Two New Species of *Saxifraga* (Saxifragaceae) from Southwestern China

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**ABSTRACT.** Two new species, *Saxifraga xiaozhongdianensis* J. T. Pan and *S. ludingensis* J. T. Pan, from the Saxifragaceae in China are described and illustrated. Of these, *S. xiaozhongdianensis* is endemic to Zhongdian, Yunnan, and is related to *S. brachypylla* Franchet. It differs from *S. brachypylla* in the sepals adaxially dark brown glandular-villos, leaf blade rhomboid-elliptic, ca. 6.2 × 3.6 mm, glabrous, apex subobtuse; cauleine leaves with petiole gradually shorter to subsessile distally on stem, 0.1–1 mm, abaxially and marginally brown glandular-villos, proximal ones denser, elliptic or ovate to narrowly ovate, 2.1–7.3 × 1.1–3 mm, glabrous toward margin or brown glandular-villos at basal margin, apex obtuse or subacuminate, distal ones more lax, lanceolate, 5–6.5 × 1.4–2 mm, abaxially glandular-villo, abaxially glabrous, marginally ± glandular-villo, apex obtuse or subacuminate. Cyme 4–4.3 cm, 3- to 6-flowered; pedicels 0.3–1.2 cm, dark brown glandular-villo. Flower with sepals reflexed in anthesis, ovate, 2.6–3 × 1.6–2.0 mm, both surfaces marginally brown glandular-villo, veins 3, not confluent at apex, apex obtuse; petals yellow, oblong, 6–7 × 2–3 mm, 4- callose, 3- to 5-veined, base subarcuricate, contracted into a claw 0.5–0.8 mm, apex obtuse; stamens 3–3.5 mm, filaments subulate; ovary superior, ovoid, 2–2.2 mm, styles 1–1.2 mm.

**Phenology.** Flowering and fruiting July–October.

**Relationships.** *Saxifraga xiaozhongdianensis* is related to *S. brachypylla* in having its stems proximally brown crisped glandular-villos and distally brown glandular-villo; its distal cauleine leaves lax and lanceolate; its sepals reflexed in anthesis, ovate with three veins, not confluent at apex; and its petals yellow, oblong, and 4-callose. The new species differs by its sepals adaxially dark brown glandular-villo and petals basally subarcuricate (vs. sepals dark brown glandular-villo abaxially and sparsely so at distal margin with petals base contracted into a claw in *S. brachypylla*).

**Distribution, habitat, and IUCN Red List category.** *Saxifraga xiaozhongdianensis* is known from the type locality at an elevation of 3260 m, inhabiting alpine scrub meadow in Zhongdian County, Yunnan Province, China. Due to the rarity and limited distribution of *S. xiaozhongdianensis*, this species should be included in the endangered category of the IUCN Red List according to the following criteria (IUCN, 2001): EN Blab (i, ii, iii).

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2. **Saxifraga ludingensis** J. T. Pan, sp. nov.

**TYPE**: China. Sichuan: Luding, 29°33′36″N, 101°58′78″E, under forest, 3200 m, 13 Sep. 2003, S. L. Chen 03096 (holotype, HNWP).

Species *Saxifraga egregiosa* and *S. stellarifolia* Franchet persimilis, sed a priore caule imprimis brunneglandulosim-piloso in illa glabro, foliis adaxialiter brunneglandulosim-pilosis in illa glabris, sepalis sub anthesi patentibus (in illa reflexis), abaxialiter glandulosopilosis (in illa glabris), petalis 5-nervibus, a posteriori foliis basi cordatis et abaxialiter glabris (in *S. stellarifolia* basi rotundatis et abaxialiter sparse glandulosopilosis), sepalis abaxialiter brunneo-glandulosim-pilosis (in *S. stellarifolia* glabris), petalis 4-callosis et 5-nervibus (in *S. stellarifolia* 4- ad 6-callosis et 3- ad 5-nervibus) rectetid.

Herb perennial, ca. 20 cm tall. Stem slender, brown glandular-villosa. Cauline leaves with petiole 3.5-8 mm, gradually shorter toward apex of stem, brown
glandular-villous, leaf blade cordate, 4–6 × 4–6 mm, adaxially and marginally brown glandular-villous, abaxially glabrous, apex acute or obtuse. Flower solitary or in 3-flowered cyme; pedicels 1.5–2.1 cm, brown glandular-villous. Flower with sepals spreading in anthesis, ovate, 3–3.3 × ca. 2 mm, adaxially glabrous, abaxially and marginally brown glandular-villous, veins 3, not confluent at apex, apex obtuse; petals yellow, obovate, broadly obovate to broadly elliptic, 5.3–8 × 3–4 mm, 4-calyx, 5-veined, base contracted into a narrow claw 0.3–1 mm, apex obtuse or rotund; stamens ca. 4.5 mm, filaments
subulate; ovary superior, ovoid, ca. 3 mm, styles 2, ca. 1 mm.

Phenology. Flowering July–September.

Relationships. Saxifraga ludingensis is similar to S. egregioides and S. stellariifolia in its slender stems, cauline leaves petiolate, leaf blades marginally glandular-villosose, and sepals with veins not confluent at apex. The new species differs from S. egregioides by its stems glandular-villosose, cauline leaves with the blade adaxially brown glandular-villosose, sepals spreading in anthesis and abaxially brown glandular-villosose, and 5-veined petals. In S. egregioides, the stems are distally glabrous, the leaf blades are glabrous adaxially and abaxially, the sepals are reflexed and glabrous adaxially and abaxially, and the petals are 4- to 6-veined. Saxifraga ludingensis is readily distinguished from S. stellariifolia by its cauline leaves with leaf blade cordate and abaxially glabrous, sepals abaxially brown glandular-villosose, and petals obovate, broadly obovate to broad-elliptic, 4-callose, and 5-veined. In S. stellariifolia, the cauline leaves are ovate and abaxially glandular-villosose, the sepals are glabrous adaxially and abaxially, and the petals are ovate to elliptic, 4- to 6-callose, and 3- to 5-veined.

Distribution, habitat, and IUCN Red List category. Saxifraga ludingensis was collected at an elevation of 3200 m, under the forest canopy in Luding County, Sichuan Province, China. Due to the rarity and limited distribution of S. ludingensis, the species should be included in the endangered category of the IUCN Red List according to the following criteria (IUCN, 2001): EN Blub (i, ii, iii).

Both Saxifraga xiaozhongdianensis and S. ludingensis are assigned to section Ciliatae Haworth, emend. J. T. Pan (1991), which is characterized by features such as plants forming erect, caespitose clumps, cushions, or sprawling mats and lacking basal bulbs; the flowering stems are usually leafy; the inflorescence is cymose or the flower is solitary; flowers are sometimes unisexual, actinomorphic, and 5-merous; the petals are usually yellow or orange, occasionally white, pink, or red, sometimes spotted orange, red, or purple, very often with calliostomes; the ovary is superior to subinferior; and there are two integuments in the seed.

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Literature Cited


