
STUDY OF BIOPHYSIOLOGICAL CHARACTERISTICS OF WATER PEPPER MEDICINAL PLANT

<https://doi.org/10.5281/zenodo.7884946>

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Abstract.

This article presents the information obtained by studying the biophysiological properties of the water pepper plant. Information is also given about the use of water pepper plant in folk medicine. Methods of observation, comparison and analysis were used in the study of the topic.

Keywords.

astringent, analgesic, diuretic, hemostatic, flavone glycoside, Saydana,

Enter: Water pepper (another mountain pepper) is a plant, the small flowers of which are collected in the spicate development. Fruits are like vegetable grains. The plant has a sharp peppery taste and is usually used as a spice. Even in ancient Greece and Rome, they knew the healing properties of water pepper and used these plants for medicinal purposes - to dissolve tumors and clean wounds. In the 16th century, instead of painkillers and mustard plates, water pepper was used. The healing properties of this plant are related to the content of the glycoside polygopiperine, which has a small amount of vitamin K and a hemostatic effect on internal bleeding. In addition, the medicinal plant contains flavone glycosides, which reduce vascular dullness and permeability. However, Water pepper contains few tannins, so it does not have a local hemostatic effect. Preparations based on this medicinal plant improve bowel and stomach functions, have anti-inflammatory, soothing, astringent, analgesic, diuretic, hemostatic and anti-ulcer effects.

Main part: This plant has been used in folk medicine for many centuries. You will find it in ditches and swamps near deserts and lakes. Leaves and stems of fresh, medicinal plants have a sharp burning taste. Hence the name - water pepper.

The healing properties of mountain pepper (it is "dubbed" by botanists) are so unique and effective that they are recognized even in traditional medicine. Watercress tincture - often prescribed by doctors. You can buy it at any pharmacy. How is it useful? Water pepper is distinguished by many useful substances included in its composition. The aerial part of the plant contains vitamins C, K, D and E, manganese, magnesium, titanium and silver. Medicinal herb has unique hemostatic and wound healing properties. oh glycoside polygopiperine contained in the plant accelerates the blood clotting process. The plant contains tannins, essential oil, organic acids. Rhamnazine, isorhamnetin, quercitrin, hyperoside, kaempferol and flavonoids help to reduce permeability and fragility of capillaries and blood vessels. Rutin and ascorbic acid have a calming effect on the nervous system. Water pepper roots contain anthraglycosides and tannins. They are used as an astringent for intestinal diseases, inflammation of mucous membranes. helps reduce ductility and brittleness. Rutin and ascorbic acid have a calming effect on the nervous system. Water pepper roots contain anthraglycosides and tannins. They are used as an astringent for intestinal diseases, inflammation of mucous membranes. helps reduce ductility and brittleness. Rutin and ascorbic acid have a calming effect on the nervous system. Water pepper roots contain anthraglycosides and tannins. They are used as an astringent for intestinal diseases, inflammation of mucous membranes.

Treatment with water pepper. Decoctions made from the aerial part of the plant help to treat stomach and duodenal ulcers. Intestinal diseases are well treated with water pepper, intestinal flora is restored with dysentery. The plant helps to get rid of sand and stones in the kidneys and bladder.

An infusion of water pepper is used as a gargle for sore throat and various inflammations of the mucous membrane of the oral cavity. Externally, the herb is used in the form of lotions to treat purulent wounds and some types of eczema. Antitumor properties of water pepper have also been identified. With the nodular form of goiter, the use of this plant helps to reduce the proportions of the thyroid gland. Infusion of water pepper is recommended for painful and heavy menstruation, certain diseases of the uterus, and is used for postpartum bleeding. With hemorrhoidal bleeding, you can use the tincture together with milk. water pepper for hemorrhoids. Water pepper inflammation with hemorrhoids has anti-inflammatory and hemostatic effect. A decoction made from the aerial part of the plant helps in days of exacerbation of the disease. The broth is prepared as follows:

take 50 grams of dry water pepper for 2 cups of boiling water, boil. The decoction is used for washing and sitz baths.

Externally, tinctures are used in the form of rinses and lotions for stomatitis and diseased gums. Means prepared from the roots of water pepper are used for cholecystitis and cystitis as a choleric and diuretic. Mixing with other plants, a tincture is prepared for irrigating and washing the vagina with whites.

How to get water pepper? In order for the treatment to be useful and effective, water pepper products should be taken strictly according to the recommendations. Let's use water pepper in the fight against malaria. Use a decoction for this.

Decoction of water pepper: 1 tablespoon of dry grass is poured into 0.5 liters of boiling water, cooled. The remedy should be drunk throughout the day. Traditional medicine advises making decoctions of water pepper roots for stomach ulcer, cholecystitis, cholelithiasis, duodenal ulcer, various bleeding and urolithiasis.

Milk decoction of water pepper: 400 g water pepper herb is poured with 21 liters of water, boiled in a closed container for 15-20 minutes, left for 1 hour and strained. Next, you need to boil 400 ml of milk with 400 g of white bread, you need to swim. Combine hot broth and milk in a basin and take a bath for 10-15 minutes.

Aqueous pepper tincture: 15 g of dry plant should be poured with a glass of vodka and kept in a dark place for two weeks. Take ten drops of tincture a day.

Recipe #1: one liter of water and 20 g of finely chopped rhizomes are boiled for 15 minutes, strained and taken 1/2 cup four times a day.

Recipe #2: the roots of water pepper and flax seeds should be mixed in a ratio of 1:1, 10 g of the mixture should be boiled in a glass of water as a tea and taken 1 tablespoon every two hours.

Recipe #3: for 1 tablespoon of dry raw materials, you need to take 1 cup of boiling water, heat it in a water bath for twenty minutes, stand for 1 hour under a closed lid, drain, add 50 ml of boiled water. Take 1/3 cup three times a day before meals.

It is good to apply chopped fresh herb to the back of the head with headache. Freshly crushed water pepper herbal masks are also effective for facial scars and freckles.

Contraindications to the use of water pepper. Contraindications to the use of water pepper are pregnancy, coronary heart disease, hypertension, chronic constipation, jade. When taking the herb, allergic reactions in the form of short-term dizziness, headache and urticaria are observed. Water pepper is contraindicated kidney disease. Tinctures and tinctures have a diuretic effect.

Water pepper is an annual herbaceous plant belongs to the group of climbers. When fresh, its stems and leaves have a sharp taste. The herb is used for various preparations drugs, for example, an extract from the dried ground part.

The healing properties of the plant are so unique and effective that they are recognized by official medicine.

Since ancient times, people have been looking at the world of plants with great interest, preparing medicines from plants and trying to use them effectively in their daily life. This, in turn, led to attention to every plant found in nature. As a result, the properties of many plants that are useful for humans have been identified. Of course, such a group of plants is widely distributed in nature. Taking this into account, we set ourselves the goal of studying the water pepper (*Rolygonum hydropiper* L.) plant belonging to the Torondash family (*Polygonaceae*). . Water pepper (*Polygonum hydropiper* L.), a representative of the *Rolygonaceae* family, is an annual plant that can be found on the banks of many water bodies in the world. The height of the plant is 20-70 cm. The stem is jointed, erect, hairless, the lower part is colored and branched from the base. The leaves are simple, and the lower ones are arranged in a row on the stem. The leaves are lanceolate, sharp-pointed, 4-8 cm long, 0.5-2 cm wide, and have glands with black dots.

The flowers are small, inconspicuous, located on a bent spike-like peduncle. The flowers are pale green or red in color. The inflorescences are relatively thick, cylindrical, the flowers are densely arranged. The fruit is a 3-sided nut. Both sides of the fruit are flat or rounded. The leaves and fruits of the plant are wilted. That is why this plant was given such a name.

The plant blooms and fruits from July to October. In Western Siberia, it blooms and bears fruit from mid-June to September. Representatives of the Torondoshka family are distributed in almost all parts of the globe, and 30 genera are one of the largest families that include more than 800 species. Representatives of this family occupy an important place in the flora of Uzbekistan. In Uzbekistan, we can meet 120 species of this family, which consists of 7 groups.

Many representatives of this family are distinguished by their significant aspects. From many types of representatives of the family, people have used them for various purposes in the way of their desires and have identified a number of their effective properties. One such plant is the Water pepper plant. We can find this type of plant in several regions of the world. The natural distribution of the water pepper plant covers a wide range. In terms of geographical distribution, this plant can be found mainly in Ukraine, Belarus, Moldova, the European part of

Russia, the Far East, the Caucasus, Siberia, and many regions of Central Asian countries [2].

Use of water pepper tincture

Water pepper is released in the form of an aqueous extract. The main purpose of the tincture is to treat hemorrhoids. Ancient doctors called the plant "hemorrhoidal herb". However, gradually water pepper showed its main quality: the ability to stop bleeding. It should be noted that this is only a matter of minor bleeding that is not life-threatening. Thus, a tincture of water pepper is obtained:

- with very heavy and painful periods;
- reducing uterine contractions in the postpartum period and reducing it;
- with hemorrhoidal bleeding;
- With uterine bleeding of various origins;
- for the treatment of certain skin diseases.

In addition, water pepper extract is the best way to destroy blood vessels. The plant has antibacterial, anti-inflammatory, soothing and analgesic properties.

Results and discussion:The importance of water pepper plant is a number, including the works of Abu Ali ibn Sina-Tib Laws, Abu Rayhan Beruni-Saydana, valuable information about the medicinal properties of water pepper plant is given. This indicates that there was great interest in the water pepper plant from those times [3].

Water pepper (*P. hydropiper* L.) has been used effectively by humans since ancient times. In ancient Greece, people used it to wash wounds, and in China, common people added it to their food as a spice like pepper.

Medicinal properties are embodied in the above-ground part of water pepper, and medicines for human health are prepared from this part. For this, first of all, it is enough to pay attention to the chemical composition of the plant. The chemical composition of the above-ground part of the plant is unique, and it has been determined that there are a number of substances. It contains Polygopiperine Glycoside (the main active ingredient), 2-2.5% Flavanoids, 0.0005% essential oil, formic, valerian and acetic acids, 3.8% additives, etc.

In the folk medicine of Central Asia, water pepper (*P. hydropiper* L.) preparations are used to treat constipation, bleeding from the uterus, gastrointestinal tract, hemorrhoids, gastritis, gout, diarrhea, and varicose veins. [3].

In 2020-2021, we studied the seed germination of water pepper plants in laboratory conditions.

Water pepper plant under laboratory conditions

seed fertility (2020)

Table-1

No	The seed has been d time	seed Conservation time (month)	Seed germination	Number of seeds in %	
				From him	didn't wake up
1	2020	1 month	0.8	76.5	23.5
2	2020	2 months	0.8	87.8	12.2
3	2020	3 months	1.0	90	10
4	2020	4 months	1.8	93.5	6.5
5	2020	5 months	2.5	87.6	12.4
6	2020	6 months	2.6	87	13
7	2020	7 months	2.0	87	13
8	2020	8 months	1.9	75	25
9	2020	9 months	1.8	75	25
10	2020	10 months	1.7	75	25

The seed was sown in a petri dish by moistening filter paper. The average air temperature is 22-26 C. The seeds germinated in 2-3 days.

of water pepper plant seeds under laboratory conditions

Fertility (2021)

Table-2

No	The seed has been d time	seed keep time (month)	Seed germination	Number of seeds in %	
				From him	didn't wake up
1	2021	1 month	0.7	75.5	24.5
2	2021	2 months	1.0	87.5	12.5
3	2021	3 months	1.8	89	11
4	2021	4 months	1.8	90	10
5	2021	5 months	2.3	87.5	12.5
6	2021	6 months	2.5	90	10
7	2021	7 months	2.0	87	13
8	2021	8 months	1.9	80	20

It is important to note that the effect of climate on obtaining quality seeds is significant. Quality seeds correspond to the period when the weather is warm. Harvested seed regains its fertility during the rest period. The experiments we conducted in 2021 and the work we conducted on seed germination of water pepper in 2020 were almost close to each other. Experiments show that the best seed germination was recorded when stored for 4 months.

Since the medicinal properties of plants depend on their biologically active substances, there is not a single plant that has the ability to heal and heal. However, their effectiveness depends on the stage of development in the ecological environment.

There is no disease that attacks human health, if there is no cure in nature, it is our main task to find it and direct it to life.

Preparation of highly effective medicines from natural raw materials to improve and restore human health is not an extra job, but one of our most important tasks.

Our nature is rich in such medicinal plants. And we need to use these plants effectively and protect them. Medicinal products made from plants are distinguished primarily by their naturalness and the fact that they do not have a negative effect on the body.

Summary: In conclusion, we can say that by using water pepper medicinal plant, we will be able to prevent many diseases, not limited to finding cures for various diseases. Preparations made on the basis of this medicinal plant improve intestinal and stomach functions, have anti-inflammatory, soothing, astringent and many other properties. Although tinctures and extracts of this plant have been produced in pharmaceutical factories for a long time, in folk medicine water pepper is used much more often than official. At the same time, doctors warn against self-medication with aqueous pepper preparations, because they damage not only the mucous membranes, but also the eyes. it can often be very irritating to the skin, which in some cases can seriously harm health. In addition, there are direct contraindications to the use of medicines from this plant.

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