Primulina petrocosmeoides sp. nov. (Gesneriaceae) from Guangxi, China

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Primulina petrocosmeoides Bo Pan & Fang Wen sp. nov. (Gesneriaceae) from Guangxi, China, is described and illustrated. This new species is similar to P. weii Mich. Mörler & A. Weber, but differs from it in leaf blade ovate to elliptical, 1.0 – 2.5 × 2.0 cm, leaf base broadly cuneate, cymes 5 – 16, 2 – 6-flowered, bracts narrowly lanceolate, calyx lobes lanceolate, 4.0 – 6.5 mm long, corolla bluish purple, 1.2 – 1.5 cm long, pubescent outside but glabrous inside, filaments purple, pubescent, staminodes 3, stigma trapezoid with its apex lobed to the middle and with dense short papillae.


During a botanical survey in 2009, we collected some specimens of an undescribed species of Gesneriaceae from Jingxi County, Guangxi, China, which was different from all known species of Primulina. After consulting national floras and relevant literature (Wang et al. 1990, 1998, Li and Wang 2004, Wei et al. 2010, Zhang and Yu 2012), as well as herbarium specimens from ANUB, BJFC, CDBI, GXMG, GXMI, GZTM, HGAS, HGCM, HIB, HITBC, IBK, IBSC, KUN, PE, we concluded that our specimens represent a new species, which is described and illustrated here.

Primulina petrocosmeoides Bo Pan & Fang Wen sp. nov. (Fig. 1–2)

Differs from Primulina weii in leaf blade ovate to elliptical, 1.0 – 2.5 × 0.8 – 2.0 cm, leaf base broadly cuneate, cymes 5 – 16, 2 – 6-flowered, bracts narrowly lanceolate, calyx lobes lanceolate, 4.0 – 6.5 mm long, corolla bluish purple, 1.2 – 1.5 cm long, pubescent outside but glabrous inside, filaments purple, pubescent, staminodes 3, stigma trapezoid with its apex lobed to the middle and with dense short papillae.
purple, pubescent, staminodes 3, stigma trapezoid, its apex lobed to the middle and with densely viscidulous puberulent hairs.

**Type:** China. Guangxi, Jingxi County, Hurun town, on moist rock face of cliff, in a limestone canyon, rare, ca 900 m a.s.l., 1 July 2009, BP & FW 101131-1 (holotype: IBK, isotype: IBK).

**Etymology**
The specific epithet is derived from the shape and high number of leaves that may remind of some species of *Petrocosmea*.

**Description**
A perennial herb. Central axis compressed, cylindrical or subterete, 2.0–5.5 cm long, 0.5–1.0 cm in diameter. Leaves basal, 8–22; petiole tomentose, 9–18 mm long, 1–3 mm wide; leaf blade chartaceous, ovate to elliptic, 1.0 × 0.8 to 2.5 × 2.0 cm, green, broadly cuneate at base, with entire margin and obtuse or rounded apex; lateral veins 2–3 on each side of midrib, inconspicuous. Cymes axillary, 5–16, 2–6-flowered; peduncle 5–12 cm long, densely pubescent; bracts 2, opposite, narrowly lanceolate, persistent in flowering, 2.0–2.5 mm long, 1–2 mm wide at base, adaxially and abaxially puberulent, with entire margin and acute apex; pedicel 1.5–2.0 cm long, pubescent. Calyx 5-parted from base; segments nearly equal, lanceolate, 4.0–6.5 mm long, ca 2 mm in diameter at base, with both surfaces puberulous, its margin entire and apex acute. Corolla bluish purple, 12–15 mm long, ca 4 mm wide, ca 3.5 mm in diameter at the middle, pubescent outside, glabrous inside; tube narrowly infundibuliform; limb distinctly 2-lipped; adaxial lip 2-parted to the middle or more, with lobes slightly oblique.

Figure 2. *Primulina petrocosmeoides* sp. nov. (A) habit, (B) adaxial surface of leaf and petiole, (C) abaxial surface of leaf and petiole, (D) frontal view of flower, (E) lateral view of flower, (F) top view of flower, (G) corolla opened with stamens and staminodes, (H) pistil and calyx lobes.
ovate; abaxial lip 3-parted to the middle or more, with lobes oblong and apex rounded, 6.0 × 4.5 to 9 × 6 mm. Stamens 2, adnate to ca 5 mm above the corolla base; filaments purple, geniculate from the middle, ca 9 mm long, puberulent; anthers 2, yellowish, elliptic to reniform, ca 3.5 mm long, glabrous, adhering to each other; staminodes 3, the lateral ones glabrous, ca 2 mm long, adnate to ca 6 mm above the corolla base, its apex rolled, the central one ca 0.5 mm long, adnate to the corolla base; disc annular, its margin slightly erose, ca 1 mm high. Pistil 1.2–2.0 cm long, densely glandular-puberulent and puberulent; ovary linear, 6.0–8.0 mm long. Stigma trapeziform, its apex lobed to the middle, with dense short papillae. Capsule linear, 10–13 mm long, 1.5–2.0 mm wide.

Phenology
Flowering occurs from mid-June to late November and early December, fruiting occurs in January to February of the following year.

Distribution, ecology and conservation status
Primulina petrocosmeoides is endemic to China (Jingxi County), grows only on outcrops of shaded moist limestone under subtropical evergreen broad-leaved shrubs in one big gorge, 900–1000 m a.s.l. We have visited the type locality of this new species many times. All plants, not more than 1200 individuals, are clustered together in a fairly narrow area at the top of a cliff. They grow in a popular scenic spot near the town of Hurun, but they are protected from tourists by their elevated location. We propose that P. petrocosmeoides should be provisionally considered as ‘Endangered’ (EN, B2a) according to the IUCN red list criteria (IUCN 2012).

Similar species
Morphologically, Primulina petrocosmeoides resembles P. weii (published by Fang et al. 1999 as Chirita mollifolia D. Fang, Y. G. Wei & J. Murata) (Weber et al. 2011a), from Napo County, where it adjoins Jingxi County. However, the new species is distinct from P. weii in shape and size of leaf blades and calyx lobes, number of cymes and flowers, color, size and indumentum of corolla, filaments and stigma (Table 1). Both species require shaded and damp conditions, below the canopy of cliffs or in the mouth of limestone caves, but can endure long droughts, which usually last for three to four months in the dry season from March to June.

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