



## STUDY OF THE CHEMICAL COMPOSITION OF THE PLANT OF THE GENUS EPHEDRA

Abbosova Dinara Zokirjonovna

Department of chemistry, Fergana State University.

Article history:	Abstract:
<p><b>Received</b> 10<sup>th</sup> September 2022 <b>Accepted:</b> 11<sup>th</sup> October 2022 <b>Published:</b> 14<sup>th</sup> November 2022</p>	<p>The Zoroastrians of India and Iran prepared a ritual drink from the medicinal plant ephedra, which was valued in China and Japan. Even Genghis Khan's warriors were said to have drunk cooling tea from this ancient shrub. Two-Spike ephedra was given the name coniferous or Kuzmich grass in Russia in the 1870s with the assistance of the doctor Fedor Kuzmich Mukhovnikov, who employed herbal remedies to cure rheumatism, cough, and other illnesses. The chemical analysis of plants in the ephedra genus is the subject of opinions and suggestions in this page.</p>

**Keywords:** Ephedra, Plant, Chemical, Composition, Study, Benefits, Types, Climate, Characteristics.

Ephedra is a delicate shrub that can grow up to 1.8 meters tall and has a robust root system. We would like to draw your attention to an article about ephedra herbs, which includes pictures of ephedra and information about its growth environment, uses, and features. The grass has lumpy, brittle stems that are dark green or bluish in color, with short, sparsely branching leaves. The majority of the branches break off each year to make room for new ones, while the remaining minorities are leveled and covered in gray bark. The ephedra plant is frequently monoecious but also dioecious. Male strobils are tiny, yellow, and gather in large groups at the branch nodes. Woman-lonely, sitting on top of the shoots. From the fertilized ovary, one seed up to 6 mm long is formed, from which a juicy red seedling protrudes.

The medicine ephedrine, which stimulates the respiratory center and relaxes the smooth muscles of the bronchi, is most likely derived from the herb ephedra. Ephedra stimulates the central nervous system and elevates blood pressure as a result of its unique qualities. Use cases include bacterial infection, various types of injuries, intoxications, surgical inflammation, and blood loss. Ephedra is used for medication toxicity as an antagonist. useful for preventing lung conditions and allergy symptoms. Stimulating properties and the ability to excite the nervous system allow you to choose ephedra for treatment. In folk medicine, ephedra is indicated for diseases of the digestive system, gout, hypotension, nasal cavity and lungs.

Ephedra is made by boiling 8–10 g of crushed herbs in 600 ml of water until the liquid is half its original volume. 3 times a day, take 1 spoonful of the medication. Ephedra infusion: 2 g of raw materials must be ingested in 1 glass of heated water to produce the medications, which are taken on a regular basis. Recipe for Ephedra Tea: Brew 1 teaspoon of crushed raw materials in 2 cups of boiling water for 10 to 15 minutes, then drink 1/2 cup. For colds, asthma, and low blood pressure, take 2-3 times a day. On the branches, the needles' tiny, difficult-to-see leaves, which resemble scales, are present. Under favorable conditions, the plant turns into a Curly Tree, but in a harsh climate it grows in height and width. Depending on the species and climate, the color of the ephedra shoots can be dark brown, emerald green or silver. Its flowers are indeterminate, dirty yellow, located at the ends of the branches. Fleshy cones are formed on the plant, decorating the bush like a pendant. Common types of ephedrine:

1. tail ephedra;
2. coniferous Daurian (China);
3. ephedra single-seeded;
4. Horsetail coniferous;
5. double-edged ephedra;horse
6. coniferous Gerard;
7. ephedra Fedchenko.

When ephedra is consumed, the alkaloids natural ephedrine and pseudoephedrine enter the feed's composition and produce the therapeutic action. The vegetative organs also include tannins, essential oils, and ascorbic acid components. Ephedrine has a maximum concentration of 3.5% in early shoots, a maximum of 0.8% in old branches, and 0.12% in cones.

The two-headed ephedra, which grows in Western Siberia as well as the Caucasus and forest-steppe regions of Ukraine, is the most prevalent species in Russia. Ephedra horses can be found in the Altai, Dagestan, Tien Shan, and other hilly areas of Central Asia. This culture hardly changes at all by itself. The massifs and beaches are covered in coniferous group plantings. Common ephedra often grows and develops on calcareous and rocky soils. The plant can

be found in high-altitude mountains, and people from the Rocky culture can control rocky terrain up to 1800 meters above sea level. Ephedra has been utilized in folk medicine for a very long time due to its advantageous characteristics.

You can make an impressive list of diseases that will help you cope with this valuable plant:

1. for the treatment of diseases accompanied by spasms of the smooth muscles of the bronchi;
2. increasing efficiency in the treatment of pneumonia by folk and traditional methods;
3. with pharyngitis and rhinitis;
4. elimination of motion sickness symptoms;
5. with bronchitis with bronchial asthma, whooping cough, asthmatic attack;
6. with urticaria;
7. to eliminate the shock state;
8. with hay fever;
9. for the treatment of serum sickness;
10. with diseases of the gastrointestinal tract;
11. for the treatment of rheumatism.

Tea, ephedra-based infusions, and traditional treatments are all powerful medications. It is important to keep in mind that side effects from ephedrine treatment are possible while considering the impact of needles on the body. This molecule is a potent stimulant and is in the same chemical family as amphetamine and other stimulants. This plant has considerable advantages when used properly, but if used carelessly, it can have disastrous effects. Decorators with antihypnotic (evoking) qualities are manufactured from raw compounds derived from needles. Ephedrine aids in expanding the arteries in the kidneys or lungs as well as the bronchial tubes' lumen. Preparations of this plant are distinguished by hemostatic properties. The excellent effect of ephedrine increases physical performance. Ephedra drugs have diaphoretic and antipyretic properties. Decoxia can be used to stimulate myocardial contraction.

Use of funds based on coniferous raw materials for those experiencing infarction is not advised for those with atherosclerosis, hypertension, diabetes mellitus, or cardiosclerosis. Nervous excitement, urine retention, and hyperhidrosis have all been reported as side effects. Combining ephedrine with bronchodilators might result in irritability, irritability attacks, sleeplessness, convulsions, and arrhythmias. The device has the power to raise heart rate, which results in hyperkinetic diseases. Consequences of coniferous preparations can include nausea, skin rash, dizziness, and vomiting.

In the 20th century, ephedra was widely used as a medicinal plant to obtain ephedrine, but with the development of the chemical industry, plant raw materials lost their former value for Pharmacology. People familiar with the properties of this plant can independently prepare useful broths for treatment. The vegetative organs of the needles are poisonous, an overdose leads to drug poisoning, nervous disorders, in severe cases it can lead to death. The law allows the cultivation of ephedra only in the form of ornamental solitary plants.

Horsetail Ephedra is another name for a coniferous shrub that grows to a height of 1.5 meters. It is a member of the ephedrol group. Two distinct roots make up the ephedra root system. Smaller vessels in the skeleton that support the body absorb water and nutrients. An adult Bush has a robust, extended trunk. It is divided from many branches that have developed over time. First order branches are situated approximately vertically. Secondary branch shoots and others are among them. Less than one and a half years old, young branches are green. They turn gray after painting. The shoots feature an Internode that ranges in length from 0.5 centimeter to 3 centimeters. The internodes themselves are leafless, but they are separated by nodes with leaves. The leaves are shortened and there are practically no chloroplasts. Photosynthesis is carried out using green shoots without stripes.

**IN CONCLUSION,** The unisexual, tiny flowers of hairy ephedra. They congregate in tiny spikelets. The fruit is an orange-red cone with a single seed. Alkaloids are present in all plant organs. Up to 3.2% of green branches, 0.8% of combined branches, 0.6% of seeds, and 0.12% of conical berry pulp include the majority of them. Ephedrine, pseudoephedrine, and methylfedrine are some of the ephedra alkaloids. The preparation found in hairy ephedra has an impact on how the heart functions. They increase its contraction. In addition, they increase blood pressure and deepen breathing. Ephedra allows you to increase the tone of peripheral vessels, has a stimulating effect on the respiratory center and rests on the smooth muscles of the bronchi. All these properties are provided due to the presence of ephedrine in the composition.

### REFERENCES:

1. X. Turakulov "Molecular Biology "Tashkent," teacher " 1993.
2. K.G. Gazoryan, V.Z. Tarontul, " biotechnology zarubejom", 1990.
3. X.Khalikov and others "biotechnology", " medical publishing house named after Abu Ali ibn Sina", Tashkent, 1996.
4. Yu. P. Laptev, " Biological Engineering", Tashkent, 1990.
5. Ibragimov A.A, Abbosova D.Z, Nazarov O.M, Determination of the content of chemical elements in the Erythraequisetina Bunge with the use of neutron activation analysis. 2020 year.
6. Ibragimov A.A, Abbosova D.Z, Nazarov O.M, Determination of the content of chemical elements in the Erythraequisetina Bunge with the use of neutron activation analysis. 2020 year.

7. Карабаева, Р. Б., Ибрагимов, А. А., & Назаров, О. М. (2020). КОМПОНЕНТНЫЙ СОСТАВ ЭФИРНОГО МАСЛА PRUNUS PERSICA VAR. NECTARINA, ПРОИЗРАСТАЮЩЕГО В УЗБЕКИСТАНЕ. *Химия растительного сырья*, (4), 165-170.
8. Карабаева, Р. Б., Ибрагимов, А. А., & Назаров, О. М. (2020). ОПРЕДЕЛЕНИЕ СОДЕРЖАНИЯ ЛИПИДОВ И КИСЛОТ В МАСЛЕ ЯДЕР КОСТОЧЕК ДВУХ ОБРАЗЦОВ PRUNUS PERSICA VAR. NECTARINA. *Universum: химия и биология*, (12-1 (78)), 51-55.
9. Карабаева, Р. Б., Ибрагимов, А. А., & Назаров, О. М. (2020). Определение содержания химических элементов и аминокислот в Prunus persica var. Nectarina. *Universum: химия и биология*, (9 (75)), 15-18.
10. Карабаева, Р. Б., Ханабатова, М. Т. К., & Абдуллаева, М. К. (2022). ОПРЕДЕЛЕНИЕ ЖИРНОКИСЛОТНОГО СОСТАВА МАСЛА ЯДЕР СЕМЯН PRUNUS DULCIS VAR. AMARA. *Universum: химия и биология*, (6-2 (96)), 30-32.
11. Ибрагимов, А. А., Аббасова, Д. З., & Назаров, О. М. (2020). ОПРЕДЕЛЕНИЕ СОДЕРЖАНИЯ ХИМИЧЕСКИХ ЭЛЕМЕНТОВ В ERHEDRA EQUISETINA BUNGE С ИСПОЛЬЗОВАНИЕМ НЕЙТРОННО-АКТИВАЦИОННОГО АНАЛИЗА. *Universum: химия и биология*, (8-1 (74)), 36-39.
12. Расулова Маъмурахон Обиджон Кизи, Назаров Отабек Мамадалиевич, & Амирова Тойирахон Шералиевна (2022). ОПРЕДЕЛЕНИЕ СОДЕРЖАНИЯ МАКРО-И МИКРОЭЛЕМЕНТОВ В РАЗЛИЧНЫХ ВИДАХ КОЖИ МЕТОДОМ МАСС-СПЕКТРОМЕТРИИ С ИНДУКТИВНО-СВЯЗАННОЙ ПЛАЗМОЙ. *Universum: химия и биология*, (6-2 (96)), 18-22.
13. Аббасова, Д. З. (2022). EFEDRA (ERHÉDRA EQUISETÍNA BUNGE) O 'SIMLIKLARDAN XALQ TAVOVATIDA DORIVOR SIFATIDA QO 'LANILISHI. *Журнал химии товаров и народной медицины*, 1(3), 94-106.
14. Ибрагимов, А. А., Амирова, Т. Ш., & Иброхимов, А. А. (2021). ХИМИЧЕСКИЙ СОСТАВ МАРГИЛАНСКОГО ШЁЛКА. *Deutsche Internationale Zeitschrift für zeitgenössische Wissenschaft*, (14), 12-15.
15. Амирова, Т. Ш. (2022, April). ХИМИЧЕСКАЯ ПОДГОТОВКА ТКАНЕЙ ИЗ НАТУРАЛЬНОГО ШЁЛКА. In *Conference Zone* (pp. 137-138)
16. Ибрагимов, А. А., Амирова, Т. Ш., & Иброхимов, А. (2020). СЕРТИФИКАЦИЯ И КЛАССИФИКАЦИЯ ТКАНЕЙ НА ОСНОВЕ ИХ БИОЛОГИЧЕСКИХ СВОЙСТВ И ХИМИЧЕСКОГО СОСТАВА. *Universum: химия и биология*, (10-1 (76)), 10-13.
17. Амирова, Т. Ш. (2022, June). Химический состав шелковых и шерстяных тканей. In *Conference Zone* (pp. 79-80).
18. Назаров, О. М., & Амирова, Т. Ш. (2022). ОПРЕДЕЛЕНИЕ СОДЕРЖАНИЯ МАКРО-И МИКРОЭЛЕМЕНТОВ В РАЗЛИЧНЫХ ВИДАХ КОЖИ МЕТОДОМ МАСС-СПЕКТРОМЕТРИИ С ИНДУКТИВНО-СВЯЗАННОЙ ПЛАЗМОЙ. *Главный редактор*, 18.