Primulina lutvittata (Gesneriaceae), a new species from a limestone cave in Guangdong, China

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Primulina lutvittata Fang Wen & Y.G. Wei, a new species of Gesneriaceae from Guangdong, China, is described and illustrated. It is morphologically similar to P. fengshanensis, but differs by several characters of the leaves, cymes, bracts, corollas and anthers.


Primulina lutvittata Fang Wen & Y.G. Wei, sp. nova (Fig. 1)

Type: China. Guangdong province, Yangchun county, 22°37′N, 111°50′E, in large limestone caves, alt. 70–84 m, flowering, 29 June 2011 F. Wen 11062901 (holotype IBK; isotypes IBK, BJFC).

It differs from P. fengshanensis in: leaf blade fleshy-leathery and sparsely erect-hirsute; cyme unbranched or 1-branched, rarely 2-branched; bracts opposite, 2, outside sparsely erect-hirsute and inside glabrous; corolla throat with two distinct bright-yellow stripes; anthers sparsely pubescent; filaments sparsely glandular-pubescent and the upper surface of stigma densely puberulous.

Perennials, acaulescent. Rhizome cylindrical, 1.8–3.0 cm long, 0.9–1.3 cm in diameter, glabrous, internodes inconspicuous. Leaves spirally, 8–24, basal or clustered at apex of rhizome, terete; petiole cylindrical, above recessed, cross-section V-shaped, hirsute, 2.1–4.3 × 0.8–1.2 cm; blade fresh fleshy-leathery, obovate-elliptical, obovate-lanceolate, narrowly elliptical to slightly ovate, 6.0–13.5 × 2.2–3.8 cm, base attenuate to cuneate, margin entire, occasionally inconspicuously crenate, apex acute or acuminate, sparsely erect-hirsute on both surfaces, lateral veins ca. 3 on each side, inconspicuous adaxially and prominent abaxially. Cymes axillary, 3–12,
unbranched or 1-branched, rarely 2-branched, generally 1-flowered, occasionally 2–3-flowered, rarely more than 4–5-flowered; peduncle 7.5–12.4 cm long, 0.1–0.15 cm in diameter, erect-hirsute; bracts 2, opposite, broadly lanceolate to lanceolate-ovate, 1.7–2.0 × 0.5–1.1 cm, abaxially hairs same as peduncle, adaxially glabrous, margin entire, apex acute. Pedicel 1.4–2.1 cm long, 0.8–1.0 mm in diameter, puberulent. Calyx 5-divided nearly to base; lobes equal, lanceolate-linear to lanceolate, 6–8 × 1.5–1.8 mm, abaxially sparsely hirsute, margin entire, apex acute. Corolla bright purplish-red, fuchsia or deeply peach-coloured, throat with two distinct bright-yellow strips, 1.8–2.2 cm long, orifice 0.6–0.8 cm in diameter, abaxially short pubescent-glandular, adaxially glabrous; tube narrowly infundibuliform, 1.4–1.5 cm long; limb distinctly 2-lipped, adaxial lip 2-divided to base, lobes slightly oblique ovate, 4.5–5 × 4.8–5.0 mm, obtuse at apex, with 8–10 dark purple or peach-coloured lines inside; abaxial lip 3-divided to middle or slightly over middle, lateral lobes slightly oblique-oblong, 5 × 4.5 mm, obtuse at apex, with 3–5 dark purple or peach-coloured lines inside, central lobe oblong, 6–7 × 4–4.5 mm, obtuse at apex, with 5–6 dark purple or peach-coloured lines inside. Stamens 2, adnate to ca 1.0 cm above corolla base; anthers yellow or slightly orange, subreniform, 2.5–3 × 1.0–1.1 mm, slightly constricted at middle, sparsely pubescent; filaments geniculate close to middle,
Table 1. Comparison of the diagnostic characters of Primulina lutvittata and P. fengshanensis.

<table>
<thead>
<tr>
<th>Character</th>
<th>P. lutvittata</th>
<th>P. fengshanensis</th>
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<tbody>
<tr>
<td>Texture of leaf blade</td>
<td>fleshy-leathery</td>
<td>fleshy</td>
</tr>
<tr>
<td>Indumentum of leaf blade</td>
<td>sparsely erect-hirsute</td>
<td>densely appressed pubescent</td>
</tr>
<tr>
<td>Cyme</td>
<td>unbranched or 1-branched, rarely 2-branched, generally 1-flowered, occasionally 2–3-flowered, rarely more than 4–5-flowered</td>
<td>2–5–branched, 10–20-flowered or more</td>
</tr>
<tr>
<td>Bracts</td>
<td>2, opposite</td>
<td>4, pairwise opposite</td>
</tr>
<tr>
<td>Indumentum of bracts</td>
<td>sparsely erect-hirsute,</td>
<td>densely appressed pubescent, inner nearly glabrous</td>
</tr>
<tr>
<td>Corolla colour</td>
<td>bright purplish-red, fuchsia or deeply peach-coloured, throat with two distinct bright yellow stripes</td>
<td>fuchsia or purple, colour of throat same as corolla, lacking yellow stripes</td>
</tr>
<tr>
<td>Indumentum of anthers and filaments</td>
<td>anthers sparsely pubescent; filaments sparsely glandular-pubescent</td>
<td>anthers and filaments glabrous</td>
</tr>
<tr>
<td>Indumentum of stigma</td>
<td>above densely puberulous</td>
<td>glabrous</td>
</tr>
<tr>
<td>Flowering time</td>
<td>July–August</td>
<td>September–October</td>
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</table>

6–7 mm long, sparsely glandular pubescent; staminodes 2, short linear, glabrous, 1.8–2.2 mm long, adnate to 6.5–7.0 mm above corolla base, capitate at apex; disc annular, 0.4–0.5 mm high, margin entire or sometimes slightly erosulate. Pistil 2.2–2.5 cm long; ovary linear, 1.4–1.6 mm long, ca. 1.5 mm in diameter, densely puberulent; style 7.0–8.0 mm long, 0.5–0.6 mm in diameter, puberulent. Stigma green, obtrapeziform, upper surface densely puberulous, apex slightly lobed, 2.4–2.6 mm long. Capsule dehiscent, linear, 2.0–2.5 cm long, ca. 2 mm in diameter, pubescent when young, style persistent, straight.

Primulina lutvittata is rather similar to P. fengshanensis; a detailed comparison of the two species is in Table 1.

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