



**PSORALEA DRUPACEAE BUNGE (PSORALEA
KOSTYANKOVA OR AKKURAI) CHEMICAL COMPOSITION
AND APPLICATION IN MEDICINE**

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Annotation: This article talks about the morphology, chemical composition, pharmacology of scientific research and its use in folk medicine of the *Psoralea drupaceae* Bunge (Oqquray) plant found in Uzbekistan.

Keywords: *Psoralea drupaceae* Bunge (Oqquray), legumes, psoralen, isopsoralen, vitiligo, Akkurai honey, photosensitivity, furocoumarins.

Аннотация: В данной статье рассказывается о морфологии, химическом составе, фармакологии научных исследований и использовании в народной медицине растения псоралея костянковая или аккурай (*Psoralea drupaceae* Bunge), встречающегося в Узбекистане.

Ключевые слова: аккурай, бобовые, псорален, изопсорален, витилиго, аккурайский мед, фотосенсибилизация, фурукумарины.

Introduction. *Psoralea drupaceae* Bunge (Oqquray) is a group of herbs belonging to the leguminous family, a perennial plant. In Uzbekistan, the leguminous Okquray species is found. The root is thick and long. The stem is branched, about 130 cm long. The leaves are simple, whole, rounded or three-lobed, serrate, banded, arranged in a row. The flower is small, the ball is scaly, and the flower is purple. The calyxes are bell-shaped, 5-toothed. The fruit is a one-seeded legume. The pods are fluffy. The stem, leaves and fruit are covered with hairs and small ornaments. It blooms and seeds in June-September. It is a medicinal plant. In Uzbekistan, it grows as a weed on the slopes of mountains, in fertile lands. Widespread in desert and hilly regions.

Many beekeepers get honey from areas where this plant is common. This honey is not like an ordinary beekeeping product: it differs in color, smell, and taste. At the same time, the nutritional properties are comparable to meat and bread. 100 grams is enough for the body of an adult. this product is a very useful food for breakfast, to provide yourself with energy before lunch.

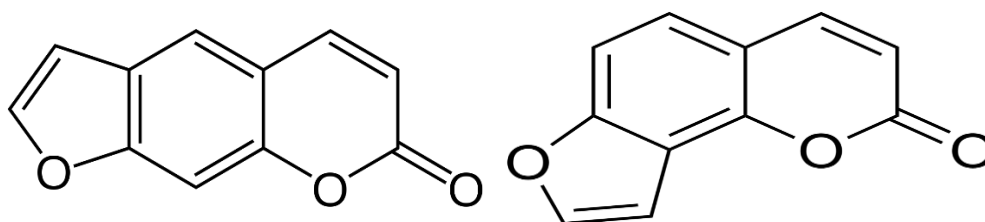


Psoralea drupaceae Bunge

Chemical composition: The honey product from Okkuray contains not only fructose, glucose, carbohydrates and proteins. It contains vitamins, a number of elements and special enzymes that help speed up metabolism. The root and fruit contain furocoumarins (psoralen, isopsoralen, etc.), the fruit contains essential oil, etc. The drug psoralen obtained from the root and fruit is used in the treatment of vitiligo. Honey collected from Akquurai flowers is rich in enzymes, proteins, elements, minerals, vitamins, glucose and fructose. A large amount of coumarins were found in the fruits of the plant, tannins are present in the roots, essential oil and fatty oil were detected in the aerial part.

Up to 15% fat is found in fruits. Tannins were found in the roots (12.34%). The aerial part contains 0.03-0.4% essential oil. The seeds contain 0.92% furocoumarins. The highest amount of furocoumarins was found in the plant during mass fruiting, in the roots - during the death of the aerial part. The stems and leaves contain a little-studied steroid compound.

Psoralea contains fumarocoumarins and coumestanes: psoralen and isopsoralen, sometimes active ingredients 23.6 mg/g and 25.04 mg/g of ethyl acetate fraction and their glycosides psoralenoside and isopsoralenoside respectively psoralidin at 12.76 mg/g of ethyl acetate fraction and Psoralidine-2,3-Diacetate Oxide, Various Corylidine (Fruits), Bavacumestane a and b and Soforacumestan, Phenyl Derivatives of Pyranocoumarin.



Pyranocoumarin

Pharmacological properties:

1. Antimycobacterial.
2. Coronary dilator.
3. Pacemaker: Increases heart rate.
4. Antitumor.

5. Photosensitizing: Psoralen, when used orally or topically, can stimulate melanin synthesis in the skin when exposed to sunlight or UV rays.

6. Antipsoriatic: used in the treatment of vitiligo and psoriasis.

7. Uterotonic: reduces the time of menstrual bleeding.

8. Psoralen has hypoglycemic properties.

Application. The substance psoralen, which is part of all types of psoralea, as well as some other plants, has photosensitizing properties. In this regard, drugs based on it are prescribed for alopecia areata and total baldness, as well as for vitiligo (albinism) in combination with ultraviolet irradiation. For skin depigmentation (leukoderma) associated with the destruction of melanocytes, psoralen is ineffective.

In addition, psoralea has proven antiviral, antimicrobial, antidepressant and some other properties.

The drug, known as Psoralen, is a mixture of two furanocoumarins - psoralen and isopsoralen (angelicin). According to its physical properties, it is a white crystalline powder with a slight odor, slightly soluble in water and highly soluble in organic solvents.

The drug "Psoralen" is obtained from psoralea beans. Psoralen (Psoralenum) is available in powders and tablets of 0.01 g and in the form of a 0.1% solution in 70% alcohol for external use. Used for vitiligo, alopecia and total baldness. Treatment is carried out using photochemotherapy: psoralen is administered orally or externally and at the same time sessions of dosed ultraviolet irradiation are prescribed.

The use of Psoralen is key when carrying out the so-called. "PUVA therapy" (P – means "psoralen", UVA – ultraviolet radiation of the A range). The PUVA method is indicated for the treatment of various skin diseases and consists of the combined effect of Psoralen (or its derivatives) with UV irradiation.

Another method of photochemotherapy using Psoralen is photophoresis, based on the introduction into the body of biologically active photooxidation products of Psoralen, which have an immunomodulatory effect. The method can be used for a wide range of diseases, including psoriasis, rheumatoid arthritis, tumor diseases and even AIDS. The main obstacle to the use of this method is the high price.

Contraindications and side effects.

Psoralen is characterized by relatively low toxicity, as well as some effects on the cardiovascular system and organs with smooth muscle muscles.

There is evidence that psoralen has noticeable hypoglycemic properties, so taking the drug is not recommended for people with diabetes.

Taking the drug is contraindicated in case of hypersensitivity to its components, in the presence of acute and chronic diseases (gastrointestinal tract, etc.), in cases of thyroid dysfunction, cataracts, multiple pigmented nevi. Persons under 5 years of age and over 60 years of age should use Psoralen with caution.

The use of Psoralen is extremely contraindicated during pregnancy and lactation - during research, facts of embryotoxicity of the plant were recorded. It is necessary to take into account the presence of a weak estrogen-like effect in psoralea.

Side effects when using the drug include headache, dizziness, palpitations, cardialgia, dyspepsia, nausea, gastralgia. In case of an overdose of solar and artificial UV radiation - acute dermatitis (skin hyperemia, blisters).

Use in folk medicine.

Due to its pronounced ability to photosensitize, psoralea is quite widely used in folk medicine for the treatment of vitiligo. Most often, psoralea is used in combination with other plants that have similar properties - parsnips, large ammi, figs, etc. As a rule, such a herbal mixture is used to prepare infusions that are used internally or externally.

The main area of use of psoralea in folk medicine is the treatment of pigmentation disorders and some other skin diseases, but there are frequent cases of its use for osteoporosis, for the treatment of wounds, for stomach diseases, fever, asthma, cough, nephritis, as well as to alleviate the symptoms of aging and depression.

Application in cosmetology. Akkurai honey is sometimes called "female honey" in the sense that it helps women of all ages look good, tighten their skin, maintaining beautiful facial contours, and fight various skin defects (wrinkles, age spots, poor complexion), which greatly distress the fair sex.

The product is often used in the preparation of cosmetics, masks and creams for the body, face and hair due to its ability to preserve the natural beauty of the skin, smoothing, rejuvenating and healing it. The product is effective as part of hair care products (restores hair and prevents hair loss).

Discussion: Yarrow leaves are a herb traditionally known for their use in the treatment of menopausal symptoms and estrogen deficiency. Currently, there is limited evidence for humans, so most of the findings are based on animal models and in vitro studies. Scientists conducted research on rats to study the Okquray plant. It includes blood serum, enzymatic interactions, mechanisms in neurology, depression, cardiovascular health, blood circulation, endothelium, effects and mechanisms on glucose metabolism, mechanisms in inflammation and immunology, immunostimulation, mechanisms of metabolism in malignant tumors, interactions with hormones: estrogen and studied the mechanisms of testosterone, bone and muscle mass, changes in the testes, safety and toxicology, and reproductive function.

Conclusion. In short, furocoumarins, i.e., psoralen, isopsoralen, which are extracted from the root and fruit of the aqquray plant found in Uzbekistan, are used in the treatment of vitiligo in humans, as an antiseptic and antibacterial agent, strengthen the tone of heart muscles, diuretic, effective in kidney stones, back pain, and tuberculosis. the tool is calculated. Drupastine, a steroid compound found in the stems and leaves, is traditionally used to treat menopause and estrogen deficiency. Honey obtained from the okkuray plant is a product rich in enzymes, proteins, minerals, vitamins, glucose and fructose, it is considered a therapeutic and cosmetic product, it is used in hair diseases, improves the immune system, treats hypoglycemia and leukemia. We will use the roots, fruits, seeds and flowers of the Okquray (Psoralea drupaceae Bunge) plant, as well as the healing honey obtained from this plant, in the future to make new food supplements and to develop medicinal phytopreparations for the body in folk medicine and modern medicine for the scientific purpose of treating and preventing the above-mentioned diseases. we started things.

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