



# *Anethum graveolens* L.

## APIACEAE

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### Synonyms

*Anethum graveolens* L.: *Anethum arvense* Salisb.; *Anethum graveolens* subsp. *sowa* (Roxb. ex Fleming) N.F. Koren; *Anethum graveolens* var. *anatolicum* N.F. Koren; *Anethum sowa* Roxb. ex Fleming; *Angelica graveolens* (L.) Steud.; *Ferula graveolens* (L.) Spreng.; *Ferula marathrophylla* Walp.; *Peucedanum anethum* Baill.; *Peucedanum graveolens* (L.) Hiern.; *Peucedanum sowa* (Roxb. ex Fleming) Kurz; *Selinum anethum* Roth; *Selinum graveolens* (L.) Vest

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## Local Names

**Russian**, Укроп (ukrop); **Azeri**, шюют (shjujut), шивит (shivit); **Armenian**, самит (samit); **Georgian**, კამა (k'ama), ტერეტო (tseretso), (დიდი კამა (didi k'ama), რუსული კამა (rusuli k'ama) (Grossheim 1952; Ketskhoveli et al. 1971–2011; Makashvili 1991; Sokolov 1988); **Farsi**, مینخام (mitkham), شابت (shabat), شوت (shevet), شويد (shevid), تراق (toragh); **English**, Dill.

## Botany and Ecology

Annual; entire plant glabrous, dark green, with distally indistinct blue striae with pungent spicy odor; root thin, fusiform; stem 40–12 cm high, single, erect, branching or nearly simple, thinly furrowed, with alternate narrow whitish and green striae, branching above, curved between branches; leaves tri- or quadripinnate, ovate, lobules of last order linear-filiform or nearly setaceous; lower leaves with petioles expanding to oblong, 1.5–2-cm-long sheath with broad scarious margin; upper leaves with smaller and less dissected blade, sessile on sheath. Umbels to 15 cm across, of 30–50 smooth, nearly equal rays; involucre and involucels lacking; calyx teeth very short; petals yellow, tapering to flat, hardly notched involute lobule; stylopodium pale yellow, pulviniform; styles very short, nearly erect at flowering, becoming recurved in fruit, stigma claviform-capitate; fruit ovoid or broadly ellipsoid, dorsally compressed, 3–5 mm long, 1.5–3.5 mm wide; mericarps with three prominent, carinate, dorsal ribs, lateral ribs extended into thin, straw-colored margin; canals solitary in valliculae, two toward commissure; albumen semi-elliptic in cross section, nearly flat toward commissure. Flowering June–July. Ural, Caucasus, cultivated and escaped near dwellings, kitchen gardens, fields, and roads (Shishkin 1951) (Figs. 1, 2, 3, and 4).

## Phytochemistry

Essential oils (carvone) (Sokolov 1988)

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**Fig. 1** *Anethum graveolens* (Apiaceae) in garden in Adjara, Georgia. (Photo R.W. Bussmann & N.Y. Paniagua-Zambrana)

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## Local Medicinal Uses

The seed and leaves of *A. graveolens* help to treat digestive problems such as gastritis and nausea (Ghorbani 2005; Sharififar et al. 2010; Mikaili et al. 2011; Dolatkhahi et al. 2012; Dolatkhahi and Nabipour 2013, 2014; Amiri et al. 2014) and respiratory system disorders such as dyspnea (Mikaili et al. 2011). Infusion of leaves is used against bloating and hiccup (Mahdavi Meimand and Mirtajadini 2010; Sharififar et al. 2010; Amiri et al. 2014; Moein et al. 2015). They also serve as



**Fig. 2** *Anethum graveolens* (Apiaceae) in garden in Adjara, Georgia. (Photo R.W. Bussmann & N.Y. Paniagua-Zambrana)

carminative and digestive (Moein et al. 2015). The leaves and seeds are used as a diuretic and against hyperlipidemia (Amin 2005), and the leaves are eaten to relieve abdominal pain, back pain (Mikaili et al. 2011), and joint pain (Shariffar et al. 2010). It has a positive influence on the cardiovascular system (Dolatkhahi et al. 2012). It can cause abortion (Amiri et al. 2014). In Iranian traditional medicine, the leaves and seeds are used to treat amenorrhea (missed period), menstrual cramps,



**Fig. 3** *Anethum graveolens* (Apiaceae) in garden in Adjara, Georgia. (Photo R.W. Bussmann & N.Y. Paniagua-Zambrana)

dysmenorrheal problems, and impotence (Mikaili et al. 2011; Dolatkahi and Nabipour 2013; Khajoei Nasab and Khosravi 2014), to reduce blood sugar (Sharififar et al. 2010), and to increase lactation in nursing mothers (Mahdavi Meimand and Mirtajadini 2010; Dolatkahi and Nabipour 2013; Amiri et al. 2014). The leaves are also used to cure genitourinary system problems, for example, bladder inflammation and nephritis (kidney inflammation) (Mikaili et al. 2011).



**Fig. 4** *Anethum graveolens* (Apiaceae) in garden in Adjara, Georgia. (Photo R.W. Bussmann & N.Y. Paniagua-Zambrana)

The leaves and shoots are used for digestive system disorders (Batsatsashvili et al. 2017; Bussmann et al. 2014, 2016a, b, 2017a, b, 2018; Bussmann 2017). Similar uses are, e.g., recorded in India (Raj et al. 2018), and *Anethum* is known for its antibacterial properties (Malik et al. 2018).



**Fig. 5** *Anethum graveolens* (Apiaceae) in market in Telavi, Georgia. (Photo R.W. Bussmann & N.Y. Paniagua-Zambrana)

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## Local Food Uses

The young shoots are used as vegetables, often as a seasoning for food and pickles.

The seeds are used as flavoring agent for liquor and as spice. Used as spice for meals but also for canning and liquor (Grossheim 1952; Sokolov 1988).

*A. graveolens* leaves are eaten fresh and dry as vegetable, and the leaves can be used as a condiment (Hooper et al. 1937; Mozaffarian 2013).

The seeds and leaves are an important ingredient of Svanetian salt (Batsatsashvili et al. 2017; Bussmann et al. 2014, 2016a, b, 2017a, b, 2018; Bussmann 2017). *Anethum* is known for its vitamin C content and used as food in Nepal (Kunwar et al. 2010) (Figs. 5 and 6).

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## Local Handicraft and Other Uses

The seed oil is used in soaps (Sokolov 1988).



**Fig. 6** *Anethum graveolens* (Apiaceae) leaves ready to eat, Tusheti, Georgia. (Photo R.W. Bussmann & N.Y. Paniagua-Zambrana)

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