CHEMICAL COMPOSITION OF HELICHRYSUM ARENARIUM AND ITS USE IN FOLK MEDICINE

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Abstract: *This article discusses the morphology, chemical composition, pharmacology and folk medicine of the Helichrysum arenarium (boznoch) plant found in Uzbekistan.*

Key words: *gorse, flowers, flavanoids, choleretic, bile, bilirubin, gastric juice, kidney.*

Аннотация: *В статье рассмотрены морфология, химический состав, фармакология и народная медицина растения бессмертника аренариума (бозноча), встречающегося в Узбекистане.*

Ключевые слова: *можжевельник, цветки, флавоноиды, желчегонные средства, желчь, билирубин, желудочный сок, почки.*

Аннотация: *Ушбу мақолада Ўзбекистонда учрайдиган Helichrysum arenarium (бўзноч) ўсимлигини морфологияси, кимёвий таркиби, фармакологияси ва халқ табобатида ишлатилиши тўғрисида сўз юритилган.*

Калит сўзлар: *бўзноч, тўпгуллар, флаваноидлар, холеретик, сафро, билирубин, меъда ширраси, буйрак.*

Botanical description of Helichrysum arenarium (boznoch). The lower leaves are broad, inverted ovate, the upper ones are narrow, lanceolate. The flower is yellow, the flower baskets are round, forming a complex shield-shaped inflorescence at the end of the stem. Its height is usually 40-45 cm, but if cultivated, it can reach 1-1.5 meters. This plant is mainly adapted to grow in clumps. Boznoch is a plant that resembles common wormwood leaves. The head is round and golden in color, similar to the head of a jambil. The lateral leaves of the root are short-banded, inverted ovate, and the upper leaves are scattered on the stem, arranged alternately, linear lanceolate. The stems and leaves are thick as felt, covered with flowing hairs. The yellow flowers are clustered in spherical baskets, which form double flowers. The fruit is an oblong seed with a small papule. It blooms in May-September. Fruits are produced in July-October.

Distribution: It grows on the slopes of all mountain slopes of Uzbekistan and Central Asia. It is found even in the forests of the Russian state. Sometimes it is also found in sandy areas of Uzbekistan. We sometimes find this plant in sandy places.

Because it also has types of resistance to dehydration. Swamps are also found on the banks of water.

Chemical composition: Boznoch stems, leaves and flowers contain essential oils, flavoring substances, as well as carotene, vitamin C, stearin, flavonoid - naringenin, salidroside, helichryzin isosalpurpazid; contains substances such as phthalides and steroids. In Uzbekistan, there are more yellow types of boznoch flowers. Yellow plants contain the most flavanoids. Flavonoids belong to the class of polyphenolic secondary metabolites found in plants and are widely consumed in the human diet.

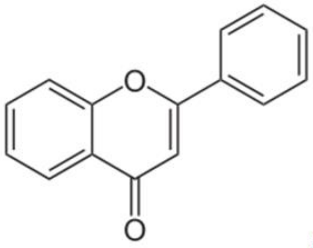
Chemically, flavonoids have a general structure with a 15-carbon skeleton, consisting of two phenyl rings (A and B) and a heterocyclic ring (C, a ring containing an attached oxygen). This carbon structure can be abbreviated as C6-C3-C6.

• Flavonoids or bioflavonoids;

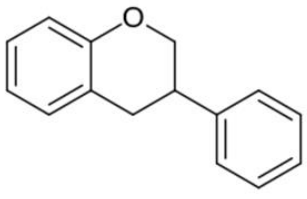
• Isoflavonoids derived from the structure of 3-phenylchrome-4-one (3-phenyl-1,4-benzopyrone);

• Neoflavonoids derived from the structure of 4-phenyl coumarin (4-phenyl-1,2-benzopyrone).

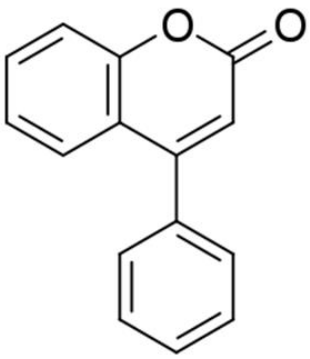
The above three flavonoids are ketone-containing compounds and similar anthoxanthins (flavones and flavonols). This class was first named bioflavonoids. The terms flavonoid and bioflavonoid have also been used more broadly to describe non-ketone polyhydroxy polyphenolic compounds, which are called flavanoids. The three rings at the center of the flavonoid are called heterocycles A, B and C rings. Ring A usually shows a phloroglucinol substitution form.



Molecular structure of flavone (2-phenyl-1,4-benzopyrone)



Structure of neoflavonoids



Isoflavan structure

Pharmacology: Boznoch plant is a choleretic herbal remedy. Tinctures of its flowers have choleretic, cholekinetic, anti-inflammatory and antispasmodic effects. Increases the secretion of bile and increases the amount of bilirubin in it, increases the

tone of the gallbladder and helps bile to leave the body. It has a relaxing effect on the smooth muscles of the gallbladder and biliary tract sphincters, changes the viscosity and chemical composition of bile. By stimulating the secretion of gastric juice and slowing the evacuation function of the stomach and intestines, it helps to digest food in the stomach. Activates the pancreas. Dilates intestinal blood vessels.

It is also very important in our medicine. There are various medicinal extracts and medicines made from this plant. Our elderly people mainly have problems with digestion and blood pressure control. In such cases, various infusions and decoctions prepared mainly in a natural way will benefit them.

So, fennel plant is very beneficial in lowering blood pressure. Drinking 1 mahal of dried flowers of this plant per day keeps blood pressure in a normal range. One of the best benefits of this plant in our medicine is that it is used as an astringent.

This plant can also be used by patients with poor digestion. If you drink 2-3 mahals of boznoch plant per day before meals, it helps digestion. It is very useful for the functioning of the stomach, bile ducts, and liver. The boznochni plant mainly contains vitamins C and K, which are necessary for humans. It contains flavonoids, stearin, essential oils, inositol and coumarins, which are very useful substances.

Due to the flavonoids and coumarins found in its chemical composition, the boznoch plant does what no other medicine could do, that is, it prevents and treats jaundice in cases of yellowing of the organism in bile and liver diseases.

In German folk medicine, it is used in cases of kidney stones, chronic inflammation, bladder disease, painful urination, nerve fibers, colds, and leg cramps.

Current scientific investigations show that boznoch tincture is a very useful medicinal plant for accelerating the formation of gall in the liver and its excretion into the intestines, for urinating, for producing gastric and pancreatic juice, for expelling it, and for raising blood pressure. It is also used in medicine for the following diseases.

Conclusion From what we have learned above, we can conclude that the boznoch plant can be used in many fields in folk medicine and industry, and this requires a lot of research and study from us and reminds us once again that our beautiful nature is a medicine. In folk medicine, boznoch plant is used for urinary retention by adding boznoch plant and gulhayri roots, boznoch plant is added to mavrak plant for bone pains, boznoch flowers are used in a thermos to treat ringworm, assitis, and worm diseases. As a plant that contains the most flavanoids, more research on the boznoch plant would lead to the cure and prevention of many diseases in medicine.

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