Anthriscus cerefolium (L.) Hoffm.
Anthriscus sylvestris (L.) Hoffm.
Apiaceae

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Synonyms

***Anthriscus cerefolium* (L.) Hoffm.:** *Anthriscus longirostris* Bertol.
***Anthriscus sylvestris* (L.) Hoffm.:** *Anthriscus aemula* Schischk.; *Anthriscus nemorosa* (M. Bieb.) Spreng.; *Anthriscus sylvestris* subsp. *aemula* Kitag.

Local Names

Anthriscus cerefolium: **Georgian:** ჭყიმა-ფხალი (ch'q'ima-pkhali)
Anthriscus sylvestris: **Georgian:** მათუთი (matuti); ჭყიმი (ch'q'imi), მაწარა (matsara); ღიმის დედა (g'imis deda); **Svan:** ლიმი (limi); **Russian:** Бутень

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(buten); **Armenian:** хидатерев (khidaterev), (mandag); (Grossheim 1952; Ketskhoveli et al. 1971–2011; Makashvili 1991; Sokolov 1988).

Botany and Ecology

Perennials; root 1–5 cm thick, hollow; stem solitary, 50–120 cm tall, 1–1.5 cm thick, hollow, ribbed, covered below with numerous scattered white stiff hairs, glabrous above, branching; radical leaves on long hairy petioles much longer than blades, these triangular, 13–25 cm long, 15–30 mm wide, tripinnate; terminal lobe on long hairy petiole, the lateral lobes on shorter petioles, their blades twice pinnatipartite; secondary lobes ovate, 2–3 cm long, 1.5–2 cm wide, the lower on short petioles, the upper sessile, slightly decurrent, pinnatipartite, nerves with sparse stiff hairs beneath; upper leaves sessile, the slightly inflated sheath covered with long hairs. Umbels 3–8 cm across, of 811 thin glabrous rays; umbellets with glabrous pedicels; involucels of five light green ovate acuminate reflexed leaflets with ciliate margins; marginal petals ca. 3.5 mm long; fertile flowers 2–4 per umbellet; fruit cylindrical-oblong, 7 mm long, 2–3 mm wide, shiny, tapering to short beak, glabrous or covered with short antrorse bristles sessile on very small tubercles, crown at base of fruit with white bristles; stylopodium conical; styles erect at first, becoming recurved below, much longer than stylopodium. Flowering May–July. Ural, Caucasus, in forests, on floodplains and subalpine meadows, in thickets, and often as weed on hayfields and pastures, to 3200 m (Shishkin 1950; Figs. 1 and 2).

Phytochemistry

Carbohydrates (umbelliferosis), essential oils (eugenol, 3-myrcen, limonen, y-terpinene, p-cymol, linalool, 3-farnesene), polyacetylene compounds, coumarins (apterine), terpenoids (13-myrcen, limonene, p-cymene, u-terpinene, terpinolene, aphene), sesquiterpenes, steroids (stigmasterol, sterol, campesterine, stigmasterol-D-glucoside), vitamins (C, carotene), phenols phenol carboxylic acids (coffee), lignans (anthricine, isoantricine, butyrolactone, savinine, nemorosine), coumarins (apterine), flavonoids (luteolin, hierophylline), anthocyanins (cyanidin), phenolcarboxylic acids, fatty acids (stearic, petroseline, oleic, linoleic, petrozelidine) (Sokolov 1988).

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Fig. 1 *Anthriscus sylvestris* (Apiaceae), Bakuriani, Georgia. (Photo R.W. Bussmann & N.Y. Paniagua-Zambrana)

Fig. 2 *Anthriscus sylvestris* (Apiaceae), Bakuriani, Georgia. (Photo R.W. Bussmann & N.Y. Paniagua-Zambrana)

Local Medicinal Uses

Traditionally the leaves are used as poultice for burns and abscesses. The seeds help to treat problems of the gastrointestinal tract, female diseases, tuberculosis, scrofulosis, and eczema and are used as anticonvulsant (Sokolov 1988).

Local Food Uses

***Anthriscus cerefolium*:** Leaves and shoots are used for Pkhali (herb pie) (Batsatsashvili et al. 2017a, b, c; Bussmann et al. 2016, 2017, 2018; Bussmann 2017). ***Anthriscus sylvestris*:** The leaves and young shoots are eaten in salads, the stems pickled. Boiled roots are eaten (Grossheim 1952; Sokolov 1988).

In Khevi many species are mixed together for Pkhali: ghoris nats'q'la-i ღორის ნაწყლა-ი *Sonchus* ssp., mch'ivana-i მჭივანა-ი – *Silene wallichiana* Klotzsch; maq'randutsa-i მაყრანდუცა-ი *Anthriscus sylvestris* (L.) Hoffm. maq'rats'ela მაყრაწელა-ი; diq'inch'ora-ghrich'ola დიყინჭორა-ღრინჭოლა / j'q'imi'ჯყიმი *Anthriscus nemorosa* (M. Bieb.) Spreng; k'ats'a-i კაწა-ი *Campanula rapunculoides* L. (its root is also edible), ts'iteli pkhali წითელი / jijilaq'a წითელი ჯიჯილაყა *Amaranthus hybridus* L., nadirmkhalai ნადირმხალაი *Aruncus vulgaris* Raf., saskhep'iai სასხეპიაი *Chaerophyllum bulbosum* L., ch'inch'ari ჭინჭარი *Urtica dioica* L., gholo ღოლო *Rumex* ssp., tatami თათამას *Atriplex hortensis* L., Khevi people use as food the following plants: shalgi შალგი *Brassica campestris* L., khakhot'i ხახოტი *Bunias orientalis* L., mamula მამულა *Artemisia vulgaris* L., ts'its'mat'ura წიწმატურა *Capsella bursa-pastoris* (L.) Medik., khboshublai ხბოშუბლაი *Galega orientalis* Lam. (Bakhtadze and Koghuashvili 2009; Kavtaradze 1985; Sujashvili and Pitskhelauri 2005).

In Mtiuleti, raw-eaten plants are vardutsa ვარდუცა, alkvasha ალქვაშა *Campanula latifolia* L., k'ank'esha კანკეშა *Gadellia lactiflora* (M.Bieb.) Schulkina, dutsi დუცი *Agasyllis latifolia* Boiss, mzhavana მჟავანა *Rumex acetosa* L., pkholis taxa ფხოლის თავა *Chaerophyllum bulbosum* L., diq'i დიყი *Heracleum* ssp., t'q'is niori ტყის ნიორი *Galanthus* ssp., ღოლო gholo *Rumex* ssp., maq'valdzirgha მაყვალძირძა *Anthriscus sylvestris* (L.) Hoffm., dzirkhvena ძირხვენა, machik'a მაჩიკას *Campanula rapunculoides* L., mits'is vashli მიწის ვაშლს *Helianthus tuberosus* L. (Makalatia 1930).

In Pshavi young peeled shoots and leaves of maq'alordza მაყალორძა *Anthriscus nemorosa* (M. Bieb.) Spreng. are eaten, while the flowers are still in buda (Maghalashvili 1970).

Other Pkhali plants in Guria are jijilaq'a ჯიჯილაყა *Amaranthus retroflexus* L., svint'ri სვინტრი *Polygonatum* ssp., ch'q'ana ჭყანა *Anthriscus cerefolium* (L.) Hoffm., ch'andua ჭანდუა, ch'inch'ari ჭინჭარი *Urtica dioica* L., molokai მოლოქაი *Malva sylvestris* L., umbalo უმბალო *Mentha pulegium* L., dedlikonai დედლიქონაი *Ranunculus chius* DC., pshalai ფშალაი *Humulus lupulus* L., ek'ala ეკალა *Smilax excelsa* L., katanatsarai ქათანაცარაი *Chenopodium album* L., khvartklai ხვართქლაი *Convolvulus arvensis*, katmikonai ქათმიქონაი *Valerianella locusta* (L.) Laterr., danduri დანდური *Portulaca oleracea* L., dzrokhis-ena ძროხის-ენა *Phyllitis scolopendrium* (L.) Newman, k'at'a კატა, k'at'abarda კატაბარდას *Clematis orientalis* L., *C. vitalba* L., sukana სუქანა, tz'q'lis niakhura წყლის ნიახურა *Ranunculus repens* L., dedliskona დედლისქონა *Ranunculus chius* DC., ok'nat'ua ოკნატუა *Ficaria* ssp., tavshava თავშავა *Origanum vulgare*, asistava ასისთავა *Genista ssp.*, ch'q'ima-mkhali ჭყიმა-მხალი *Anthriscus nemorosa* (M.Bieb.) Spreng., chit'is tava ჩიტის თავა *Ornithogalum woronowii* Krasch., jijilaq'a ჯიჯილაყა *Amaranthus*

retroflexus L., ch'inch'ari ჭინჭარი *Urtica dioica* L., danduri დანდური *Portulaca oleracea* L., ek'ala ეკალა *Smilax excelsa* L., jokhia ჯოხია *Matteuccia struthiopteris* (L.) Tod. (Tedoradze 1930). Sometimes all these were mixed to cook Pkhali; but only young shoots and leaves can be used. They are washed, boiled, and minced and seasoned with vinegar, salt, and pepper at your taste. Crushed walnuts or hazelnuts are added.

Leaves and shoots are used for Pkhali (herb pie). The young stems and shoots are pickled. However, the plant is regarded as slightly toxic and used with a large number of other species to reduce toxicity (Batsatsashvili et al. 2017a, b, c; Bussmann et al. 2014, 2016, 2017, 2018; Bussmann 2017).

Local Handicraft and Other Uses

A. silvestris gives essential oil with anise aroma but its oil output is low. Its stems and leaves produce various yellow colors with aluminum mordant (Grossheim 1952; Sokolov 1988).

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