
珍珠花属 zhen zhu hua shu
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Xolisma Rafinesque.

Shrubs or trees, deciduous or evergreen, often from underground woody burl or producing thickened horizontal underground rhizomes. Buds flattened, conical or ovoid, usually with 2 large imbricate glabrous scales. Leaves spirally arranged, petiolate; leaf blade entire [toothed in United States]. Inflorescences axillary, racemose. Flowers [4- or]5–8-merous. Calyx with variously estimated lobes, usually valvate in bud. Corolla white [to red], tubular or urceolate; lobes short. Filaments flattened, geniculate, with or without 1 pair of spurs at anther-filament junction; anthers dehiscing by introrse-terminal elliptic pores. Ovary superior, with many ovules per locule; stigma truncate. Capsule loculicidal, with pale ± thickened sutures sometimes separating from valves in dehiscence. Seeds oblong-ovoid or spindle-shaped to shortly linear, minute, ends often truncated.

Thirty-five species: E Asia, North America; five species (two endemic) in China.

1a. Capsule with slightly thickened sutures; leaves 1.5–7 × 0.6–4 cm, apex obtuse, mucronate.

2a. Filaments with 2 spurs near apex; inflorescences 6–15 cm; rachis sparsely to densely pubescent; ovary pubescent ........................................................................................................ 4. L. compta

2b. Filaments without spurs; inflorescences 1–4(–7) cm; rachis densely fulvous-pubescent; ovary glabrous to pubescent ........................................................................................................ 5. L. villosa

1b. Capsule with much thickened sutures; leaves 4–20 × 2.5–12 cm, apex acuminate to abruptly acuminate.

2a. Calyx lobes 6–11 mm; filaments without spurs; inflorescences 2–7 cm; leaf blade usually leathery ............ 3. L. macrocalyx

2b. Calyx lobes 2–6 mm; filaments with 2 spurs near apex; inflorescences 5–20 cm; leaf blade usually papyery.

3a. Rachis of inflorescences, pedicels, and abaxial surface of calyx pubescent; leaf blade apically usually acuminate ........................................................................................................ 1. L. ovalifolia

3b. Rachis of inflorescences, pedicels, and abaxial surface of calyx glabrous; leaf blade apically usually abruptly acuminate ........................................................................................................ 2. L. doyonensis


珍珠花 zhen zhu hua

Shrubs or trees, deciduous or evergreen, 1–4 m tall. Twigs glabrous or pubescent. Buds narrowly ovoid, (1–)3–9(–11.5) mm, glabrous. Petiole 4–9 mm, glabrous or pubescent; leaf blade ovate, narrowly to broadly elliptic, lanceolate, or suborbicular, 3–20 × 2–12 cm, papery to thinly leathery, both surfaces ± with white or brown hairs, rarely abaxially densely white villous on midvein or subglabrous, veins prominently raised to slightly depressed or nearly obscure, base obtuse, cuneate, or sometimes cordate, apex acuminate. Inflorescences 5–20 cm, pubescent; lower 1–3(4 or 5) bracts leaflike or not. Pedicel 2–10 mm, densely pubescent. Calyx lobes oblong or triangular, 2–6 mm, densely or sometimes sparsely pubescent. Corolla tubular, 8–11 mm, abaxially densely pubescent; lobes ca. 1 mm. Filaments 5–8 mm, pilose, with 2 spurs at apex. Ovary glabrous or pubescent. Capsule globose or ovoid, 3–5 mm in diam., with thick sutures or not, glabrous to densely pubescent. Fl. May–Jun, fr. Jul–Sep. 2n = 24*.

Forests, forest margins, thickets, mountains, open and dry slopes, near hot springs, ravines; 200–3400 m. Anhui, Fujian, S Gansu, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangsu, Jiangxi, Shaanxi, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang [Bangladesh, Bhutan, Cambodia, India, Japan, Laos, Malaysia, Myanmar, Nepal, Pakistan, Sikkim, Thailand, Vietnam].

The leaf blade shape and indumentum are highly variable.

1a. Ovary and capsule densely pubescent.

2a. Twigs, petioles, and leaf blades abaxially and inflorescences ± pubescent .... 1c. var. hebecarpa

2b. Twigs, petioles, and leaf blades abaxially and inflorescences densely tomentose ...................... 1f. var. tomentosa

1b. Ovary and capsule glabrous.

3a. Leaf blade abaxially white villous, especially densely so on midvein, base rounded or cuneate to cordate ............ 1d. var. elliptica

3b. Leaf blade abaxially ± sparsely white or brown pubescent, base narrowly cuneate to cordate.

4a. Filaments with inconspicuous spurs, 0.1–0.3 mm; inflorescences usually without leaflike bracts ........... 1b. var. rubrovenia

4b. Filaments with distinct spurs, ca. 0.5 mm; inflorescence with leaflike bracts.

5a. Leaves ovate or elliptic, rarely suborbicular; calyx lobes triangular ..................... 1a. var. ovalifolia

5b. Leaves elliptic-lanceolate to lanceolate; calyx lobes lanceolate ......... 1c. var. lanceolata

1a. Lyonia ovalifolia var. ovalifolia

珍珠花(原变种) zhen zhu hua (yuan bian zhong)


Leaf blade ovate or elliptic, (4–)8–10(–21) × (2–)4–6
Leaf blade elliptic or ovate, 3.5–10.5 × 1.8–6 cm, abaxially villous, especially on midvein, base rounded to cordate or broadly cuneate, apex acute to long acuminate, sometimes curved. Inflorescences with leaflike bracts. Filaments with 2 distinct spurs. Capsule sutures quite thick.

Forests, forest margins, mountains, dry slopes, near hot springs; 1000–2700 m. Taiwan [Japan].

1e. Lyonia ovalifolia var. hebecarpa (Franchet ex Forbes & Hemsley) Chun, Sunyatsenia 4: 253. 1940.

毛果珍珠花 mao guo zhen zhu hua


Leaf blade ovate to elliptic-ovate, 5–12 (–15) × (2.3–)3–6 (–8) cm, abaxially sparsely or densely pubescent, base rounded to cordate, apex acuminate to long acuminate. Inflorescences usually with leaflike bracts. Filaments with 2 distinct spurs. Capsule globose, 3–4 mm in diam., with thickened sutures, densely pubescent.

- Pinus and Quercus forests, forest margins, thickets, open and dry slopes; 200–3400 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hubei, Jiangsu, Jiangxi, Shaanxi, Sichuan, Yunnan, Zhejiang.


绒毛珍珠花 rong mao zhen zhu hua


Twigs, petioles, leaf blades abaxially, and inflorescences densely tomentose. Leaf blade elliptic, 4–8 × 2.5–5 cm, adaxially pubescent, base obtuse to rounded, apex abruptly acuminate. Inflorescences with leaflike bracts. Filaments with 2 distinct spurs. Capsule unknown.

- Ravines; ca. 1700 m. NC Yunnan (Yongren).


圆叶珍珠花 yuan ye zhen zhu hua


Trees or shrubs, deciduous, 2–6 (–15) m tall. Twigs glabrous, rarely puberulous. Buds (1–)4–7 (–11) mm, glabrous. Petiole 0.8–1.5 cm, glabrous or pubescent; leaf blade orbicular, oblone-orblicular, or oblone-elliptic, 6–15 × 4–10 cm, papery to thinly leathery, abaxially brown appressed-pubescent, especially on midvein and secondary veins, adaxially subglabrous, veins strongly raised abaxially, slightly raised adaxially, base obtuse-rounded, often shallowly cordate, apex rounded then abruptly acuminate. Inflorescences 7–17 cm, glabrous; lower 2 or 3 bracts leathlike. Pedicel 2.4 mm, glabrous. Calyx lobes triangular, 2–3 mm, glabrous. Corolla tubular, 1–1.2 cm, abaxi-

- Evergreen forests, ravines; 2000–3000 m. NW Yunnan.


大雰珍珠花 da e zhen zhu hua


Shrubs or small trees, semievergreen to deciduous, 1–2(–4) m tall. Twigs puberulous, glabrescent. Buds flattened-ovoid, 7–9 mm, glabrous. Petiole 2–10 mm, pubescent; leaf blade ovate or elliptic, 4–10 × 2.5–5 cm, leathery, abaxially with short dense fulvous hairs, adaxially glabrous, veins raised abaxially, impressed adaxially, base obtuse-rounded to broadly cuneate or shallowly cordate, apex acuminatum or obtuse-rounded. Inflorescences 2–7 cm, glabrous; bracts leaflike. Pedicel 5–10 mm, pubescent. Calyx 5(–8)-lobed; lobes broadly ovate, 6–11 mm, leathery, abaxially with sparse or dense fulvous hairs or subglabrous. Corolla urceolate, 6–10 mm, abaxially sparsely fulvous-pubescent; lobes 1–2 mm. Filaments 5–10 mm, pilose, without spurs. Ovary glabrous. Capsule globose, 5–7 mm in diam., with thick sutures, glabrous. Fl. Jul–Aug, fr. Aug–Sep.

_Abies_ forests, cliffs in rain forests, forest margins, thickets; 1800–3500 m. SE Xizang, NW Yunnan [Myanmar].


秀丽珍珠花 xiu li zhen zhu hua


Shrubs evergreen, ca. 2 m tall. Twigs pubescent, glabrescent. Buds ovate, (1–)2–3(–4) mm, pubescent. Petiole 1–2 mm, pubescent; leaf blade elliptic, 1.5–3.5 × 0.6–1.1 cm, leathery, abaxially glaucous, sparsely pubescent or subglabrous, axially pubescent to glabrous, midvein and secondary veins inconspicuous, base broadly cuneate to rounded, apex obtuse, mucronate. Inflorescences terminal, sometimes also axillary, 6–15 cm, pubescent; bracts leaflike near base of raceme, smaller apically. Pedicel ca. 1 cm, pubescent, also with long headed hairs. Calyx lobes ovate-lanceolate, 1–2.5 mm, abaxially pubescent. Corolla urceolate, 4–6 mm, abaxially white pubescent; lobes ca. 0.8 mm. Filaments 0.5–2(–3.5) mm, pilose, with 2 spurs at apex. Ovary pubescent. Capsule subglobose, 3–4 mm in diam., with slightly thickened sutures, moderately to densely pubescent. Fl. Jun–Jul, fr. Aug–Oct.

- Forest margins, sunny thickets, marshy places; 1000–2500 m. Guizhou, Yunnan.


毛叶珍珠花 (原变种) mao ye zhen zhu hua (yuan bian zhong)

Shrubs or small trees, deciduous, 1–3 m tall. Twigs, pubescent, glabrescent. Buds narrowly ovoid, 1–13 mm, glabrous. Petiole 3–6 mm, pubescent; leaf blade oblong-ovate, oblone-obovate, or ovate, 1.5–7 × 1–4 cm, papery to subleathery, abaxially villous or pubescent on veins or sometimes subglabrous, adaxially sparsely pubescent on veins, otherwise glabrous, veins raised abaxially, midvein impressed adaxially, base broadly cuneate to rounded or subcordate, apex obtuse, rarely shortly acuminate, mucronate. Inflorescences (0.5–)1–4(–7) cm, densely fulvous-pubescent, rarely glabrous; bracts leaflike. Pedicel 3–5 mm, densely pubescent to glabrous. Calyx lobes oblong or narrowly lanceolate to linear, 3–4 mm, pubescent, also with glandular hairs. Corolla urceolate to tubular, 5–8 mm, abaxially pubescent; lobes ca. 0.5 mm. Filaments ca. 4 mm, pilose, without spurs. Ovary glabrous to pubescent. Capsule ovoid, with thick sutures, glabrous or rarely sparsely pubescent. Fl. May–Aug, fr. Sep–Oct.

_Abies, Betula, Picea, Pinus, Rhododendron_, or mixed forests, thickets; 1000–3900 m. Guizhou, Sichuan, SE Xizang, Yunnan [Blutan, NE India, Myanmar, Nepal, Sikkim].

1a. Inflorescences 1–7 cm; rachis and pedicels ± pubescent; corolla urceolate to tubular ....... 5a. var. _villosa_

1b. Inflorescences (0.5–)1–3 cm; rachis and pedicels usually glabrous or sparsely pubescent; corolla urceolate .............. 5b. var. _sphaerantha_

5a. **Lyonia villosa** var. _villosa_

毛叶珍珠花(原变种) mao ye zhen zhu hua (yuan bian zhong)

Inflorescences 1–7 cm; rachis and pedicels ± pubescent. Corolla urceolate to tubular.

*Abies, Betula, Picea, Pinus, Rhododendron,* or mixed forests, thickets; 1000–3900 m. Guizhou, Sichuan, SE Xizang, Yunnan [Bhutan, NE India, Myanmar, Nepal, Sikkim].


光叶珍珠花 guang ye zhen zhu hua


Inflorescences (0.5–)1–3 cm; rachis and pedicels usually glabrous or sparsely pubescent. Corolla urceolate.

*Abies, Betula, Picea, Pinus, or Rhododendron* forests, thickets; 2000–3800 m. Sichuan, SE Xizang, Yunnan [Myanmar].