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# *Petrocosmea huanjiangensis*, a New Species of Gesneriaceae from Limestone Areas in Guangxi, China

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**ABSTRACT.** A new species of Gesneriaceae, *Petrocosmea huanjiangensis* Yan Liu & W. B. Xu, is described and illustrated from northern Guangxi, China. The new species is related to *P. martini* (H. Lév.) H. Lév. but is distinguished on the basis of the peltate leaf blade, the densely lanate androecial filaments 6–7.2 mm long, the rostellate, cordate-ovoid anthers that are constricted near the apex, and the three staminodes, 2–3 mm long.

**Key words:** China, Gesneriaceae, Guangxi, IUCN Red List, limestone flora, *Petrocosmea*.

The genus *Petrocosmea* Oliv. (Gesneriaceae, Cyrtandroideae), with about 24 species and four varieties, is distributed in China (Wang et al., 1998), but only three species are known from Guangxi Province: *P. iodoides* Hemsl., *P. minor* Hemsl., and *P. martini* (H. Lév.) H. Lév. In the course of our floristic investigation of Huanjiang County in northern Guangxi, a rare plant of *Petrocosmea* was collected with a peltate leaf base, which differed from other known species. After comparison with all described species of *Petrocosmea* (Wang, 1985; Wang, 1990; Wang et al., 1998; Li & Wang, 2004; Wei & Wen, 2009), we confirm that the collection represents a new and fourth species from Guangxi, which is described below.

***Petrocosmea huanjiangensis*** Yan Liu & W. B. Xu, sp. nov. TYPE: China. Guangxi Zhuang Autonomous Region: Huanjiang Co., on moist limestone rock face in forest of limestone hills, 3 June 2009, Yan Liu & Wei-bin Xu 09549 (holotype, IBK; isotype, PE). Figure 1.

Species *Petrocosmeae martini* (H. Lév.) H. Lév. similis, a qua foliis basi peltatis, filamentis 6–7.2 mm longis dense lanatis, antheris cordato-ovoideis apicem versus constrictis apice rostellatis atque staminodiis 3, 2–3 mm longis differt.

Herbs perennial; rhizome subterete, 5–6 × ca. 6 mm. Leaves 5 to 8, basal, long petiolate; petioles 2–6.5 cm, patently pilose; leaf blade herbaceous, ovate or broadly ovate to subrotund, 1.5–3.5 × 1.5–2.5 cm,

apex obtuse or rounded, margin crenate or repand, peltate with the petiole attaching 6–12 mm within the lamina, patently pilose on both sides, lateral veins adaxially impressed, abaxially conspicuous, 3 to 5 on each side. Cyme 1- to 3-flowered, peduncle 5–6.5 cm, patently pilose; bracts 2, opposite, linear or narrowly lanceolate, 2–4 × 0.5–1 mm, margin entire, apex acute, patently pilose; pedicel 4–12 mm, patently pilose. Calyx 5-lobed nearly to the base, lobes narrowly lanceolate, 4–6 × 1.5–2 mm, margin entire, outside patently pilose, inside glabrous; corolla blue, 1.3–2 cm, externally pubescent, internally glabrous; tube 5–7 × 6–8 mm (diam. at mouth), with 2 yellow stains inside; adaxial lip ca. 5 mm, inconspicuously 2-lobed; abaxial lip ca. 12 mm, 3-lobed to or above the middle, the middle lobe subrotund, lateral lobes broadly ovate; stamens 2, adnate to the corolla base; filaments 6–7.2 mm, linear, densely lanate; anthers cordate-ovoid, ca. 2.5 mm, glabrous, constricted near the apex, rostellate; staminodes 3, glabrous, adnate to 0.5 mm above corolla base, lateral staminodes ca. 3 mm, middle one ca. 2 mm; pistil 8–13 mm, ovary ca. 2.5–3.5 mm, densely puberulent; style 5–6.5 mm, puberulent; stigma capitate. Capsules not seen.

**Distribution and ecology.** The new species was found on moist rock faces within forests on limestone hills. It was collected only in Huanjiang County, from northern Guangxi Province, China, at ca. 750 m elevation.

**IUCN Red List category.** Current information shows that the population size of this new species is fewer than 250 mature individuals, and it is only known from one site. We therefore assess *Petrocosmea huanjiangensis* as Critically Endangered (CR) according to IUCN Red List categories and criteria (IUCN, 2001). Its distributional range is apparently narrow and the population size small; however, the type locality occurs within the Mulun National Natural Reserve and is therefore under protection.

**Phenology.** *Petrocosmea huanjiangensis* was observed in flower during May and June.

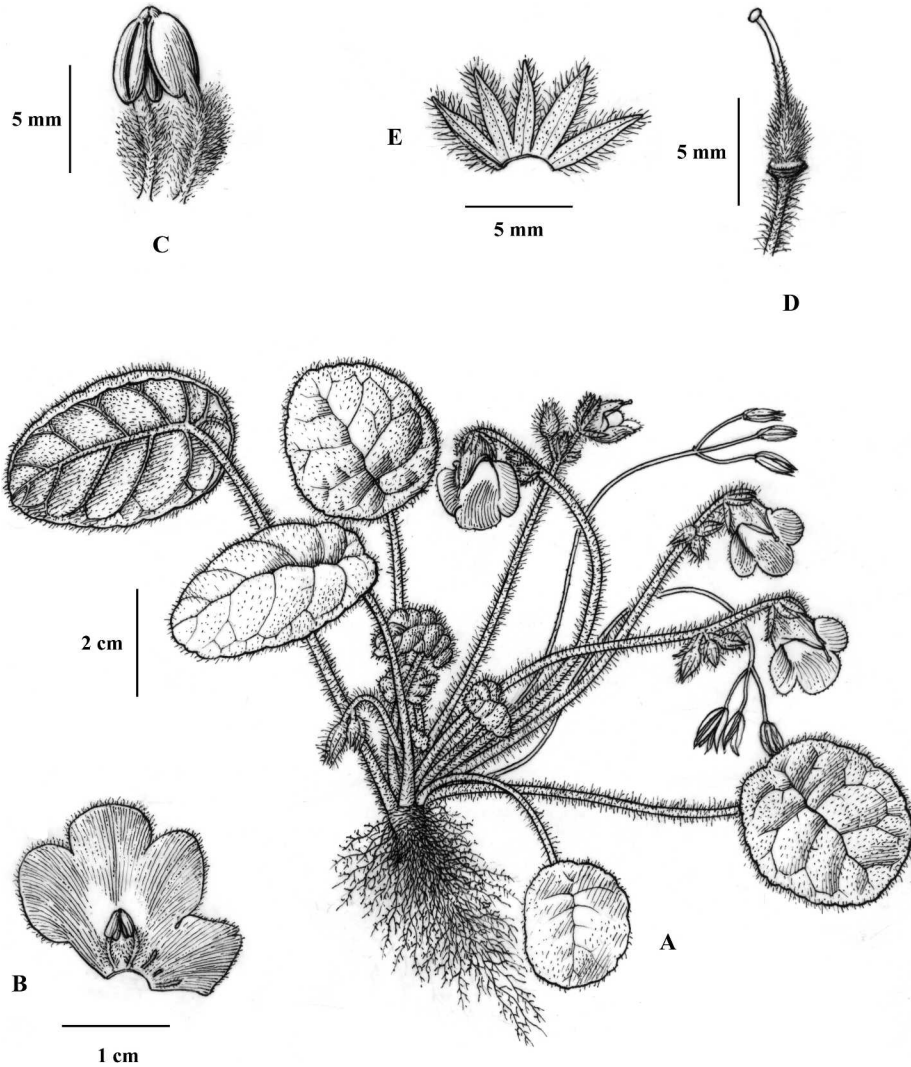


Figure 1. *Petrocosmea huanjiangensis* Yan Liu & W. B. Xu. —A. Habit. —B. Corolla dissected to reveal stamens and staminodes. —C. Stamens. —D. Pistil. —E. Calyx. Drawn by S. Q. He from the holotype Yan Liu & W. B. Xu 09549 (IBK).

**Etymology.** The epithet of the new species refers to the type locality of Huanjiang County.

**Discussion.** The most comprehensive revision of *Petrocosmea* was done by Wang (1985), who recognized three sections: section *Petrocosmea* Oliv., section *Anisochilus* Hemsl., and section *Deinanthera* W. T. Wang. *Petrocosmea huanjiangensis* belongs to section *Anisochilus*, series *Iodiodes* W. T. Wang. This new species is similar to *P. coerulea* C. Y. Wu ex W. T. Wang in its peltate leaf base, but *P. coerulea* is found in southeastern Yunnan. It is also similar to *P. martini*, which is found in central Guizhou, southeastern Yunnan, and western Guang-

xi. A morphological comparison of *P. huanjiangensis*, *P. martini*, and *P. coerulea* is provided in Table 1.

**Paratypes.** CHINA. **Guangxi Zhuang Autonomous Region:** Huanjiang Co., 3 June 2009, Yan Liu & Wei-bin Xu 09577 (IBK).

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Table 1. Morphological comparison of *Petrocosmea huanjiangensis*, *P. martini*, and *P. coerulea*.

	<i>P. huanjiangensis</i>	<i>P. martini</i>	<i>P. coerulea</i>
Leaf blade	ovate or broadly ovate to subrotund	ovate to orbicular-ovate	oblong to elliptic or elliptic-ovate
Petiole length	2–6.5 cm	0.5–3.5 cm	1.5–2.7 cm
Leaf base	peltate	cordate to rounded	peltate
Adaxial corolla lip	ca. 5 mm long, inconspicuously 2-lobed	ca. 3 mm long, inconspicuously 2-lobed	ca. 3.5 mm long, deeply 2-lobed
Filaments	filaments 6–7.2 mm long, densely lanate	2–3 mm long, rust-brown puberulent	ca. 1.2 mm long, puberulent above
Anthers	cordate-ovoid, rostellate, and constricted near the apex	oblong, not apically constricted	cordate-ovoid, not apically constricted
Staminodes	3, 2–3 mm long	2, ca. 0.8 mm long	2, ca. 0.6 mm long

Program for Fostering Personal Ability (Chinese Academy of Sciences [2007]) to Yan Liu.

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