
山楂属  shan zha shu

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

Shrubs, subshrubs, or small trees, deciduous, rarely evergreen, armed, rarely unarmed; buds ovoid or subglobose. Leaves simple, stipulate, venation craspedodromous, margin serrate and lobed or partite, rarely entire. Inflorescences corymbose, sometimes flowers solitary. Hypanthium campanulate. Sepals 5. Petals 5, white, rarely pinkish. Stamens 5–25; carpels 1–5, connate, but free apically. Ovary inferior or semi-inferior, with 2 ovules per locule, but one rudimentary. Fruit a pome, with persistent sepals at apex; carpels bony when mature, each locule with 1 seed; seed erect, cotyledons plano-convex.

At least 1000 species: N temperate regions, especially abundant in North America; 18 species (ten endemic) in China.

Crataegus biloba H. Léveillé, described from Guizhou, is Symplocos paniculata (Thunberg) Miquel in the Symplocaceae (see Fl. China 15: 252. 1996), under which it has been recognized as f. biloba (H. Léveillé) Rehder. Crataegus lyi H. Léveillé (Fl. Kouy-Tcheou, 347. 1915), also described from Guizhou, is the same species.

1a. Leaves deeply pinnatifid to more than 1/2 width of blade, some lateral veins extending to apices of lobes, some to sinus between lobes.

2a. Fruit yellow or red, pyrenes (nutlets) with concave scars on 2 inner sides.

3a. Fruit golden-yellow, 8–10 mm in diam., pyrenes 4 or 5; leaves glabrous or slightly pubescent ....................... 15. C. altaica

3b. Fruit red, 4–8 mm in diam., pyrenes 3–5; leaves glabrous ................................................................. 16. C. remotilobata

2b. Fruit red or black, pyrenes smooth on 2 inner sides.

4a. Leaves cuneate, rarely broadly cuneate, with 2 or 3 pairs of lobes, subglabrous on both surfaces; fruit black, pyrenes 2 or 3 .......................... 18. C. songarica

4b. Leaves truncate or broadly cuneate, with 3–5 pairs of lobes, pubescent along midvein and lateral veins; fruit red, pyrenes 3–5 ........................................................................................................................................ 1. C. pinnatifida

1b. Leaves lobed or not divided, lateral veins extending to apices of lobes or teeth only.

5a. Fruit black; inflorescence glabrous or nearly so.

6a. Pulp green; pyrenes 4 or 5, with concave scars on 2 inner sides; leaf blade triangular-ovate to broadly ovate, base broadly cuneate to subrounded, with 3–5 pairs of lobes, pubescent on both surfaces ...... 17. C. chlorosarca

6b. Pulp yellow; pyrenes 2 or 3, smooth on 2 inner sides; leaf blade rhomboidal to broadly ovate, base cuneate, sometimes broadly cuneate, with 2 or 3 pairs of lobes, subglabrous on both surfaces .......................... 18. C. songarica

5b. Fruit red, rarely yellow; inflorescence pubescent or glabrous.

7a. Branches usually unarmed; leaf margin crenate-serrate or obtusely serrate, often not lobed, rarely 3–5-lobed on sterile branches .............................................................................................................. 2. C. scabrifolia

7b. Branches armed, leaf blade lobed.

8a. Leaf margin crenate-serrate, with 2–4 pairs of lobes in apical part.

9a. Hypanthium and sepals abaxially glabrous; sepals entire ......................................................... 3. C. hupehensis

9b. Hypanthium and sepals abaxially densely pubescent; sepals 2–4-crenulate-serrate ......... 4. C. shensiensis

8b. Leaf margin sharply serrate, often with 2–4 pairs of lobes in apical part, rarely only 3-lobed near apex.

10a. Pedicel and peduncle pubescent or tomentose.

11a. Leaf basally cuneate, margin apically incised or 3(–7)-lobed; pyrenes smooth on both inner sides.

12a. Simple corymb 2–2.5 cm in diam., 5–7-flowered; petiole 4–5 mm .............................................. 5. C. cuneata

12b. Compound corymb ca. 8 cm in diam.; 7–18-flowered; petiole 1.5–4 cm ............................ 6. C. shandongensis

11b. Leaf basally broadly cuneate to rounded, margin with 3–7 pairs of lobes; pyrenes with concave scars on both inner sides.

13a. Leaves adaxially subglabrous, abaxially sparsely pubescent.

14a. Thorns 6–10 mm; leaf petiole pilose or subglabrous, blade margin sharply serrate; fruit ellipsoid, glabrous ................................................................. 7. C. wilsonii

14b. Thorns 10–25 mm; leaf petiole glabrescent, blade margin doubly serrate; fruit subglobose, sparsely pubescent ............................................. 8. C. orebia

13b. Leaves pubescent on both surfaces.

15a. Leaf basally cuneate or broadly cuneate, occasionally truncate; fruit globose, red or purplish brown ......................................................... 9. C. maximowiczii

15b. Leaf basally rounded, truncate, or broadly cuneate; fruit subglobose, orangish red .......................................................... 10. C. aurantia

10b. Pedicel and peduncle glabrous.

16a. Leaf basally cuneate; fruit red, ca. 1 cm in diam. ................................................................. 11. C. sanguinea
16b. Leaf basally truncate or broadly cuneate; fruit yellow, orange, red, or black, not more than 1 cm in diam.

17a. Ovary apically glabrous.

18a. Leaf blade rhombic-ovate or elliptic-ovate, with 3–5 pairs of lobes, apex acuminate; fruit subglobose or oblong, orangish red .............................................. 12. C. dahurica

18b. Leaf blade broadly ovate, with 2–4 pairs of lobes, apex obtuse; fruit ellipsoid, red ................................................................. 13. C. chungtienensis

17b. Ovary apically pubescent.

19a. Leaf blade with 5–7 pairs of lobes, margin densely serrate ............................... 14. C. kansuensis

19b. Leaf blade with 2–4 pairs of lobes, margin remotely serrate.

20a. Thorns usually absent; corymbs 3–4 cm in diam.; fruit yellow, 8–10 mm in diam. ................................................................................................................ 15. C. altaica

20b. Thorns usually present; corymbs 6–7 cm in diam.; fruit red, 4–8 mm in diam. ................................. 16. C. remotilobata


山楂 shan zha

Trees deciduous, to 6 m tall, with thorns 1–2 cm or sometimes unarmed. Branchlets purplish brown when young, grayish brown when old, terete, subglabrous or glabrous when young; buds purplish red, triangular-ovoid, glabrous. Stipules falcate, ca. 8 mm, herbaceous, margin serrate, apex acuminate; petiole 2–6 cm, glabrous; leaf blade dark green adaxially, broadly ovate or triangular-ovate, rarely rhomboidal-ovate, 5–10 × 4–7.5 cm, lateral veins 6–10 pairs, usually extending to apices of lobes and to sinuses between lobes, abaxially sparingly pubescent along veins, adaxially lustrous, base truncate or broadly cuneate, with 3–5 pairs of lobes, margin sharply irregularly doubly serrate, apex shortly acuminate. Corymbs 4–6 cm in diam., many flowered; peduncle initially pubescent, glabrate, bracts caducous, linear-lanceolate, membranous, apex acuminate. Pedicel 4–7 mm, initially pubescent, glabrescent. Flowers ca. 1.5 cm in diam. Hypanthium campanulate, abaxially grayish white pubescent. Sepals triangular-ovate to lanceolate, 4–5 mm, both surfaces glabrous, apex shortly acuminate. Petals white, obovate or suborbicular, 7–8 × 5–6 mm. Stamens 20. Ovary 5-loculed, with 2 ovules per locale; styles 3–5, pubescent basally. Pome dark red, subglobose or pyriform, 1–2.5 cm in diam., glabrous; sepals persistent; pyrenes 3–5. Fl. May–Jun, fr. Aug–Sep. 2n = 34*, 102*.

Among shrubs, slopes, also cultivated; 100–2000 m. Hebei, Heilongjiang, Henan, Jiangsu, Jilin, Liaoning, Nei Mongol, Shaanxi, Shandong, Shanxi, Xinjiang, Zhejiang [Korea].

1a. Pedicel and peduncle glabrous ................. 1c. var. psilosa

1b. Pedicel and peduncle pubescent.

2a. Fruit small, 1–1.5 cm in diam. .... 1a. var. pinnatifida

2b. Fruit larger, ca. 2.5 cm in diam. ........ 1b. var. major

1a. Crataegus pinnatifida var. pinnatifida

山楂(原变种) shan zha (yuan bian zhong)

Crataegus oxyacantha Linnaeus var. pinnatifida Regel; ?C. pinnatifida f. geholensis (C. K. Schneider) M. Kitagawa; ?C. pinnatifida var. geholensis C. K. Schneider; C. pinnatifida var. songarica Dippel; Mespilus pinnatifida K. Koch; M. pin-

natifida var. songarica (Dippel) Ascherson & Graebner.

Pedicel and peduncle pubescent. Fruit small, 1–1.5 cm.

Among shrubs, slopes; 100–1500 m. Hebei, Heilongjiang, Henan, Jiangsu, Jilin, Liaoning, Nei Mongol, Shaanxi, Shandong, Shanxi, Zhejiang [Korea].


山里红 shan li hong

Crataegus pinnatifida var. korolkowii (Ascherson & Graebner) Yabe; Mespilus korolkowii Ascherson & Graebner.

Pedicel and peduncle pubescent, glabrate. Fruit relatively large, ca. 2.5 cm in diam.

Cultivated in N, NE, and NW China [of cultivated origin].

This taxon has been long cultivated as an important fruit tree.


无毛山楂 wu mao shan zha

Crataegus coreana H. Léveillé; C. pinnatifida f. psilosa (C. K. Schneider) M. Kitagawa.

Pedicel and peduncle glabrous. 2n = 34*.

Heilongjiang, Jilin, Liaoning [Korea].


云南山楂 yun nan shan zha

Pyrus scabrifolia Franchet, Pl. Delavay. 229. 1890; Crataegus bodinieri H. Léveillé; C. henryi Dunn.

Trees deciduous, to 10 m tall; branches usually unarmed. Branchlets purplish brown when young, grayish brown when old, terete, initially glabrous or subglabrous; buds purplish red, triangular-ovoid, glabrous. Stipules caducous, linear-lanceolate, ca. 8 mm, membranous, glabrous, margin glandular serrate, apex acuminate; petiole 1.5–4 cm, glabrous; leaf blade ovate-lanceolate to ovate-elliptic or rhombic-ovate, 4–3 × 2.5–4.5 cm, abaxially villous only along midvein and lateral veins, pilose or subglabrous, adaxially slightly pubescent when young, glabrescent, base cuneate, margin sparingly irregularly and doubly
obtusely serrate, usually not lobed or those of sterile shoots sparsely irregularly 3–5-lobed apically, apex acute. Corymb or compound corymb, 4–5 cm in diam., many flowered; peduncle glabrous; bracts caducous, linear-lanceolate, membranous. Pedicel 5–10 mm, glabrous. Flowers ca. 1.5 cm in diam. Hypanthium campanulate, abaxially glabrous. Sepals triangular-ovate or triangular-lanceolate, 3–4 mm, abaxially glabrous. Petals white, suborbicular or obovate, ca. 8 × 6 mm. Stamens 20. Ovary grayish white tomentose apically; styles 3–5. Pome yellow or reddish, depressed-globose, 1.5–2.5 cm in diam., glabrous; sepals persistent; pyrenes 5, smooth on both inner sides. Fl. Apr–Jun, fr. Aug–Oct. 2n = 34*.

- Margins of Pinus forests, among shrubs, mixed river side forests; 1500–3000 m. Guangxi, Guizhou, Sichuan, Yunnan.


湖北山楂 hu bei shan zha

Crataegus hupehensis var. flavida S. Y. Wang.

Trees or shrubs, 3–5 m tall; branches sparsely thorny, sometimes unarmed. Branchlets purplish brown when young, grayish brown when old, terete, glabrous; buds purple, triangular-ovoid to ovoid, glabrous. Stipules caducous, lanceolate or falcate, 5–8 mm, herbaceous, margin glandular serrate, apex acuminate; petiole 3.5–5 cm, glabrous; leaf blade ovate or ovate-oblong, 4.9 × 4.7 cm, glabrous or only abaxially barbate in axils, base broadly cuneate or subrounded, margin crenate-serrate, with 2–4 pairs of shallow lobes at apical part; lobes ovate, apex shortly acuminate. Corymb 3–4 cm in diam., 7–9-flowered; peduncle glabrous; bracts caducous, linear-lanceolate, membranous. Pedicel 4–5 mm, glabrous. Flowers ca. 1 cm in diam. Hypanthium campanulate, glabrous. Sepals triangular-ovate, 3–4 mm, margin entire, glabrous. Petals white, ovate, ca. 8 × 6 mm. Stamens 20. Ovary 5-loculated, with 2 ovules per locule; styles 5, white tomentose basally. Pome red, subglobose, ca. 2.5 cm in diam., punctate, glabrous; sepals persistent, reflexed; pyrenes 5, smooth on both inner sides. Fl. May–Jun, fr. Sep–Nov. 2n = 34*.


陕西山楂 shaan xi shan zha

Shrubs. Branchlets reddish brown when young, dark brown when old, terete, glabrous; buds and stipules not seen. Petiole 1.5–2.5 cm, glabrous; leaves sparsely pubescent. Pedicel 4.5–11 mm, glabrous. Flowers not seen. Hypanthium campanulate, glabrous. Sepals triangular or lanceolate, adaxially pubescent, after anthesis revolute, margin entire or 2–4-crenulate at apical part, apex acuminate. Petals orbicular or broadly ovate, 5–7 mm. Stamens 20. Ovary pubescent apically, 5-locolated, with 2 ovules per locule; styles 5, pubescent basally. Pome not seen. 2n = 34*.

- Shaanxi.

Further study is necessary to document the characters of flowers and fruit.


野山楂 ye shan zha

Shrubs deciduous, to 15 m tall, usually with slender thorns 5–8 mm. Branchlets purplish brown when young, grayish brown when old, terete, initially pubescent, glabrous when old; buds purplish brown, triangular-ovoid, glabrous, apex obtuse. Stipules falcate, large, 5–8 mm, herbaceous, glabrous, margin serrate, apex acute; petiole 4.5–5 mm, narrowly winged or not, glabrous; leaf blade broadly obovate to obovate-oblong or obovate-elliptic, 2–5 × 1–4.5 cm, abaxially sparsely pubescent, densely so along veins, glabrescent, with conspicuous veins, adaxially glabrous, base cuneate or attenuate, margin irregularly doubly serrate or serrate, 3-lobed, rarely 5-lobed in apical part or not lobed, apex acute. Corymb 2–3 cm in diam., 5–7-flowered, peduncle pubescent; bracts caducous, lanceolate, herbaceous. Pedicel ca. 1 cm, pubescent. Flowers ca. 1 cm in diam. Hypanthium campanulate, abaxially pubescent. Sepals triangular-ovate, ca. 4 mm, both surfaces villous. Petals white, suborbicular or obovate, 6–7 mm. Stamens 20. Ovary pubescent apically, 5-locolated, with 2 ovules per locule; styles 4 or 5, tomentose basally. Pome red or yellow, subglobose or depressed-globose, 1–2 cm in diam., glabrous; sepals often persistent, reflexed; pyrenes 4 or 5, smooth on both inner sides. Fl. May–Jun, fr. Sep–Nov. 2n = 34*.

- Valleys, thickets; 200–2000 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Henan, Hubei, Hunan, Jiangsu, Jiangxi, S Shaanxi, Yunnan, Zhejiang [Japan].

1a. Leaf blade broadly obovate to obovate-oblong, larger, 2–6 × 1–1.4 cm, abaxially sparsely pubescent, densely so along veins, base cuneate, margin irregularly doubly serrate, 3-lobed, rarely 5-lobed in apical part ........................................... 5a. var. cuneata

1b. Leaf blade obovate-elliptic, smaller, 2–3(–4) × 1.5(–2) cm, both surfaces glabrous, base attenuate, margin serrate in apical part, not lobed .................................................... 5b. var. tangchungchangii

5a. Crataegus cuneata var. cuneata

野山楂(原变种) ye shan zha (yuan bian zhong)

Crataegus argyi H. Lévêillé & Vaniot; C. chantcha H. Lévêillé; C. cuneata f. pleniflora S. X. Qian; C. cuneata var. shanxianensis L. Mao & T. C. Cui; C. kulingensis Sargent; C. stephanostyla H. Lévêillé & Vaniot.

Leaf blade broadly obovate to obovate-oblong, 2–6 × 1–1.4 cm, abaxially sparsely pubescent, densely so along veins,
base cuneate, margin irregularly doubly serrate, 3-lobed, rarely 5-lobed in apical part.

Valleys, thickets; 200–2000 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Henan, Hubei, Hunan, Jiangsu, Jiangxi, S Shaanxi (Qin Ling), Yunnan, Zhejiang [Japan].


小叶野山楂  xiao ye ye shan zha


Leaf blade obovate-elliptic, 2–3(–4) × 1–1.5(–2) cm, both surfaces glabrous, base attenuate, margin serrate in apical part, not lobed.

- Thickets; 200–1500 m. Fujian (Changhuo, Fuqiang Xian, Fuzhou Shi).


山东山楂  shan dong shan zha

Shrubs deciduous, to 5 m tall, usually thorny; thorns robust, 5–10 cm. Branchlets reddish brown when young, grayish brown when old, terete, initially sparsely pubescent, glabrous when old, with sparse lenticels; buds not seen. Stipules caducous, falcate, herbaceous, subglabrous, glandular serrate at margin, apex acute to acuminate; petiole 1.5–4 cm, glabrous; leaf blade ovate or narrowly elliptic 4–8 × 2–4 cm, abaxially sparsely pubescent, densely so along veins, adaxially sparsely white pilose only along midvein, base cuneate, margin irregularly serrate, usually 3–5-lobed, sometimes not divided in apical part, apex acuminate. Compound corymb ca. 8 cm in diam., 7- or 8(–18)-flowered; peduncle white pubescent; bracts caducous, linear-lanceolate, membranous. Pedicel 1–1.5 cm, white pubescent. Flowers ca. 2 cm in diam. Hypanthium campanulate, abaxially white pubescent. Sepals triangular, 3–4 mm, abaxially white pubescent. Petals white, suborbicular, 6–7 × 5–6. Stamens 20. Ovary 2- or 3-loculed, with 2 ovules per locule; styles 2 or 3, white tomentose. Pome red or purplish red, ellipsoid, 6–7 mm in diam., glabrous; sepals persistent, reflexed; pyrenes 1–3, with deep concave scars on both inner sides. Fl. May, fr. Aug–Sep. 2n = 34*.

- Shaded dense forests on slopes, thickets; 1000–2500 m. Gansu, Henan, Hubei, Shaansi, Sichuan, Yunnan, Zhejiang.


燕山山楂  yan shan shan zha

Shrubs ca. 6 m tall, thorny; thorns 6–10 mm. Branchlets grayish brown, terete, white tomentose when young, soon glabrescent; buds purplish brown, ovate-triangular, glabrous. Stipules caducous, ovate-lanceolate or falcate, 6–10 mm, membranous, subglabrous, margin glandular serrate, apex acute-acuminate; petiole 1.8–2.8 cm, initially pubescent, soon glabrescent; leaf blade broadly ovate, 4.5–6 × 3–5.5 cm, abaxially sparsely pubescent, densely so along veins, adaxially sparsely pubescent, base cuneate or broadly cuneate, margin remotely doubly serrate and with (2 or)3–5 pairs of lobes, apex obtuse or acute. Corymb 3.6–6 cm in diam., many flowered; peduncle white tomentose; bracts caducous, linear-lanceolate, membranous. Pedicel 4–12 mm, white villous. Flowers ca. 1 cm in diam. Hypanthium campanulate, adaxially white villous. Sepals triangular-ovate, slightly shorter than hypanthium, 2–3 mm, both surfaces white pubescent. Petals white, suborbicular, ca. 8 × 6 mm. Stamens 20. Styles 2, rarely 3, pubescent basally. Pome reddish yellow, subglobose, ca. 6 mm in diam., white pubescent, rarely subglabrous; sepals persistent, reflexed; pyrenes 2 or 3, with concave scars on both inner sides. Fl. May, fr. Aug–Sep.

- On shrub-covered slopes; 2500–3300 m. NW Yunnan.


毛山楂  mao shan zha

Crataegus altaica (Loudon) Lange var. villosa (Ruprecht) Lange; C. beipiaogenesis S. L. Tung & X. J. Tian; C. maximowiczii var. ninganensis S. Q. Nie & B. J. Jen; C. sanguinea Pallas var. villosa Ruprecht.

Shrubs or small trees, to 7 m tall, unarmed or armed; thorns 1.5–3.5 cm. Branchlets purplish brown, terete, initially densely white pubescent, glabrescent; buds purplish brown, ovoid, glabrous. Stipules caducous, falcate, 5–8 mm, membranous, subglabrous, margin glandular serrate, apex acute or acuminate; petiole 1.5–2.5 cm, sparsely villous; leaf blade broadly ovate or rhombic-ovate, 4–6 × 3.5 cm, abaxially dense-
ly whitish villous, adaxially sparsely pubescent, base cuneate or broadly cuneate, occasionally truncate, margin remotely doubly serrate and with 3–5 pairs of lobes, apex acute. Compound corymb 4–5 cm in diam., many flowered; peduncle whitish villous; bracts caducous, linear-lanceolate, membranous. Pedicel 3–8 mm, whitish villous. Flowers ca. 1.2 cm in diam. Hypanthium campanulate, abaxially white pubescent. Sepals triangular-ovate or triangular-lanceolate, 3–4 mm, abaxially white pubescent. Petals white, suborbicular, ca. 5 mm. Stamens 20. Styles (2 or)3–5, pubescent basally. Pome purplish brown or red, globose, ca. 8 mm in diam., initially pubescent, later glabrous; fruiting pedicel 4–9 mm, initially densely white villous, glabrate when mature; sepals persistent, reflexed; pyrenes 3–5, with concave scars on both inner sides. Fl. May–Jun, fr. Jul–Aug. 2n = 32, 34*, 51*.

Near or in mixed forests, roadsides, river sides; 200–1000 m. Heilongjiang, Jilin, Liaoning, Nei Mongol [N Mongolia, Russia (E Siberia)].


Crataegus laevicalyx

Shrubs or small trees, deciduous, 3–5 m tall, unarmed or armed; thorns 1–2 cm. Branchlets dark purple when young, grayish brown when old, initially pubescent; buds not seen. Stipules not seen; petiole 1.5–2.5 cm, densely pubescent; leaf blade dark green adaxially, broadly ovate, 4–7 × 3–7 cm, abaxially pubescent, densely so along midvein and veins, adaxially sparsely pubescent, base rounded, truncate, or broadly cuneate, margin sharply and irregularly serrate, with 2 or 3 pairs of shallow lobes; lobes broadly ovate to suborbicular, apex acute. Compound corymb 3–4 cm in diam., many flowered; peduncle densely pubescent; bracts not seen. Pedicel 5–8 mm, densely pubescent. Flowers ca. 1 cm in diam. Hypanthium campanulate, abaxially pubescent. Sepals broadly triangular, 4–6 mm, abaxially pubescent. Petals white, suborbicular, ca. 5–6 mm. Stamens 18–20. Ovary 2–3 cm in diam., many flowered; peduncle glabrous, bracts caducous, linear-lanceolate, membranous. Pedicel 5–6 mm, glabrous or subglabrous. Flowers ca. 8 mm in diam. Hypanthium campanulate, glabrous. Sepals triangular-ovate, ca. 4 mm, abaxially sparsely pubescent. Petals white, oblong, 5–6 mm. Stamens 20. Ovary pubescent apically, 3–5-loculed, with 2 ovules per locule; styles 3–5. Pome red, subglobose, ca. 1 cm in diam., glabrous; sepals persistent, reflexed; pyrenes 3, rarely 5, with concave scars on both inner sides. Fl. May–Jun, fr. Jul–Aug. 2n = 51*, 68*.

Slopes, mixed river side forests; 900–3000 m. Hebei, Heilongjiang, Jilin, Liaoning, Nei Mongol, Xinjiang [N Mongolia, Russia (E Siberia)].


Crataegus laevicalyx

Shrubs or small trees, deciduous, 2–6 m tall; thorns 1–2.5 cm, slender, sometimes absent. Branchlets purplish brown when young, dark brown when old, wilted, glabrous, with sparse, oblong lenticels; buds purple, suborbicular or triangular, glabrous. Stipules lanceolate or ovate-lanceolate, 6–8 mm, herbaceous, glabrous, margin serrate, apex acuminate; petiole 7–10 mm, glabrous; leaf blade rhombic-ovate, rarely elliptic-ovate to obovate, 3–5 × 2.5–4 cm, both surfaces glabrous, base cuneate or broadly cuneate, margin sharply doubly serrate, entire near base, with (2 or)3–5 pairs of lobes at apical 2/3 of margin; lobes ovate, apex acuminate. Compound corymb 3–5 cm in diam., many flowered; peduncle glabrous; bracts caducous, linear-lanceolate, membranous. Pedicel 8–10 mm, glabrous. Flowers ca. 1 cm in diam. Hypanthium campanulate, abaxially glabrous. Sepals linear-lanceolate, ca. 3 mm, margin entire or with 1 or 2 pairs of teeth, both surfaces glabrous. Petals white, suborbicular or obovate, 4–5 × 3–4 mm. Stamens 20. Styles 2–4, glabrous. Pome orangish red or orangish yellow, subglobose or oblong, 6–8 mm in diam., glabrous; sepals persistent, reflexed; pyrenes 2–4, with concave scars on both inner sides. Fl. May, fr. Aug. 2n = 34*.

Grassy places on river banks in forests, sandy slopes, thickets; 500–1500 m. N Hebei, Heilongjiang, Nei Mongol [N Mongolia, Russia (E Siberia)].

1a. Petiole and leaf blade abaxially glabrous .............................................  12a. var. dahurica

1b. Petiole and leaf blade abaxially pubescent ............................................. 12b. var. laevicalyx

12a. Crataegus dahurica var. dahurica

Grassy places on river banks in forests, sandy slopes, thickets; 500–1500 m. N Hebei, Heilongjiang, Nei Mongol [N Mongolia, Russia (E Siberia)].

12b. Crataegus dahurica var. laevicalyx (J. X. Huang et al.)

干山楂

Crataegus chungtienensis (Regel) C. K. Schneider.


甘州山楂


Petiole and leaf blade abaxially densely pubescent.

- Mixed stream side forests, among shrubs; 2500–3500 m. NW Yunnan (Zhongdian Xian).


阿尔泰山楂

Crataegus purpurea var. altaica Loudon, Arb. Brit. 2: 825. 1838; C. sanguinea Pallas var. incisa Regel; C. sanguinea var. inermis Karelin & Kirilov; C. wattiana Hemsley & Lace var. incisa (Regel) C. K. Schneider.

Trees medium-sized, 3–6 m tall, unarmed, rarely with few 2–4 cm thorns. Branchlets purplish brown or reddish brown when young, grayish brown when old, terete, stout, glabrous; buds purplish brown, suborbicular, glabrous, apex acute. Stipules falcate or coriaceous, ca. 1 cm, herbaceous, glabrous, margin glandular serrate, apex acute; petiole 2–3.4 cm, glabrous; leaf blade broadly ovate or triangular-ovate, 5–9 × 4–7 cm, veins conspicuous, lateral veins extending to apices of lobes, abaxially barbate in vein axils, adaxially sparsely pubescent, base truncate or broadly cuneate, rarely subcordate, margin irregularly and sharply serrate, usually with 2–4 pairs of lobes, often parted near base, apex acute or obtuse. Compound corymb 3–4 cm in diam., many flowered; peduncle glabrous; bracts caducous, lanceolate, membranous. Pedicel 5–7 mm, glabrous. Flowers 1.2–1.5 cm in diam. Hypanthium campanulate, abaxially glabrous. Sepals triangular-ovate, or triangular-ovate, 2–4 mm, both surfaces glabrous, apex acuminate. Pedicels 1.5–2.5 cm in diam. Stamens 25–30, slightly longer than petals. Styles (1 or)2 or 3, glabrous. Ovary subglobose, 6–8 mm in diam., glabrous; sepals persistent, reflexed; pyrenes 3–5, with concave scars on both inner sides. Fl. May, fr. Jul–Sep. 2n = 34*.

- Mixed forests, shaded slopes, stream sides; 1000–3000 m.


裂叶山楂


Trees small, 5–6 m tall, usually thorny; thorns 0.6–2.5 cm, slender. Branchlets purplish brown when young, dark purple when old, terete, stout, glabrous or slightly glaucous; buds purplish brown, suborbicular, glabrous. Stipules caducous, falcate or coriaceous, ca. 8 mm, herbaceous, glabrous, margin thickened, apex acuminate; petiole 1.5–2.5 cm, glabrous; leaf blade broadly ovate, 4–6 × 3–4.5 cm, both surfaces glabrous or only abaxially pubescent in vein axils, base cuneate or broadly cuneate, margin remotely and sharply serrate, and with 2–4 pairs of lobes near base, often nearly divided to midvein; lobes ovate or lanceolate-ovate, apex acute or shortly acuminate. Ovary 6–7 mm in diam., many flowered; peduncle glabrous, slightly glaucous; bracts caducous, linear, membranous. Pedicel 5–6 mm, glabrous, glaucous. Flowers ca. 1.2 cm in diam. Hypanthium campanulate, abaxially glabrous, glaucous. Sepals triangular, 2–3 mm, both surfaces glabrous. Petals white, broadly obovate, ca. 5–6 × 3–4 mm. Stamens 20. Ovary densely pubescent apically, 4- or 5-loculed, with 2 ovules per locule;
styles 4 or 5. Pome red, globose, 4–8 mm in diam., glabrous; sepals persistent, reflexed; pyrenes 3–5, with deep concave scars on both inner sides. Fl. May–Jun, fr. Jul–Aug.

- Slopes, stream sides, roadsides. C and W Xinjiang.


绿肉山楂 lu rou shan zha

Trees small, to 6 m tall; usually with few 1–1.5 cm thorns. Branchlets purplish brown when young, yellowish brown when old, terete, glabrous; buds purplish brown, triangular-ovoid, glabrous. Stipules falcate, 5–8 mm, membranous, glabrous, margin glandular serrate, apex acute; petiole 1.5–2 cm, pubescent; leaf blade triangular-ovate to broadly ovate, 5–9 × 3–5 cm, both surfaces sparsely pubescent, sometimes abaxially barbate in vein axils, base broadly cuneate or subrounded, margin sharply serrate, usually with 3–5 pairs of irregular lobes, apex acute or shortly acuminate. Corymb 2–3.5 cm in diam., several flowered; peduncle glabrous; bracts caducous, lanceolate, membranous. Pedicel 2–6 mm, glabrous. Flowers 1–1.2 cm in diam. Hypanthium campanulate, abaxially glabrous. Sepals triangular-lanceolate, 2–3 mm, both surfaces glabrous. Petals white, suborbicular, 5–7 × 4–5 mm. Stamens 20. Ovary pubescent apically; styles 5. Pome red when immature, black when mature with green pulp, subglobose, glabrous; sepals persistent; pyrenes 4 or 5, with concave scars on both inner sides. Fl. Jun–Jul, fr. Aug–Sep.

Cultivated. Liaoning [native to Japan and Russia (Kamchatka, Sakhalin)].


准噶尔山楂 zhun ge er shan zha

Crataegus fischeri C. K. Schneider.

Shrubs or small trees, 4–5 m tall, armed or unarmed; thorns 0.8–1.5 cm, stout. Branchlets purplish brown when young, grayish brown when old, initially sparsely pubescent, soon glabrate, terete; buds reddish brown, ovoid, glabrous. Stipules falcate or lanceolate, ca. 8 mm, herbaceous, glabrous, margin serrate, apex acuminate; petiole 2–2.5 cm, glabrous or subglabrous; leaf blade rhomboidal-ovate to broadly ovate, 3.5–6.5 × 2.5–5.5 cm, both surfaces pubescent when young, glabrescent, base cuneate, rarely broadly cuneate, margin remotely serrate and with 2 or 3 pairs of deep lobes, or apically shallowly lobed; lobes oblong, apex acute. Corymb 3–5 cm in diam., many flowered; peduncle glabrous or slightly pubescent when young; bracts caducous, linear, membranous. Pedicel 0.5–1.5 cm, slightly pubescent when young. Hypanthium campanulate, initially pubescent, soon glabrous. Sepals triangular-ovate or broadly lanceolate, ca. 3 mm, abaxially initially pubescent, glabrescent. Petals not seen. Stamens 15–20. Ovary pubescent apically, 2- or 3-loculed, with 2 ovules per locule; styles 2 or 3. Pome reddish black with yellow pulp, sparsely punctate, globose, rarely ellipsoid, 1.2–1.6 cm in diam., glabrous; sepals persistent, reflexed; pyrenes 2 or 3, smooth on both inner sides. Fl. May, fr. Jul. 2n = 68*.