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Tianshan *Aconitum*, a new species of Ranunculaceae from Xinjiang (postprint)

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Date: 2019-06-17T00:00:00+00:00

Abstract

A new species of the genus *Aconitum* (Ranunculaceae), *Aconitum tianschanicum*, discovered from the northern Tianshan Mountains in Xinjiang Province, is described. This species is closely related to *A. sinchiangense*. It differs from the latter in having glabrous stems, absence of basal leaves, rachis of raceme and pedicels covered with yellow glandular hairs, sepals sparsely pubescent on the abaxial surface and ciliate on the margin, upper sepal relatively broad, petal lip erose at the apex, and ovary sparsely pubescent when young.

Full Text

Preamble

DOI: 10.11931/guihaia.gxzw201901036

Title: *Aconitum tianschanicum*, a new species of Ranunculaceae from Xinjiang, China

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Abstract

A new species of the genus *Aconitum* (Ranunculaceae), *A. tianschanicum*, collected from Xinjiang Province, China, is described and illustrated. The new species is closely related to *A. sinchiangense*, but differs from the latter in its glabrous stem, absence of basal leaves, rachis and pedicels with yellow glandular hairs, wider upper sepals, all the sepals with marginal hairs and sparsely spreading pubescence outside, dilated and erose apex of petal lips, and immature carpels with sparse glandular hairs.

Key words: Ranunculaceae, *Aconitum*, new species, Xinjiang

Taxonomic Treatment

Aconitum tianschanicum Z. Z. Yang, sp. nov.

Figs. 1 [Figure 1: see original paper] & 2 [Figure 2: see original paper] (Sect. *Aconitum* ser. *Rotundifolia* Steinb.)

Latin Diagnosis: Ob foliorum segmenta in lobos ultimos linearia dissecta, sepalum superum naviculare, gynoecium ex carpellis quinque constans species nova haec est affinis *Aconitum sinchiangense* W. T. Wang, a quo caulibus glabris, foliis basalibus nullis, racemorum rhachidibus et pedicellis pilis luteis glandulosis tectis, sepalis dorso sparse pilosis margine ciliatis, sepalo supero latiore, petalorum labiis apice erosis, ovariis juventute sparse pilosis differ. In *A. sinchiangense*, caules sparse puberuli, folia basalia praesentia ca. decem, racemorum rhachides et pedicelli pilis lateis glandulosis carentes, sepala dorso et margine subglabra, sepalum superum angustius, petalorum labia apice emarginata, capella glabra sunt.

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Figure Notes:

Fig. 1. Aconitum tianschanicum Z. Z. Yang, sp. nov.

A. Lower part of plant; B. Upper part of flowering stem; C. Middle cauline leaf; D. Flower; E. Stamen; F. Petal; G. Follicle. (From isotype)

Fig. 2. Aconitum tianschanicum Z. Z. Yang, sp. nov.

A. Plant with flowers; B. Racemes; C. Habitat.

Description

Tubers two, thinly carrot-shaped, 3-5 cm long, 5-14 mm in diam., with many fibrous roots. Stem 30-60 cm tall, simple, glabrous. Leaves all cauline, dense, glabrous; proximal ones petiolate, with petioles 2-4.8 cm long; distal ones shortly petiolate, with petioles 0.5-1.4 cm long; blades orbicular-pentagonal, 2.5-5.8 cm long, 3.5-8 cm broad, 3-sect or 3-parted nearly to base; segments dissected into linear ultimate lobes 1-2 mm broad with slightly acute apexes and entire margins.

Racemes 5-11 cm long, densely 5-16-flowered; basal bracts leaflike, others linear; rachis and pedicels with yellow glandular hairs; pedicels 3-8 mm long; bracteoles subulate, 3-5 mm, with sparse glandular hairs. Sepals 5, purple-blue; upper sepal navicular, 2-2.5 cm high, having short rostrum; abaxially sparsely spreading pubescent, adaxially subglabrous; lateral sepals suborbicular, ca. 1.5 cm in diam., abaxially sparsely pubescent, adaxially glabrous; lower sepals obovate, ca. 1 cm long, 2-5 mm broad, abaxially sparsely pubescent, adaxially glabrous. Petals 2, glabrous, ca. 2.1 cm long; claws robust, ca. 2 cm long, 0.6-1 mm across; limb linear, ca. 7-9 mm long; spur subglobose, 1-1.6 mm long; lips ca.

8 mm long, at apex dilated and erose. Stamens numerous, glabrous; filaments 6–8 mm long; anthers broadly oblong, ca. 0.7 mm long. Carpels 5, with sparse glandular hairs when immature, and glabrescent when mature. Fl. Jul–Aug.

Type Specimen: Xinjiang (新疆): Urumqi County, Urumqi Glacier No. 1, Tianshan Mountains, alt. 2680 m, subalpine meadow, flowers purple-blue, 30 July 2016, Z. Z. Yang 0369 (holotype, PE).

Discussion

This species is closely related to *Aconitum sinchiangense* W. T. Wang, as both share the characteristics of having leaf segments dissected into linear ultimate lobes, a navicular upper sepal, and a gynoeceium composed of five carpels. However, *A. tianschanicum* differs in having glabrous stems, lacking basal leaves, possessing yellow glandular hairs on the rachis and pedicels, sepals that are sparsely pubescent abaxially and ciliate on the margins, a broader upper sepal, petal lips with an erose apex, and ovaries sparsely pubescent when young. In contrast, *A. sinchiangense* has stems sparsely puberulent, approximately ten basal leaves, rachis and pedicels lacking yellow glandular hairs, sepals nearly glabrous on both surfaces, a narrower upper sepal, petal lips emarginate at the apex, and glabrous carpels (Wang, 1979; Li & Kadota, 2001).

Acknowledgments

Academician WANG Wencai provided invaluable assistance in specimen identification, nomenclature, and literature access, while offering meticulous guidance in writing and correcting errors and omissions in the manuscript. Sincere gratitude is extended to Academician WANG Wencai. Mr. XIE Lei from Beijing Forestry University offered enthusiastic assistance, and Mr. CUI Chudi prepared the exquisite illustrations. The author expresses heartfelt thanks to both.

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