

72. MOSLA (Bentham) Buchanan-Hamilton ex Maximowicz, Bull. Acad. Imp. Sci. Saint Pétersbourg, sér. 3, 20: 456. 1875.

石荠苎属 shi qi zhu shu

Hedeoma Persoon sect. *Mosla* Bentham, Labiat. Gen. Spec. 366. 1834.

Herbs aromatic, annual. Leaves petiolate, dentate, abaxially conspicuously impressed glandular. Verticillasters 2-flowered, in terminal racemes; bracts small or lower ones leaflike. Flowers pedicellate. Calyx campanulate, 10-veined, throat hairy, limb subequally 5-toothed or 2-lipped; upper lip 3-toothed, teeth acute to obtuse; lower lip 2-toothed, teeth lanceolate; fruiting calyx dilated, with base swollen on 1 side. Corolla white or rose to purple-red, tube glabrous or hairy annulate inside; limb nearly 2-lipped, upper lip emarginate; lower lip 3-lobed, margin crenate; lateral lobes smaller than middle lobe, emarginate. Stamens 4, posterior 2 fertile, anterior 2 reduced, with indistinct anther cells; anther cells 2, divaricate. Style apex subequally to equally 2-cleft. Nutlets subglobose to globose, sparsely netted or pitted with small depressions; areolae basal, dotlike.

About 22 species: Cambodia, China, India, Indonesia, Japan, Korea, Laos, Malaysia, Philippines, Vietnam; 12 species in China.

- 1a. Bracts ovate-lanceolate to circular-obovate; calyx subequally 5-toothed; nutlets pitted with small depressions.
 - 2a. Bracts ovate-lanceolate, 4–6(–9) mm.
 - 3a. Racemes dense, occupying a large part of each stem or branch; leaves few 4. *M. longispica*
 - 3b. Racemes lax, occupying a small part of each stem or branch; leaves many 5. *M. pauciflora*
 - 2b. Bracts broadly ovate, subcircular, to circular-obovate, 1.5–7 mm.
 - 4a. Bracts 1.5–2.5 mm, loosely arranged 3. *M. soochowensis*
 - 4b. Bracts 4–7×3–5 mm, overlapping.
 - 5a. Leaves lanceolate, 5–13 mm; corolla ca. 10 mm 2. *M. hangchowensis*
 - 5b. Leaves linear-oblong to linear-lanceolate, 2–4(–7) mm; corolla ca. 5 mm 1. *M. chinensis*
- 1b. Bracts ovate-lanceolate, lanceolate, to needlelike, generally shorter than flowers; calyx 2-lipped; nutlets sparsely netted rarely pitted with small depressions.
 - 6a. Upper calyx teeth acute.
 - 7a. Stem retrorse fine puberulent, glabrescent; leaves coarsely 3–5-serrate 7. *M. grosseserrata*
 - 7b. Stem densely pubescent; leaves serrate 6. *M. scabra*
 - 6b. Upper calyx teeth obtuse.
 - 8a. Plants leafless; stem retrorse gray pubescent; each branch with a many-flowered raceme; bracts ovate-lanceolate, 2.5–3.5 mm, 1.5–2× as long as pedicels 8. *M. exfoliata*
 - 8b. Plants many leaved.
 - 9a. Corolla ca. 2.5 mm; plants sparsely villous, puberulent; leaves ovate to ovate-lanceolate 9. *M. cavaleriei*
 - 9b. Corolla 4–10 mm or more; plants not sparsely villous.
 - 10a. Leaves remotely serrate; bracts needlelike to linear-lanceolate 10. *M. dianthera*
 - 10b. Leaves crenate to crenate-serrate; bracts ovate to lanceolate.
 - 11a. Bracts much longer than pedicels; calyx ca. 2.7 mm; corolla slightly longer than calyx 11. *M. longibracteata*
 - 11b. Bracts as long as pedicels; calyx less than 2 mm; corolla ca. 3× as long as calyx 12. *M. formosana*

1. *Mosla chinensis* Maximowicz, Mélanges Biol. Bull. Phys.-Math. Acad. Imp. Sci. Saint Pétersbourg 11: 805. 1883.

石香薷 shi xiang ru

Calamintha clipeata Vaniot; *Mosla fordii* Maximowicz; *Orthodon chinensis* (Maximowicz) Kudô; *O. fordii* (Maximowicz) Handel-Mazzetti.

Herbs erect. Stems 9–40 cm tall, much branched from base or unbranched, white pilose. Petiole 3–5 mm, sparsely pubescent; leaf blade linear-oblong to linear-lanceolate, 1.3–2.8(–3.3) cm×2–4(–7) mm, sparsely pubescent, impressed brown glandular, adaxially olive green, abaxially greenish, base attenuate to cuneate, margin remotely shallow serrate, apex acuminate to acute. Racemes terminal, capitate, 1–3 cm; bracts overlapping, rarely lax, circular-obovate, 4–7□×3.5 mm, pilose, abaxially impressed glandular, ciliate, palmately 5-veined from base, margin entire, apex caudate. Pedicel sparsely pubescent. Calyx ca. 3×1.6 mm, white lanate, glandular, white lanate beyond throat inside, glabrous below

throat; teeth 5, subulate, ca. 2/3 as long as calyx. Corolla purple-red, reddish, to white, ca. 5 mm, slightly longer than bracts, puberulent outside, sparsely puberulent on tube below lower lip inside, otherwise glabrous. Stamens included. Pistil included. Nutlets gray-brown, globose, ca. 1.2 mm in diam., glabrous, pitted with small depressions. Fl. Jun-Sep, fr. Jul-Nov.

Grassy slopes, forests; 0–1400 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangsu, Jiangxi, Shandong, Sichuan, Taiwan, Zhejiang [Vietnam].

Used medicinally.

2. *Mosla hangchowensis* Matsuda, Bot. Mag. (Tokyo) 26: 344. 1912.

杭州石荠苎 hang zhou shi qi zhu

Stem 50–60 cm tall, much branched, pubescent, brown glandular sometimes intermixed with spreading pilose hairs. Petiole 5–14 mm; leaf blade lanceolate, 1.5–4.2 cm×5–13 mm,

papery, glandular, adaxially olive green, abaxially gray, pubescent, impressed brown glandular, base broadly cuneate, margin remotely serrate, apex acute. Racemes 1–4 cm, usually many flowered; bracts broadly ovate to subcircular, 5–6×4–5 mm, green or purple, margin ciliate, apex acute to caudate. Pedicel pubescent. Calyx ca. 3.5×2.5 mm, pilose, teeth long subulate to lanceolate, ca. 3/4 as long as calyx. Corolla purple, ca. 3/4 as long as calyx, pubescent; middle lobe of lower lip reflexed, circular, pubescent; lateral lobes erect, ovate. Posterior stamens inserted on base of upper lip, slightly exerted, anterior stamens inserted on base of lower lip; filaments shorter than anthers; anthers linear, cells divergent, ca. 2 mm, connectives distinct. Style exerted. Nutlets brownish, globose, ca. 2.1 mm in diam., pitted with small depressions. Fl. and fr. Jun-Sep.

- Roadsides. Zhejiang.

- 1a. Verticillasters ± approximate; bracts overlapping; calyx teeth lanceolate, posterior tooth longer
..... 2a. var. *hangchowensis*
- 1b. Verticillasters widely spaced; bracts not overlapping; calyx teeth long subulate, subequal
..... 2b. var. *cheteana*

2a. *Mosla hangchowensis* var. *hangchowensis*

杭州石荠苎 *hang zhou shi qi zhu*

Orthodon hangchowensis (Matsuda) C. Y. Wu.

Verticillasters ± approximate; bracts overlapping. Calyx teeth lanceolate, posterior tooth longer.

- Zhejiang.

2b. *Mosla hangchowensis* var. *cheteana* (Sun ex C. H. Hu) C. Y. Wu & H. W. Li, Acta Phytotax. Sin. 12: 230. 1974.

建德变种 *jian de bian zhong*

Orthodon hangchowensis (Matsuda) C. Y. Wu var. *cheteana* Sun ex C. H. Hu, Acta Phytotax. Sin. 11: 46. 1966.

Verticillasters widely spaced; bracts not overlapping. Calyx teeth long subulate, subequal.

- Roadsides. Zhejiang.

3. *Mosla soochowensis* Matsuda, Bot. Mag. (Tokyo) 26: 134. 1912.

苏州荠苎 *su zhou qi zhu*

Orthodon soochowensis (Matsuda) C. Y. Wu.

Stems 12–50 cm tall, much branched, sparsely pubescent. Petiole 2–7 mm, sparsely puberulent; leaf blade linear-lanceolate to lanceolate, 1.2–2.2(–3.5) cm×2–4(–10) mm, adaxially puberulent, sparsely glandular, abaxially sparsely impressed glandular, sparsely minutely hispid on veins, base attenuate-cuneate, margin serrulate, apex acuminate. Racemes 2–5 cm, lax; bracts subcircular-ovate, 1.5–2.5 mm, caudate. Pedicel 1–3 mm, elongated in fruit, puberulent. Calyx ca. 3×2.1 mm, pilose, yellow glandular, throat pilose; upper teeth lanceolate, ca. 1.5 mm; lower teeth narrowly lanceolate, 2–2.2 mm; fruiting calyx dilated, base saccate in front. Corolla purple, 6–7 mm, puberulent outside, pubescent on lower lip inside and apical part of tube just below lower lip; upper lip erect. Posterior stamens slightly exerted, anterior 2 included.

Style exerted. Nutlets brown, globose, ca. 1 mm in diam., netted. Fl. Jul-Oct, fr. Sep-Nov.

- Grassy slopes. Anhui, Jiangsu, Jiangxi, Zhejiang.

4. *Mosla longispica* (C. Y. Wu) C. Y. Wu & H. W. Li, Acta Phytotax. Sin. 12: 230. 1974.

长穗荠苎 *chang sui qi zhu*

Orthodon longispicus C. Y. Wu, Acta Phytotax. Sin. 10: 231. 1965.

Taproots cylindrical. Stems erect, ca. 40 cm tall, much branched from base; branches nearly as long as stem, with numerous fertile branchlets; branches and stem brown-red, sparsely tawny or white floccose-pubescent, few leaved. Petiole 1–4(–15) mm; leaf blade linear, 0.7–1.5 cm×2.5–6 mm, papery, densely fine tawny pilose, sometimes subglabrous, glandular, densely so abaxially, base attenuate, margin few serrate, apex obtuse to acute. Racemes numerous, 1.5–10 cm; bracts ovate-lanceolate, 4–4.5×1.7–2 mm, apex abruptly acuminate. Pedicel 1–1.5 mm after anthesis, densely villous. Calyx ca. 2.5×2 mm, densely grayish yellow villous especially on veins, bearded apex just below middle lobe of lower lip inside; tube ca. 2 mm, gradually dilated upward; upper lip erect, emarginate; lower lip 3-lobed, middle lobe crenate. Nutlets gray, 1 at maturity, globose, ca. 1.2 mm in diam., pitted with small depressions. Fl. and fr. Nov.

- Roadsides; 1100 m. Jiangxi.

5. *Mosla pauciflora* (C. Y. Wu) C. Y. Wu ex H. W. Li, Acta Phytotax. Sin. 12: 230. 1974.

少花荠苎 *shao hua qi zhu*

Orthodon pauciflorus C. Y. Wu, Acta Phytotax. Sin. 10: 231. 1965.

Herbs erect. Stems (15–)20–70 cm, much branched; branches slender, elongated, retrorse white pubescent, nodes purplish. Petiole 0.5–1.5 cm; leaf blade lanceolate to narrowly lanceolate, 1.5–4 cm×6–12 mm, papery, adaxially sparsely pubescent, ± conspicuously impressed brown glandular with age, abaxially sparsely impressed brown glandular, sparsely pubescent on veins, base attenuate, margin sparingly serrate, apex acute. Racemes 1.2–10 cm, subcapitate on branches; bracts ovate-lanceolate, 5–6(–10)×2–4.5 mm, apex acuminate, much longer than pedicels. Pedicel ca. 1 mm, to 2 mm in fruit, pilose. Calyx ca. 3×2 mm, to 7×4 mm in fruit, white pilose, limb nearly 2-lipped, posterior teeth shorter, narrowly lanceolate, base saccate. Corolla purple, ca. 4 mm, puberulent, bearded just below middle lobe of lower lip inside; tube ca. 3 mm, gradually dilated at apex; upper lip erect, flat; middle lobe of lower lip crenate. Nutlets dark brown, globose, ca. 1.5 mm in diam., pitted with small depressions. Fl. Sep-Oct, fr. Oct.

- Forest margins, streamsides; 1000–1300 m. Guizhou, Hubei, Sichuan.

6. *Mosla scabra* (Thunberg) C. Y. Wu & H. W. Li, Acta Phytotax. Sin. 12: 230. 1974.

石荠苎 *shi qi zhu*

Ocimum scabrum Thunberg, Trans. Linn. Soc. London 2: 338. 1794; *Mosla lanceolata* (Bentham) Maximowicz; *M. punctata* (Thunberg) Maximowicz; *Ocimum punctatum*

Thunberg; *Ocimum punctulatum* J. Gmelin; *Orthodon lanceolatus* (Benth) Kudô; *Orthodon punctatum* (Thunberg) Kudô; *Orthodon punctulatum* (J. Gmelin) Ohwi; *Orthodon scaber* (Thunberg) Handel-Mazzetti; *Perilla lanceolata* Benth.

Stems 20–100 cm tall, much branched, densely pubescent. Petiole 0.3–1.6(–2) cm; leaf blade ovate to ovate-lanceolate, 1.5–3.5×0.9–1.7 cm, papery, abaxially gray, subglabrous or sparsely pubescent, densely impressed glandular, base rounded to broadly cuneate, margin serrate, apex acute to obtuse. Racemes 2.5–15 cm; bracts ovate, 2.7–3.5 mm, densely fine white pilose. Calyx ca. 2.5×2 mm, pilose outside, limb 2-lipped; upper lip teeth ovate-lanceolate, apex acuminate, middle tooth smaller; lower lip teeth linear, apex acute; fruiting calyx to 4×3 mm, distinctly veined. Corolla reddish, 4–5 mm, puberulent, hairy annulate near base inside, tube gradually dilated at apex, upper lip straight, middle lobe of lower lip crenate. Nutlets yellow-brown; globose, ca. 1 mm in diam., pitted with small depressions. Fl. May–Nov, fr. Sep–Nov.

Hills, thickets; 0–1100 m. Anhui, Fujian, Gansu, Guangdong, Guangxi, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Liaoning, Shaanxi, Sichuan, Taiwan, Zhejiang [Japan, Vietnam].

Used medicinally.

7. *Mosla grosseserrata* Maximowicz, Bull. Acad. Imp. Sci. Saint Pétersbourg, sér. 3, 20: 458. 1875.

芥苳 qi zhu

Orthodon grosseserrata (Maximowicz) Kudô.

Herbs annual. Stems 10–60(–70) cm, erect, finely retrorse puberulent, glabrescent, shiny green, branches spreading. Leaves ovate, base attenuate, margin 3–5-dentate, sometimes with 1 or 2 small teeth, apex acute. Racemes short; bracts very small, ca. 2.5 mm, lanceolate, longer than pedicels. Calyx 2–3 mm, pubescent, glabrescent in fruit, shiny glandular; teeth of upper lip acute, middle tooth shorter; lower teeth narrower, apex acuminate. Corolla 3.5–4 mm; upper lip ca. 2×as long as lower lip, rounded. Stamines with distinct anther cells. Nutlets shorter than calyx tube, subglobose, base slightly acute, loosely netted, of 1 color (specimens not seen: description based on Volkova, Fl. U.S.S.R. 21: 633. 1954).

Anhui, Jiangsu, Jilin, Liaoning [Japan].

8. *Mosla exfoliata* (C. Y. Wu) C. Y. Wu & H. W. Li, Acta Phytotax. Sin. 12: 231. 1974.

无叶芥苳 wu ye qi zhu

Orthodon exfoliatus C. Y. Wu, Acta Phytotax. Sin. 10: 232. 1965.

Herbs erect. Stems 20–35 cm tall, purple-red, 4-angled, 4-sulcate, branched, retrorse gray pubescent, leafless. Racemes numerous, 1–10 cm; bracts ovate-lanceolate, 2.5–3.5 cm×1–1.5 mm, 1.5–2×as long as pedicels, gray pubescent, base attenuate, margin entire, ciliate, apex acute to acuminate. Calyx ca. 3.5×2.5 mm, to 5×4 mm in fruit, tube villous, otherwise pilose, limb 2-lipped, upper teeth triangular, middle tooth slightly shorter. Corolla purple, slightly exerted beyond calyx, puberulent outside. Nutlets unknown.

• Open hills. Sichuan.

9. *Mosla cavaleriei* H. Léveillé, Repert. Spec. Nov. Regni Veg. 9: 247. 1911.

小花芥苳 xiao hua qi zhu

Orthodon cavaleriei (H. Léveillé) Kudô.

Stems 25–100 cm tall, sparsely villous, puberulent, branched. Petiole 1–2 cm; leaf blade ovate to ovate-lanceolate, 2–5×1–2.5 cm, papery, pilose, abaxially sparsely impressed glandular, base rounded to broadly cuneate, margin serrulate, apex acute. Racemes 2.5–4.5 cm in flower, to 8 cm in fruit, finely pilose; bracts minute, ovate-lanceolate, to slightly longer than pedicels. Pedicel ca. 1 mm. Calyx ca. 1.2×1.2 mm, dilated in fruit, pilose outside; upper teeth minute, triangular; lower teeth slightly longer. Corolla purple or reddish, ca. 2.5 mm, pubescent outside, lower lip slightly longer than upper lip. Nutlets gray-brown, globose, ca. 1.5 mm in diam., loosely netted, glabrous. Fl. Sep–Nov, fr. Oct–Dec.

Sparse forests, hilly grasslands; 700–1600 m. Guangdong, Guangxi, Guizhou, Hubei, Jiangxi, Sichuan, Yunnan, Zhejiang [Vietnam].

Used medicinally.

10. *Mosla dianthera* (Buchanan-Hamilton ex Roxburgh) Maximowicz, Bull. Acad. Imp. Sci. Saint Pétersbourg, sér. 3, 20: 457. 1875.

小鱼仙草 xiao yu xian cao

Lycopus dianthera Buchanan-Hamilton ex Roxburgh, Fl. Ind. 1: 144. 1820; *Cunila nepalensis* D. Don; *Hedeoma nepalensis* (D. Don) Benth; *Melissa nepalensis* (D. Don) Benth; *Mosla ocimoides* Buchanan-Hamilton ex Benth; *Mosla remotiflora* Sun; *Orthodon diantherus* (Buchanan-Hamilton ex Roxburgh) Handel-Mazzetti; *O. punctatum* (Thunberg) Kudô var. *tetrantherus* Handel-Mazzetti.

Stems to 1 m, subglabrous, much branched. Petiole 0.3–1.8 cm, adaxially puberulent; leaf blade ovate-lanceolate to rhombic-lanceolate, 1.2–3.5×0.5–1.8 cm, papery, adaxially glabrous or subglabrous, abaxially gray, glabrous, sparsely impressed glandular, base attenuate, margin remotely acute serrate, apex acuminate to acute. Racemes numerous, 3–15 cm; bracts needlelike to linear-lanceolate, subglabrous, base broadly cuneate, apex acuminate, to 1 mm, rarely to 4 mm in fruit; rachis subglabrous. Pedicel ca. 1 mm, to 4 mm in fruit, finely puberulent. Calyx ca. 2×2–2.6 mm, dilated to ca. 3.5×4 mm in fruit, veins minutely hispid; upper lip reflexed, teeth ovate-triangular, middle tooth shorter than lateral; lower lip erect, teeth to slightly longer than upper lip. Corolla purplish, 4–5 mm, puberulent, inside obscurely hairy annulate or without hairy annulus. Nutlets gray-brown, subglobose, 1–1.6 mm in diam., loosely netted. Fl. and fr. May–Nov.

Hills, near water; 200–2300 m. Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Sichuan, Taiwan, Yunnan, Zhejiang [Bhutan, India (Sikkim), Japan, Malaysia, Myanmar, Nepal, Pakistan, Vietnam].

Used medicinally.

11. *Mosla longibracteata* (C. Y. Wu & Hsuan) C. Y. Wu & H. W. Li, Acta Phytotax. Sin. 12: 232. 1974.

长苞芥苳 chang bao qi zhu

Orthodon longibracteatus C. Y. Wu & Hsuan, Acta Phytotax. Sin. 10: 232. 1965.

Stems 30–50 cm, retrorse minutely hispid on angles and nodes, much branched. Petiole 6–12 mm, minutely hispid; leaf blade obovate to rhombic, 1.6–3.3×0.9–1.6 cm, papery, olive green, glabrous, abaxially sparsely glandular, base attenuate, decurrent, margin crenate or crenate-serrate on upper half, apex obtuse. Racemes 6–11 cm; bracts ovate-lanceolate to lanceolate, 4–6.5×0.8–3 mm, much longer than pedicels, lower bracts sometimes leaflike. Calyx ca. 2.7×2.2 mm, dilated to 6×5 mm in fruit, puberulent, retrorse minutely hispid on veins, sparsely glandular; posterior teeth obtuse triangular, middle tooth minute; anterior teeth lanceolate, slightly longer. Corolla reddish or whitish, slightly longer than calyx, without hairy annulus inside. Nutlets yellow-brown, subglobose, ca. 1.5 mm in diam., loosely netted. Fl. Sep-Oct, fr. Nov.

- Foothills, riverbanks; 500 m. Guangxi, Zhejiang.

12. *Mosla formosana* Maximowicz, Bull. Acad. Imp. Sci. Saint Pétersbourg, sér. 3, 20: 459. 1875.

台湾茅芷 tai wan qi zhu

Mosla lysimachiiiflora Hayata; *Orthodon formosanus* (Maximowicz) Kudô; *O. lysimachiiiflorus* (Hayata) Masamune.

Stems erect, branched, subglabrous. Petiole 3–12 mm, adaxially slightly scaly puberulent; leaf blade ovate to ovate-lanceolate, 1.5–3×0.7–1.5 cm, subglabrous, abaxially sparsely impressed glandular, base broadly cuneate, margin crenate-serrate, apex obtuse to acute. Racemes 3–9 cm, finely puberulent; bracts lanceolate, 1.5–2.5 mm, subglabrous, apex acute. Pedicel 1.5–2.5 mm. Calyx ca. 2×2 mm, dilated to ca. 5×3 mm in fruit, sparsely fine glandular hairy, veins finely pilose; upper teeth triangular, obtuse, middle tooth shorter. Corolla ca. 5 mm, puberulent, without hairy annulus inside, upper lip straight. Style exerted. Nutlets yellow-brown, ovoid, ca. 1 mm, loosely netted, areolae indistinct. Fl. and fr. Oct.

Taiwan [Philippines].

