



## *Draba dongchuanensis* (Brassicaceae), a new species from Yunnan, China

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### Abstract

*Draba dongchuanensis* is described, illustrated, and compared with several, primarily Himalayan and Tibetan species, including *D. amplexicaulis*, *D. draboides*, *D. mongolica*, *D. polyphylla*, *D. setosa*, and *D. surculosa*. From these, it is readily distinguished from all of the Himalayan species of *Draba* by a combination of strongly dilated filament bases, setose basal leaves, and auriculate middle cauline leaves.

**Keywords:** Cruciferae, *Draba*, Himalayas, Tibetan Plateau.

*Draba* L. is the largest genus in the Brassicaceae (Cruciferae) and includes over 400 species (Al-Shehbaz 2012b). The Hengduan Mountains and Tibetan Plateau represent one of the major diversity centers of the genus, where at least 52 species grow (Jordon-Thaden *et al.* 2013). The account of *Draba* for the Flora of China (Zhou *et al.* 2001) included 41 species in the Sino-Himalayan parts of Qinghai, Sichuan, Xizang, and Yunnan provinces. Since then, the ranges of several species were expanded and eight new species have been added (Al-Shehbaz 2002, 2004a, 2004b, 2006, 2012). With the novelty below, the Sino-Himalayan region currently includes 52 species, of which 19 occur in Yunnan, 21 in Qinghai, 24 in Sichuan, and 39 in Xizang (Tibet).

During a recent visit to the Kunming Institute of Botany (Yunnan, China) by one of us (IAS) to work on the Sino-Himalayan Brassicaceae (Cruciferae), especially the genus *Draba*, a new species of *Draba* was discovered. It is described below, and its relationships to nearest relatives are discussed.

*Draba dongchuanensis* Al-Shehbaz, J.P.Yue, T.Deng & H.L.Chen, *sp. nov.* Type:—CHINA. Yunnan: Dongchuan, Shekuai Xiang, 26°09'21.5"N, 102°55'40.2"E, 4020 m, 18 Jul 2009, alpine meadow, *Ende Liu & Wei Fang 2105* (holotype, KUN; isotype, KUN). Figure 1.

Herbs perennial, caespitose; caudex slender, few branched, covered with petiolar remains of previous years, ultimate branches terminated in rosettes. Stems 8–13 cm tall, erect, simple above, several branched basally, hirsute proximally with a mixture of simple trichomes 0.4–1.0 mm mixed with appressed, subsessile, 2- or 3-rayed, much smaller trichomes, subtomentose distally with appressed, mostly 2-rayed trichomes mixed with fewer simple ones. Basal leaves rosulate, sessile; leaf blade obovate or oblanceolate to narrowly oblong, 5–10 × 2.0–2.5 mm, hirsute abaxially mainly with simple trichomes 0.7–1.0 mm sometimes mixed with fewer, smaller, stellate, 4-rayed trichomes, subglabrous adaxially, sometime distally with simple trichomes, margin entire, setose-ciliate with simple trichomes 0.8–1.5 mm, apex obtuse; cauline leaves 5–8, sessile, oblong to oblong-lanceolate, middle ones 7–13 mm × 1.5–2.8 mm, pubescent as basal leaves, base minutely auriculate, upper ones narrower, not auriculate at base. Racemes 6–30-flowered, with lowermost one or two flowers bracteate, elongated considerably in fruit; rachis straight, pubescent; middle and lowermost fruiting pedicels 8–12 mm, divaricate, gently curved upwards, pubescent abaxially with subsessile, forked or substellate trichomes mixed with fewer simple ones, glabrous adaxially. Sepals yellow, broadly ovate, 1.8–2.5 mm, ascending, sparsely pubescent abaxially, base of lateral pair slightly saccate, margin membranous; petals yellow, obovate, 3–4 × 1.5–2.0 mm, apex emarginate; claw to 0.5 mm; filaments yellow, subequal, 1.5–2.0 mm, strongly dilated at base; anthers ovate, 0.3–0.4 mm; ovary glabrous; ovules 4–8 per ovary. Fruit lanceolate-linear, 7–10 ×

Only three other Sino-Himalayan species of *Draba* (*D. amplexicaulis* Franchet (1886: 403), *D. polyphylla* Schulz (1927: 180), and *D. surculosa* Franchet (1886: 401), have a combination of yellow flowers, basally bracteate racemes, and auriculate cauline leaves. From these, *D. dongchuanensis* is easily distinguished by having coarsely setose (vs. non-setose) leaves, in addition to the strongly dilated (vs. slender) filament bases.

*Draba dongchuanensis* resembles *D. setosa* Royle (1834: 71), a species of scree and gravelly mountain slopes (Afghanistan, China (Xizang), India, Pakistan), in having setose-ciliate basal leaves subglabrous adaxially, obovate yellow petals emarginate at apex, and latiseptate fruits similar in size, shape, and style length. However, the novelty differs from *D. setosa* by its strongly dilated (vs. slender) filament bases, obovate or oblanceolate to narrowly oblong (vs. linear to linear-oblong) basal leaves with obscure (vs. prominent) midvein abaxially, non-scapose (vs. scapose) plants with 5–8 (vs. 0 or rarely 1) cauline leaves, 4–8 (vs. 12–16) ovules per ovary, and slightly narrower fruits 2–2.5 (vs. 2.5–3.5) mm and broader seeds 1.5–2 × 0.7–1 (vs. 1–1.4 × 0.6–0.7) mm.

Plants of *Draba dongchuangensis* grow in the same general area and can be confused with those of *D. mongolica* Turczaninow (1842: 256), especially when have fully mature fruits. However, the latter grows on alpine rocky slopes and crevices (vs. alpine meadows) and is a very widespread species in China (Gansu, Hebei, Heilongjiang, Jilin, Nei Mongol, Qinghai, Shaanxi, Shanxi, Sichuan, Xinjiang), Mongolia, and Russia. The new species can easily be distinguished by its yellow (vs. white) petals, coarsely setose (vs. minutely tomentose) basal leaves, 4–8 (vs. 6–17) cauline leaves, strongly dilated (vs. slender) filament bases, and 4–8 (vs. 12–20) ovules per ovary.

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