

## 1. PENTAPHRAGMA Wallich ex G. Don, Gen. Hist. 3: 731. 1834.

五膜草属 wu mo cao shu

Morphological characters and geographic distribution are the same as those of the family.

- 1a. Calyx longer than corolla; inflorescence strongly curved; flowers 2 in axil of bract ..... 1. *P. sinense*  
1b. Calyx shorter than corolla; inflorescence straight; flower 1 in axil of bract ..... 2. *P. spicatum*

**1. *Pentaphragma sinense*** Hemsley & E. H. Wilson, Bull. Misc. Inform. Kew 1906: 160. 1906.

Guangdong (Xinyi), S Guangxi (Daxin, Dongxing, Shiwan Dashan), Hainan (Baisha, Baoting).

五膜草 wu mo cao

*Pentaphragma spicatum* should be expected in N Vietnam. The type locality (Dongxing in Guangxi Province) is close to the border.

Plants covered with glandular hairs and these mixed with stellate hairs on young stems, petioles, abaxial surface of leaf blade, inflorescence axis, bracts, pedicels, and calyx. Rhizome to 30 × 1 cm, ± woody. Fibrous roots ca. 3 mm in diam. Stem short but robust, with leaves borne at one side. Leaves petiolate; petiole 3–10 cm; leaf blade ovate, asymmetric, 10–20 × 5–12 cm, main veins arcuate, margin entire or obscurely verrucose denticulate. Inflorescences solitary or 2 together, pedunculate, strongly curved, bracteate; peduncle 2–4 cm; bracts ovate, with 2 flowers at axil; pedicels 1–2 mm. Calyx tube campanulate; calyx lobes broadly elliptic or linear-oblong, ca. 6 × 2–3 mm. Corolla white, 6–7 mm, cleft for more than halfway; lobes long elliptic. Stamens: connective higher than anther cells; anther cells long ellipsoid, almost laterally longitudinally dehiscent. Stigma conic, almost smooth. Berry obovoid, ca. 9 mm. Seeds ovoid, ca. 0.3 mm; testa yellow, obviously reticulate. Fl. and fr. May–Nov.

Forests, by streams, moist shady banks of ravines; [200–1500 m]. S Yunnan (Hekou, Pingbian, Xishuangbanna) [N Vietnam].

**2. *Pentaphragma spicatum*** Merrill, Philipp. J. Sci. 21: 511. 1922.

直序五膜草 zhi xu wu mo cao

*Pentaphragma corniculatum* Chun & F. Chun.

Plants rather densely covered with glandular hairs and these mixed with stellate hairs on young stems, petioles, abaxial surface of leaves, inflorescence axis, bracts, and abaxial surface of calyx. Rhizome oblique, elongate, robust, to 15 × 1.5 cm, ± woody. Fibrous roots ca. 2 mm in diam. Stem short, often with leaves at one side, usually with remains of petioles. Leaves petiolate; petiole 5–15 cm; leaf blade ovate or ovate-orbicular, asymmetric, 10–30 × 6–20 cm, margin entire or verrucose denticulate. Inflorescences solitary or 2 together, pedunculate, straight; peduncle with an involucre of bracts much smaller than leaves; bracts obovate, ca. 4 mm, with 1 flower at axil; pedicels 1–2 mm. Flowers ca. 1.6 cm. Calyx tube campanulate; calyx lobes ca. 5 mm, 3-veined, broader 2 ovate-orbicular, ca. 4 mm wide, other 3 long oblong, ca. 2 mm wide. Corolla white or yellow-green, ca. 9 mm, cleft for more than halfway; lobes slightly incurved, lanceolate, glabrous. Stamens: connective higher than anther cells. Stigma conic, almost without ribs. Berry ellipsoid, ca. 8 mm. Seeds ovoid, ca. 0.3 mm; testa dark brown, obviously reticulate. Fl. May–Jul, fr. Oct–Nov.

- Tropical forests in ravines, dense forests; ca. 1400 m. SW

