

11. PYRACANTHA M. Roemer, Fam. Nat. Syn. Monogr. 3: 104, 219. 1847.

火棘属 huo ji shu

Gu Cuizhi (谷粹芝 Ku Tsue-chih); Stephen A. Spongberg

*Sportella* Hance.

Shrubs or small trees, evergreen, usually with thorny branches; buds small, pubescent. Leaves simple, alternate or fascicled, shortly petiolate or sessile, venation camptodromous, margin crenulate, serrulate, or entire; stipules caducous, minute. Inflorescences compound corymbs; hypanthium short. Sepals 5. Petals 5, spreading, white, usually suborbicular, base shortly clawed. Stamens 15–20; anthers yellow. Carpels 5, basally ca. 1/2 adnate to hypanthium, apically free; ovary 5-loculed, semi-inferior, with 2 ovules per locule; styles 5, free. Pome red or orange, globose, with persistent incurved sepals at apex; pyrenes (nutlets) 5.

About ten species: E Asia to SE Europe; seven species (five endemic) in China.

Further study is necessary to determine the placement of the recently described species, *P. heterophylla* T. B. Chao & Zhi X. Chen (Bull. Bot. Res., Harbin 17: 302. 1997) and *P. stoloniformis* T. B. Chao & Zhi X. Chen (loc. cit.: 301).

- 1a. Corymbs dense; pedicel 1–2 mm; hypanthium abaxially densely tomentose.
  - 2a. Leaf apically acute, blade oblong to oblong-obovate; petiole 4–6(–9) mm; branches usually unarmed ..... 6. *P. inermis*
  - 2b. Leaf apically obtuse or truncate, blade obovate to obovate-elliptic; petiole to 2 mm; branches with short thorns ..... 7. *P. densiflora*
- 1b. Corymbs loose; pedicel 4–10 mm; hypanthium glabrous or abaxially slightly pubescent.
  - 3a. Leaves abaxially densely tomentose ..... 5. *P. angustifolia*
  - 3b. Leaves abaxially glabrous or pubescent.
    - 4a. Leaf margin crenulate, apex acute, apiculate, or obtuse, blade oblong or oblanceolate, rarely ovate-lanceolate ..... 4. *P. crenulata*
    - 4b. Leaf margin crenate-serrate, serrulate, or entire, apex obtuse, emarginate, or slightly apiculate, blade usually obovate to obovate-oblong.
      - 5a. Leaf blade crenate-serrate at margin, broadest in apical part ..... 1. *P. fortuneana*
      - 5b. Leaf blade usually entire at margin, sometimes serrulate, broadest at or near middle.
        - 6a. Leaf apically usually slightly apiculate or obtuse, abaxially glaucescent, blade usually elliptic or oblong ..... 2. *P. atalantioides*
        - 6b. Leaf apically emarginate or truncate, abaxially pubescent, blade usually narrowly elliptic to narrowly obovate ..... 3. *P. koidzumii*

1. *Pyracantha fortuneana* (Maximowicz) H. L. Li, J. Arnold Arbor. 25: 420. 1944.

火棘 huo ji

*Photinia fortuneana* Maximowicz, Bull. Acad. Imp. Sci. Saint-Petersbourg, sér. 3, 19: 179. 1874; *P. crenatoserrata* Hance; *Pyracantha crenatoserrata* (Hance) Rehder; *P. yunnanensis* Chittenden.

Shrubs to 3 m tall. Lateral branches short, thornlike; young branchlets rusty pubescent, dark brown and glabrescent when old. Petiole glabrous or initially slightly pubescent; stipules not seen; leaf blade obovate or obovate-oblong, 1.5–6 × 0.5–2 cm, both surfaces glabrous, base cuneate, margin serrate with teeth incurved, apex obtuse or emarginate, sometimes shortly apiculate. Compound corymb rather loose, 3–4 cm in diam.; peduncle subglabrous; bracts caducous, lanceolate. Pedicel ca. 1 cm, subglabrous. Flowers ca. 1 cm in diam. Hypanthium campanulate, abaxially glabrous. Sepals triangular, 1–1.5 mm, glabrous, margin entire, apex obtuse. Petals suborbicular, ca. 4 × 3 mm, apex rounded or obtuse. Stamens 20; filaments 3–4 mm. Ovary densely white pubescent apically; styles ca. as long as stamens. Pome orangish red or dark red, subglobose, ca. 5 mm; fruiting pedicel 2–5 mm; sepals persistent, erect. Fl. Mar–May,

fr. Aug–Nov. 2n = 34\*.

• Thickets, stream sides, roadsides; 500–2800 m. Fujian, Guangxi, Guizhou, Henan, Hubei, Hunan, Jiangsu, Shaanxi, Sichuan, Xizang, Yunnan, Zhejiang.

2. *Pyracantha atalantioides* (Hance) Stapf, Bot. Mag. 151: t. 9099. 1926.

全缘火棘 quan yuan huo ji

*Sportella atalantioides* Hance, J. Bot. 15: 207. 1877; *Crataegus pyracantha* Hemsley; *Mespilus loureiroi* Kostelezky; *Pyracantha discolor* Rehder; *P. gibbsii* A. B. Jackson; *P. loureiroi* (Kostelezky) Merrill.

Shrubs or small trees, to 6 m tall, with thorny branches, rarely unarmed. Branchlets initially yellowish brown or gray pubescent, glabrous when old. Petiole ca. 2.5 mm, usually glabrous, sometimes pubescent; leaf blade elliptic or oblong, rarely oblong-obovate, 1.5–4 × 1–1.6 cm, both surfaces initially yellowish brown pubescent, glabrescent, abaxially becoming slightly glaucescent, lateral veins dense, base broadly cuneate or rounded, margin usually entire, sometimes inconspicuously serrulate, apex apiculate or obtuse, sometimes slightly aristate. Compound corymb loose, 3–4 in diam., many flowered; pe-

duncle yellowish brown pubescent; bracts caducous, lanceolate. Pedicel 5–10 mm, yellowish brown pubescent. Flowers 8–10 mm in diam. Hypanthium campanulate, pubescent. Sepals triangular or broadly elliptic, 1–1.5 mm, abaxially sparsely pubescent, apex obtuse. Petals ovate, 4–5 × 3–4 mm, apex slightly apiculate. Stamens 20; filaments ca. 3 mm. Ovary densely white tomentose apically; styles nearly as long as stamens. Pome bright red, depressed-globose, 4–5 mm in diam.; fruiting pedicel 5–10 mm, glabrous; sepals persistent, erect. Fl. Apr–May, fr. Sep–Nov.

• Slopes, valleys, among shrubs, open forests; 500–1700 m. Guangdong, Guangxi, Guizhou, Hubei, Hunan, Shaanxi, Sichuan.

**3. *Pyracantha koidzumii*** (Hayata) Rehder, J. Arnold Arbor. 1: 261. 1920.

台湾火棘 tai wan huo ji

*Cotoneaster koidzumii* Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 101. 1911; *C. formosanus* Hayata; *C. taitoensis* Hayata; *Pyracantha formosana* Kanehira; *P. koidzumii* var. *taitoensis* (Hayata) Masamune.

Shrubs caespitose. Branchlets dark gray, often thornlike, initially pubescent, glabrous when old. Leaves usually 3–5-fascicled; petioles ca. 3 mm, puberulous; leaf blade narrowly elliptic to narrowly obovate, 3–4.5 × 0.7–1.2 cm, abaxially glaucescent, densely pubescent when young, glabrescent, adaxially glabrous, base cuneate, margin entire, apex slightly emarginate or truncate. Corymb 3–4 cm in diam., many flowered; peduncle sparsely pubescent; bracts caducous, lanceolate. Pedicel 5–11 mm, sparsely pubescent. Flowers 8–10 mm in diam. Hypanthium campanulate, abaxially densely pubescent. Sepals triangular, 1–1.2 mm, abaxially densely pubescent when young, apex acute. Petals suborbicular or broadly elliptic, 3.5–4 × 3–4 mm, apex slightly emarginate. Stamens 20; filaments 2–3 mm. Ovary pubescent; styles nearly as long as stamens. Pome orangish red, depressed-globose, 4–5 mm. Fr. Aug–Nov.

• Rocky valley areas, seashores, thickets, among shrubs. Taiwan.

**4. *Pyracantha crenulata*** (D. Don) M. Roemer, Fam. Nat. Syn. Monogr. 3: 220. 1847.

细圆齿火棘 xi yuan chi huo ji

Shrubs or small trees, to 5 m tall, with thorny branches. Branches dark brown when old, initially rusty pubescent, glabrous when old. Petiole 3–6 mm, glabrous; leaf blade oblong or oblanceolate, rarely ovate-lanceolate, 2–7 × 0.8–1.8 cm, both surfaces glabrous, base broadly cuneate or slightly rounded, margin crenulate or sparsely so, apex acute or obtuse. Compound corymb 3–5 cm in diam., many flowered; peduncle initially brown pubescent basally, glabrescent; bracts caducous, lanceolate. Pedicel 4–10 mm, glabrous. Flowers 6–9 mm in diam. Hypanthium campanulate, glabrous. Sepals triangular, 1–1.2 mm, abaxially glabrous, apex acute. Petals orbicular, 4–5 × 3–4 mm, apex rounded. Stamens 20; filaments 2–3 mm. Ovary densely white pubescent apically; styles nearly as long as stamens. Pome orangish yellow or orangish red when mature, nearly globose, 3–8 mm in diam.; sepals persistent, erect. Fl.

Mar–May, fr. Aug–Nov.

Slopes, roadsides, stream sides, among shrubs, grassy places, valleys; 700–2500 m. Gansu, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Sichuan, Xizang, Yunnan [Bhutan, India, Kashmir, Myanmar, Nepal].

- 1a. Plant to 5 m tall, with few thorny branches; leaf blade 2–7 × 0.8–1.8 cm; pome orangish yellow or orangish red ..... 4a. var. *crenulata*
- 1b. Plant to 2 m tall, with several thorny branches; leaf blade 1–2.5 × 0.4–0.8 cm; pome red ..... 4b. var. *kansuensis*

**4a. *Pyracantha crenulata* var. *crenulata***

细圆齿火棘(原变种) xi yuan chi huo ji (yuan bian zhong)

*Mespilus crenulata* D. Don, Prodr. Fl. Nepal. 238. 1825; *Cotoneaster crenulatus* (D. Don) K. Koch; *Crataegus crenulata* (D. Don) Roxburgh; *Crataegus pyracantha* var. *crenulata* (D. Don) Loudon; *Pyracantha chinensis* M. Roemer.

Shrubs or small trees, to 5 m tall, with few thorny branches. Leaf blade oblong or oblanceolate, rarely ovate-lanceolate, 2–7 × 0.8–1.8 cm. Pome orangish yellow or orangish red, sub-globose, 3–8 mm in diam.

Slopes, roadsides, stream sides, among shrubs, grassy places; 700–2400 m. Guangdong, Guangxi, Guizhou, Hubei, Jiangxi, Shaanxi, Sichuan, Xizang, Yunnan [Bhutan, India, Kashmir, Myanmar, Nepal].

**4b. *Pyracantha crenulata* var. *kansuensis*** Rehder, J. Arnold Arbor. 4: 114. 1923.

细叶细圆齿火棘 xi ye xi yuan chi huo ji

Shrubs to 2 m tall, with several thorny branches. Leaf blade oblong to obovate-lanceolate, 1–2.5 cm × 4–8 mm. Pome red, globose, ca. 5 mm in diam.

• Valleys, roadsides, stream sides; 1500–2500 m. Gansu, Guizhou, S Shaanxi (Qin Ling), Sichuan, Yunnan.

**5. *Pyracantha angustifolia*** (Franchet) C. K. Schneider, III. Handb. Laubholz. 1: 761. 1906.

窄叶火棘 zhai ye huo ji

*Cotoneaster angustifolius* Franchet, Pl. Delavay. 221. 1890.

Shrubs or small trees, to 4 m tall, often with thorny branches. Branchlets purplish brown when old, densely grayish yellow tomentose when young, glabrous when old. Petiole 1–2.5 mm or leaves sessile; leaf blade narrowly oblong to oblanceolate-oblong, 1.5–5 cm × 4–8 mm, abaxially densely gray tomentose, adaxially initially gray tomentose, soon glabrescent, base cuneate, margin entire, apex obtuse, apiculate, or emarginate. Compound corymb 2–4 cm diam., several flowered; peduncle densely gray tomentose; bracts caducous, lanceolate. Pedicel 1–2 mm, densely gray tomentose. Flowers ca. 2.5 mm in diam. Hypanthium campanulate, densely gray tomentose. Sepals triangular, 1–1.1 mm, abaxially densely gray tomentose, apex acute. Petals suborbicular, ca. 4 mm, apex rounded or

emarginate. Stamens 20; filaments 1.5–2 mm. Ovary white tomentose; styles nearly as long as stamens. Pome reddish, depressed-globose, 5–6 mm in diam.; sepals persistent, erect. Fl. May–Jun, fr. Oct–Dec.

• Thickets on slopes, at roadsides; 1600–3000 m. Guizhou, Hubei, Sichuan, Xizang, Yunnan, Zhejiang.

**6. *Pyracantha inermis*** Vidal, Notul. Syst. (Paris) 13: 301. 1948.

澜沧火棘 lan cang huo ji

*Pyracantha mekongensis* T. T. Yu.

Shrubs to 1 m tall, usually unarmed, with dense, short branches. Branches grayish brown, rusty tomentose distally when young, soon glabrescent. Leaves fasciculate on short branches; petioles 4–9 mm, glabrous; leaf blade oblong to oblong-obovate, 3–4.5 × 1–1.3 cm, both surfaces glabrous, midvein prominent abaxially, impressed adaxially, base cuneate, margin crenate, teeth incurved apically, apex acute. Corymb dense, terminal on short shoots, 2–3 cm diam., many flowered; peduncle rusty tomentose; bracts caducous, lanceolate. Pedicel 1–3 mm, stout, rusty tomentose. Flowers 8–10 mm in diam. Hypanthium campanulate, abaxially densely rusty tomentose. Sepals triangular. 1–1.2 mm, abaxially densely rusty tomentose, apex acute to acuminate. Petals ovate, apex rounded or emarginate. Stamens 20; filaments 2–3 mm. Ovary densely white tomentose; styles nearly as long as stamens. Pome purplish brown, subglobose, ca. 5 mm in diam.; fruiting pedicels densely shortly tomentose. Fl. May.

Sandy river banks; ca. 800 m. Yunnan [Laos].

**7. *Pyracantha densiflora*** T. T. Yu, Acta Phytotax. Sin. 8: 220. 1963.

密花火棘 mi hua huo ji

Shrubs. Branches with short thorns 1–2 cm; branchlets

purplish brown when old, densely rusty tomentose when young, glabrous when old. Leaves dense, fasciculate on short branchlets; petiole short, not more than 2 mm, subglabrous; leaf blade obovate to obovate-elliptic, 1–1.8 cm × 6–9 mm, abaxially brown tomentose, glabrescent, adaxially lustrous, base cuneate, margin crenulate, apex obtuse or truncate. Inflorescences 1.5–2.5 cm; 6–10-flowered; peduncle absent; bracts caducous, lanceolate. Pedicel densely rusty tomentose. Flowers 0.8–1.2 cm in diam. Hypanthium campanulate, abaxially densely rusty tomentose. Sepals triangular, 1.5–2 mm, abaxially rusty tomentose, apex obtuse. Petals ovate, 4–6 × 3–4 mm, apex rounded or obtuse. Stamens 20; filaments shorter than petals, 1.5–2 mm. Ovary densely white tomentose; styles nearly as long as stamens. Pome not seen. Fl. Jun–Jul.

• Thickets; ca. 1000 m. NW Guangxi (Longlin Xian).

