Artemisia annua L.
Artemisia fragrans Willd.
Asteraceae

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Synonyms

***Artemisia annua* L.:** *Artemisia chamomilla* Winkl
***Artemisia fragrans* Willd.:** *Artemisia phyllostachys* (Boiss.) Woron.; *Artemisia maritime* var. *erivanica* Bess.; *Artemisia taurica* var. *erivanica* DC.; *Artemisia meyeriana* Grossh.; *Artemisia nachitschevanica* Rzazade

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Local Names

Armenia: *Artemisia annua:* Օշինդր միամյա (Oshindr miamja); **Azerbaijan**: *Artemisia annua:* yovşan; *Artemisia fragrans:* İyli yovşan; **Georgia**: *Artemisia annua:* უჯანგარი- ujangari; **English**: Wormwood.

Botany and Ecology

Artemisia annua L.

Annual herb. Aromatic. Stems up to 100 cm tall, ribbed, brownish to violet-brown and puberulous. Leaves are lanceolate or obovate in outline, deeply dissected. Primary lobes 7–10 and these dissected to almost linear lobes. Lower leaves with longer petioles than upper leaves and often withering by flowering time. Leaf surface glandular. Flower heads up to 1.5 m diameter, with central florets perfect, some outer florets perfect but mostly female. Involucral bracts in 2–3 rows, glandular. The inner bracts are papery, longer than the outer, which are herbaceous and oblong. Fruits small, faintly lined, shiny. Found in eastern and western Caucasia, Central Asia, Central Europe, Mediterranean, Asia minor, China, Japan, Mongolia. Introduced to North America. Flowering and fruiting from August to September. *Artemisia annua* inhabits a wide range of habitats, from forest margins, semi slopes, saline soils, rocky to barren land. It is found at altitudes between 2000 and 3700 m (Figs. 1, 2, and 3).

Armenia: On ruderal places, road sides, in gardens and orchards, near water streams, in lower and middle mountain belts, on the elevation 700–1700 m. Flowers from July to September, fruits from August to October. Distributed in Idjevan, Yerevan and Zangezur floristic regions (Takhtadjan 1954–2009).

Fig. 1 *Artemisia annua* (Asteraceae). Armenia (Photo: G. Fayvush)

Fig. 2 *Artemisia fragans* (Asteraceae). Azerbaijan (Photo: N. Mehdiyeva)

Fig. 3 *Artemisia fragrans* (Asteraceae). Georgia (Photo: R. Bussmann)

Azerbaijan: Distributed in the regions of Samur-Devechi lowlands, Kur-Araz lowlands, kGuba and Western Greater Caucasus, Kura plain, Central Lesser Caucasus, Mountainous part of Lankaran and Lankaran lowlands. Grows in lowlands and in the lower mountain zone (up to 800 m) along roads, along edges of irrigating ditches, gardens and ruderal areas. Flowering in June-October, fruiting in September–October (Flora of Azerbaijan 1950–1961).

Georgia: In ruderal areas, along roadsides, in fields and gardens all over Georgia

Artemisia fragrans Willd.

Perennial herb to 45 cm tall. Young plants white-pubescent, becoming glabrous. Roots woody. Stems erect and branching. Lower stem leaves with petioles, twice pinnately compound, with linear lobes. Middle leaves lacking petiole, simply pinnate with lobed stipule at base. Inflorescences a pyramid of panicles. Flowers yellow, sessile with a small linear leaf at base, bracts oval and short, inner bracts larger and more linear. Anthers short. In foothills of plains and clay soils of slopes. Grows in Eastern and Southern Caucasus, South-central Asia, Caspian region, Armenia, Kurdistan and Iran. Flowers and fruits in August. The leaves and flowers of *Artemisia fragrans* are an important food source for several species of Lepidoptera (butterflies and moths).

Azerbaijan: Distributed in the regions of Samur-Devechi lowlands, Caspian seaside lowlands and Kur-Araz lowlands, Absheron, Gobustan, Kura plain, Lankaran Mugan and Diabar. Grows on dry slopes from lowland to middle mountain zone (up to 1800 m). Flowering in September-October, fruiting in October-November (Flora of Azerbaijan 1950–1961).

Local Medicinal Uses

Armenia: *Artemisia annua* contains essential oils (Grossheim 1952; Mikhailovich 1950–1957; Budantseva 1994–1996; Sokolov 1984–1993). Thert has been little used in popular herbal medicine before the last 2–3 decades, when Chinese traditional medicine became rather popular in Armenia). In medieval Armenian medicine it was recommended to treat fevers, hemorrhoids, diseases of the stomach, liver, spleen, and bladder and kidney stones with *Artemisia* (Amirdovlat 1927; Harutyunyan 1990; Mardjanyan 2008; Nosal and Nosal 1991; Vardanyan 1979)

Azerbaijan: A decoction and extract as tea is used in to treat colds. Fresh crushed leaves, as well as their decoction and extract are used crushed and as soaking therapy for furuncles and abscess (Grossheim 1942, 1943). A decoction and extract is used as tea in dysentery and fever. *Artemisia fragrans* is also used as anthelminthic: A decoction of the aboveground parts is used against worm (Flora of Azerbaijan 1950–1961).

Georgia: A tea made from leaves of *Artemisia annua* helps to cure wounds, when applied as poultice and serves as insect repellant (Bussmann et al. 2014, 2016a, b, 2017a, b, c).

Local Food Uses

Armenia: Flowering shoots of *Artemisia annua* are sometimes used as a seasoning for meat and fish dishes (usually as substitute of *Artemisia dracunculus*) (Grossheim 1952; Tsaturyan and Gevorgyan 2007).

Azerbaijan: *Artemisia annua* is used in food as aromatic and tasty seasoning for different meals (Grossheim 1946). *Artemisia fragrans* is used in food as aromatic and tasty seasoning for different meals also (Grossheim 1946).

Georgia: The leaves of *Artemisia vulgaris* are used for sats'ebai (vegetables dipped in sour milk) (Bussmann et al. 2014, 2016a, b, 2017a, b, c).

Local Veterinary and Fodder Uses

Azerbaijan: *Artemisia* species are one of the valuable components of winter pastures of Azerbaijan.

Georgia: A tincture made from leaves of *Artemisia annua* helps to heal wounds of cattle (Bussmann et al. 2014, 2016a, b, 2017a, b, c).

Local Handicraft and Other Uses

Azerbaijan: *Artemisia annua* is used for dyeing, a dye solution is prepared from leaves to obtain tobacco, green and olive colors. The solution is used for dyeing wool yarn as well as products made of wool (Qasimov 1980).

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