

Pleurospermum tripartitum sp. nov. (Umbelliferae) from western Yunnan, China

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Pleurospermum tripartitum Pu, R. Li & H. Li, a new species of Umbelliferae from western Yunnan, China, is described and illustrated. It is closely similar to *P. macrochlaenum* K. T. Fu & Y. C. Ho, but differs by having unbranched stem, conspicuous calyx teeth, and white petals.

The genus *Pleurospermum* Hoffmann includes about 45 species distributed in northern Asia and eastern Europe, but is particularly diverse in the Himalayan regions (Mabberley 1997, Wu et al. 2006). Thirty-nine species are distributed in China, 22 of which are endemic (Pan and Watson 2005).

During the past twelve years, a series of expeditions to the western Yunnan for the project 'Biodiversity Survey of Gaoligong Mountains' have jointly been carried out by Kunming Inst. of Botany, Chinese Academy of Sciences and Dept of Botany, California Academy of Sciences. During these expeditions we collected some interesting *Pleurospermum* specimens. Among them, we found one species with morphological features that differed from the other species in the genus. After a morphological study, literature search (Kanai 1975, Pu 1993, Pan 1997, Watson 1999, Pan and Watson 2005), and examination of many other specimens in the herbaria KUN and CDBI, we concluded that it represents a new species as described and illustrated below.

Pleurospermum tripartitum Pu, R. Li & H. Li sp. nov. (Fig. 1)

Species *P. macrochlaeno* K. T. Fu & Y. C. Ho affinis, sed caule singulo, calyce dentato conspicuo, petalis albis differt.

Type: China. Yunnan Province, Fugong Xian, Lumadeng Xiang, Yaping Cun, below Amero Pass along the road back down to the confluence of the north and south fork of Yamu He, east side of Gaoligong Shan, coniferous forest, *Abies* forest with *Rhododendron* and bamboo thickets, growing along stream in sun, 27°4'49.5"N, 98°44'52.2"E, 3120 m a.s.l., 13 Aug 2005, Gaoligong Shan Biodiversity Survey 27178 (holotype: KUN, isotype: CDBI).

Perennial herb, to 25–30 cm tall, glabrous. Root dark brown, conic, 5–10 cm long, ca 1 cm in diameter, apex surrounded with brown remnants of sheaths. Stem erect, cylindrical, ribbed, unbranched. Basal leaves 2–3; petioles 7–11 cm long; sheaths oblong, 2.0–2.5 × ca 0.3–0.4 cm, membranous; blades broadly triangular-ovate, tripartite, lobes oblanceolate, 2–3 × 0.8–1.2 cm, serrulate, apex obtuse, base cuneate. Cauline leaves 1–2, sessile or shortly petiolate, with petioles becoming entirely oblong membranous sheathing; blades tripartite, lobes oblanceolate, serrulate, median lobes 1–2 × ca 0.4–0.7 cm, lateral lobes 0.6–1.6 × ca 0.2–0.5 cm. Umbels terminal, 1.0–2.5 cm across; bracts 3–4, lanceolate, 0.9–1.2 × ca 0.3–0.5 cm, apex 2–3-lobed, margins white membranous; rays 5–6, 1.0–1.5 cm long; bracteoles 5–8, similar to bracts, with dense black spots on the dorsal surfaces, longer than flowers, ca 0.4–0.7 × 0.2–0.3 cm, apex 3-lobed, margins white membranous. Flowers numerous. Pedicels unequal. Calyx teeth 5, conspicuous, triangular-lanceolate; petals 5, white, obcordate, base cuneate, apex inflexed; stylopodium conic, styles short.

In the 'Flora of China' (Pan and Watson 2005), the new species keys out as a member of *Pleurospermum* Hoffmann as characterized by the young fruits oblong-ovate or ovoid, laterally compressed with ribs prominent and undulate and with 1 vittae in each furrow and 2 on the commissure.

Etymology

The specific epithet of the new species refers to its tripartite leaves.

Distribution and ecology

Currently known only from type locality on Yaping Cun, Lumadeng Xiang, Fugong Xian, Yunnan Province, China. *Pleurospermum tripartitum* grows in coniferous forest at

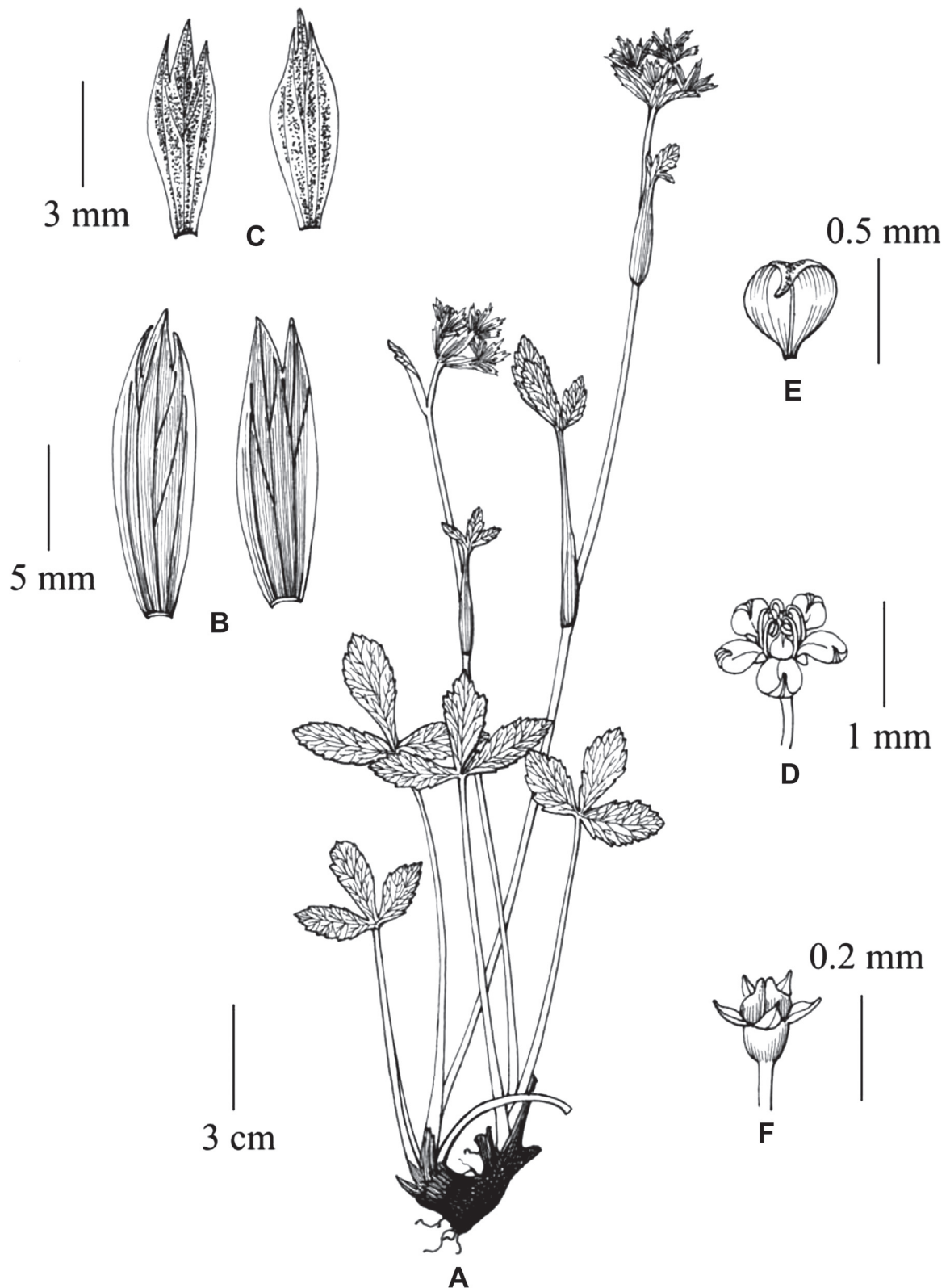


Figure 1. *Pleurospermum tripartitum* sp. nov. (A) habit, (B) bracts, (C) bracteoles, (D) flower, (E) petal, (F) flower with petals and stamens removed, showing calyx teeth and stylopodium. Drawn by Ling Wang from the holotype.

3100 m a.s.l. and shares its habitat with plants such as *Potentilla* spp., *Rhododendron* spp., *Primula* spp., *Gentiana* spp., *Salix* spp., *Lilium* spp., and *Carex* spp. It was observed flowering and fruiting in August.

Similar species

Pleurospermum tripartitum Pu, R. Li & H. Li is closely similar to *P. macrochlaenum* K. T. Fu & Y. C. Ho by its glabrous stem, tripartite leaves, and bracteoles similar to

Table 1. Morphological comparison of *Pleurospermum tripartitum* sp. nov. and *P. macrochlaenum*.

Characters	<i>P. tripartitum</i>	<i>P. macrochlaenum</i>
Plant	25–30 cm tall	40–60 cm tall
Stem	solitary, unbranched	branched
Petioles of basal leaves	7–11 cm long	4–6 cm long
Umbels	1.0–2.5 cm across	10 cm across
Bracts	3–4	7–10
Rays	5–6, 1.0–1.5 cm long	10–25, 5–6 cm long
Calyx teeth	conspicuous, triangular–lanceolate	obsolete
Petals	white	pink

bracts with white membranous margins, but differs by having unbranched stem, conspicuous calyx teeth, and white petals. The major differences between them are outlined in Table 1.

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