Astragalus lachungensis (Fabaceae), a New Species from Sikkim Himalaya, India

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A new species, Astragalus lachungensis is described and illustrated from Sikkim Himalaya, India. The diagnostic characters and description of the species are provided. The new species is also compared with its closely allied species A. donianus.

Key words: Astragalus lachungensis, Fabaceae, India, new species.

In the course of revising Astragalus L. of India, the author collected some interesting specimens of the genus from Sikkim Himalaya. After thorough study of specimens and literature (Baker 1876, Ali 1961, 1977, Grierson and Long 1987, Wenninger 1992, Sanjappa 1992, Podlech 1999, 2001, Kumar and Sane 2003, Podlech and Xu 2004), it was realized that they were new to science. The study of herbarium specimens at CAL revealed that the species had already been collected in the year 1884 from Sikkim, and was named A. pycnorhizus var. grandiflora without authority or description. The new species is related to the widespread A. donianus DC. (= A. pycnorhizus Wall. ex Benth.), but differs in a number of characters shown in Table 1 and the two co-exist in the same locality. The new species is described and illustrated below.

Astragalus lachungensis Chaudhary, sp. nov. [Figs. 1, 2]

Differt ab Astragalus donianus caule radicatus ad nodus, pedunculi 16–35 mm longi, breviter quam folia, 1-flori, calyx 7–10 mm longus, tubularis-campanulatus, tubus 5–7 mm longus, dentibus 2–3 × ca. 2 mm, oblongus-ovatus, acutus, petalis caerulei-violaceis, stamina diadelphus (9 + 1), vexillaris filum liber, leguminibus 22–24 × 12–13 mm.

Type: India, Sikkim, Lachung, between Lachung and Yumthang, ca. 15 km away from Yumthang, 3300 m, 15. 8. 2004, L. B. Chaudhary 225079 (LWG–holo; CAL–iso).

Paratypes: INDIA, Sikkim, Without Locality, 29. 10 1884, G. King’s collector s. n. (CAL 1135554, 113555, 113556, 113557, 113558, 113559, 113560).

Prostrate herbs, up to 30 cm long, caespitose, stem slender, partially reddish, rooting at nodes in lower portion, glabrous to glabrescent, internodes longer than stipules. Stipules 1–2 × 1–2 mm, free or slightly connate at base on the back of petiole, encircling the stem, ovate, acute or subobtuse at apex, irregularly dentate along margins with glandular structure, glabrous. Leaves 3–7 cm long, imparipinnately compound; petioles ca. 15 mm long; rachis and petiole partially reddish, glabrous to moderately white-adpressed-hairy; leaflets 9–17, 5–8 × 2.5–4.5 mm, oblong-obovate, oblong-ovate or

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Fig. 1.  A: Astragalus donianus DC.  B: A. lachungensis Chaudhary.
oblong-elliptic, cuneate or subobtuse at base, retuse or emarginate at apex, glabrous above, pubescent with white, adpressed, flat hairs below. Inflorescence axillary, peduncled, 1-flowered; peduncle 16–35 mm long, shorter than subtending leaf, partially reddish, pubescent with minute, white, adpressed hairs. Bracts 1.5–2.5 × 1–2 mm, equal to or slightly shorter than pedicel, submembranous, persistent, encircle the pedicel, broadly ovate, dentate along margins with some glandular structure, acute at apex, glabrous. Bracteoles 2, minute, situated at the tip of pedicel, in other details similar to bracts. Flowers 16–18 mm long (excluding pedicel), bluish-violet; pedicel ca. 2–2.5 mm long, pubescent with mixed black and white or light brown, adpressed hairs. Calyx 7–10 mm long, persistent, tubular-campanulate, partially reddish, pubescent with minute, light brown, adpressed hairs outside, glabrous inside except teeth, tube 5–7 mm long, teeth 2–3 × ca. 2 mm, shorter than tube, oblong-ovate, acute at apex, densely black hairy inside. Petals glabrous; standard 16–18 mm long, backwardly deflexed, lamina ca. 10 × 10 mm, orbicular, emarginate at apex, claw ca. 6 mm long; wing petals 12–15 mm long, shorter than standard and keel petals, lamina ca. 8.5 × 3 mm, oblong-ovate, obtuse at apex, claw ca. 5.5 mm long; keel petals 14–18 mm long, shorter than or subequal to standard, lamina ca. 9 × 5 mm, oblong-ovate, obtuse at apex, claw ca. 7 mm long. Stamens diadelphous, (9 + 1); vexillary filament ca. 12.5 mm long, free; staminal sheath ca. 12 mm long, obtuse at apex, free filaments 1.5–2 mm long. Ovary 6–7 mm long, stipitate (stipe ca. 3 mm long), finely pubescent with adpressed, mixed white and brown hairs; style 6–7 mm long, incurved towards apex, bearded near the apex on the inner side; stigma capitulate, penicillate. Pods 22–24 × 12–13 mm (excluding stipe and apical narrow portion), stipitate (stipe ca. 3 mm long), oblong, abruptly narrowed at both ends, inflated, unilocular, pubescent with minute, brown, adpressed hairs. Seeds ca. 1.5 × 1 mm, reniform, subturgid, smooth, black.

Ecology: Gregarious on rocks on the substratum of thick, moist bed of mosses on hill slope in open.

Phenology: August to October.

Etymology: Named after the type locality Lachung in North Sikkim.
Astragalus lauchengensis differs from its close ally, species of *Astragalus* chienyi, in yellow rather than blue to purple-ovate, ca. 2 mm long, and 12–13 mm wide. In *A. donium*, the vexillary hamulin and pods are 22–24 mm long and 7–10 mm long with leathery thin, yellow and pubescent. The former, the flowers are pubescent-violet, 4-mm yellow color, calyx, laminae, and pods in closely allied species of *Astragalus* differ in yellow rather than blue to purple-ovate, ca. 2 mm long, and 12–13 mm wide. In *A. donium*, the vexillary hamulin and pods are 22–24 mm long and 7–10 mm long with leathery thin, yellow and pubescent.
Flowers are dark brownish-purple (Fig. 1A), calyx are 6-7 mm long with teeth are more or less equal to tube, ovate-lanceolate, ca. 1 mm wide and acuminate apex, stamens are completely fused into a single closed bundle (i.e., monadelphous) and pods are 9-18 mm long and 4-9 mm wide.

*Astragalus lachungensis* is endemic to Sikkim. It was first collected from Sikkim more than 100 years ago. After that this species was not collected in recent years as it is evident from the study of herbarium specimens housed at BSHC, LBG, CAL, BSD, DD, LWG, CDRI. During a recent plant collection tour to Sikkim Himalaya conducted in August 2004, the species was noticed only in one locality in a very small patch. It seems propagation of the species is very slow and it should be treated as Critically Endangered.

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**References**


