

9. **AXYRIS** Linnaeus, Sp. Pl. 2: 979. 1753.

轴藜属 zhou li shu

Herbs annual, covered with stellate hairs. Stems decumbent, ascending, or erect. Leaves alternate, petiolate; leaf blade flattened, lanceolate to ovate, margin entire. Flowers unisexual (plants monoecious). Male flowers sessile, several glomerulate in axils of upper branches and forming a spike; bracts and bractlets absent; perianth segments 3–5, obovate or elliptic, membranous, densely stellate pubescent abaxially, without appendages; disk absent; stamens 2–5; filaments linear; anthers broadly oblong; ovary rudimentary. Female flowers inserted on petiole of bract; bracts green, elliptic, midvein abaxially prominent; bractlets absent; perianth segments 3 or 4, membranous, without appendages, enlarged in fruit; ovary ovoid; style short; stigmas 2. Fruit a utricle, compressed, ellipsoid or ovoid, glabrous or wrinkled, usually with a crestlike appendage. Seed vertical; embryo semi-annular; radicle inferior; perisperm copious.

About six species: Asia, SE Europe; three species in China.

- 1a. Plants small; stems decumbent; petiole almost as long as leaf blade; leaf blade 0.5–1 cm; male inflorescences capitate; utricle obovoid, apical appendages small or obscure 3. *A. prostrata*
- 1b. Plants large; stems erect, branches obliquely spreading or ascending; petiole much shorter than leaf blade; leaf blade 0.5–7 cm; male inflorescences spicate; utricle narrowly ellipsoid, ovoid, or broadly ellipsoid-obovoid, apical appendages small or larger and forming a crest.
 - 2a. Leaf blade lanceolate, 3–7 cm; utricle narrowly ellipsoid or ovoid, compressed, not encircled by wrinkles though sometimes marked with lines, apical appendages larger, forming an emarginate crest 1. *A. amaranthoides*
 - 2b. Leaf blade ovate, elliptic, or oblong-lanceolate, 0.5–3.5 cm; utricle broadly ellipsoid-obovoid, encircled by wrinkles, apical appendages small, triangular 2. *A. hybrida*

1. **Axyris amaranthoides** Linnaeus, Sp. Pl. 2: 979. 1753.

轴藜 zhou li

Axyris amaranthoides f. *dentata* (Baranov) Kitagawa; *A. amaranthoides* var. *dentata* Baranov.

Plants 20–80 cm tall. Stems erect, stout, slightly striate; branches mostly borne above middle, slender, 3–13 cm. Leaves shortly petiolate; leaf blade lanceolate, 3–7 × 0.5–1.3 cm, abaxially stellate hairy, later glabrous, base attenuate, margin entire, apex acuminate; veins prominent. Upper leaves and bracts smaller, narrowly lanceolate or narrowly ovate, ca. 10 × 2–3 mm, margin usually involute. Male flowers: perianth segments usually 3, narrowly oblong, abaxially densely stellate pubescent, margin involute, apex acute; stamens 3, exerted. Female flowers: perianth segments 3, membranous, abaxially densely hairy; central segment smaller, oblong; lateral segments broadly ovate, larger, apex entire or slightly emarginate. Utricle gray-black, narrowly ellipsoid or ovoid, compressed, 2–3 mm, sometimes marked with lines, glabrous, with an apical, emarginate, crestlike appendage. Fl. and fr. Aug–Sep.

Grasslands, slopes, sandy places, wastelands, riversides, fields, roadsides. Gansu, Hebei, Heilongjiang, Jilin, Liaoning, Nei Mongol, Qinghai, Shaanxi, Xinjiang [Japan, Kazakhstan, Korea, Mongolia, S Russia; occasionally introduced in Europe and North America].

2. **Axyris hybrida** Linnaeus, Sp. Pl. 2: 980. 1753.

杂配轴藜 za pei zhou li

Axyris amaranthoides f. *nana* (W. Wang & P. Y. Fu) Kitagawa; *Axyris amaranthoides* var. *nana* W. Wang & P. Y. Fu.

Plants 5–40 cm tall. Stems erect, branched from base; branches often obliquely spreading or ascending, stellate hairy

when young. Petiole shorter than leaf blade; leaf blade ovate, elliptic, or oblong-lanceolate, 0.5–3.5 × 0.2–1 cm, hairy on both surfaces, base cuneate or attenuate, margin entire, apex obtuse or acuminate; veins prominent abaxially. Male flowers: perianth segments 3, oblong, membranous, abaxially hairy, base attenuate, apex obtuse; stamens 3, exerted. Female flowers: perianth segments 3. Utricle broadly ellipsoid-obovoid, 1.5–2 × ca. 1.5 mm, encircled by wrinkles, with 2 small, triangular appendages apically. Fl. and fr. Jul–Aug.

Slopes, sand dunes, exposed river mud, field margins, roadsides. Gansu, Hebei, Heilongjiang, Henan, Nei Mongol, Qinghai, Shanxi, Xinjiang, Xizang, Yunnan [Kashmir, Mongolia, Nepal, SE Russia; C and SW Asia].

3. **Axyris prostrata** Linnaeus, Sp. Pl. 2: 980. 1753.

平卧轴藜 ping wo zhou li

Axyris pamirica B. Fedtschenko; *A. prostrata* f. *ovatifolia* T. P. Soong.

Plants 2–14 cm tall. Stems and branches prostrate or ascending, densely stellate pubescent. Petiole nearly as long as leaf blade; leaf blade broadly elliptic, ovate, or suborbicular, 0.5–1.5 × 0.4–0.9 cm, stellate hairy, base cuneate-attenuate, margin entire, apex rounded, mucronulate; midvein obscure. Male flowers in subcapitate inflorescences; perianth segments 3(or 5), obovate, membranous, abaxially densely hairy; stamens 3 or 5, exerted. Female flowers: perianth segments 3, membranous, hairy; ovary ovoid, compressed; style short; stigmas 2, slender. Utricle globose or obovoid, compressed, encircled by wrinkles, apical appendages 2, small or obscure. Fl. and fr. Jul–Aug.

High-elevation valleys, terraces, rocky slopes. Qinghai, Xinjiang, Xizang [Mongolia, Nepal, Russia (S Siberia), Sikkim, Tajikistan].

