Oreocharis jinpingensis (Gesneriaceae), a new species from Yunnan, China

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Received 2 Apr. 2013, final version received 23 Apr. 2013, accepted 7 May 2013


A new species of Gesneriaceae, Oreocharis jinpingensis W.H. Chen & Y.M. Shui from the Xilong Mountains of Jinping County in southeastern Yunnan, China, bordering North Vietnam, is described and illustrated. Its morphological distinctiveness from the most similar species O. auricula is discussed. Pollen and seed morphological characters are also reported for O. jinpingensis.

In July 2011, during a field survey on the east segment of the Xilong Mountains in Yunnan, bordering northwestern Vietnam, we collected an unknown plant of Gesneriaceae in fruit. In October 2011 during a further survey at the same place, we collected flowering specimens. Based on vegetative (basal rosette with spirally arranged leaves) and flower characteristics (four separate stamens), we concluded that it is likely a member of the genus Oreocharis (Wang et al. 1998, Li & Wang 2004, Möller et al. 2011). This was later confirmed by molecular data (unpubl. data). By comparison with Oreocharis species occurring in China and adjacent regions, we found that it represents a species unknown to science (Pellegrin 1930, Wang et al. 1990, Li 1991, Wang et al. 1998, Pham-Hoang 2000, Li & Wang 2004). We observed its seeds and pollen grains by SEM and describe their micro-morphological characters using the terminology of Weber and Burtt (1983), Yan et al. (1997), Li & Wang (2004) and Punt et al. (2007).

Oreocharis jinpingensis W.H. Chen & Y.M. Shui, sp. nova (Figs. 1–2)

Species haec habitu Oreocharis auriculae affinis, sed foliis supra glabris (nec pubescentibus) lobis calycis 0.8–1.0 cm longis externe villosis (nec ca. 0.3 cm longis externe sericeis) lobis corollae interne albis externe purpureis (nec interne purpureis externe albis) bene differt.

Type: China. Yunnan Province, Jinping County, Xilong Mountains, in broad-leaved forests, 22°35’24”N, 102°53’41”E, alt. 2 048 m a.s.l., 14 Oct. 2011, in flower, Y.M. Shui et al. 91309 (holotype KUN; isotype PE). — Paratype: China. Yunnan Province, Jinping County, Xilong Mountains,
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in broad-leaved forests, 22°35’24.45”N, 102°53’41.57”E, alt. 2000 m, 13 July 2011, in fruit, Y.M. Shui et al. 90996 (KUN!).

Etymology: The species epithet is based on the name of the type locality.

Perennial herb. Leaves in basal rosette. Petiole 6–13 cm long, villous; leaf blade elliptic, 7.5–14 × 5–8.5 cm, adaxially glabrous, abaxially villous on midrib, base truncate, margin entire; lateral veins in 4–9 pairs. Inflorescences axillary. Peduncles 6–14 cm, villous; bracts lanceolate, 1.0–1.4 × 0.3–0.4 cm, villous. Calyx 5-sect., lobes linear-lanceolate, 0.8–1.3 × 0.1–0.18 cm, villous. Corolla bilabiate, inside glabrous and white with purple striations, outside purple and with a white pubescence; tube narrowly funnelform, 1.6–1.7 cm long, base ca. 0.4 cm in diam., slightly constricted at throat; adaxial lip ca. 0.7 cm long, 2-lobed, lobes oblong, 0.4–0.5 × 0.2–0.3 cm, apex acute; abaxial lip 3-lobed, lobes oblong, middle lobe ca. 1.1 × 0.4 cm, lateral lobes equal, 0.9–1× ca. 0.4 cm, apex acute. Stamens 4, separate, included, adaxial stamens ca. 1.1 cm long, abaxial stamens ca. 0.9 cm long; filaments glabrous; anthers basifixed; staminode 1, below middle of tube, 0.6–0.7 mm long. Pistil ca. 1 cm long, glabrous; ovary narrowly oblong, stigma 1, capitate, disc ringlike, ca. 2 mm high, dentate. Capsule oblong, 3.6–4.0 cm long. Flowering in September–October, fruiting in October–December.

Pollen morphology: The pollen grains are prolate, tricolpate, ca. 19.1 × 12.6 µm. The exine ornamentation is reticulate or alveolate, with irregular lumina. The lumina are 1–3 µm or absent (Fig. 3A–D).

Seed morphology: The seeds are generally ellipsoidal, with a mean size of ca. 0.38 × 0.17 mm. Individual seed testa cells form irregular, long, lobe-like tubercles with several strap-like thickenings (Fig. 3E–H), similar to those observed in other Gesneriaceae such as certain Didymocarpus and Oreocharis species (Weber & Burtt 1983, Li & Wang 2004).

Distribution and habitat: Oreocharis jinpingensis grows on moist ground or slopes in...
mossy evergreen broad-leaved forests, at altitudes of 2000–2048 m a.s.l. in Jinping County of SE Yunnan, China, bordering northwestern Vietnam.

*Oreocharis jinpingensis* is morphologically similar to *O. auricula* in the general flower morphology and leaf morphology and texture. However, the former has longer calyx lobes and only slightly reflexed corolla lobes compared to *O. auricula*, and white corolla lobes each with a distinct dark purple line (Fig. 1). In fact, such a bi-coloration of the corolla is quite rare even in the extended genus *Oreocharis*, only seen in *O. magnidens* with its white lobes with purple tips (Möller et al. 2011). The new species further differs in its glabrous adaxial surface of the leaf (in *O. auricula* sericeous) and villous calyx lobes (in *O. auricula* pubescent). Distribution of *O. jinpingensis* and *O. auricula* is allopatric (Fig. 4).

**Acknowledgements**

This work was supported by the National Natural Science Foundation of China (grant no. 30870165, 31000258), the Natural Science Foundation of Yunnan Province, China (grant no. 312008CD161). We like to thank Dr. Robert R. Mill for input on the Latin description. We acknowledge Mr. Long-Hua Mao, Mr. Xin-Tian Zhu, Mr. Zheng-Chu Zhu, Mr. Bing

Fig. 4. Geographical distributions of *Oreocharis jinpingensis* (triangle) and its morphologically most similar species, *O. auricula* (circles).

Li and their colleagues of the Jinping Fengshuiling National Nature Reserve, and Mr. Bo Xiao of the Malipo Forestry Bureau, Mr. Bo Ding of the Kunming Institute of Botany, the Chinese Academy of Sciences, for providing support in field surveys in Jinping County. Mrs Ling Wang is thanked for her excellent drawings. The Royal Botanic Garden Edinburgh is funded by the Rural and Environmental Science and Analytical Services division (RESAS) in the Scottish Government.
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