**Primulina yulinensis**, a new species of Gesneriaceae from Guangxi, China

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**ABSTRACT** : *Primulina yulinensis* sp. nov. (Gesneriaceae), a new species from the limestone area in Guangxi, China is here described and illustrated. *P. yulinensis* is similar to *P. hezhouensis* (W. H. Wu & W. B. Xu) W. B. Xu & K. F. Chung, but it differs from the latter by its smaller and margin lobed leaves, long pedicel, larger flower and 2-lipped limb.

**KEY WORDS** : China, Chiritopsis, Gesneriaceae, new species, *Primulina yulinensis*.

**INTRODUCTION**

Species of the former genus *Chiritopsis* W. T. Wang (1981), a small genus of Gesneriaceae, is mainly distributed in Guangxi, China (Wu et al. 2011). This genus has several obvious characteristics, including small flowers, an ovate ovary shorter than the style, and an ovate capsule equal or shorter than the calyx, etc. In recent years, according to the results of molecular phylogenetic studies, this genus was merged into *Primulina* Hance (Wang et al. 2011, Weber et al. 2011). One of the authors (Mr. Ying Qin) found a *Primulina* sp. belonging to the former genus *Chiritopsis* during a botanic expedition in the limestone area of Guangxi, China on 18 June, 2017. The swollen corolla of this species has attracted the attention of the authors. Therefore, we organized four botanic expeditions and collected photos and specimens of the species. By dissecting flowers and consulting the relevant literatures (Pan et al. 2010, Wu et al. 2011, Wen et al. 2012, Lai & Wen 2015, Pan et al. 2017; Hong et al. 2018, Tian et al. 2018, Xin et al. 2018; Yang et al. 2018; Xu et al. 2019), We found that the *Primulina* sp. is similar to *P. hezhouensis* (W. H. Wu & W. B. Xu) W. B. Xu & K. F. Chung, but it can be easily distinguished from the latter by its smaller leaves, long pedicel, larger flower and 2-lipped limb. Thus, we confirm that the *Primulina* sp is a new species.

**TAXONOMIC TREATMENT**

*Primulina yulinensis* Ying Qin & Yan Liu, sp. nov.

玉林小花苣苔 Figs. 1 & 2

* Type: CHINA. Guangxi, Yulin city, Yuzhou district, Nanjiang town, elev. 126 m, 22° 35’ N, 110° 15’ E, 18 June 2017, Ying Qin et al., QY20170618001 (holotype: IBK!, isotypes: IBK and PE!).

*Primulina yulinensis* is similar to *P. hezhouensis* (W. H. Wu & W. B. Xu) W. B. Xu & K. F. Chung, but it differs from the latter by its leaves 3.3–7 × 2.8–7.7 cm, margin lobed (vs. 7–13 × 6–12 cm, margin deeply lobed), pedicel 0.5–2 cm long (vs. 1–3 mm long), corolla ca. 1 cm long, corolla tube ca. 6.4 mm long, ca. 4.8 mm in diameter (corolla 3–5 mm long, corolla tube 3–4 mm long, ca. 2.5 mm in diameter), limb 2-lipped (vs. indistinctly 2-lipped).

Perennial herb. Rhizome unobvious. Leaves basal, 13–20; petiole 4–14.5cm long, densely pilose; leaf herbacopus, heart-shaped, 3.3–7 × 2.8–7.7 cm, both surfaces densely pilose and glandular puberulent, margin coarse-toothed; lateral veins 4–5 on each side of the midrib. Cymes axillary, 5-branched, 3–7 inflorescences per plant, ca. 36-flowered for each inflorescence; peduncle 8–17 cm long, densely pilose and glandular puberulent; bracts obovate or spoon-shaped to lanceolate, 2.7–3.2 × 1.1–1.4 cm, reflexed, green, densely pilose and glandular puberulent, margin entire or sparsely coarse-toothed. Pedicel 0.5–2 cm long, sparsely pilose and glandular puberulent. Calyx 5-parted from base, lobes lanceolate, pilose and glandular puberulent, ca. 4 × 0.7–0.8 mm. Corolla white, ca. 1 cm long, pubescent and glandular puberulent outside, sparsely pubescent at the mouth. Corolla tube swollen, ca. 6.4 mm long, ca. 4.8 mm in diameter, constricted at the mouth; limb 2-lipped, adaxial lip 2-lobed, the lobes oblong, ca. 2.5 × 2.3 mm, the abaxial lip 3-lobed, the lobes oblong, ca. 3.2 mm × ca. 2.3 mm. Stamens 2, filaments 3–4 mm long, linear, white, glabrous, anthers reniform, yellowish-white, glabrous, apex close together. Staminalodes 3, short linear, unequal, white, glabrous. Disc crenicid, ca. 0.3 mm high, glabrous, margin entire. Pistil ca. 6 mm long; ovary ovoid, densely pubescent and glandular puberulent, ca. 2 mm long, ca. 0.9 mm in diameter; style ca. 4 mm long, linear, sparsely pubescent and glandular puberulent; stigma capitate. Capsule oval, ca. 7 mm long, ca. 2 mm in diameter, pubescent and glandular puberulent.

**Distribution, habitat and ecology**: *Primulina yulinensis* was found growing on a slope and a karst cave...

**Phenology:** *Primulina yulinensis* flowers from June to July, and fruits from August to September.

**Etymology:** The specific epithet is derived from Yulin city, Guangxi, China.

**Distinguishing characters:** *Primulina yulinensis* is similar to *P. hezhouensis* (W. H. Wu & W. B. Xu) W. B. Xu & K. F. Chung. Shared characters mainly include swollen corolla and heart-shaped leaf blade combined with glandular-pubescent on both surfaces. However, the new species can be easily distinguished by its corolla ca. 1 cm long, corolla tube ca. 6.4 mm long, ca. 4.8 mm in diameter (corolla 3–5 mm long, corolla tube 3–4 mm long, ca. 2.5 mm in diameter), limb 2-lipped (vs. indistinctly 2-lipped). Detailed morphological comparisons between *P. yulinensis* and *P. hezhouensis* (W. H. Wu & W. B. Xu) W. B. Xu & K. F. Chung are provided in Table 1.
Table 1. Morphological comparison of *Primulina yulinensis* and *P. hezhouensis*.

<table>
<thead>
<tr>
<th>Characters</th>
<th><em>P. yulinensis</em></th>
<th><em>P. hezhouensis</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaf</td>
<td>margin lobed, 3.3–7 × 2.8–7.7 cm</td>
<td>margin deeply lobed, 7–13 × 6–12 cm</td>
</tr>
<tr>
<td>Cyme</td>
<td>5-branched, flowers lax</td>
<td>1–4-branched, flowers congested</td>
</tr>
<tr>
<td>Bract</td>
<td>obovate or spoon-shaped to lanceolate, 2.7–3.2 × 1.1–1.4 cm, margin entire</td>
<td>lanceolate, 1–2 × 0.7–1 cm, margin entire</td>
</tr>
<tr>
<td>Pedicel</td>
<td>5–20 mm long</td>
<td>1–3 mm long</td>
</tr>
<tr>
<td>Calyx</td>
<td>ca. 4 × 0.7–0.8 mm</td>
<td>2.5–3 × ca. 1 mm</td>
</tr>
<tr>
<td>Corolla</td>
<td>ca. 1 cm long, corolla tube ca. 6.4 mm long, ca. 4.8 mm in diameter, limb 2-lipped</td>
<td>3–5 mm long, corolla tube 3–4 mm long, ca. 2.5 mm in diameter, limb indistinctly 2-lipped</td>
</tr>
<tr>
<td>Stamen</td>
<td>filament linear, 3–4 mm long, straight</td>
<td>filament linear, 3–3.5 mm long, geniculate below the middle</td>
</tr>
<tr>
<td>Stigma</td>
<td>capititate</td>
<td>2-lobed</td>
</tr>
<tr>
<td>Pistil</td>
<td>ca. 6 mm long</td>
<td>ca. 4 mm long</td>
</tr>
</tbody>
</table>

**Additional specimens examined (paratype):** CHINA: Guangxi: Yulin city, Yuzhou district, Nanjiang town, elev. 126 m, 22°35’N, 110°15’E, 18 June 2017, Ying Qin et al., QY20170618002 (IBK!); CHINA: Guangxi: Yulin city, Yuzhou district, Nanjiang town, elev. 126 m, 22°35’N, 110°15’E, 18 June 2017, Ying Qin et al., JJZ025 (IBK!); CHINA: Guangxi: Yulin city, Yuzhou district, Nanjiang town, elev. 126 m, 22°35’N, 110°15’E, 27 August 2017, Ying Qin et al., JJZ067 (IBK!); CHINA: Guangxi: Yulin city, Nanjiang town, elev. 104 m, 22°36’N, 110°15’E, 27 August 2017, Yan Liu et al., JJZ069 (IBK!).

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**LITERATURE CITED**


