



ĶĀĶŠĪ

ĶĀĶŠĪ (or *kākšir*, *kākšū*; flixweed), a medicinal plant, *Descurainia sophia* (L.) Webb ex Prantl (Syn. *Sisymbrium sophia* L.) of the *Brassicaceae*, known as the mustard family (Możafariān, p. 181). *Ķākšī* is an annual herbaceous plant, 50 to 80 cm high with thin branching. It has long leaves with deep cuts, light yellow flowers, and oblong seeds of 1 x 0.35 mm in one row within pods of about 20-30 x 1 mm. The orange to reddish seed is mildly pungent and acrid in taste and flavor (Ĥojjati, p. 32).

A less popular species, *Sisymbrium irionis* L., known as bitter *kākšī* (Eng. London rocket), is often treated as a weed. Compared to common *kākšī*, bitter *kākšī* has thicker branches at the base, darker green leaves, bigger flowers, and larger seeds of 1.4 x 0.65 mm, and is about half size in height (Ĥojjati, p. 32). The red to brownish seed of London rocket has a mustard-type taste of pungency and acidity, probably due to higher content of sulfur-containing compounds that are glucoside derivatives (Miraĥmadi, passim).

To study the chemical composition of *kākšī*, Farhād Dehdār collected seeds from roadsides and plains in the central Iranian plateau (Golpāyagān, Kuhpāya, Ķonsār, Šahreżā), a region at 51-52^o E. longitude, 32-33^o N. latitude, and 1,800-2,600 m elevation, with 50- 170 mm annual rainfall. He found out that the seeds contain 32.4 percent oil, 4.7 percent mucilage, and 2.2 percent gum (Dehdār, pp. 73-76). In the study conducted by Afsar Bāqi, corresponding figures have been reported as 30 percent, 4.1 percent and 2.1 percent, respectively, with 3.7 percent nitrogen content (Bāqi, pp. 48-49, 53).



Chemical analyses of the two *ķākši* species, *Sisymbrium sophia* and *Sisymbrium irionis*, yielded almost identical results for quantity and quality of alkaloids, glucosides, tannins, flavonoids, sugars, protein, and oil (Ĥojjati, pp. 35-43). The gum and mucilage content were, however, higher in *Sisymbrium irionis* than in *Sisymbrium sophia*. The bitter *ķākši* also contained cardiac glycosides, which adversely affect the heart, while common *ķākši* lacked them (Ĥojjati, p. 44).

Ķākši seed has been used in folk medicine for centuries. It is thought to be a harmless medicine with no noticeable side effects, a quality reflected in the popular expression *ķākši mezāj* in referring to a concordant personality and agreeable temperament. *Ķākši* infusion produces abundant, clear mucilage, which may serve for two opposite purposes. A suspension of 2-4 grams of seed in boiling water serves as a laxative, while 1 gram of seed in ice-cold water or mixed with smashed ice, referred to as *ķākši yakmāl*, is used to treat children's diarrhea (Bāqi, p. 58-59). *Ķākši yakmāl* does not produce as much mucilage and is used as a cooling drink in summer. To make it more palatable, it is often mixed with sugar or honey and rosewater.

Steamed *ķākši* is believed to control coughing, clear the voice, and serve as an expectorant (Bāqi, p. 58). It is also diuretic, probably due to its high flavonoid and potassium content, and can be also used as an antipyretic (Bāqi, p. 57; Miraħmadi, passim). Cold suspension of about 10 grams of *ķākši* with honey is regarded as restorative for adults, when taken before breakfast. Soaked *ķākši*, if it remains for a long time, becomes rancid, demonstrating yellow discoloration with an unpleasant mustard smell (Ĥasanzāda-Mohārlu'i, p. 14).

Ķord o ķākši is an expression for very small and tiny particles, such as a broken crystal vase. The expression *ķākši nabāt be ĥalqam nakarda'i* means "You have not done the favor I expected from you, or you have not gone the extra mile for me" (Deħkodā, *Loğat-nāma*, s.v.).

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