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# *Agrimonia eupatoria* L.

## ROSACEAE

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### Local Names

**Azerbaijan:** Aptek gücotu; **Georgia:** ბირკავა – birk’ava, იახსარი – iakhsari (Megrelian), ძირმაგარა – dzirmagara (Kakhetian) (Makashvili 1991; Ketskhoveli et al. 1971–2011); **English:** Agrimony.

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### Botany and Ecology

Perennial. The rhizome more or less short, rather thick, simple or branching. The stems 30–100 cm high, generally solitary, erect, simple, or somewhat branching above, densely covered with long, coarse, spreading hairs and shorter and thinner, slightly

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crispy ones. All the leaves are cauline, the lower ones are scalelike, the middle adjacent as in a rosette, the upper abruptly diminishing remote, all leaves petioled and with rachises, covered like stem with two kinds of hairs, the lower and middle 9–30 cm long, twice as long as wide, with 5–9 (13) larger leaflets and 6–10 smaller intercalary lobes. The leaflets are 2–6 cm long, 1–3 cm wide, sessile, elliptic, ovate or rhombic, strongly and acutely toothed, with 5–10 teeth at each side and as many simple lateral nerves, dark green above, sparingly appressed-hairy, whitish beneath with very dense silky-velvety pubescence, often mixed with very small sub-sessile glands, completely hidden by the simple hairs. The intercalary lobes are small, often two to three pairs in each gap between leaflets, entire or dentate. The stipules resembling intercalary lobes, obliquely ovate, acute, with few large teeth outside. The inflorescence is arranged in a spike formation, simple, very open and loose in lower part and more dense above, 10–30 cm long. The flowers in axils of small 3-part bracts, in fruit on very short recurved pedicles. The flower head is hairy, 2–3 mm long in flower, in fruit 4–5 mm long, longer than broad, deeply furrowed nearly to base. The sepals ca. 2 mm long, ovate-lanceolate, acute connivent postanthesis. The petals 4–6 mm long, 2–3 mm wide, ovate-lanceolate, yellow. The stamens 10–20, shorter than petals. The fruit drooping early, 5–8 mm long, 3–6.5 mm wide. The upper surface of fruit flat, with four rows of bristles, the outer ascending or sometimes spreading, the inner, longer, erect, 2–2.5 mm long. The flowering and fruiting time is June–August. The plant can be found in thinned-out forests, forest edges, meadows, pastures, roadsides, and edges of fields, alongside the fences. European part: Karelia-Lapland, Dvina-Pechora, Ladoga-II'men, Upper Volga, V-Kama, Upper Dnieper, Middle Dnieper, Volga-Don, Transvolga area (western part), Black Sea area, Crimea, Lower Don (northern part); Caucasus: entire region (Figs. 1, 2, 3, and 4).

**Azerbaijan:** Distributed across Azerbaijan, mainly in forest regions. Grows from lowland to middle mountain belt (400–1800 m). Found in forests, along forest edges, riverbanks, shrubs, meadows, and gardens. Flowering in May–June, fruiting in June–July (Flora of Azerbaijan 1950–1961).

**Georgia:** Open forests and forest meadows, forest edges, shrublands, herbaceous slopes, croplands and fallow lands, along roads and trails, up to middle mountain zone. Distributed almost throughout the country (Ketskhoveli et al. 1971–2011).

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## Local Medicinal Uses

**Azerbaijan:** The plant is used for gastrointestinal disease, a water infusion and decoction is used as an astringent remedy for diarrhea. A water infusion and decoction is used as a choleric in inflammation of the gall bladder. The water infusion and decoction of leaves and roots is applied as anthelmintic (Grossheim 1942, 1943).

**Georgia:** In traditional medicine, ბორჯაბი birk'ava (agrimony) is used to cure testicle tumors. It is also used as an anthelmintic and to heal wounds, jaundice and

**Fig. 1** *Agrimonia eupatoria* (ROSACEAE). Bakuriani, Georgia (Photo: R. Bussmann)



**Fig. 2** *Agrimonia eupatoria* (ROSACEAE). Detail of leaves. Bakuriani, Georgia (Photo: R. Bussmann)



fever (Bussmann et al. 2014, 2016a, b, 2017a, b, c). In Telavi District agrimony broth is given to cure colitis (Shengelia 1983). According to Tsutsunava (1960), the plant has been used formerly to heal gastro-intestinal disorders and rheumatism. In the village of Sori (Oni District) agrimony is used against gastro-intestinal disorders (Shengelia 1983). In Tsageri District (the village of Chkhutela) agrimony leaves are used to cure wounds (Shengelia 1983).

**Fig. 3** *Agrimonia eupatoria* (ROSACEAE). Detail of flowers. Bakuriani, Georgia (Photo: R. Bussmann)



**Fig. 4** *Agrimonia eupatoria* (ROSACEAE). Detail of fruits. Bakuriani, Georgia (Photo: R. Bussmann)



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### Local Food Uses

**Azerbaijan:** Sometimes *Agrimonia* is used for fermentation of milk (Grossheim 1942, 1943).

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### Local Handicraft and Other Uses

**Azerbaijan:** A yellow color is obtained from flowers for dyeing yarn and products from silk and cotton. The plant is also applied for curing leather (Grossheim 1946; Flora of Azerbaijan, 1950–1961).

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