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STUDY OF CHEMICAL COMPONENTS OF TRIBULUS TERRASTRIS PLANT

I.Kholdarov
is a chemistry teacher at Fergana specialized boarding school No. 1

Annotation. This article pays special attention to the study of the role and chemical composition of the plant "trbulus terrastris" in folk medicine. At the same time, the study of this plant has shown its healing properties from the body to the roots. It is also indicated for use in patients with joint pain common in cats.

Key words: milk thistle stem, root, extract, herbal extract, chemical components.

The territory of Uzbekistan is rich in flora and its rational use the possibilities are wide. Among the physiologically active substances, alkaloids are important important because they have different structural structure and high physiological has activity. Studying the chemical structure and biological activity of plant substances, on the one hand, develops bioorganic chemistry, and new directions appear in it. on the other hand, modern effective medicines is the basis for its creation and application to medical practice. Most are synthetic the long-term use of medicines and antibiotics weakens the immune system reduction, allergy and disruption of microflora in the body possible Today, it is a plant used in the treatment of various diseases The unique aspect of natural medicinal products made from substances is that they, unlike synthetic means, do not have a negative effect on the body. There are many medicinal plants used in the pharmaceutical industry and they are a great treasure of our country. 4500 in the regions of our country more than 600 of them are medicinal plants. Medicinal properties of plants are physiologically active depends on substances.

The name of the plant. Tribulus terrestris is a ground-growing plant (thorn).[1]
Family. Zygophyllaceae - Zygophyllaceae. Horsetail is an annual herb that grows up to 1 to 3 m in length and grows in soil. The plant is branched from the base, hairy. The fruit is a dry ball that splits into five (or 2-4) star-shaped triangular-pan-shaped, hard nuts with 2-4 spines when ripe. The plant blooms in May-June, the fruit ripens in June-July. [1]
Geographic distribution. Central Asia, India, Europe, Kazakhstan, the south of Russia, the Crimea and the Caucasus steppes, deserts, [2] on hills, streams, riverbanks, railways, roadsides, dirty and other places o said. But I studied this plant in Fergana province, where I live.

Laboratory work to determine the chemical composition. Since the plant is annual during flowering and fruiting, it can be uprooted or harvested. The product can be dried in the shade or in the sun. From time to time, the product is turned over so that it dries well. The product is prickly, so it is collected with gloves. The collected product is cut into 2-3 cm pieces and prepared for extraction. Then I extracted 4 times in 96% alcohol. After that, it is cleaned in chloroform, and then transferred to an alkaline environment, i.e. it is cleaned by making it around pH-8-9. In the next step, it is cleaned in butanol and the sum with butanol is dried. I prepared the adsorbent in Al2O3 and placed it in the column. I washed the column in chloroform for 2 days, and at this time fraction 1-14 is done. Then the column is transferred to the 50:1 chloroform:methanol system, starting with the 15th fraction. The 50:1 system was separated up to the 41st fraction. At the next stage, the ratio of the system is 20:1 and the 42nd fraction is started. Fractions 81 and 82 are dissolved in methanol:chloroform. A qualitative reaction is applied to steroid saponins, that is, 1:1 ml of acetic anhydride: concH2SO4. The crystal is dissolved in acetic anhydride and 1 ml of H2SO4 is added to it, and the color turns yellow. After a little heating, it turns reddish.

I dissolved fraction 83 in chloroform:methanol and the undissolved part remained in vial 83. The solution is poured into an 83T vial. In this case, two layers appeared, and they can also be separated. The obtained result will be sent to the institute for scientific inspection in order to determine its quality. The obtained results are shown in table [A].

Chemical composition. Plants contain alkaloids, coumarins,

terpenoids, steroids, carbohydrates, various phenolic substances and their

glycosides serve as a basis for the creation of medicinal substances. alkaloids (harman, etc.), flavonoids, vitamin C, dye, flavoring and other substances, the fruit contains 5% fat. Dioscine, 2% diosgenin, gitogenin, gracilan, etc. were isolated from the sum of steroidal saponins. . How many μg/g of chemical elements are in their composition is given in the table below.

Importance in folk medicine. A tincture of this plant is widely used in the treatment of urinary tract diseases and as an immune booster.[3] When using it, take a small amount of a tablespoon of it and add boiled water to a bowl of 1000 ml and drink one teaspoon twice a day. Increases urination and dilates blood vessels. In addition, the water of the prepared tincture is applied to the pain in the legs and joints. That is, at first, the place where the tincture will be applied is thoroughly soaped or wiped with a napkin, the pores of the skin are opened, and then the tincture is applied. The applied area is dried in the open air and remains open (for a certain time). The prepared tincture can be stored in a place up to +5 C for up to 2 months, or it is better to use a small amount once.

Summary

In conclusion, it can be said that the most important aspect of the study of the Tribulus terrastris plant is the abundance of lanthanoids and actinoids in the plant. It can be found in all areas of our country. Iron thorn plant contains various alkaloids, which are named after it.

It should also be said that modern technological devices were widely used to determine the chemical composition of these plants.

List of used literature:

1. Tashkent Pharmaceutical Institute "Medicinal plants and products containing cardiac glycosides and medicinal plants and products containing saponins" educational manual (pages 28-29)

2. Kostova I, Dinchev D. Saponins in Tribulus terrestris - chemistry and bioactivity. Phytochem. Rev, 2005; 4: 111-137. [Kostova I, Dinchev D. Saponins in Tribulus terrastris-series of chemical and bioactive substances, 2005;4:111-137.]

3. M. Nabiyev. Medicinal herbs. Tashkent, "Fan" publishing house, 1980

4. S.M. Mustafoyev. Botany. Tashkent: "Uzbekistan" 2002

5. Kh.K. Kholmatov, Z.H. Khabibov Medicinal plants of Uzbekistan. Tashkent "Meditsina" publishing house, 1976

6. M. Nabiyev, V. Shalnev, A. Ibrohimov Healing blessings Tashkent, "Meditsina" publishing house, 1989

7. Harmony of science, education and innovation in modernizing Uzbekistan (472-474)