the shape of perianth lobe and the size of stamens from those of the typical *B. tenuifolia*. On the basis of the acute perianth lobes, the minute stamens that are included in the perianth and the reniform anthers, we describe a new variety, *B. tenuifolia* var. *gidarensis* and compared it with the nominal variety and the related species *B. vivipara*.

Keywords: *Bistorta*, *B. vivipara*, *B. tenuifolia* var. *tenuifolia*, new taxon, Uttarakhand, Western Himalaya

Introduction

Polygonaceae Juss. is a cosmopolitan family including 48 genera and about 1200 species (Sanchez & Kron 2008, Li *et al.* 2003) all characterized by the presence of an ocrea that derived from the fusion of the stipules. The taxonomy of this family is complex (Ronse Decraene & Akeroyd 1988) with an high phenotypic variability (Brandbyge 1993). *Polygonum* Linnaeus (1753: 359) is the largest genus of Polygonaceae, with 230 species (Li *et al.* 2003). Molecular studies show the monophyly of Polygonaceae, while it is paraphyletic at sub-family level (Galasso *et al.* 2009). Kim & Donoghue (2008) included *Aconogonon* (Meisner 1826: 55) Reichenbach (1837: 236), *Bistorta* Miller (1754: 194) and *Koenigia* Linnaeus (1767: 104) in one clade that is a sister group of *Persicaria* Miller (1754: 1054). The genus *Bistorta* is characterized by the presence of a solitary terminal spicate inflorescence, basal leaves and oblique ocrea (Galasso *et al.* 2009) and it comprises 50 species (Li *et al.* 2003) of which about 8 are recorded in the Western Himalaya (Uniyal *et al.* 2007). Viviparous bistorts are represented by 3 species in the world, *P. suffultoides* An Jen Li (1995: 415), *B. vivipara* (Linnaeus 1753: 360) Gray (1821: 268) and *B. tenuifolia* (Hsien Wu Kung 1935: 367) Futoshi Miyamoto & Hideaki Ohba (2005: 280). The viviparous species are characterized by the presence of bulbils in the inflorescence (sometimes only in the basal part). All the three species occur in China. *B. vivipara* and *B. tenuifolia* are also recorded in Nepal. The only species recorded in India is *B. vivipara*.

In the present study a new variety of *B. tenuifolia* from the Western Himalaya is described. During the survey of alpine meadows in Western Himalaya, we found a viviparous species of *Bistorta* which was different from the *B. vivipara* and had affinities with *B. tenuifolia*.

Material and methods

Twenty five specimens were collected from three localities, of which Gidara and Kanasar are located in Uttarakhand and Great Himalayan National Park in Himachal Pradesh. The exsiccata were deposited in the