

# 1. ZABELIA (Rehder) Makino, Makinoa 9: 175. 1948.

六道木属 liu dao mu shu

*Abelia* sect. *Zabelia* Rehder in Sargent, Pl. Wilson. 1: 124. 1911.

Shrubs, deciduous. Old branches often with 6 deep longitudinal grooves. Young branches often with retrorse stiff hairs. Leaves opposite, margin entire or dentate (or sometimes lobed on vigorous shoots), shortly petiolate, estipulate. Petioles of opposite leaf pairs dilated and connate at base, enclosing winter buds. Inflorescence a terminal congested thyrse of sessile cymes; cymes 1–3-flowered. Calyx of 4 or 5 sepals, persistent, spreading, narrowly oblong to elliptic. Corolla white, pale rose, or sometimes reddish, hypocrateriform and ± zygomorphic, 4- or 5-lobed; corolla tube usually without distinct swelling at base, glandular inside. Stamens included, didynamous, inserted at base or middle of corolla tube; anthers yellow, introrse. Ovary usually 3-locular, 2 locules with 2 series of sterile ovules and 1 locule with a single fertile ovule; style filiform; stigmas green, capitate, mucilaginous. Fruit a leathery achene, oblong, crowned with persistent calyx lobes; seed subterete, testa membranous; endosperm fleshy.

Six species: Afghanistan, China, NW India, Japan, Korea, Kyrgyzstan, Nepal, Russia (Far East); three species (one endemic) in China.

This group was first published by Rehder (in Sargent, Pl. Wilson. 1: 118. 1911) as *Abelia* sect. *Zabelia*. It was described in honor of Zabel who was the first to delimit the genus *Abelia* into sections (Mitt. Deutsch. Dendrol. Ges. 2: 33. 1893). The phylogeny of this group was further studied by Makino and supported by the studies of Ikuse and Kurosawa (Notes on Sect. *Zabelia* Rehder of the genus *Abelia*, J. Jap. Bot. 29(4): 11. 1954), and later by Fukuoka (Phylogeny of the Tribe Linnaeae, Acta Phytotax. Geobot. 23: 82. 1968). The genus *Zabelia* was segregated from *Abelia* based on pollen, wood anatomy, inflorescence structure, and karyology (Makino, Makinoa 9: 175. 1948; cf. Hisauchi & Hara, J. Jap. Bot. 29: 143. 1954).

- 1a. Calyx and corolla lobes 5; inflorescence a congested terminal thyrse of sessile cymes (cymes 1–3-flowered); bracts and bracteoles leaflike; sepals long ciliate in fruit ..... 1. *Z. triflora*
- 1b. Calyx and corolla lobes 4; inflorescence terminal of paired flowers (occasionally more due to supernumerary flowers axillary to bracteoles); bracts and bracteoles reduced; sepals not long ciliate in fruit (occasionally sparsely ciliate) ..... 2–3. *Z. biflora* species complex

**1. *Zabelia triflora*** (R. Brown ex Wallich) Makino, Makinoa 9: 175. 1948.

醉鱼草状六道木 zui yu cao zhuang liu dao mu

*Abelia triflora* R. Brown ex Wallich, Pl. Asiat. Rar. 1: 14. 1829; *A. angustifolia* Bureau ex Franchet; *A. buddleioides* W. W. Smith; *A. buddleioides* var. *divergens* W. W. Smith; *A. buddleioides* var. *intercedens* Handel-Mazzetti; *A. buddleioides* var. *stenantha* Handel-Mazzetti; *Zabelia buddleioides* (W. W. Smith) Hisauchi & H. Hara; *Z. buddleioides* var. *divergens* (W. W. Smith) Golubkova; *Z. buddleioides* var. *stenantha* (Handel-Mazzetti) Hisauchi & H. Hara; *Z. stenantha* (Handel-Mazzetti) Golubkova.

Shrubs, deciduous, 1–2 m tall. Young branches with retrorse stiff hairs, becoming glabrous. Petiole very short, to 2 mm, hispid. Leaf blade ovate to lanceolate, 15–70 × 5–20 mm, both surfaces glabrous but long hispid on margin and veins abaxially, base cuneate, margin entire to occasionally serrate or lobed, apex acute. Inflorescence a congested terminal thyrse of cymes (cymes 1–3-flowered); pedicels short or nearly absent. Bracts leaflike, lanceolate to obovate; bracteoles linear to subulate, ca. 4 mm, hispid. Calyx of 5 linear sepals, 4–10 × ca. 1 mm, ciliate with stiff hairs. Corolla white, sometimes tinged red, hypocrateriform, 10–20 mm, nearly twice as long as sepals; lobes 5, spreading, suborbicular; tube densely villous inside, with sparsely adpressed hairs outside. Stamens 4, didynamous, included; filaments short, hispid; anthers oblong. Ovary narrowly ovoid, hirsute; styles filiform, exceeding stamens; stigmas capitate. Achene terete, striate, crowned with 5 slightly enlarged and long ciliate persistent sepals. Fl. May, fr. Jun–Aug.

Forests, scrub, grasslands; 1800–3500 m. SW Sichuan, SE Xizang, NW Yunnan [Afghanistan, NW India, Nepal, Pakistan].

The Chinese specimens were previously named as *Abelia buddleioides* by W. W. Smith (Notes Roy. Bot. Gard. Edinburgh 9: 75. 1915–1916). The type specimen *Forrest 12636* from Yunnan is similar to the type of *A. triflora* var. *parvifolia* (Clarke) Hisauchi & H. Hara from Pakistan. Nevertheless, the group shows much variation in the size and shape of the leaves and sepals.

## 2–3. *Zabelia biflora* species complex

Shrubs deciduous, 2–3 m tall. Petiole 4–7 mm, sparsely hispid. Leaf blade narrowly ovate or obovate to lanceolate, 30–80 × 5–30 mm, abaxially glabrous but with stiff hairs on veins, adaxially sparsely pubescent when young, base cuneate to obtuse, margin entire or with 1–6 pairs of teeth, apex acute to long acuminate. Inflorescence terminal, of paired flowers (occasionally more due to supernumerary flowers axillary to bracteoles); flowers sessile but long pedunculate, peduncles often appearing ± fused; peduncles 0–12 mm; flowers with 3 bracts at base of each ovary; bracts 1–6 mm. Sepals 4, ovate-lanceolate or obovate. Corolla white sometimes tinged red abaxially, 4-lobed; lobes orbicular, 1/3 or 1/5 as long as tube; tube pubescent inside. Stamens 4, didynamous, included. Ovary to 8 mm, with sparse, stiff hairs; styles long, equaling corolla, slender; stigmas capitate, not exerted from corolla tube. Achene 1–1.5 cm, crowned with 4 persistent and slightly enlarged sepals. Fl. Apr–Jun, fr. Aug–Sep.

Scrub, forests, grasslands; 800–3700 m. Anhui, Fujian, SE Gansu, Guizhou, Hebei, Henan, Hubei, Hunan, Jiangxi, Liaoning, Nei Mongol, S Ningxia, Shaanxi, Shanxi, Sichuan, Xizang, Yunnan, Zhejiang [Japan, Korea, Russia (Far East)].

The *Zabelia biflora* species complex was revised by Nakai (J. Jap. Bot. 13(8): 1–12. 1937) who distinguished 11 species. We currently recognize two species in China.

Most of the differences between taxa were based on the length of the peduncles, bracts, and bracteoles, which are highly variable. Classification of *Zabelia biflora* is complex and needs to be investigated.

- 1a. Distributed in NE China (Anhui, Hebei, Henan, Liaoning, Nei Mongol, Shanxi) ..... 2. *Z. biflora*  
 1b. Distributed in SW China (Anhui, Fujian, SE Gansu, Guizhou, Henan, Hubei, Jiangxi, S Ningxia, Shaanxi, Shanxi, Sichuan, Xizang, Yunnan, Zhejiang) ..... 3. *Z. dielsii*

2. ***Zabelia biflora*** (Turczaninow) Makino, Makinoa 9: 175. 1948.

六道木 liu dao mu

*Abelia biflora* Turczaninow, Byull. Moskovsk. Obsch. Isp. Prir., Otd. Biol. 10: 152. 1837; *A. adenotricha* Hance; *A. biflora* var. *coreana* (Nakai) C. F. Fang; *A. biflora* f. *minor* (Nakai) C. F. Fang; *A. biflora* var. *minor* Nakai; *A. coreana* Nakai.

For description see under species complex. Fl. Apr–Jun, fr. Aug–Sep.

Scrub, forests; 1000–2000 m. Anhui, Hebei, Henan, Liaoning, Nei Mongol, Shanxi [Korea, Russia (Far East)].

3. ***Zabelia dielsii*** (Graebner) Makino, Makinoa 9: 175. 1948.

南方六道木 nan fang liu dao mu

*Linnaea dielsii* Graebner, Bot. Jahrb. Syst. 29: 140. 1900; *Abelia anhweiensis* Nakai; *A. brachystemon* (Diels) Rehder; *A. davidii* Hance; *A. dielsii* (Graebner) Rehder; *A. hersii* Nakai; *A. onkocarpa* (Graebner) Rehder; *A. umbellata* (Graebner & Buchwald) Rehder; *A. zanderi* (Graebner) Rehder; *L. brachystemon* Diels; *L. onkocarpa* Graebner; *L. umbellata* Graebner & Buchwald; *L. zanderi* Graebner; *Zabelia brachystemon* (Diels) Golubkova.

For description see under species complex. Fl. Apr–Jun, fr. Aug–Sep.

• Scrub, forests, grasslands; 800–3700 m. Anhui, Fujian, SE Gansu, Guizhou, Henan, Hubei, Jiangxi, S Ningxia, Shaanxi, Shanxi, Sichuan, Xizang, Yunnan, Zhejiang.

