35. VERONICA STRUM Heister ex Fabricius, Enum. 111. 1759.

Botryopleuron Hemsley; Calorhabdos Bentham; Leptandra Nuttall.

Herbs, perennial. Roots usually densely yellow tomentose when young. Rhizomes short to long, rarely absent. Stems erect or arching and rooting at apex. Leaves alternate, opposite, or whorled. Inflorescences terminal or axillary, spicate. Flowers usually crowded. Calyx 5-lobed, upper lobe slightly smaller than others. Corolla 4-lobed; tube tubular, straight or slightly curved, usually with a ring of villous hairs inside, rarely glabrous; limb actinomorphic or ± 2-lipped; lobes unequal in width, upper widest, lower narrowest. Stamens 2; filaments usually basally villous, rarely glabrous, adnate to upper part of corolla tube; anther locules connivent, not confluent. Stigma small, slightly dilated. Capsule ovoid to ovoid-globose, slightly compressed laterally, 2-grooved, 4-valved. Seeds numerous per capsule.

About 20 species: E Asia, North America; 13 species in China.

1a. Stems winged; corolla tube as long as wide; corolla lobes as long as tube.
   2a. Stems ca. 100 cm tall; leaf blade oblong, ovate, or lanceolate .................................  10. V. caulopterum
   2b. Stems 15–30 cm tall; leaf blade linear to elliptic .................................................. 11. V. formosanum

1b. Stems terete or angular (but usually winged in V. brunonianum subsp. sutchuense); corolla tube longer than wide; corolla lobes shorter than tube (equal to tube in V. rhombifolia and V. axillare).
   3a. Corolla slightly to conspicuously 2-lipped, lower lobes ± reflexed, upper often galeate; seed coat transparent.
      4a. Stems herbaceous, erect; leaves sessile, narrowly elliptic; corolla conspicuously 2-lipped, lower lobes strongly reflexed .............................................................................................................  1. V. brunonianum
      4b. Stems ± woody, climbing; leaves petiolate, blade ovate to ovate-lanceolate; corolla slightly 2-lipped, lower lobes not strongly reflexed .............................................................................................................  2. V. yunnanense

3b. Corolla actinomorphic, lobes straight; seed coat not transparent.
   5a. Inflorescences terminal on main stems; flowers pedicellate; leaves sessile.
      6a. Leaves in whorls of 4–6, oblong to broadly linear, 1.5–4.5 cm wide ...........................  12. V. sibiricum
      6b. Leaves alternate, linear, ca. 0.6 cm wide .................................................................. 13. V. tubiflorum
   5b. Inflorescences axillary or terminal on branches (sometimes terminal on main stem in V. stenostachyum); flowers sessile; leaves short petiolate to subsessile.
      7a. Bracts ovate-ornicular or ovate-lanceolate; corolla tube subglabrous inside ...............  8. V. robustum
      7b. Bracts linear-lanceolate to subulate; corolla tube with a ring of villous hairs inside.
         8a. Leaves rhomboid, rarely rhomboid-ovate; corolla lobes 1/3–1/2 of corolla length 9. V. rhombifolium
         8b. Leaves not rhomboid (rhomboid-ovate in V. villosulm); corolla lobes 1/6–1/4 of corolla length (1/3–1/2 in V. axillare).
      9a. Ovaries and young fruit hairy; inflorescence axes, bracts, and calyx lobes densely capitate glandular or hispidulous ..................................................................................  3. V. longispicatum
      9b. Ovaries and young fruit glabrous; inflorescence axes, bracts, and calyx lobes not densely capitate glandular (bracts and calyx lobes sometimes densely pubescent in V. villosulm
         var. villosulm and var. hirsutum).
         10a. Corolla lobes 1/3–1/2 of corolla length; stems angular in middle and apically 6. V. axillare
         10b. Corolla lobes 1/6–1/4 of corolla length; stems terete, sometimes apically angular.
            11a. Inflorescences less than 1.5 cm .................................................................  7. V. villosulm
            11b. Inflorescences 1.5–8 cm.
               12a. Leaves narrowly ovate to lanceolate, 7–20 cm .................................  4. V. stenostachyum
               12b. Leaves ovate-ornicular to orbicular, 4–7 cm .................................  5. V. latifolium

  美穗草 mei sui cao

Rhizomes to 10 cm. Stems herbaceous, erect, 30–150 cm tall, terete, wingless or rarely winged, basally glabrous, apically with multicellular glandular hairs; branches rarely developed. Leaves alternate, sessile,
narrowly elliptic, 10–20 × 3–5 cm, glabrous or adaxially sparsely puberulent, base cuneate to ± rounded and sometimes slightly amplexicaul, margin dentate to serrate, apex acuminate to caudate-acuminate. Inflorescences terminal, often 1, occasionally 2 or more, long caudate, axis densely glandular with multicellular hairs. Corolla white, yellow-white, grayish yellow, or orange-yellow, 6–8 mm, arching 30° forward; tube apically hairy inside; limb 2–3 mm, conspicuously 2-lipped, unequally lobed; lower lip linear-lanceolate, reflexed; upper lip 3-lobed, middle lobe ovate-orbicular and straight or ± galeate, lateral lobes erect or reversed toward lateral-posterior position. Stamens ± exserted; filaments hairy or sometimes glabrous; anthers to 2.5 mm. Capsule ovoid-globose, ca. 0.5 mm; seed coat thin, transparent, conspicuously reticulate. Fl. May–Aug.


1a. Stems wingless; filaments hairy ........................................... 1a. subsp. brunonianum

1b. Stems usually winged; filaments mostly glabrous ................................. 1b. subsp. sutchuenense

1a. Veronicastrum brunonianum subsp. brunonianum

1b. Veronicastrum sutchuenense

Calorhabdos brunoniana Bentham, Bot. Reg. 21: ad t. 1770. no. 72. 1835.


1a. Veronicastrum brunonianum subsp. brunonianum


Plants rhizomatous. Stems basally ± woody, erect, rarely trailing, to 1 m tall, terete, apically narrowly angular, glabrous to densely with yellow short curly hairs. Leaves alternate; petiole short; leaf blade ovate to ovate-lanceolate, 8–18 × 3–9 cm, papery to leathery, glabrous or abaxially sparsely puberulent, base rounded to rarely cordate, margin deltoid dentate, apex acuminate to caudate-acuminate. Inflorescences axillary, sometimes terminal, 3–10 cm, densely glandular hairy or hispidulous (sometimes excluding corolla); bracts narrow. Calyx much shorter than corolla; lobes subulate. Corolla white or purple, 5–6 mm, slightly curved forward, glabrous or glandular hairy outside; limb actinomorphic; lobes ca. 1/4 of corolla length, narrowly triangular. Stamens conspicuously exserted; filaments basally hairy. Ovary entirely or apically glandular hairy. Capsule ovoid, ca. 3 mm, hairy when young. Seeds ovoid-globose, ca. 0.5 mm; seed coat obscurely reticulate. Fl. Jul–Sep.


Plants rhizomatous. Stems erect or arching, glabrous or hairy. Leaves alternate; petiole short; leaf blade ovate to lanceolate, 7–20 cm, membranous to papery, apex narrowly acuminate. Inflorescences terminal, 3–6 cm, capitate glandular. Corolla white or blue, 5–6 mm, slightly arching forward; tube sparsely hairy inside; limb slightly 2-lipped, unequally lobed; lower lip 1-lobed, broadly linear, often reflexed; upper lip 3-lobed, middle lobe ± galeate. Stamens exserted; filaments basally hairy. Capsule ca. 2.5 mm. Seeds ovoid; seed coat thin, transparent, conspicuously reticulate. Fl. May–Aug.


云南腹水草 yun nan fu shui cao


- Scrub, forests, forest margins; below 1300 m. NW Fujian, N to NE Guizhou, W Hubei, Hunan, Jiangxi, S Shaanxi, Sichuan.

1a. Stems erect, branched ..... 4b. subsp. nanchuanense
1b. Stems usually arching, simple.
   2a. Stems glabrous ..... 4a. subsp. stenostachyum
   2b. Stems sparsely with yellow curly hairs ................................ 4c. subsp. pluknetii

4a. Veronicastrum stenostachyum subsp. stenostachyum

Stems more than 1 m, mostly arching and rooting apically, rarely erect, angular, glabrous. Leaf blade narrowly ovate to lanceolate. Inflorescences axillary, sometimes terminal on leafy branches, rarely also on main stems. Bracts and calyces shorter than or rarely as long as corolla, sparsely ciliate. Corolla white, purple, or purple-red. Fl. Jul–Aug.

4b. Veronicastrum stenostachyum subsp. nanchuanense


- Sichuan (Nanchuan Xian).

4c. Veronicastrum stenostachyum subsp. pluknetii

Stems arching and rooting apically, sparsely with yellow short curly hairs. Leaf blade narrowly ovate to ovate-lanceolate, 9–16 × 3–6 cm, membranous to papery. Inflorescences 1.5–5 cm. Bracts and calyx lobes subulate, ciliate or glabrous. Fl. Jul–Aug.

- NW Fujian, NE Guizhou, Hubei (Xingshan Xian), Hunan, Jiangxi.


Stems more than 1 m, apically arching and rooting, terete, apically narrowly angular, usually with yellow, short curly hairs, rarely glabrous. Leaves alternate; petiole short; leaf blade ovate-orbicular to orbicular, 4–7 × 2–5 cm, usually sparsely hispidulous, rarely glabrous, base rounded, truncate, or broadly cuneate, margin deltoid dentate, apex short acuminate. Inflorescences axillary, rarely also terminal, 1.5–4 cm; bracts narrow, ciliate. Calyx lobes ciliate. Corolla pale purple or white, ca. 5 mm, straight, limb actinomorphic; lobes deltoid, less than 1 mm. Stamens conspicuously exserted; filaments hairy. Capsule ovoid, 2–3 mm. Seeds ovoid-globose, ca. 0.3 mm; seed coat reticulate. Fl. Aug–Sep.

- Forests, thickets, sometimes hanging from rocks; 300–500 m. Guizhou, Hubei, Hunan, C to E Sichuan.


Stems arching and rooting apically, basally terete, angular in middle and apically, glabrous, rarely sparsely hairy on angles. Leaves alternate; petiole short; leaf blade ovate to ovate-lanceolate, 5–12 cm, papery, glabrous, margin obliquely deltoid dentate, apex acuminate. Inflorescences axillary, rarely terminal, 1–3 cm. Bracts and calyx lobes linear-lanceolate to subulate, glabrous or ciliate. Corolla purple to purple-red, 4–5 mm, straight; limb actinomorphic; lobes ca. 2 mm, narrowly triangular. Stamens slightly to conspicuously exserted, exceeding corolla by ca. 2 mm; filaments hairy; anthers 0.6–1.5 mm. Capsule ovoid-globose, ca. 3 mm. Seeds oblong, ca. 0.6 mm; seed coat obscurely reticulate. Fl. Jul–Sep.

- Forests, grasslands at forest margins, shaded places in valleys; low elevations. Anhui (Shucheng Xian), Fujian, Guangdong (Ruyuan Yao Zizhi Xian), S Jiangsu, Jiangxi, Taiwan (Xinzhu Xian), Zhejiang [Japan].


Stems arching and rooting apically, terete, sometimes apically narrowly angular. Leaves alternate; petiole short; leaf blade rhomboid-ovate, 4–15 × 1.5–7 cm, glabrous or hairy, base mostly broadly cuneate to rarely rounded, margin dentate, apex acute to acuminate. Inflorescences capitulate, axillary, 1–1.5 cm; bracts lanceolate, as long as or shorter than corolla, ciliate. Calyx shorter than bracts; lobes subulate. Co-

Veronicastrum villosulum var. villosulum 毛叶腹水草 (原变种) mao ye fu shui cao (yuan bian zhong)

Veronicastrum villosulum var. parviflorum


Veronicastrum robustum subsp. grandifolium

Veronicastrum robustum subsp. robustum


Taiwan fu shui cao


Rhizomes short. Stems often erect, ca. 50 cm tall, rarely trailing and rooting and ca. 1 m, angular, wingless, with multicellular hirsute hairs. Leaves alternate: petiole short; leaf blade often rhomboid, rarely rhomboid-ovate, 4–6 × 1.5–3 cm, papery, with multicellular hispid hairs, sometimes abaxially purple, margin serrate to crenate. Inflorescences axillary, sometimes surrounded by several leafy involucrate bracts and appearing terminal, 1–3 cm, horizontal or pendulous in fruit. Bracts and calyx lobes lanceolate to subulate, densely ciliate, slightly shorter or as long as corolla. Corolla red, purple-red, or dark purple, 4–5 mm; tube tubular, straight; limb actinomorphic; lobes subulate-triangular, 1/3–1/2 of corolla length. Stamens conspicuously exserted; filaments hairy. Capsule ovoid, 3–4 mm. Seeds ovoid-globose, ca. 0.4 mm; seed coat reticulate. Fl. Aug–Sep.


四方麻


Stems erect, ca. 1 m tall, branched, with wings ca. 1 mm wide, glabrous. Leaves alternate, subsessile or petiole ca. 4 mm; leaf blade oblong, ovate, or lanceolate, 3–10 × 1.2–4 cm. Inflorescences terminal on main stems and on leafy branches; bracts long caudate. Pedicel less than 1 mm. Calyx lobes subulate-lanceolate, ca. 1.5 mm. Corolla red, purple-red, or dark purple, 4–5 mm; tube as long as limb; limb ± actinomorphic; upper lobes ovate-orbicular, lower lobes lanceolate. Stamens slightly exserted; filaments hairy. Capsule ovoid to ovoid-globose, 2–3.5 mm. Fl. Aug–Nov.


Stems erect, 15–30 cm tall, simple or branched, winged, glabrous. Leaves alternate, sub sessile to short petiolate; leaf blade broadly linear to elliptic, 4–11 × 0.5–2 cm, glabrous, base attenuate, margin serrate to dentate and with ascending teeth tips, apex acute to acuminate. Racemes terminal on main stems and leafy branches, 1.5–4.5 cm; bracts subulate-lanceolate, 3–5 × ca. 1 mm. Calyx glabrous; lobes subulate-lanceolate, 3–4 × ca. 1 mm. Corolla greenish to yellowish or purplish, ca. 3 mm, pubescent; tube as long as limb; limb actinomorphic. Stamens nearly as long as corolla; filaments hairy. Capsule ovoid-globose, 3–4 mm, glabrous. Fl. Jul–Aug.


草本威灵仙


Rhizomes horizontal, to 13 cm, internodes short. Stems erect, simple, terete, glabrous or sparsely villous and with multicellular hairs. Leaves in whorls of 4–6, sessile, oblong to broadly linear, 8–15 × 1.5–4.5 cm, glabrous or sparsely hirsute and with multicellular hairs. Inflorescences terminal; bracts long caudate, glabrous. Calyx less than 1/2 as long as corolla; lobes subulate. Corolla red-purple, purple, or pale purple, 5–7 mm; tube tubular, straight, apically hairy inside; limb actinomorphic; lobes 1.5–2 mm. Capsule ovoid, ca. 3.5 mm. Seeds ellipsoid. Fl. Jul–Sep.


管花腹水草


Rhizomes absent. Stems erect, 40–70 cm tall, simple, terete, apically villous. Leaves alternate, sessile, linear, 3–9 × ca. 0.6 cm, papery, abaxially densely villous, adaxially hispidulous, glabrescent, margin sparsely serrate, 1-veined. Inflorescences terminal, single, 5–15 cm, axis and pedicels sparsely villous. Calyx lobes lanceolate, ca. 1.5 mm, short ciliate. Corolla blue to pale red, ca. 6 mm; tube tubular, straight, apically hairy inside; limb actinomorphic; lobes ca. 1/4 of corolla length. Capsule ovoid, 2–2.5 mm, apex acute. Fl. Jun–Aug.

Veronicastrum kitamurae Ohwi; Veronicastrum kitamurae (Ohwi) T. Yamazaki.

Stems erect, 15–30 cm tall, simple or branched, winged, glabrous. Leaves alternate, sub sessile to short petiolate; leaf blade broadly linear to elliptic, 4–11 × 0.5–2 cm, glabrous, base attenuate, margin serrate to dentate and with ascending teeth tips, apex acute to acuminate. Racemes terminal on main stems and leafy branches, 1.5–4.5 cm; bracts subulate-lanceolate, 3–5 × ca. 1 mm. Calyx glabrous; lobes subulate-lanceolate, 3–4 × ca. 1 mm. Corolla greenish to yellowish or purplish, ca. 3 mm, pubescent; tube as long as limb; limb actinomorphic. Stamens nearly as long as corolla; filaments hairy. Capsule ovoid-globose, 3–4 mm, glabrous. Fl. Jul–Aug.