
Atriplex hortensis L.

Atriplex tatarica L.

AMARANTHACEAE

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Synonyms

Atriplex laciniata L.; *Atriplex astracanicum* Balb.; *Teutliopsis tatarica* (L.) Čelak.

Local Names

Armenia: *Atriplex tatarica*; Թելուկ թաթարական (Teluk tatarakan); **Azerbaijan:** *Atriplex hortensis*: Bağ sirkəni – orach; *Atriplex tatarica*: Tatar sirkəni – orach; **Georgia:** წითელი მხაღი - ts'iteli phkhali, თაბაბო - tatabo (Tushetian); **English:** Goose foot.

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Botany and Ecology

***Atriplex hortensis* L.**

A robust annual herb, up to 150 cm tall. Stems erect, branched. Leaves alternate, triangular, and often broadly hastate at base. Flowers in leafless spikes. Flowers monoecious, male flowers with 5 stamens. Female flowers lacking bracts but with a minute flower of 5 petals and sepals, other flowers with 2 bracts but no sepals. Bracts elongated heart-shaped many-nerved and shiny. Bracts enlarge upon fruiting. Seeds of 3 kinds, a larger dull, yellowish brown, or black and shiny and smaller both positioned vertically, a third kind is shiny and black, but positioned horizontally. Found at home gardens, and in open or disturbed areas such as fence rows. Distributed in Siberia, central Asia and southern Europe, introduced to North America. Typically known only in cultivation outside of the Caucasus region, where it occurs in steppes of Ciscaucasia, Eastern Transcaucasia and in West Siberia. Flowers and fruits from July to September. *A. hortensis* is commonly grown as a warm-weather alternative to spinach because it is more tolerant of heat and slower to bolt in warm weather. It is also a food plant used by the larvae of some Lepidoptera species. For several species of spiders and insects, *A. hortensis* offer opportunities to hide and hunt in habitat that is otherwise often quite barren.

Azerbaijan: Grows in the lower and middle mountain belts in the regions of Guba part of the Greater Caucasus and mount. Part of Nakhchivan. Found in gardens and ruderal areas. Flowering and fruiting in July–September (Flora of Azerbaijan 1950–1961).

Georgia: Found in gardens and ruderal areas across the country.

***Atriplex tatarica* L.**

An annual, erect or decumbent branching herb up to 1.5 m tall. Often covered in silver pubescence and a scaly texture. Leaves alternate 3–8 mm, triangular or clasping or lanceolate with wavy, toothed and hairy margins, sometimes 3-lobed. Flowers in leafless terminal spikes disposed in leaf axils. Female flowers in clusters surrounded by a pair of bracts, these circular to deltoid-rhombic and 7 mm in diameter and when mature bracts are hastate or 3-lobed and prominently network-veined. Seeds round, brown and shiny. Found in continental or coastal solonchaks, and weedy areas. Distributed in Caucasus (Ciscaucasia, Dagestan, Eastern and southern Transcaucasia), Siberia, Central Europe and Central Asia. Flowers and fruits from July to September. *A. tatarica* is an early successional species of disturbed habitats, in Central Europe mostly occupies road margins and waste places.

Armenia: On ruderal places, in gardens and orchards, “solonchaks” (salt bodies), near drainage and irrigation channels, near water streams, from lower to upper mountain belt, on the elevation 600–2100 m. Flowers from June to August, fruits from July to October. Distributed in Shirak, Idjevan, Sevan, Yerevan, Darelegis, Zangezur floristic regions (Takhtadjan 1954–2009).

Azerbaijan: Areal covers regions of Samur-Devechi lowlands, Caspian seaside lowlands, Kur-Araz and Lankaran lowlands, Absheron, Gobustan, Kura plain, and South Lower Caucasus, Nakhchivan plain and mountainous part of Nakhchivan. Grows from lowland to middle mountain zone in salinized soil, ruderal areas, in seeds of cotton, in reservoirs. Flowering in July–September, fruiting in September–November (Flora of Azerbaijan 1950–1961).

Local Medicinal Uses

Armenia: *Atriplex tatarica* leaves contain vitamin C (Grossheim 1952; Budantseva 1994–1996; Sokolov 1984–1993; Tsaturyan and Gevorgyan 2014; Zolotnitskaya 1958–1965).

Azerbaijan: *Atriplex hortensis* is used as diuretic and anastasic. A decoction of the leaves is used as diuretic, as well as against hemorrhage (Damirov et al. 1988). *Atriplex tatarica* is used for diseases of liver and urinary tracts. The decoction is used for jaundice, and as diuretic, and a decoction of the seed serves as emetic and laxative (Damirov et al. 1988).

Local Food Uses

Armenia: Young leaves of *Atriplex tatarica* are used like spinach, with leaves of *Rumex* is using for preparation of traditional soup, as well are using boiled with butter, eggs, or in marinade. Young shoots and leaves are used fresh in salads, in the form of saline are used as seasoning and in salads, boiled or fried are used like spinach with various additives - with eggs and butter (Grossheim 1952; Gubanov et al. 1976; Tsaturyan and Gevorgyan 2007).

Azerbaijan: Young leaves of all species are used raw, boiled and fried, as one of the ingredients for preparation national dishes Dovga (a soup cooked from curdled milk (yogurt), various greens, a small amount of rice and egg. In some regions of the country a small amount of peas is added to it. It is considered good for digestion and for relief of intestinal cramps), and Dolma (rice and minced meat with herbs wrapped in leaves (mostly grape) (Akhundov et al. 1989).

Georgia: *Atriplex hortensis* leaves are used for phkhali (vegetable spread from a variety of herbs) (Bussmann et al. 2014, 2016a, b, 2017a, b, c).

Local Veterinary and Fodder Use

Azerbaijan: *Atriplex tatarica* is used for cattle breeding, and is also a good fodder for camels (Akhundov et al. 1989). *Atriplex hortensis* also serves as livestock feed for cattle.

Local Handicraft and Other Uses

Armenia: Stems of *Atriplex tatarica* with leaves are using in traditional carpet weaving as source of blue dye (Grossheim 1952; Tsaturyan and Gevorgyan 2007).

Azerbaijan: *Atriplex hortensis* is decorative, beautiful plant, especially in the period of fructification, can be used in designing gardens and parks. Nectariferous plant. *Atriplex tatarica* serves for dyeing, the dye solution is prepared from roots to obtain a green color. The solution is used for dyeing wool yarn as well as products made of wool (Qasimov 1980).

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