

70. LYCOPUS Linnaeus, Sp. Pl. 1: 21. 1753.

地笋属 di sun shu

Herbs perennial, usually with enlarged rhizomes. Leaves dentate or pinnatifid. Verticillasters sessile, many flowered, subtended by minute bracteoles; floral leaves similar to stem leaves, gradually reduced upward; outer bracteoles equal to longer than calyx. Flowers sessile. Calyx campanulate, ± regular, glabrous inside; teeth 4 or 5, equal or 1 larger. Corolla campanulate, 2-lipped, throat intricately villous; upper lip entire or emarginate; lower lip 3-lobed, middle lobe larger than lateral lobes. Anterior stamens fertile, slightly exerted, straight, posterior 2 rudimentary or filiform, apex clavate or capitate; filaments glabrous; anther cells 2, parallel, becoming divergent. Style exerted, apex 2-cleft; lobes flattened, acute, equal or posterior smaller. Nutlets brown, dorsiventrally flattened, ± adaxially ribbed, glabrous or adaxially glandular, base cuneate, margin thickened, apex truncate.

About 10 species: E Hemisphere, North America; four species in China.

- 1a. Calyx teeth apex acute; nutlets longer than calyx 1. *L. parviflorus*
- 1b. Calyx teeth apex spinescent; nutlets shorter than calyx.
 - 2a. Leaves shorter to slightly longer than internodes, remotely undulate-dentate above base 4. *L. cavaleriei*
 - 2b. Leaves much longer than internodes, not undulate-dentate.
 - 3a. Stem leaves coarsely dentate-serrate or lower ones ± pinnatifid, middle leaves remotely serrate, upper leaves entire 2. *L. lucidus*
 - 3b. Lower and middle stem leaves pinnatifid on margin basally, coarsely dentate on margin apically, upper leaves mostly coarse dentate 3. *L. europaeus*

1. *Lycopus parviflorus* Maximowicz, Prim. Fl. Amur. 216. 1859.

小花地笋 xiao hua di sun

Lycopus virginicus Linnaeus var. *parviflorus* (Maximowicz) Makino.

Rhizomes fusiform, producing filiform stolons with scalelike leaves. Stems erect, 25–40 cm, usually unbranched, densely fine puberulent. Leaves short petiolate, oblong-elliptic, mid stem leaves largest, others 3–5.5×1.2–2.5 cm, subglabrous or veins sparsely fine puberulent, sparsely yellowish glandular, base cuneate-attenuate, margin ± 4–6-serrate or entire. Verticillasters 7–10-flowered, not distinctly globose, subtended by 2 or 3 bracteoles; bracteoles linear-lanceolate, ca. 1 mm, ciliate. Calyx ca. 2 mm, pubescent; teeth 5, ovate, ca. 0.8 mm, apex acute, ciliolate, 1 tooth slightly smaller. Corolla white, ca. 2 mm, pubescent, tube ca. 1 mm; limb obscurely 2-lipped, upper lip straight, lower lip spreading. Stamens slightly longer than corolla. Nutlets unknown. Fl. Jul.

• Wet grasslands; 600 m. Heilongjiang, Jilin.

2. *Lycopus lucidus* Turczaninow ex Bentham, Prodr. 12: 178. 1848.

地笋 di sun

Herbs perennial. Rhizomes swollen at apex, sometimes with enlarged stolons bearing scalelike leaves. Stems erect, 20–70 cm, usually unbranched, nodes ± tinged purple-red. Leaves subsessile or short petiolate, linear to oblong-lanceolate, ± arcuate, 4–8×1.2–2.5 cm, glabrous to minutely hispid-hirsute, abaxially impressed glandular, base attenuate, margin ± pinnatifid to ± entire, apex acuminate. Verticillasters globose, 1.2–1.5 cm in diam.; bracteoles ovate to lanceolate, ciliolate, spinescent, outermost to 5 mm and 3-veined, inner ones 2–3 mm and 1-veined. Calyx ca. 3 mm, glabrous, glandular; teeth 5, lanceolate-triangular, ca. 2 mm, apex spinescent, ciliolate. Corolla white, ca. 5 mm, glandular, throat white pubescent, tube ca. 3 mm; limb indistinctly 2-lipped, upper lip subcircular; lower lip 3-lobed, middle lobe

larger. Nutlets obovoid, 4-sided, ca. 1.6×1.2 mm, abaxially flattened, glandular, base subattenuate. Fl. Jun-Sep, fr. Aug-Nov.

Marshy areas, grasslands, streambanks; 300–2600 m. Anhui, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hebei, Heilongjiang, Hubei, Hunan, Jiangsu, Jiangxi, Jilin, Liaoning, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Yunnan, Zhejiang [Japan, Russia].

- 1a. Stems slender, 20–50 cm tall; lower leaves elliptic to lanceolate, ± pinnatifid; middle leaves serrate; upper leaves linear-lanceolate, ± entire 2c. var. *maackianus*
- 1b. Stems robust, 60–70 cm tall; leaves oblong-lanceolate, coarsely dentate-serrate.
 - 2a. Stems glabrous or sparsely hirtellous on nodes; leaves glabrous 2a. var. *lucidus*
 - 2b. Stems hirtellous along angles, densely hirsute on nodes; leaves densely minutely hispid-hirsute adaxially and on veins abaxially, margin ciliate 2b. var. *hirtus*

2a. *Lycopus lucidus* var. *lucidus*

地笋 di sun

Stems robust, 60–70 cm tall, glabrous or sparsely hirtellous on nodes. Leaf blade oblong-lanceolate, glabrous, margin coarsely dentate-serrate.

Marshy areas, streambanks; 300–2600 m. Guizhou, Hebei, Heilongjiang, Jilin, Liaoning, Shanxi, Sichuan, Yunnan [Japan, Russia].

Rhizomes are prepared as a boiled vegetable and are also salted. Used medicinally.

2b. *Lycopus lucidus* var. *hirtus* Regel, Mém. Acad. Imp. Sci. Saint Pétersbourg 4: 115. 1861.

硬毛变种 ying mao bian zhong

Lycopus formosanus (Hayata) Sasaki; *L. lucidus* var. *formosanus* Hayata.

Stems hirtellous along angles, densely hirsute on nodes. Leaf blade lanceolate, dark green, densely minutely hispid-

hirsute adaxially and mainly on veins abaxially, base attenuate, margin serrate, ciliate, apex attenuate.

Marshy areas; 300–2400 m. Anhui, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hebei, Heilongjiang, Hubei, Hunan, Jiangsu, Jiangxi, Jilin, Liaoning, Nei Mongol, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Yunnan, Zhejiang [Japan, Russia].

2c. *Lycopus lucidus* var. *maackianus* Maximowicz ex Herder, Bull. Soc. Imp. Naturalistes Moscou 61(1): 131. 1885.

异叶变种 *yi ye bian zhong*

Lycopus angustus Makino; *L. maackianus* (Maximowicz ex Herder) V. Komarov; *L. sinuatus* Regel.

Stems slender, 20–50 cm tall. Lower stem leaves elliptic to lanceolate, margin ± pinnatifid; mid leaves serrate; upper leaves linear-lanceolate, margin ± entire.

- Wet grasslands. Heilongjiang.

3. *Lycopus europaeus* Linnaeus, Sp. Pl. 1: 21. 1753.

欧地笋 *ou di sun*

Rhizomes transverse, producing long stolons enlarged at apex, with scalelike leaves. Stems erect, 15–80 cm, unbranched or apically branched. Petiole 0–5 mm; leaf blade oblong-elliptic to lanceolate-elliptic, 3–9×1–4 cm or more, base attenuate, apex acuminate; lower and mid stem leaves coarsely dentate, subglabrous or sparsely pubescent, glandular. Verticillasters globose, 8–10 mm in diam.; floral leaves subsessile; outer bracteoles to 4 mm, inner ones ca. 3 mm, linear-subulate, spinescent. Calyx ca. 3 mm, puberulent, ± conspicuously 10–15-veined; teeth 4 or 5, ca. 2 mm, erect, linear-lanceolate, apex spinescent. Corolla white, red spotted on lower lip, nearly included, ca. 3 mm, puberulent; tube ca. 2.5 mm, intricately white villous inside; limb obscurely 2-lipped, ca. 0.5 mm; upper lip circular, emarginate, lobes subequal. Anterior stamens exerted, posterior 2 lacking or reduced to staminodes. Nutlets 4-sided, ca. 1.5×1 mm, adaxially slightly swollen, glandular at middle, base slightly attenuate, apex rounded; areolae basal, white. Fl. Jun-Aug, fr. Aug-Sep.

Field margins, streamsides, grasslands; 700–1000 m. Hebei, Shaanxi, Xinjiang [Japan, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Uzbekistan; SW Asia, Europe, introduced in North America].

- 1a. Leaves 1–3 cm wide; calyx teeth longer than tube; staminodes generally lacking or filiform; nutlets shorter than calyx 3a. var. *europaeus*
- 1b. Leaves more than 4 cm wide; calyx teeth generally as long as tube; staminodes capitellate; nutlets as long as calyx 3b. var. *exaltatus*

3a. *Lycopus europaeus* var. *europaeus*

欧地笋 *ou di sun*

Leaves 1–3 cm wide. Calyx teeth longer than tube. Staminodes usually lacking or filiform. Nutlets shorter than calyx.

Field margins, streamsides, wet grasslands; 700–1000 m. Hebei, Shaanxi, Xinjiang [Japan, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Uzbekistan; SW Asia, Europe, introduced in North America].

3b. *Lycopus europaeus* var. *exaltatus* (Linnaeus f.) J. D. Hooker, Fl. Brit. India 4: 648. 1885.

深裂变种 *shen lie bian zhong*

Lycopus exaltatus Linnaeus f., Suppl. Pl. 87. 1781 (1782); *L. pinnatifidus* Pallas.

Leaves more than 4 cm wide. Calyx teeth usually as long as tube. Staminodes capitellate. Nutlets as long as calyx.

Wet grasslands. Xinjiang [Kazakhstan, Kyrgyzstan, Russia; Europe].

Perhaps better treated as a distinct species.

4. *Lycopus cavaleriei* H. Léveillé, Repert. Spec. Nov. Regni Veg. 8: 423. 1910.

小叶地笋 *xiao ye di sun*

Lycopus coreanus H. Léveillé; *L. coreanus* var. *cavaleriei* (H. Léveillé) C. Y. Wu & H. W. Li; *L. europaeus* Linnaeus var. *sinensis* H. Léveillé; *L. maackianus* (Maximowicz ex Herder) V. Komarov var. *ramosissimus* Makino; *L. ramosissimus* (Makino) Makino.

Rhizomes transverse, producing long underground stolons enlarged at apex, with scalelike leaves. Stems erect, 15–60 cm, puberulent to glabrous, nodes ± pubescent. Leaves sessile, oblong-obovate to ovate, 1.5–3×0.6–1.5 cm, subglabrous, glandular, base cuneate to cuneate-attenuate, margin undulate-dentate or irregularly crenate-dentate, apex acute. Verticillasters globose, 5–7 mm in diam.; bracteoles linear-subulate, ribbed, 1.5–2.5 mm, spinescent. Calyx 2.5–3 mm, puberulent, obscurely 10–15 veined; teeth 4 or 5, ca. 1 mm, triangular-lanceolate, apex spinescent. Corolla white, slightly exerted, 3–3.5 mm, limb glandular, intricately white ciliate inside; limb obscurely 2-lipped, lips ca. 1 mm, subequal; upper lip circular, emarginate, lower lobes subequal. Anterior stamens as long as corolla, posterior 2 lacking or reduced to filiform staminodes. Nutlets obovoid, 4-angled, adaxially slightly swollen, glandular; areolae basal, white. Fl. Jul-Aug, fr. Aug-Sep.

Hills, streamsides, field margins; 900–1700 m. Anhui, Guizhou, Jiangxi, Jilin, Sichuan, Yunnan, Zhejiang [Japan, Korea].

