



Verbascum songaricum (Scrophulariaceae): An addition to the flora of India

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Abstract

Verbascum songaricum Schrenk is recorded for the first time in Indian sub-continent from Ladakh and Kashmir provinces of Jammu and Kashmir state, India. A detailed taxonomic description together with diagnostic characters is provided to facilitate its easier identification in the field. Also provided are comparative characters to distinguish *V. songaricum* from *V. thapsus* L., the other known plant species from this region.

Keywords: First record, Identification, Indian sub-continent.

Introduction

The genus *Verbascum* L. (Scrophulariaceae) comprises c. 360 species worldwide (Heywood, 1993). The genus is distributed throughout the temperate areas of northern hemisphere and most of the species prefer dry and exposed habitats (Juan *et al.*, 1997). The main centre of diversity and evolution of *Verbascum* is Turkey and Iran (Huber-Morath, 1978). In India, the genus is represented by a single species *viz.* *V. thapsus* (Stewart & Randles, 1917; Stewart, 1972; Kachroo *et al.*, 1977; Polunin & Stainton, 1984; Klimeš & Dickoré, 2006; Behera *et al.*, 2014).

As part of the documentation of floristic diversity in Kargil area of Ladakh, a hitherto unreported species of *Verbascum* was collected. Closer examination in consultation with authentic descriptions; illustrations, keys and fruit characters provided by Juan *et al.* (1999), the specimen was determined as *V. songaricum* Schrenk. Critical study of previous literature (Stewart & Randles, 1917; Stewart, 1972; Kachroo *et al.*, 1977; Polunin & Stainton, 1984; Klimeš & Dickoré, 2006; Behera *et al.* 2014) revealed that this species was hitherto not recorded in India. The species is closely related to *V. thapsus* L., the only known species from India but differs in several characters which are presented in the Table 1.

Taxonomy

Verbascum songaricum Schrenk in Fisch. & C. A. Mey., Enum. Pl. Nov. 1: 26. 1841. **Figs. 1, 2.**

Perennials, up to 2 m tall. Stems greenish, densely pubescent with grayish hairs. Basal leaves petiolate; petioles 5–15 cm long; lamina oblong-ob lanceolate, 14–34 × 8–14 cm, densely grayish pubescent on both surfaces, tapering towards base, shallowly crenate at margin. Cauline leaves sessile, lanceolate-oblong. Inflorescences terminal panicles, 20–90 cm long, densely flowered. Flowers pentamerous, 2–7-fascicled; pedicels 4–6 mm long, calyx and corolla densely pubescent with grayish stellate hairs. Calyx 0.5–1 × 0.3 cm; lobes lanceolate. Corolla, nearly regular with very short tube (1–2 mm long), lobes obovate, 0.8–1.2 cm long, yellow, 1.7–2.5 cm in diam. Stamens 5; filaments white woolly hairy (3 densely pubescent and 2 sparsely pubescent); anthers reniform. Capsules globose-ovoid to ellipsoid-ovoid, nearly as long as persistent calyx, densely stellate hairy.

Flowering & fruiting: June–July.

Vernacular names: Songar Mellein (English); Monmashing (Ladakhi); Boad Jangel Tamok (Kashmiri).

Specimens examined: INDIA, **Jammu and Kashmir**, Ganderbal district, way to Ladakh, near Baltal, 34°14'51" N; 75°25'03" E; 2880 m, 01.07.2016, Aijaz, Nazima & Reshi 99091 (KASH); Kargil district, way to Ladakh, Drass, 34°24'36" N; 75°39'31" E, 3210 m, 01.07.2016, Aijaz, Nazima & Reshi 99092 (KASH); way to Zanskar, Trespone, 34°45'46" N; 76°06'59" E, 3115 m, 18.06.2016, Aijaz & Nazima 99093 (KASH); way to Zanskar, Saliskote, 34°24'29" N; 75°59'30" E, 3130 m, 22.06.2016, Aijaz & Nazima 99094 (KASH).

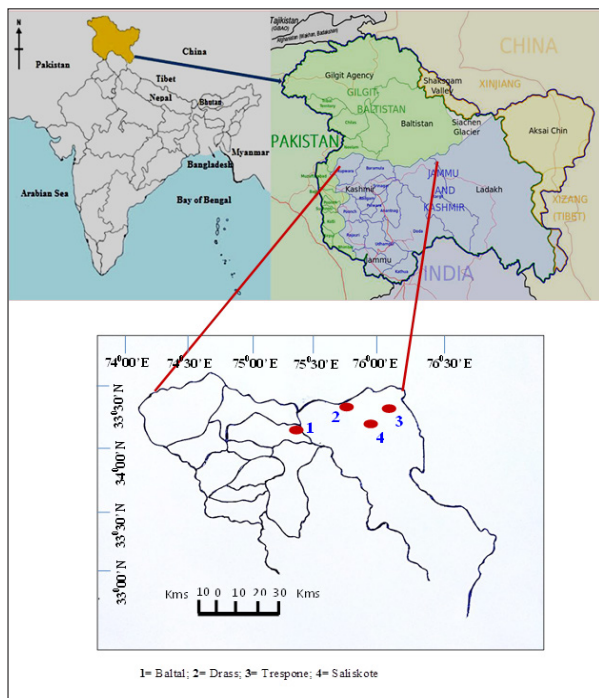


Fig. 1. Map showing collection sites.

Habitat: *Verbascum songaricum* grows in sloppy rocky Mountains in the State.

Distribution: The species is distributed in China (Xinjiang), Kazakhstan, Kirgizstan, Russia (Siberia), Tajikistan, Turkmenistan, Uzbekistan; SW Asia and recently reported from Iran (Sotoodeh *et al.*, 2017) and now from India. Present study recorded the species from two districts: Ganderbal (Baltal) and Kargil (Drass, Trespone, Saliakot) in Jammu and Kashmir (Fig. 1).

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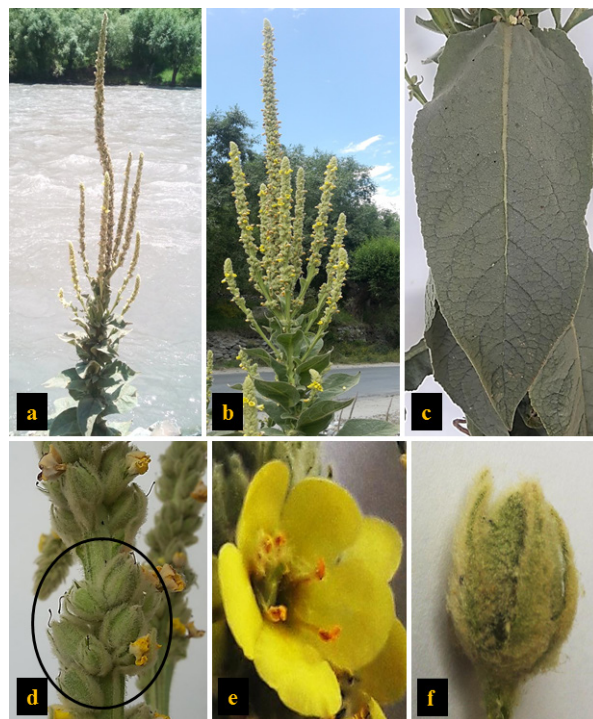


Fig. 2. *Verbascum songaricum* Schrenk. a. Habit; b. Inflorescence; c. Leaf; d. Fascicled flowers; e. Flower; f. Fruit with persistent calyx.

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Table 1: Comparison of distinguishing features between *Verbascum songaricum* Schrenk and *V. thapsus* L.

Characters	<i>V. songaricum</i>	<i>V. thapsus</i>
Habit	Perennials	Biennials
Inflorescences	Panicle, up to 90 cm long	Spike, up to 30 cm long
Cauline leaves	Lanceolate-oblong	Oblong to ovate-oblong
Pedicels	Up to 6 mm long	Up to 4 cm long
Capsules	Globose-ovoid to ellipsoid-ovoid	Ovoid

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