

Aletris simpliciflora sp. nov. (Nartheciaceae) from southwest Xizang, China

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Aletris simpliciflora R. Li & S. D. Zhang, a new species of Nartheciaceae from southwest Xizang, China, is described and illustrated. It is similar, and apparently closely related, to *A. nana* S. C. Chen, but differs by having usually solitary flower, pubescent bract and bracteole, and distinct filaments ca 1.2 mm long.

The genus *Aletris* L. includes 25 species disjunctly distributed in eastern Asia and eastern North America, with five species in eastern North America and twenty in eastern Asia (Wu et al. 2006, Mabberley 2008). Its diversity hotspot is the Hengduan Mountains in southwest China, where 13 species grow (Liang and Turland 2000, Zhao et al. 2006).

In July 2010, during an expedition to southern Xizang for the project “Flora of Pan-Himalayas”, we collected some interesting *Aletris* specimens. Among them, we found one species with morphological features that differed from all known species in this genus. After a morphological study, literature search (Hara 1971, Liang 1994, Noltie 1994, Yang 1997, Liang and Turland 2000), and examination of many other specimens in the herbaria PE and KUN, we concluded that it represents a new species, described and illustrated below.

Aletris simpliciflora R. Li & S. D. Zhang sp. nov. (Fig. 1)

Haec species Aletridi nanae S. C. Chen affinis, sed ab ea floribus vulgo solitariis, rare 2- vel 3-floribus in racemo confertis, bractea bracteolaque pubescentibus, filamentis distinctis, circiter 1.2 mm longis differt.

Type: China. Xizang Autonomous Region (Tibet), Zayü Xian (County), Chawalong, alpine meadow, 28°28'24.7"N, 98°12'58.8"E, 4600 m a.s.l., 17 Jul 2010, Jin, X. H., Zhang, S. D., Li, Z. Y., Wu, B. C., Mu, X. Y., Li, J. and Jin, W. T. STET0715 (holotype: KUN, isotype: PE).

Perennial herb, 1.8–3.5 cm tall. Rhizomes short, bearing fibrous roots. Leaves 8–11, basal, densely tufted, lanceolate, 1.3–3.0 cm × 2–3 mm, papyraceous when dry, obtuse at

apex. Scape arising from the base of tufted leaves, 1.5–2.5 cm tall, shorter than leaves, pubescent, with a bractlike leaf; bractlike leaf borne at base of pedicel, 3–5 mm long, lanceolate, pubescent, obtuse at apex. Flower usually solitary, rarely 2 or 3 forming a dense raceme. Pedicel short, 1–3 mm long, pubescent; bract and bracteole borne at apex of pedicel, 2–5 mm long, lanceolate, pubescent, obtuse at apex, equalling or exceeding the flower. Perianth white, 6-lobed, ca 3 mm long, glabrous; tube funnel-shaped and proximally adnate to the ovary; lobes erect, oblong, ca 1.5 × 0.7 mm, obtuse at apex. Stamens 6; filaments inserted in the proximal half of the perianth tube, ca 1.2 mm long; anthers basifixed, elliptic, ca 0.6 mm long. Ovary broadly ovoid, ca 1.7–2.0 mm long, 3-loculed, with many ovules per locule, apex abruptly narrowed; style ca 0.5 mm long; stigma slightly thickened.

Similar species

Aletris simpliciflora differs from all other species in the genus by the usually solitary flower (rarely a densely 2- or 3-flowered raceme) (vs 4 to many flowered raceme), and leaves obtuse at apex (vs acuminate at apex except in *A. nana* with leaves obtuse at apex). *Aletris simpliciflora* is similar to *A. nana* S. C. Chen, the major differences between them are outlined in Table 1.

Distribution and ecology

Aletris simpliciflora is currently known only from the type locality at Chawalong, Zayü Xian, Xizang Autonomous Region, China. It grows in alpine meadows at 4600 m a.s.l. and shares its habitat with species such as *Diapensia purpurea* Diels, *Diplarche pauciflora* J. D. Hooker & Thomson, *Potentilla* spp., *Rhododendron calostrotum* I. B. Balfour & Kingdon Ward, and *R. campylogynum* Franchet. It was observed flowering in July.

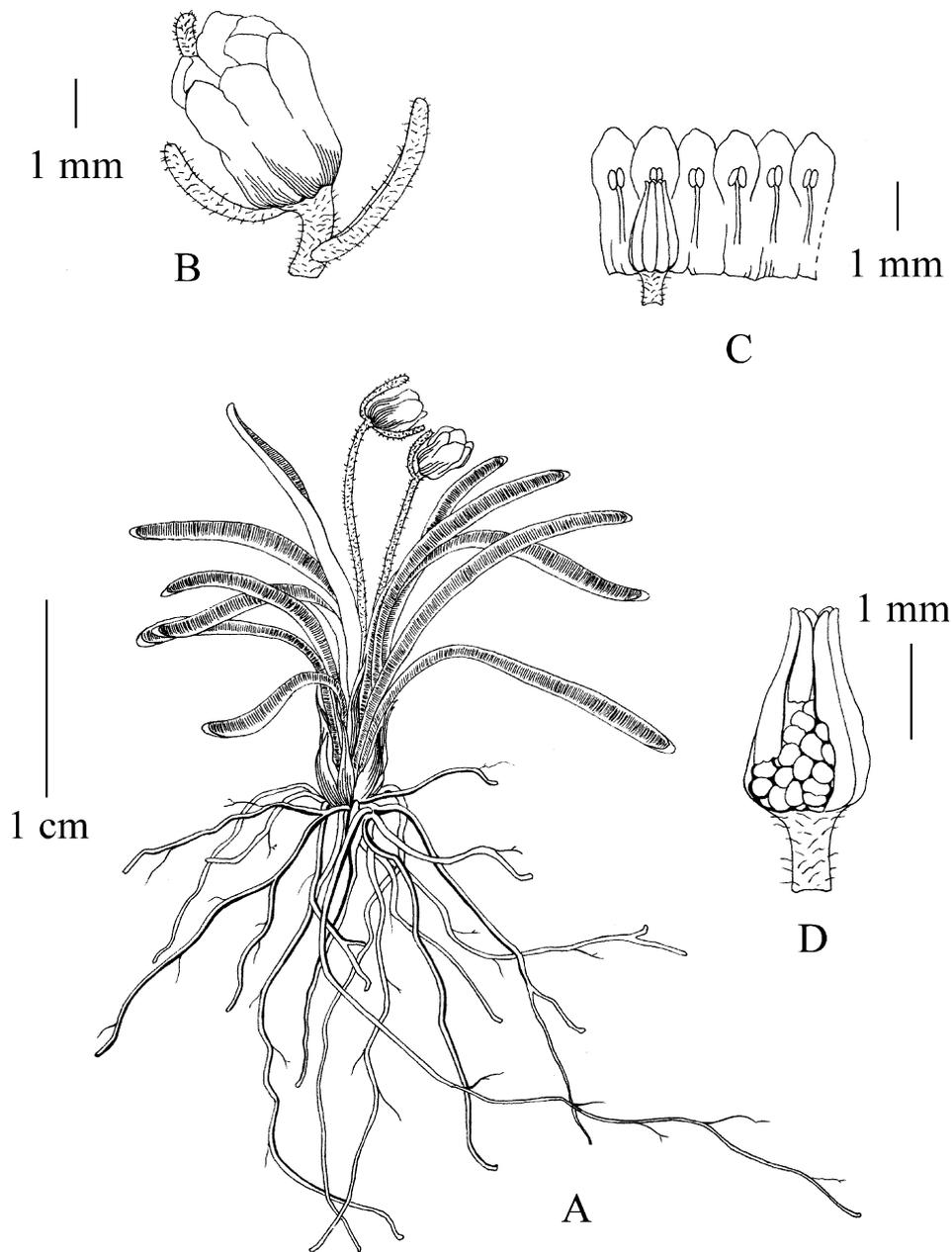


Figure 1. *Aletris simpliciflora* sp. nov. (A) habit, (B) flower (side view) with bractlike leaf, (C) perianth opened, showing pistil, stamen, and the position of filaments adnate to perianth, (D) ovary opened, showing ovules. Drawn by Rongmei Zhang from the holotype.

Conservation status

Aletris simpliciflora has been collected only once and is therefore assumed to be rare. However, large parts of

Chawalong, especially in Zayü Xian of Xizang are still virtually unexplored, and large areas of undisturbed alpine meadow in Chawalong could harbour healthy populations of this species. It may grow in the huge Zayü reserve and thus benefit from some legal protection. Based on this, we would like to assess *Aletris simpliciflora* as “Data Deficient” (DD) using the criteria of IUCN (2001).

Table 1. Morphological comparison of *Aletris simpliciflora* sp. nov. and *Aletris nana*.

Characters	<i>A. simpliciflora</i>	<i>A. nana</i>
Flowers	usually solitary, rarely densely 2- or 3-flowered forming a raceme	usually densely 4-14-flowered forming a raceme
Bract and bracteole	pubescent	glabrous
Filaments	distinct, ca 1.2 mm long	very short or indistinct

Etymology

The specific epithet of the new species refers to its usually solitary flower.

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