

## 82. HANCEOLA Kudô, Mem. Fac. Sci. Taihoku Imp. Univ. 2: 54. 1929.

四轮香属 *si lun xiang shu*

Herbs annual or rhizomatous perennial, sometimes with woody tubers. Leaf base cuneate-decurrent. Verticillasters 2–14-flowered, pedunculate, in elongated terminal racemes. Calyx subcampanulate, 8–10-veined; teeth 5, posterior tooth larger, apex caudate, or limb 2-lipped and lower lip 2-toothed; fruiting calyx very dilated, conspicuously veined. Corolla tube straight to arcuate, exserted, funnellform, 2-lipped, without hairy annulus, sometimes puberulent or villous inside; upper lip 2-lobed, lobes circular; lower lip 3-lobed, middle lobe longest. Stamens 4, subequal or anterior 2 longer, inserted on apical half of corolla tube; filaments complanate, glabrous or puberulent; anthers ovoid, cells 2, divaricate, becoming confluent at apex. Style as long as to longer than stamens. Disc swollen in front. Nutlets oblong, few striate, glabrous, basal scar white, apex rounded.

Six to eight species: all endemic to China.

- 1a. Stamens exserted.
  - 2a. Plants very sparsely fine strigose; anterior stamens longer ..... 5. *H. exserta*
  - 2b. Plants glabrous; anterior stamens shorter ..... 6. *H. cavaleriei*
- 1b. Stamens included or nearly so.
  - 3a. Plants robust, rhizome without woody tubers on nodes; corolla ± arcuate recurved, very dilated apically, more than 3 cm.
    - 4a. Leaves lanceolate to oblanceolate, 10–25×4–11 cm; stamens subequal ..... 1. *H. sinensis*
    - 4b. Leaves broadly ovate-cordate to ovate, 4–8×3–6 cm; anterior stamens longer ..... 2. *H. cordiovata*
  - 3b. Plants slender, rhizome with woody tubers on nodes; corolla erect, slender, less than 2.6 cm.
    - 5a. Stems solitary or numerous arising from rhizome, ascending; leaves 2.5–15×1–4.5 cm, coarsely to double serrate; corolla ca. 2.1 cm, upper lip subequal to lower lip, tube usually dilated upward, glabrous inside ..... 4. *H. flexuosa*
    - 5b. Stem erect, solitary, 20 cm tall including inflorescence; leaves 3–5.5×1.2–2 cm, irregularly shallow serrate; corolla 2.6 cm, lower lip ca. 2×as long as upper lip, tube gradually dilated above middle, pilose near base inside ..... 3. *H. tuberifera*

*Hanceola labordei* and *H. mairei* are poorly known and doubtfully belong here. They are not included in the key above, but brief descriptions are given.

**1. *Hanceola sinensis*** (Hemsley) Kudô, Mem. Fac. Sci. Taihoku Imp. Univ. 2: 54. 1929.

四轮香 *si lun xiang*

*Hancea sinensis* Hemsley, J. Linn. Soc., Bot. 26: 310. 1890.

Herbs perennial. Rhizomes thick, woody. Stems erect, solitary, 0.5–1.5 m, puberulent. Petiole 1–1.5 cm, puberulent; leaf blade lanceolate to obovate-lanceolate, 10–25×4–11 cm, adaxially sparsely minutely hispid-puberulent, ± densely so on veins, abaxially subglabrous, glandular, sparsely puberulent on veins, base attenuate to cuneate-decurrent, margin coarsely serrate-dentate, apex acuminate to caudate-acuminate. Racemes or panicles axillary and terminal, to 13 cm; bracts oblanceolate to lanceolate, margin dentate. Pedicel 0.5–7 mm; peduncle 2–5 mm. Calyx ca. 4 mm, puberulent, obscurely 10-veined; teeth triangular, apex long acuminate, posterior tooth larger; fruiting calyx to 1 cm. Corolla white, yellow, to purple, to 3.5 cm; tube arcuate, throat to 1 cm wide, puberulent outside and inside near base; upper lip ca. 3 mm; lower lip ca. 6 mm, middle lobe to 6 mm, lateral lobes 4 mm. Stamens included; filaments puberulent. Nutlets 3.5×2 mm. Fl. Jul–Aug, fr. Sep.

• Subtropical evergreen and mixed forests; 1200–2200 m. Guangxi, Guizhou, Hunan, Sichuan, Yunnan.

**2. *Hanceola cordiovata*** Sun, Contr. Biol. Lab. Chin. Assoc. Advancem. Sci., Sect. Bot. 12: 127. 1942.

心卵叶四轮香 *xin luan ye si lun xiang*

Herbs annual. Stems erect, prostrate at base, densely yellow floccose-villous. Petiole 1–6 cm; leaf blade broadly ovate-cordate to ovate, 4–8×3–6 cm, densely villous on veins,

adaxially shiny, sparsely villous, abaxially gray-green, glabrous, margin dentate or double dentate. Racemes terminal, 9–10 cm, villous; verticillasters 8–14-flowered; peduncle 4–9 mm; bracts sessile, ovate, lower to 1 cm; bracteoles 1–1.5 mm. Pedicel to 9 mm. Calyx campanulate, ca. 3.5 mm, puberulent; tube ca. 2 mm, 10-veined; teeth subequal, triangular, teeth of upper lip acuminate, middle tooth larger. Corolla funnellform, recurved, ca. 3 cm, finely puberulent, glabrous inside; tube ca. 2.2 cm; upper lip ca. 3 mm; lower lip ca. 8 mm, lobes elliptic-oblong. Anterior stamens longer than posterior, as long as lower lip; filaments puberulent at base.

• Guizhou, Sichuan.

**3. *Hanceola tuberifera*** Sun, Contr. Biol. Lab. Chin. Assoc. Advancem. Sci., Sect. Bot. 12: 123. 1942.

块茎四轮香 *kuai jing si lun xiang*

Herbs. Rhizomes with woody, moniliform tubers ca. 6 mm in diam. Stems ca. 20 cm, solitary, base glabrous, apex very densely dusty puberulent. Petiole short to obsolete; leaf blade elliptic-lanceolate to elliptic, rarely ovate, 3–5.5×1.2–2 cm, adaxially sparsely appressed puberulent, abaxially subglabrous, yellow glandular, dusty puberulent on veins, base cuneate-decurrent, margin shallowly serrate, apex long acuminate to acute. Raceme terminal, slender, ca. 11 cm, lax, dusty puberulent; verticillasters 2-flowered; peduncle ca. 2 mm; bracts lanceolate, ca. 1 mm. Pedicel ca. 6 mm. Calyx campanulate, ca. 3.2 mm, dusty puberulent, 10-veined, nearly 2-lipped; upper teeth triangular, ca. 1.4 mm, apex acute; lower teeth lanceolate, ca. 1.6 mm, apex subulate. Corolla purple, narrowly funnellform; tube slender, ± straight, ca. 2.1 cm, puberulent; upper lip ca. 2.5 mm, triangular, apex obtuse;

lower lip ca. 5 mm, middle lobe ovate, wider, reflexed; lateral lobes narrowly elliptic, straight. Stamens nearly included, anterior ca. 6 mm, posterior ca. 4 mm. Fl. Jul-Aug.

- Hills. Sichuan.

**4. *Hanceola flexuosa*** C. Y. Wu & H. W. Li, Acta Phytotax. Sin. 10: 240. 1965.

曲折四轮香 qu she si lun xiang

Herbs perennial. Rhizome nodes forming woody tubers 0.5–2 cm in diam. Stems ascending, slender, flexuous, 30–60 cm, densely dusty puberulent, leafless at base. Petiole 0.5–4 cm; leaf blade lanceolate, rarely ovate, 2.5–15×1–4.5 cm, glabrous, yellow glandular, dusty puberulent on veins, base cuneate-decurrent, margin coarsely to double serrate, apex long acuminate to acute. Racemes terminal, slender, 10–20 cm, loose, densely glandular puberulent; verticillasters 2(–6)-flowered; peduncle 1–2.5 mm; bracts lanceolate to subulate, ca. 2 mm. Pedicel 3.5–5 mm, with 1 scalelike bracteole at base. Calyx campanulate, ca. 4 mm, glandular puberulent, obscurely 10-veined, nearly 2-lipped; teeth triangular to triangular-lanceolate, apex subulate. Corolla purple, ca. 2.1 cm; tube ca. 1.8 cm, throat ca. 4 mm wide, very finely puberulent, subglabrous inside; upper lip ca. 3 mm, lobes circular; lower lip ca. 4 mm, middle lobe slightly longer, lateral lobes ca. 2 mm wide. Anterior stamens longer, included. Fl. Sep-Nov.

- Subtropical evergreen forests, streamsides. Guangxi.

**5. *Hanceola exserta*** Sun, Contr. Biol. Lab. Chin. Assoc. Advancem. Sci., Sect. Bot. 12: 125. 1942.

蕊四轮香 chu rui si lun xiang

Herbs perennial, rhizomatous. Stems prostrate-ascending, 30–50 cm, sparsely fine strigose, dark purple, much branched. Petiole 0.5–5 cm; leaf blade ovate to lanceolate, 0.5–9(–17)×0.3–3(–4.5) cm, adaxially shiny, sparsely minutely hispid, abaxially glabrous, finely puberulent on veins, base cuneate-decurrent, margin serrate, apex acute to acuminate, rarely obtuse. Raceme terminal, 6–10 cm, lax, densely puberulent, capitate glandular; verticillasters 2(–6)-flowered; peduncle ca. 2 mm; bracts lanceolate to linear, to 1.2 cm; bracteoles subulate, 1–3 mm. Pedicel 4–10 mm. Calyx campanulate, to 3 mm, glandular puberulent, obscurely 10-veined; teeth subequal, triangular, apex subulate, posterior tooth slightly larger. Corolla purple-blue, funnel-form-tubular, to 2.5 cm; tube ca. 1.9 cm, throat ca. 1 cm wide, puberulent; limb glabrous inside, upper lip ca. 3 mm; lower lip ca. 6 mm, spreading, lobes elliptic. Stamens distinctly exserted. Fl. Sep-Oct.

- Grassy shaded slopes, subtropical evergreen forests; 500–1400 m. Fujian, Guangdong, Hunan, Jiangxi, Zhejiang.

**6. *Hanceola cavaleriei*** (H. Léveillé) Kudô, Mem. Fac. Sci. Taihoku Imp. Univ. 2: 55. 1929.

贵州四轮香 gui zhou si lun xiang

*Hancea cavaleriei* H. Léveillé, Repert. Spec. Nov. Regni Veg. 9: 224. 1911.

Plants glabrous. Stems robust, grooved, slightly winged. Leaves 2–5×1–3 cm, adaxially dark green, abaxially pale, base long cuneate, decurrent, margin coarsely serrate except

entire at base, apex acuminate. Bracts lanceolate, margin dentate. Flowers violet, in loose short racemes. Calyx conspicuously 8-veined, 2-lipped, upper lip more elongated, with 2 robust teeth, lower lip 3-toothed, with middle tooth larger than lateral teeth. Corolla exserted, ca. 10×as long as calyx, tube erect or curved, lips circular, ± entire. Stamens and style nearly exserted. Nutlets conspicuously veined, ovoid, slightly scabrid. Fl. and fr. Sep (specimens not seen).

- Guizhou.

"The material is quite poor but mature calyces indicate that this species may be a *Plectranthus*." (D. R. McKean, Notes Roy. Bot. Gard. Edinburgh 40: 166. 1982). Perhaps it should be compared with *Siphonocranion*.

**7. *Hanceola labordei*** (H. Léveillé) Sun, Contr. Biol. Lab. Chin. Assoc. Advancem. Sci., Sect. Bot. 12: 123. 1942.

高坡四轮香 gao po si lun xiang

*Hancea labordei* H. Léveillé, Repert. Spec. Nov. Regni Veg. 12: 22. 1913.

Plants glabrous. Stems elongated, slender, grooved. Leaves lanceolate, ca. 10×2.5 cm, base cuneate-attenuate, margin dentate except entire basally, apex acuminate. Flowers rose. Calyx striate, teeth linear. Corolla pink, ca. 4 cm, swollen on 1 side. Nutlets ovoid, ca. 2 mm (specimens not seen).

- Guizhou (Qingyan).

**8. *Hanceola mairei*** (H. Léveillé) Sun, Contr. Biol. Lab. Chin. Assoc. Advancem. Sci., Sect. Bot. 12: 123. 1942.

龙溪四轮香 long xi si lun xiang

*Hancea mairei* H. Léveillé, Repert. Spec. Nov. Regni Veg. 11: 297. 1912.

Stems striate, glabrous. Leaves long petiolate, lanceolate, adaxially dark green, glabrous, abaxially gray, sparsely villous, margin entire except crenate apically. Flowers bluish, in terminal spicate racemes. Calyx glabrescent, veined. Corolla very short, finely pilose, tube much exserted. Style very elongated (specimens not seen).

- Yunnan (Longxi).

"The specimen is insufficient for definite identification but it bears a close resemblance to *Plectranthus macranthus* J. D. Hooker (= *Siphonocranion macranthum* (J. D. Hooker) C. Y. Wu) and may belong to that species." (D. R. McKean, Notes Roy. Bot. Gard. Edinburgh 40: 166. 1982).

