



Adonis aestivalis L.
Adonis annua L.
Adonis dentata Delile
RANUNCULACEAE

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Synonyms

Adonis aestivalis L.: *Adonis aestivalis* L. subsp. *cretica* (Huth) C. Steinb.; *Adonis aestivalis* L. subsp. *marginata* C.H.Steinb. ex W.T.Wang; *Adonis aestivalis* L. var. *velutina* Lipsky; *Adonis ambigua* Gaudin; *Adonis ambigua* Gaudin var. *flavus* Gaudin; *Adonis annua* L. var. *phoenicea* L.; *Adonis autumnalis* M.Bieb.; *Adonis bienertii* Butkov ex Riedl.; *Adonis citrina* Hoffm.; *Adonis crinita* Hoffm.; *Adonis cristata* Stapf; *Adonis flammea* Schleich. ex Steud.; *Adonis flava* Vill.; *Adonis inermis* Stapf; *Adonis inglisii* Royle; *Adonis linnaei* Sennen; *Adonis maculata* Wallr.; *Adonis maculata* Wallr. var. *miniata* Wallr.; *Adonis maculata* Wallr. var. *ochroleuca* Wallr.; *Adonis maculata* Wallr. var. *pallens* Wallr.; *Adonis micrantha* DC.; *Adonis miniata* Jacq.; *Adonis polymorpha* Zumagl.; *Adonis scrobiculata* Boiss. subsp. *velutina* (Lipsky) C.H.Steinb. ex Rech.f.; *Adonis squarrosa* Steven;

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Cosmarium aestivale Dulac; *Adonis aestivalis* Dulac subsp. *aestivalis* (WFO 2023a).

***Adonis annua* L.:** *Adonis abortiva* Hausskn.; *Adonis aestivalis* M.Bieb.; *Adonis annua* L. subsp. *baetica* (Coss.) P.W.Ball & Heywood; *Adonis annua* L. subsp. *castellana* (Pau) C.Steinb.; *Adonis annua* L. var. *atrorubens* L.; *Adonis annua* L. var. *castellana* (Pau) W.T.Wang; *Adonis atrorubens* (L.) Dalla Torre & Sarnth.; *Adonis atrorubens* L.; *Adonis autumnalis* L.; *Adonis baetica* Coss.; *Adonis baetica* subsp. *carinata* (Vierh.) W.T.Wang; *Adonis castellana* Pau; *Adonis erosipetala* Stokes; *Adonis maculata* Roth; *Adonis perramosa* Schur; *Adonis phoenicea* (L.) Bercht. & J.Presl; *Adonis preslii* Tod. ex Nyman; *Cosmarium autumnale* Dulac (WFO 2023b).

***Adonis dentata* Delile:** *Adonis dentata* subsp. *persica* (Boiss.) Riedl; *Adonis dentata* var. *orientalis* DC.; *Adonis dentata* var. *persica* (Boiss.) Boiss.; *Adonis microcarpa* var. *dentata* (Delile) Coss. & Kralik; *Adonis persica* Boiss.; *Adonis vernalis* Asso (WFO 2023c).

Local Names

***Adonis annua* L.: Lebanon:** ‘Ain-el-hajla (عين الحجلة) (Marc et al., 2008), aghir al Thamar (صغير الثمر) (Baydoun et al. 2015; Arnold et al. 2015).

***Adonis aestivalis* L.: Algeria:** banna'mân (بِنْعَمَانُ) (Benarba et al. 2015).

***Adonis dentata* Delile: Algeria:** Ain el hedjla (عين الحجلة) (Baziz et al. 2020).

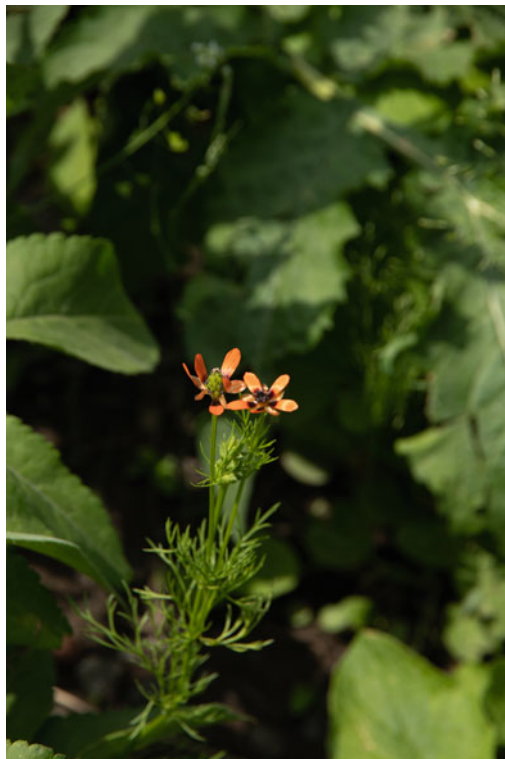
Endemism

The species are not endemic in North Africa (El Oualidi et al. 2012).

Botany and Ecology

***Adonis aestivalis* L.:** Herbs, annual, taprooted. Stem 1, 20–50(–100) cm. Leaves: basal leaves 3–5 cm, similar to cauline, petiolate; cauline leaves sessile or subsessile. Leaf blade 2–3-pinnatifid. Flowers 1.5–3.5 cm diam.; sepals appressed to petals, broadly obovate, ±erose in distal 1/3, minutely ciliate, otherwise glabrous; petals 6–8, ± erect, orange [yellow, scarlet, or bright red-purple], usually with dark purple basal blotch, ± plane, 10–17 mm, ca. 1.5 times length of calyx, apex slightly erose; stamens ca. 30; anthers purple-black (olive green with age); pistils 30–40. Heads of achenes cylindric, 20–30 × 7–10 mm; pedicels conspicuously exserted well beyond leaves; achenes 4–6 mm, glabrous, adaxial margin with low, rounded tooth, transverse flange around middle (most pronounced abaxially), abaxial keel bearing small obtuse tooth at junction with flange; beak straight, erect, 1.5–2 mm (Shishkin and Bobrov 1937) (Figs. 1, 2, and 3).

Fig. 1 *Adonis aestivalis*, Bakuriani, Georgia. (Photo RW Bussmann & NY Paniagua Zambrana)



***Adonis annua* L.:** Annual herb, 10–40 cm tall. Leaves 2–5 cm long cauline, petiolate, sessile or subsessile, 2–3-pinnatifid. Flowers 1.5–2.5 cm in diameter, ciliate. Petals 6–10, dark red, sometimes orange to red-purple, basally dark blackish. Anthers purplish-black.

Local Medicinal Uses

***Adonis aestivalis* L.:** **Jordan:** Adonis is used internally as antispasmodic or cardiac tonic (Al-Quran 2008). **Algeria:** Decoction of the aerial parts used for infections problems (Benarba et al. 2015). **Lebanon:** Whole plant decoction or infusion is used for the management of cardiac disorders, Gout, and Edema (Baydoun et al. 2015); the decoction is used also as tonicardiac and diuretic in the treatment of hydropsy and gout (Arnold et al. 2015).

***Adonis annua* L.:** **Lebanon:** Whole plant decoction is used for Gout problems (Marc et al., 2008). **Algeria:** The plant is used for cardiovascular diseases (Miara et al. 2021).

Fig. 2 *Adonis aestivalis*, Bakuriani, Georgia. (Photo RW Bussmann & NY Paniagua Zambrana)



Fig. 3 *Adonis aestivalis*, Bakuriani, Georgia. (Photo RW Bussmann & NY Paniagua Zambrana)



***Adonis dentata* Delile: Tunisia:** The decoction flowers are used for renal problems, infections, and skin damage (Barhoumi and Abderraba 2019); **Algeria:** Aerial parts powder or infused are used for cardiovascular diseases (Baziz et al. 2020).

Local Medicinal Uses in Other Regions

Adonis aestivalis L.: Infusion used as cardi tonic, sedative; cardiac disorders, headaches (Tiřă et al. 2009). Toxic. Causes neuralgic pains, hysteria, mania, epilepsy, CNS disturbances, and is hypnotic (Al-Qura'n 2005).

Adonis flammea L.: Used as emmenagogue, diuretic, and in the treatment of gout and hydropsy (Arnold et al. 2017).

Adonis microcarpa DC.: Decoction of whole plant is used as cardiac tonic and diuretic in the treatment of hydropsy and gout and in immunotherapy (Balázs et al. 2020).

Adonis vernalis L.: Used in traditional medicine (Farnsworth et al. 1985).

Local Food Uses in Other Regions

Adonis aestivalis L. Stems used in small quantities in phkhali (herb pie) (Bussmann et al. 2021).

Local Handicraft and Other Uses in Other Regions

Adonis aestivalis L. subsp. aestivalis L.: Used as fodder (Ari et al. 2015).

Adonis flammea L.: Used as ornamental (Arnold et al. 2017).

Toxicity

Some members of this genus are known to be toxic (Shang et al. 2019; Üçüncü et al. 2020), with ingestion leading to nausea, vomiting, and abdominal pain (Shang et al. 2019), and in high doses to tachy- and bradyarrhythmias (Puschner and Woods 2003).

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