

3. FORSYTHIA Vahl, Enum. Pl. 1: 39. 1804.

连翘属 *lian qiao shu*

Rangium Jussieu.

Shrubs deciduous. Branches hollow or with lamellate pith; branchlets ± 4-angled. Leaves opposite, simple, rarely 3-parted to 3-foliolate, petiolate; leaf blade serrate or entire. Flowers appearing before leaves, bisexual, heterostylous, 1 to several fascicled in leaf axils, pedicellate. Calyx deeply 4-lobed, persistent. Corolla yellow, 4-parted; tube campanulate; lobes longer than tube, imbricate in bud. Stamens 2, inserted at base of corolla tube, scarcely exerted. Ovules many in each locule, pendulous. Style slender; stigma 2-cleft. Fruit a loculicidal capsule. Seeds numerous in each locule, slightly winged; endosperm absent; radicle erect.

About 11 species: mainly in eastern Asia, one in SE Europe; six species in China.

Most species are grown as ornamental shrubs for early spring. The fruit of some species are used medicinally.

- 1a. Branches hollow; calyx lobes (5–)6–7 mm; fruit stalk 7–20 mm.
 - 2a. Leaves serrate, simple or 3-parted to 3-foliolate 1. *F. suspensa*
 - 2b. Leaves entire, all simple 2. *F. mira*
- 1b. Branchlets with lamellate pith; calyx lobes not exceeding 5 mm; fruit stalk less than 7 mm.
 - 3a. Leaf margin serrate or dentate.
 - 4a. Leaf blade long elliptic to lanceolate, or long obovate-elliptic, glabrous 3. *F. viridissima*
 - 4b. Leaf blade broadly ovate, elliptic, or suborbicular, abaxially hairy 4. *F. mandshurica*
 - 3b. Leaf margin entire or sparsely and minutely serrate.
 - 5a. Leaf blade hairy or glabrous, entire or minutely serrate 5. *F. giraldiana*
 - 5b. Leaf blade glabrous, entire 6. *F. likiangensis*

1. *Forsythia suspensa* (Thunberg) Vahl, Enum. Pl. 1: 39. 1804.

连翘 *lian qiao*

Ligustrum suspensum Thunberg, Nov. Act. Soc. Sci. Upsal. 3: 207. 1780; *Forsythia fortunei* Lindley; *F. suspensa* var. *fortunei* (Lindley) Rehder; *F. suspensa* var. *latifolia* Rehder; *F. suspensa* f. *pubescens* Rehder; *F. suspensa* var. *sieboldii* Zabel; *Rangium suspensum* (Thunberg) Ohwi; *Syringa suspensa* (Thunberg) Thunberg ex Murray.

Shrubs. Branches spreading or pendulous; branchlets yellow-brown or gray-brown; internodes hollow. Leaves simple, sometimes 3-parted to 3-foliolate; petiole 0.8–1.5 cm, glabrous or sometimes pubescent; leaf blade ovate, broadly ovate, or elliptic-ovate, 2–10 × 1.5–5 cm, subleathery, glabrous or sometimes pubescent, or abaxially villous, especially along veins, base rounded to cuneate, margin serrate, apex acute. Flowers solitary or 2 to several in leaf axils. Pedicel 5–6 mm. Calyx lobes oblong, (5–)6–7 mm, ciliate. Corolla yellow; tube subequal to calyx lobes; lobes obovate-oblong or oblong, 1.2–2 cm. Pistil 5–7 mm in flowers with stamens 3–5 mm or ca. 3 mm in flowers with stamens 6–7 mm. Capsule ovoid to long ellipsoid, 1.2–2.5 cm × 6–12 mm, with scattered lenticels; stalk 0.7–1.5 cm. Fl. Mar–Apr, fr. Jul–Sep.

* Thickets or grassy areas on slopes, valleys, gullies; 300–2200 m. Anhui, Hebei, Henan, Hubei, Jiangsu (cultivated), Shaanxi, Shandong, Shanxi, Sichuan.

The fruit are used as antipyretic and antidote. The plant is ornamental.

Because upright and pendulous branches are found on same plant, *Forsythia suspensa* var. *fortunei* does not merit recognition as a variety.

2. *Forsythia mira* M. C. Chang, Investig. Stud. Nat. 7: 16. 1987.

奇异连翘 *qi yi lian qiao*

Shrubs scandent, 1.2–3 m. Branchlets brownish, puberulent; internodes hollow. Leaves simple, puberulent; petiole 0.5–2 cm; leaf blade ovate-elliptic, elliptic, to lanceolate, 3–7.5 × 1–4 cm, subleathery, base cuneate to subrounded, margin entire, apex acute. Calyx lobes broadly lanceolate, ca. 5 mm, glabrous. Other flower parts not seen. Capsule solitary, broadly ovoid, 1.5–2 cm × 8–10 mm, with scattered lenticels; stalk 1.2–2 cm. Fr. Jun.

* Roadsides, slopes. Shaanxi (Shanyang Xian).

3. *Forsythia viridissima* Lindley, J. Hort. Soc. London 1: 226. 1846.

金钟花 *jin zhong hua*

Rangium viridissimum (Lindley) Ohwi.

Shrubs glabrous except for calyx lobes. Branches upright, to 3 m; branchlets green or yellow-green; pith lamellate. Leaves simple; petiole 6–12 mm; leaf blade long elliptic to lanceolate or long obovate-elliptic, 3.5–15 × 1–4 cm, subleathery, base cuneate, margin serrate or entire along distal half, apex acute. Flowers 1–3(–4) in leaf axils. Pedicel 3–7 mm. Calyx lobes broadly ovate or elliptic, 2–4 mm, ciliate. Corolla deep yellow outside, tinged with orange-yellow stripes inside; tube 5–6 mm; lobes narrowly oblong, 0.6–1.8

cm, revolute. Pistil 5.5–7 mm in flowers with stamens 3.5–5 mm or ca. 3 mm in flowers with stamens 6–7 mm. Capsule ovoid, 1–1.5 cm × 6–10 mm, lenticellate; stalk 3–7 mm. Fl. Mar–Apr, fr. Aug–Nov.

* Ravines, margin of woods near river valleys, streamsides. Anhui, Fujian, Hubei, Hunan, Jiangsu, Jiangxi, NW Yunnan, Zhejiang; widely cultivated in all parts except for S. China.

4. *Forsythia mandshurica* Uyeki, J. Chosen Nat. Hist. Soc. 9: 20. 1929.

东北连翘 dong bei lian qiao

Rangium mandshuricum (Uyeki) Uyeki & Kitagawa.

Shrubs ca. 1.5 m. Branchlets green at first, becoming gray-yellow, spreading, glabrous; pith lamellate. Leaves simple; petiole 5–13 mm, pilose or glabrescent; leaf blade broadly ovate, elliptic, or suborbicular, 5–12 × 3–7 cm, papery, adaxially glabrous, abaxially pilose, base broadly cuneate, subtruncate to subrounded, margin serrate or dentate, apex caudate-acuminate or obtuse. Flowers solitary in leaf axils. Pedicel ca. 5 mm. Calyx lobes ovate-orbicular, 2–3 mm, ciliate. Corolla yellow; tube ca. 5 mm; lobes lanceolate, ca. 1.5 cm, obtuse or retuse. Stamens 2–3 mm. Pistil 3.5–5 mm. Capsule long ovoid, 7–10 × 4–5 mm, obscurely lenticellate; stalk ca. 5 mm. $2n = 42$. Fl. May, fr. Sep.

* Slopes. Liaoning (Jiguan Shan).

Forsythia mandshurica is a triploid hybrid that produces abortive seeds. One of its putative parents is probably *F. ovata* Nakai.

5. *Forsythia giraldiana* Lingelsheim, Jahresb. Schles. Ges. Vaterl. Cult. 2b (Zool.-bot. Sekt.): 1. 1908.

秦连翘 qin lian qiao

Shrubs. Branches upright, 1–3 m; branchlets brownish, glabrous; pith lamellate. Leaves simple; petiole 5–10 mm, pilose or glabrous; leaf blade long elliptic, ovate to lanceolate, or obovate-elliptic, 3.5–12 × 1.5–6 cm, subleathery, adaxially glabrous or pubescent, abaxially densely villous to glabrous, base cuneate to subrounded, margin entire or sparsely and minutely serrate, apex caudate-acuminate or acute. Flowers 1–3 in leaf axils; pedicellate. Calyx lobes tinged with purple, ovate-deltate, 3–4 mm, ciliate. Corolla yellow; tube 4–6 mm; lobes narrowly oblong, 0.7–1.5 cm. Pistil ca. 3 mm in flowers with stamens 5–6 mm or 5–7 mm in flowers with stamens 3–5 mm. Capsule ovoid or lanceolate-ovoid, 0.8–1.8 cm × 4–10 mm, with obscure or sparse lenticels; stalk 2–5 mm. Fl. Mar–May, fr. Jun–Oct. $2n = 28^*$.

* Woods on slopes, stone crevices in ravines, flood lands; 800–3200 m. SE Gansu, W Henan, Shaanxi, NE Sichuan.

6. *Forsythia likiangensis* Ching & Feng ex P. Y. Bai, Acta. Bot. Yunnan. 5: 178. 1983.

丽江连翘 li jiang lian qiao

Shrubs glabrous except for calyx lobes. Branches 1–3 m; branchlets brownish; pith lamellate. Leaves simple; petiole 5–10 mm; leaf blade ovate to long elliptic, 2–9 × 1–3.5 cm,

subleathery, base cuneate or subrounded, margin entire, apex acute to caudate-acuminate. Flowers solitary in leaf axils. Pedicel 1–4 mm. Calyx lobes broadly ovate, 1.5–3 mm, ciliate. Corolla yellow outside, red striped inside; tube 5–6 mm; lobes oblong or elliptic, ca. 1 cm, blunt. Stamens slightly longer than corolla tube. Pistil shorter than stamens. Capsule ovoid, 8–10 × 5–8 mm, obscurely lenticellate; stalk 2–4 mm. Fl. Apr–May, fr. Jun–Oct.

* Mixed forests in montane regions. Sichuan (Muli Xian), NW Yunnan.

