

2. LANDOLTIA Les & D. J. Crawford, Novon 9: 532. 1999.

兰氏萍属 lan shi ping shu

Fronds free floating, 1–10 coherent together, shiny green on upper surface, often red on lower surface, outline usually asymmetric, flat or gibbous; 2 basal lateral pouches for reproducing daughter fronds and flowers present, bases of pouches surrounded by small membranous scale covering bases of roots; veins (3–)5–7, splitting from node toward apex, often visible on upper surface. Pigment cells present (visible in dried fronds as brown dots). Roots (1 or)2–7(–12), surrounded by a tubular sheath at base, enclosed by a rounded or pointed cap at apex. Daughter fronds connected to mother frond by thin white stipe. Flower surrounded by a small, utricular, membranous scale with a slit on one side (rarely on two sides); stamens 2, 4-locular. Seeds 1(or 2), ribbed longitudinally.

One species: possibly native to SE Asia and Australia, now invaded to Nearctic, Afrotropical, and Neotropical regions.

1. *Landoltia punctata* (G. Meyer) Les & D. J. Crawford, Novon 9: 532. 1999.

兰氏萍 lan shi ping

Lemna punctata G. Meyer, Prim. Fl. Esseq. 262. 1818; *L. oligorrhiza* Kurz; *Spirodela oligorrhiza* (Kurz) Hegelmaier; *S. punctata* (G. Meyer) C. H. Thompson; *S. sichuanensis* M. G. Liu & K. M. Xie.

Fronds obovate to elliptic, 1.5–8 mm, 1.5–3 × as long as wide, flat or gibbous, usually with papillae on upper surface along midvein. Roots (1 or)2–7(–12), all perforating scale, 0.5–7 cm. Turions not seen. Ovary with 1 or 2 ovules. Fruit laterally

winged toward apex. Seed with 10–15 distinct ribs. Fl. (rare) Jun–Sep. $2n = 40^*$, 46, 50.

Ponds, lakesides, pools, ditches; in regions with mild winters and not very hot summers; sea level to 2400 m. Fujian, Henan, Hubei, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang [India, Indonesia, Japan, Malaysia, Philippines, Thailand, Vietnam; Africa, Australia, North and South America, Pacific islands].

Spirodela sichuanensis was thought to be distinct from *Landoltia punctata* (as *S. punctata*) by its utricular scale surrounding the flower having two lateral slits instead of one as in *L. punctata*. However, two slits can be occasionally observed from various geographical races of *L. punctata*. Due to the rarity of flowering, the frequency of this character is hard to estimate. In general, all the vegetative characters of *S. sichuanensis* are included in the range of morphological variation of *L. punctata*.

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