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## Lamiaceae - Medicinal Representatives of the Mint Family Distributed in the Sokh River Basin

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### ANNOTATION

The article provides information about the medicinal representatives of the mint family of labiales, common in the Sokh river basin.

**KEYWORDS:** Lamiaceae, Sokh River, phanerophytes, chamephytes, hemicryptophytes, cryptophytes.

The rich flora of the Fergana valley has been attracting people for centuries with its useful, including medicinal plants used in the treatment of various diseases in folk and scientific medicine. In the valley, there are *Origanum tyttanthum* Gontsch, *Ziziphora tenuior* L., *Melissa officinalis* L., *Dracocephalum integrifolium* Bunge, *Marrubium anisodon* Koch, *Scutellaria galericulata* L., *Scutellaria oxystegia* Juz., *Teucrium scordioides* Schreb., and above-ground parts of *Leonurus turcestanicus*' large *Ajuga turkestanica* (Regel) Briq. leaves, *Rosa canina* fruit and almond seeds are harvested in large quantities every year.

Also, the basin of the Sokh River has large resources of healing and medicinal plants, which can be used on an industrial scale (*Mentha*, *Salvia*, *Melissa*, *Origanum*, *Ziziphora*, *Thymus*), and in limited cases for local needs. It is worth mentioning that, taking into account that the reserves of important and important species such as choy o'ti, o'lmas o't, chakanda, parpi, sug'ur o'ti, hiyol etc. are very low, it is necessary to cultivate these species. Sokh district is a district in the south of Fergana region of Fergana valley, located in the Sokh river valley. The district borders with Kyrgyzstan, the area is 0.22 thousand km<sup>2</sup>. The Sokh River is the largest river of Southern Fergana. The Sokh river receives its water from the eternal snow and glaciers at a height of 5000 m in the Aloy mountain. Its water consumption is 41.7 m<sup>3</sup>/sec, and its catchment area is 2230 km<sup>2</sup>.

For the first time, the research work on the study of healing and medicinal plants of the *Lamiaceae* family of mints distributed in the Sokh river basin was carried out. During the research, it was found that the *Lamiaceae* family consists of 26 genera and 69 species of healing and medicinal plants. Species are not uniformly distributed across categories. In terms of species abundance, *Phlomoides* Moench. representatives of the group are distinguished. *Scutellaria* L. is in the second place, and *Salvia* L. species are in the third place in terms of distribution.

According to the Raunkier system there are no phanerophytes (trees) according to Raunkiaer's system of life forms of plants

There are no phanerophytes (i.e. trees), chamephytes (30.6%), hemicryptophytes (61%), no cryptophytes. It was determined that plants belong to therophytes (8.4%).

When analyzing the use and use of species of the *Lamiaceae* family distributed in the Sokh river basin in the national economy, the following was revealed: 60% honey-juicy, 29% medicinal, 42% essential oil, decorative, i.e. decorative 11.3%, food accounted for 8%.

28 species of the *Lamiaceae* family have medicinal properties, and *Lagochilus* Bunge ex Benth., *Ziziphora* L., *Salvia* L., *Dracocephalum* L. are the leaders among the species. *Perovskia* Kar., *Stachys* L., *Mentha* L., *Nepeta* L., *Lycopus* L., *Lamium* L., *Scutellaria* L., were found to have medicinal representatives. Below is information about the most common types.

*Melissa officinalis* L. Perennial herb with an erect stem, branching from the base, covered with thick rough glands and hairs, smelling like lemon, 30-60 cm tall. The leaves are egg-shaped, the edges have large teeth, the lower side is hairless, and the upper side is sparsely hairy. The flowers are arranged in rings with long stalks. The calyx is 7-8 mm long and has long fibrous hairs. The petals are white, slightly hairy on the outside, 13-14 mm long. The nut is three-sided, dark brown, 1.7 mm long. It blooms in June-August and ripens in July-September. Grows on mountains in the middle regions, rocks, shadows.

The above ground part is used in medicine. A decoction of the surface (sometimes of the leaves) is used to regulate indigestion, to treat anemia, certain nervous and heart diseases and it is used as an antispasmodic, pain reliever, expectorant, diuretic and carminative agent. Lemon is mainly used in folk medicine.

*Perovskia serophulariifolia* Bunge. Perennial shrub with a thick stem, brown bark, height 60-120 cm. The leaves are oblong or ovate, bluntly toothed, the flowers are few-flowered with short stalks, forming a shingle-like inflorescence. The length of the calyx is 5-6 mm, purple, all parts are covered with long hairs. Petals are purple, 11-12 mm long, sparsely fluffy. It blooms in June-July and ripens in July-August.

It grows in the lower regions of the mountains, in gravelly places. In Sokh district, it was also observed to grow on gravelly slopes, between rocks, and sometimes in streambeds. In folk medicine, the above ground part is used. A decoction prepared from the surface of the earth is used to treat scabies and skin diseases. It was experimentally determined that the ointment prepared from antimony and tincture of the surface of the earth has a bactericidal effect and wound healing properties, and for this purpose it is recommended to be used in scientific medicine.

Despite being a wild plant, Khapri is easily grown in the field of experience, with 83% and 58% seed germination in laboratory and field conditions, respectively. When planted in autumn (November), it germinates in mid-March. It blooms in the last ten days of June, and its seeds ripen in October-November. According to calculations, it is possible to get a mass of 700-750 kg per hectare.

Phenological phases of Khapri plant Table №1

Plant №	The beginning of vegetation	Flowering	Flowering			Flowering period (Day)	Fruiting		Seed maturation (Day)
			beginning	Full bloom	The end of flowering		Beginning	The end	
1	15.03	10.06	20.06	5.07	20.09	110	25.10	25.11	30
2	20.03	12.06	22.06	4.07	23.09	92	26.10	20.11	24
3	16.03	11.06	24.06	10.07	22.09	88	23.10	23.11	30
4	17.03	11.06	25.06	15.07	21.09	86	25.10	22.11	27
5	15.03	13.06	26.06	12.07	23.09	87	26.10	24.11	28

A plant that reproduces quickly and easily from seeds and roots, its vegetation usually corresponds to the first ten days of March. It grows rapidly in the spring, and by July the height of the stem reaches 60-100 cm, the length of the side branches is 10-70 cm. Flowering begins on June 10-15. The last flowers last until the end of July. Despite its perenniality, Khapri will produce new shoots on July 17, even when its stems are cut. The height of new branches reaches 50-60 cm by the end of August. New shoots also bud and bloom from late August to September-October.

Ripening of Khapri seeds was observed in mid-November, the end of vegetation lasts until the end of November. One bush weighs 8 kg when wet, and 600-700 g when dry. If calculated per hectare: it is 90 tons in the wet state, and 6.7 tons in the dry state. During the entire flowering period, bees use khapri nectar, which provides 0.08-0.11 mg of nectar per flower, with a nectar concentration of 49-63%. Thickly grown khapri plantations yield 50-60 kg of honey per hectare. Vegetation of Khapri, according to long-term observations, corresponds to the first decade of March. The length of the stem was 15-17 cm on April 17, 19-20 cm on April 26, 20-23 cm on May 5, 40-50 cm on May 19, 70-100 cm on June 5.

Flowering started from June 5, first flowers from June 15, full flowering from June 20-23, end of flowering from July 20-30, seeds ripening from August 20. In some cases, the opening of the last flowers lasted until the end of September.

A part of the existing plant was cut from mid-July. The first flowers appeared on August 26, the height of the stem reached 25-30 cm. The flowering of new branches lasted from the end of August to the middle of September. In 2021 (17.07.2021), the height of khapri stems is from 70 cm to 120 cm, 86 stems appeared in one bush. 1 bush weighs about 2.10 kg when wet, it occupies 1 meter<sup>2</sup>, the first flowers opened on August 26, the height of the stems was 50-60 cm.

*Salvia sclarea* L. Perennial grass, the stem grows upright, branching from the top, covered with thick long hairs, height 50-100 cm. The leaves are large ovate, the base is heart-shaped, the calyx is 9-11 mm long, and it is covered with thick glandular hairs. Petals are pale pinkish purple, 25 mm long. Fruit nut-like, soft, trilobed, pale brown, 2.5 mm long. It blooms in June-July, and its seeds ripen in July-August.

In the Sokh district, it was observed to grow in fields and gardens, in mountainous areas. Leaf tincture is used as a mouthwash for inflammation of the upper respiratory tract, inflammation of the throat, and mucous membranes of the gums as an astringent, disinfectant and anti-inflammatory agent. Teas for throat, stomach diseases and internal use are part of the collections.

In order to use a number of medicinal properties, the aromatic salvia plant was tested and studied in the experimental field. Seedlings began to sprout from the seeds planted in the fall in early spring, bloomed in June-July, and the seeds ripened in the fall. Flowers open at 8-9(a.m) in the morning and last until 6-7(p.m) Life and nectar release of each flower lasts 2 days. Nectar secretion lasts from morning to evening.

Vegetation begins on March 10-15, flowering on May 20-25, flowering begins on June 20-25, full flowering on July 1-5, full flowering until the end of July, flowering ends on August 20.

Germination of *Salvia sclarea* L. on April 5-10, height 17 cm on April 20, 17, 24, 25 cm on April 28 - average 20.7 cm, on June 6 56 cm, on June 22 70 cm, on June 27 - flowering, 80 cm on July 6, full bloom, 100 cm from 12 July, end of full bloom observed on 29 July. In the first year, only 15 out of 40 bushes bloomed.

Effective and rational use of common medicinal plant species in the Sokh river basin, protection of their botanical properties, geographical distribution, use, term of use, chemical composition, and medicinal herb wealth learning the ways is important. It is also important to know how to prepare simple and complex combinations of medicinal herbs used in folk medicine and scientific medicine, used in the treatment of various diseases. In order not to affect the ecological balance of plant groups, it is necessary to observe the rules of their collection and preparation when using the resources of medicinal plants. If the balance is not disturbed, plants will easily and quickly restore lost mass. In the collection of raw materials of plants, not taking into account the biological characteristics of the species, not using them wisely will cause great damage to the restoration of plant species and their wealth. It is worth noting that the reserves of some important and significant species have greatly decreased, taking this into account, it is necessary to cultivate these species.

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