

Veronica peregrina (Plantaginaceae): A new record for India

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Abstract

Veronica peregrina L. is reported from Kashmir Himalaya as new record for India. Taxonomic description, photographic illustrations and comparison of diagnostic characters with its closely similar species are provided to facilitate easy identification.

Keywords: Flora, Kashmir Himalaya, plant record, *Veronica*

Introduction

The genus *Veronica* L., one of the dominant genera in family Plantaginaceae, comprises of about 450 species in the World (Albach *et al.*, 2004; Mabberley, 2008). The genus shows characteristic features of flowers being solitary, or in terminal or axillary bracteate racemes, ebracteolate, calyx 4–5-partite, corolla rotate, or tube cylindrical, stamens 2, exserted, stigma subcapitate (Hooker, 1897). The genus was previously placed under Scrophulariaceae and it has been recently shifted to Plantaginaceae (Haston, 2009).

From the Indian subcontinent, 18 species of *Veronica* were reported in *The Flora of British India* (Hooker, 1897). Recently, Agnihotri *et al.*, (2014) reported 35 species from India, out of which 32 species are confined to Indian Himalayan region. From the Western Himalaya, 28 species of this genus have been reported (Pennell, 1943). In the Western Himalayan state of Jammu and Kashmir (J & K), various workers have reported a number of *Veronica* species from different regions: 25 species from Jammu, Kashmir and Ladakh regions (Stewart, 1972), 25 species from Kashmir and Ladakh regions (Aman *et al.*, 2003), 8 species from Jammu region (Sharma & Kachroo, 1981) and 7 species from Ladakh region (Kachroo *et al.*, 1977). During recent floristic surveys of aquatic habitats in Srinagar, Kashmir Himalaya (Fig. 1), the authors collected hitherto unknown specimens

of *Veronica* species. A critical study of these specimens using relevant taxonomic literature (Albach *et al.*, 2004), online e-floras (Flora of China, 2017; Jepson eflora, 2017) and illustrations, the specimens were identified as *Veronica peregrina* L. (Table 1). A perusal of floristic literature (Hooker, 1897; Pennell, 1943; Stewart, 1972; Aman *et al.*, 2003; Agnihotri *et al.*, 2014) revealed that this species has not been recorded from India till date. Therefore, a detailed taxonomic description and photographs of diagnostic characters (Fig. 2) of the species are provided here to validate this new plant record for India and facilitate its easy field identification.

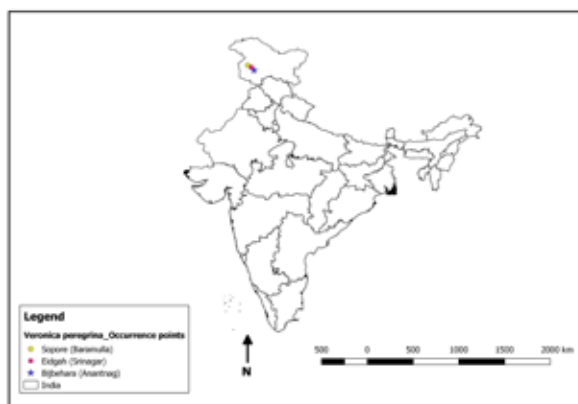


Fig. 1. Distribution of *Veronica peregrina* L. in India

Table 1. Comparison of distinguishing characters between *V. peregrina* L., *V. arvensis* L. and *V. verna* L. growing in Kashmir Himalaya, India

Diagnostic characters	<i>V. peregrina</i>	<i>V. arvensis</i>	<i>V. verna</i>
Leaf blade	Lower ones spatulate, upper ones oblong	Lower ones oval or ovate-cordate, upper ones lanceolate to linear	Lower ones oblong, pinnatisect, upper ones deeply cleft into linear lobes
Inflorescence	Racemes terminal and axillary	Racemes terminal	Racemes terminal and axillary
Bract shape	Oblanceolate	Lanceolate	Lanceolate to linear
Corolla	Usually white	Pale blue or whitish blue	Pale blue
Pedicel	Up to 2 mm long	Up to 1 mm long	Up to 5 mm long

***Veronica peregrina* L., Sp. Pl. 1: 14. 1753. Fig. 2**

Veronica chillensis Kunth, Nov. Gen. Sp. 2: 390. 1817.

Veronica peregrina var. *xalapensis* (Kunth) Pennel, Torreya 19(9): 167. 1919.

Veronica sherwoodii M. Peck, Torreya 28(3): 56. 1928.

Annual herbs, 5–32 cm tall, multiple branches arise from the base of main erect stem; branches diffuse, decumbent, densely glandular pubescent. Leaves sessile, variable, lower spatulate, *c.* 1.5 × 0.3 cm, withered in flowers and fruits stage, middle ones cauline, oblanceolate, 2.5 × 0.5 cm, upper ones narrowly oblong, *c.* 2 × 0.4 cm, crenate or entire at margin, cuneate at base. Racemes terminal and axillary, bracts alternate, oblanceolate, slightly smaller in size than the upper leaves, 1.3–1.5 cm long; pedicels less conspicuous, *c.* 2 mm long. Calyx 4-lobed, lobes narrowly oblong, 5 mm long, persistent in mature fruit. Corolla white, rotate, narrowly oblong to ovate, *c.* 4 mm long. Stamens 2, shorter than the corolla, seen only when flowers open. Stigma subcapitate, unlobed. Capsule obcordate, compressed, *c.* 3 mm long, *c.* 4 mm broad, margin short, glandular and ciliate, notched at apex. Seeds 45–60, oblong, smooth.

Specimens examined: INDIA: **Kashmir (J&K)**, Srinagar, Eidgah, 34.10° N, 74.79°E, 30.5.2014, *Shugufta & Khuroo* 85 (KASH); Baramulla, Sopore, 34.28°N, 74.47°E, 21.5.2014, *Shugufta & Khuroo* 311 (KASH); Anantnag, Bijbehara, 33.80°N, 75.10°E, 27.5.2015, *Shugufta & Khuroo* 312 (KASH).

Flowering & fruiting: May – June.

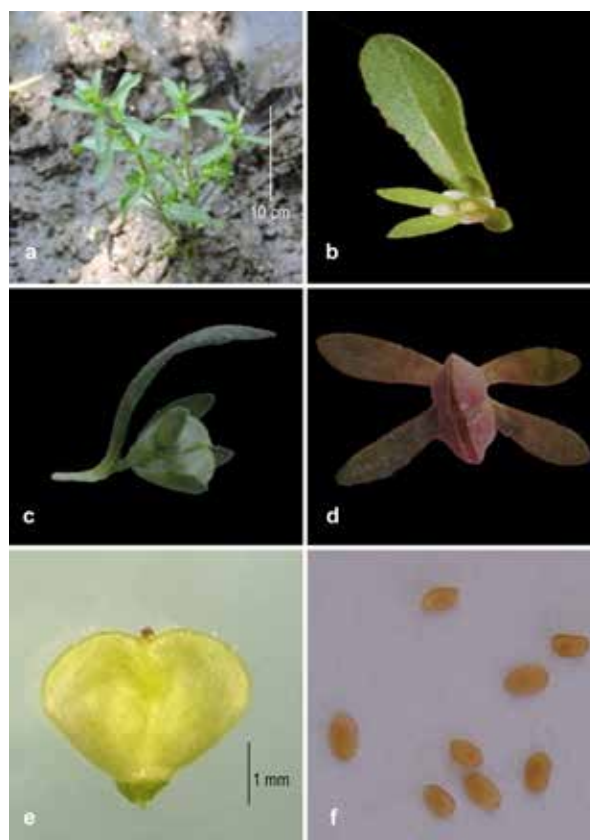


Fig. 2. *Veronica peregrina* L.: **a.** Habit; **b.** Flower with bract; **c.** Developing fruit with sepals & bract; **d.** Mature fruit with persistent sepals; **e.** Fruit; **f.** Seeds.

Distribution & ecology: The plant is native to North America, South America and naturalized in Europe, Russia, China, Korea, Japan, Mongolia (U.S. National Plant Germplasm System, 2016). It usually grows in moist wastelands, damp sites, along roadsides and disturbed sites.

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