

**12. MITELLA** Linnaeus, Sp. Pl. 1: 406. 1753.

唢呐草属 suo na cao shu

Pan Jintang (潘锦堂); Douglas E. Soltis

Herbs perennial. Rhizomes creeping, short. Leaves mainly basal, long petiolate, cauline ones few or absent; stipules scarious; leaf blade simple, cordate or ovate- to reniform-cordate, margin lobed or incised. Inflorescence terminal, racemose, bracteate. Flowers small. Sepals 5. Petals sometimes absent, margin usually pinnately cleft, rarely entire. Stamens 5 or 10. Carpels 2, connate; ovary appearing subsuperior to inferior, 1-loculed; placentas 2, parietal; styles 2. Fruit a capsule, dehiscent between styles. Seeds numerous, ovoid or narrowly ellipsoid, usually tuberculate.

About 20 species: E and N Asia, North America, one species (*Mitella nuda*) nearly circumboreal: two species (one endemic) in China.

As currently circumscribed, *Mitella* is not a natural group, but comprises several distinct lineages that should ultimately be treated as distinct genera. *Mitella nuda* is most closely related to *M. diphylla* from E North America, whereas *M. formosana* is most closely related to other Asian species of *Mitella* that appear to form a lineage distinct from all other species currently placed in the genus.

1a. Inflorescences with leaves; petal margin pinnately 5–7-cleft; stamens 5 ..... 2. *M. formosana*

1b. Inflorescences usually without leaves; petal margin pinnately ca. 9-cleft; stamens 10 ..... 1. *M. nuda*

**1. *Mitella nuda*** Linnaeus, Sp. Pl. 1: 406. 1753.

唢呐草 suo na cao

Herbs perennial, 9–24 cm tall. Rhizomes elongate, slender. Stems glandular hairy. Basal leaves 1–4; petiole 1–8.3 cm, rigidly glandular hairy; leaf blade orbicular to cordate to reniform-cordate, 0.8–3.7 × 0.8–3.9 cm, both surfaces rigidly glandular hairy, base cordate, margin dentate, obscurely 5–7-lobed. Cauline leaves usually 1 or absent, shortly petiolate; leaf blade ca. 1.6 × 1.4 cm, rigidly glandular hairy. Inflorescence a raceme, 2–11 cm, several flowered; pedicels 1–5 mm, shortly glandular hairy. Sepals subovate, 1.6–2 mm, 1-veined, apex subacuminate. Petals yellowish green, ca. 4 mm, margin deeply pinnately ca. 9-cleft; segments linear. Stamens 10, shorter than sepals. Carpels 2, connate; ovary semi-inferior, broadly ovoid; stigmas 2-lobed. Fruit a capsule; carpels distally free, glandular hairy. Seeds few, black, shiny, narrowly ellipsoid, ca. 1 mm. Fl. Jun–Sep.  $2n = 14, 28$ .

Wet forests, bogs; 700–1100 m. Heilongjiang, Jilin, Nei Mongol [Japan, Korea, Mongolia, Russia; North America].

**2. *Mitella formosana*** (Hayata) Masamune, J. Soc. Trop. Agric. 4: 77. 1932.

台湾唢呐草 tai wan suo na cao

*Mitella japonica* Miquel var. *formosana* Hayata, Icon. Pl. Formos. 3: 101. 1913.

Herbs perennial, 14.5–24 cm tall. Rhizomes elongate, slender. Leaves all basal; petiole 7–13 cm, densely brown crisped glandular villous; leaf blade ovate-cordate, 3.5–7 × 3.3–5 cm, both surfaces glandular strigose, base cordate, margin irregularly dentate, obscurely 5–7-lobed, apex acute. Raceme slender, 3–10 cm, glandular villous, many flowered; pedicels 2–4 mm, glandular hairy. Sepals broadly ovate, ca. 1.2 × 1.3 mm, abaxially glandular hairy, 1-veined, apex acute. Petals ca. 3.6 mm, margin deeply pinnately 5–7-cleft; segments linear, glandular dotted. Stamens 5, ca. 0.9 mm. Carpels 2, connate; ovary ca. 1/2 subinferior,

broadly ovoid; styles ca. 0.5 mm; stigmas 2-lobed. Fruit a capsule. Seeds numerous, ellipsoid-fusiform, ca. 1 mm. Fl. Apr–Aug.  $2n = 14^*$ .

- Forests along ravines; 2900–3000 m. Taiwan.

