

36. OXYGRAPHIS Bunge, Verz. Altai Pfl. 46. 1836.

鸦跖花属 ya zhi hua shu

Wang Wencai (王文采 Wang Wen-tsai); Michio Tamura, Michael G. Gilbert

Herbs perennial, stemless, with short rhizomes. Leaves all basal, simple, petiolate, leaf blade undivided, indistinctly 3-lobed, or rarely 3-partite, margin crenate or entire, 3–5-veined. Inflorescence a solitary, scapose, terminal flower, rarely a 2- or 3-flowered monochasium. Flowers bisexual, actinomorphic. Sepals 5–8, enlarged after flowering, green, persistent or rarely deciduous. Petals 5–19, yellow, oblong, shortly clawed, with a small nectary pit above base. Stamens numerous; filaments narrowly linear; anthers ellipsoid or oblong. Carpels numerous, spirally arranged on a convex receptacle; ovule 1 per carpel, erect. Style shorter than ovary; stigmatic surface adaxial. Aggregate fruit broadly ovoid; achenes ± bilaterally compressed, narrowly rhombic or subfusiform, longitudinally 1- or more veined on each side, with a persistent style at apex.

Four species: Bhutan, China, India, Kashmir, Kazakhstan, Mongolia, Nepal, Pakistan, Russia; four species (two endemic) in China. *Oxygraphis* is often included within *Ranunculus*.

- 1a. Scapes puberulent apically; sepals papery, deciduous 1. *O. delavayi*
- 1b. Scapes glabrous; sepals leathery or subleathery, persistent.
 - 2a. Leaf blade orbicular, reniform, or ovate, base subcordate or truncate, margin crenate 2. *O. endlicheri*
 - 2b. Leaf blade ovate, elliptic, or linear, base broadly cuneate or attenuate, margin entire or rarely crenate.
 - 3a. Leaf blade ovate, broadly ovate, or elliptic, 0.5–3 × 0.5–3 cm, base broadly cuneate; flowers 1.5–3 cm in diam.; petals 12–19 3. *O. glacialis*
 - 3b. Leaf blade linear, linear-lanceolate, or lanceolate, 0.8–1.5 × 0.2–0.4 cm, base attenuate; flowers ca. 1 cm in diam.; petals 9–11 4. *O. tenuifolia*

1. *Oxygraphis delavayi* Franchet, Bull. Soc. Bot. France 33: 374. 1886.

脱萼鸦跖花 tuo e ya zhi hua

Oxygraphis delavayi var. *ningchiensis* W. L. Zheng.

Basal leaves 3–5, glabrous; petiole 1.6–10 cm, vaginate at base; leaf blade reniform to orbicular or ovate-orbicular, 0.8–3.8 × 0.9–3.8 cm, base cordate or subcordate, margin crenate, indistinctly 7–9-lobed or 3-lobed, rarely 3-partite, apex rounded. Scapes 1–3, more than 4 cm, elongating to 15 cm in fruit, glabrous, except for appressed puberulent apical part. Flowers solitary or 2 or 3 in a monochasium, 1–2 cm in diam.; bracts linear or ovate. Sepals 5, oblong, ovate-oblong, or sublinear, 4–8 mm, papery, glabrous, deciduous. Petals 5–10, long elliptic or oblong, 4.5–10 × 1.8–4 mm, apex rounded. Anthers oblong; 0.6–0.9 mm. Aggregate fruit broadly ovoid, ca. 5 mm in diam.; achenes obliquely obovate or narrowly obliquely ovate, 1.8–2 × 1–1.1 mm, glabrous. Persistent style 0.5–0.8 mm, Fl. Apr–Aug, fr. Jul–Aug. 2n = 16*.

• Alpine meadows, grassy slopes, gravelly places; 3500–5000 m. NW Sichuan, SE Xizang (Bomi Xian), NW Yunnan.

2. *Oxygraphis endlicheri* (Walpers) Bennet & Sumer Chandra, Indian Forester 108: 374. 1982.

圆齿鸦跖花 yuan chi ya zhi hua

Callianthemum endlicheri Walpers, Repert. Bot. Syst. 1: 33. 1842; *Oxygraphis polypetala* J. D. Hooker & Thomson; *Ranunculus polypetalus* Royle (1834), not Rafinesque (1817).

Basal leaves ca. 5, glabrous; petiole 3–5 cm, vaginate at base; leaf blade orbicular, reniform, or ovate, 0.5–1.6 × 0.7–1.4 cm, base subcordate or truncate, margin crenate, apex obtuse or rounded-obtuse. Scapes 1–4, more than 1.5 cm, elongating to 6 cm in fruit, glabrous. Flowers solitary, 1.2–1.7 cm in diam. Sepals 5, ovate or oblong, 3–6 mm, leathery, glabrous, persistent. Petals ca. 12, spatulate-linear, 7–10 × 1.2–2 mm, apex slightly acute. Anthers oblong, 0.5–0.8 mm. Aggregate fruit ovoid, ca. 8 mm in diam.; achenes subfusiform or ovate-oblong, 2–2.5 × ca. 1 mm, glabrous. Persistent style 0.2–0.5 mm. Fl. and fr. May–Jun.

Alpine meadows, forest margins; 3900–4100 m. S Xizang (Yadong Xian) [Bhutan, N India, Kashmir, Nepal, N Pakistan].

3. *Oxygraphis glacialis* (Fischer ex de Candolle) Bunge, Verz. Altai Pfl. 47. 1836.

鸦跖花 ya zhi hua

Ficaria glacialis Fischer ex de Candolle, Prodr. 1: 305. 1817; *Caltha glacialis* (Fischer ex de Candolle) Sprengel; *C. kamchatica* (de Candolle) Sprengel; *Ranunculus kamchaticus* de Candolle.

Basal leaves 5–10, glabrous; petiole 1–8 cm, narrowly vaginate at base; leaf blade ovate, broadly ovate,

obovate, or elliptic, 0.5–3 × 0.5–3 cm, base broadly cuneate, margin entire, or rarely crenate, apex obtuse. Scapes 1–8, more than 2 cm, elongating to 10 cm in fruit, glabrous. Flowers solitary, 1.5–3 cm in diam. Sepals 5, orbicular-obovate or elliptic-ovate, 3–5 mm, subleathery, glabrous, persistent, accrescent after anthesis to 10–18 mm. Petals 12–19, oblanceolate or oblong, 7–12 × 1.5–3 mm. Anthers oblong, 0.6–1 mm. Aggregate fruit subglobose, ca. 1 cm in diam.; achenes narrowly obovate-rhombic, 2.2–3 × 1.2–1.8 mm, glabrous. Persistent style 1.5–2 mm. Fl. Apr–Sep, fr. Jun–Oct. $2n = 16^*$.

Alpine meadows, often on level wet stony areas, grassy slopes, scrub, by rivers; 2700–5000 m. S Gansu, Qinghai, S Shaanxi (Taibai Shan), W Sichuan, Xinjiang, Xizang, NW Yunnan [Bhutan, N India, Kazakhstan, Mongolia, Nepal, Russia (Siberia)].

If *Oxygraphis* is included within *Ranunculus*, the correct name for this species is *R. kamchaticus* because the epithet “*glacialis*” was already used in 1753 for the alpine European species *Ranunculus glacialis* Linnaeus.

4. *Oxygraphis tenuifolia* W. E. Evans, Notes Roy. Bot. Gard. Edinburgh 13: 172. 1921.

小鸦跖花 xiao ya zhi hua

Basal leaves 8–25, glabrous; petiole 1–3.6 cm, narrowly vaginate at base; leaf blade linear to lanceolate, 0.8–1.5 cm × 2–4 mm, base attenuate, margin entire, apex obtuse. Scapes 1–3, more than 2 cm, elongating to 4.5 cm in fruit, glabrous. Flowers solitary, ca. 1 cm in diam. Sepals 5, broadly ovate or orbicular-ovate, 2–3 mm, subleathery, glabrous, persistent. Petals 9–11, lanceolate-linear, 4.5–5.5 × 0.8–1.2 mm, apex acute. Anthers elliptic, 0.3–0.5 mm. Aggregate fruit broadly ovoid, ca. 6 mm in diam.; achenes subfusiform, ca. 1.8 × 0.8 mm, glabrous. Persistent style ca. 0.6 mm. $2n = 16^*$.

• Alpine meadows, grassy slopes; 3400–4300 m. W Sichuan, NW Yunnan (Zhongdian Xian).

