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## MEDICINAL PROPERTIES OF THE SERPENTINE PLANT

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**Abstract:** Highlander Serpentine, aka buckwheat, is a perennial herb that unites about a hundred species in the buckwheat family. Botanical characteristics are similar in all plants of this family, which have a strong rhizome, curved and branched, erect stems and oblong leaves, with a carved edge. The plant reaches a height of one and a half meters. Flowering begins in late spring, but more often in June. Buckwheat throws out a beautiful pink flower, consisting of a five-membered perianth and eight lilac stamens, collected in an oblong fluffy spike-shaped inflorescence, up to 6-8 cm in size. A fairly common plant prefers to settle in forest-steppe and tundra regions. Grows well in wetlands and Siberian forests. The fruits of the plant ripen after flowering in July, early August, are shiny brown nuts, with a triangular cut.

**Keywords:** serpentine, crayfish necks, theotokos, wine root, pharmacy, Polygonum, dried rhizomes.

### Introduction

Serpentine (Latin Polygonum bistorta) - belongs to the largest genus Highlander (Latin Polygonum), numbering about 300 species (in the flora of Russia - 180) in the buckwheat family (Latin Polygonaceae). The genus has a cosmopolitan distribution, more widely found in temperate and tropical regions. In scientific medicine, an extract (liquid and dry), a decoction, and a tincture from the rhizomes of the alpine Serpentine are used. Preparations from rhizomes are used for acute and chronic diarrhea, as well as for inflammatory bowel processes, internal gastric, intestinal and uterine bleeding. A decoction of rhizomes is used for rinsing in inflammatory diseases of the oral mucosa. Highlander's preparations are also used for inflammatory lesions of the vessels of the skin and subcutaneous tissue as an anti-inflammatory agent that reduces the permeability of the vascular walls. Rhizomes in the form of powder, liquid extract and decoction are used in dental practice for stomatitis, gingivitis and other diseases of the oral cavity. The use of a decoction of knotweed rhizomes improves the functions of the stomach and intestines, is effective for stones in the gallbladder and bladder, but with strict adherence to the diet. The rhizome of the alpine Serpentine is included in the collection of medicinal herbs used in gastroenterology.

Perennial herb with a height of 30-70 cm and more, with a thick, short, winding rhizome and numerous thin adventitious roots extending from it. Stems are single, but sometimes several, erect, glabrous, unbranched. Leaves with stipules are alternate, petiolate, oblong-lanceolate, with a slightly wavy edge (10-20 cm long, 4-10 cm wide), green above, bright or whitish-gray below from a powerful wax coating. Basal leaves on long winged petioles. The base of the leaf completely covers the stem in the place of the knot. In this case, stipules grow to the petiole, and their free parts grow together into a tube surrounding the stem - a bell, the structure of which has taxonomic significance. In a young leaf, the bell closes the top of the shoot; in a mature leaf, it protects the axillary bud. The flowers are small (about 3.5 mm long), actinomorphic, bright pink, with a simple 5-membered perianth (remaining with the fruits), collected at the end of the stem in a dense cylindrical spike-shaped inflorescence (3-6 cm. in length). Serpentine flower formula: \* P5T3 + 3P (2). The fruit is a triangular smooth shiny brown nut. Flowering time June - August. Fruits ripen in June - early July.

### Procurement of raw materials

Dried rhizomes are used as a medicine. Procurement of raw materials is carried out either

in the second half of summer and in autumn (in August - October) after the death of the aboveground part, or in the spring before its regrowth. The rhizomes are dug up with shovels along with the root-shoots, thoroughly cleaned of the remnants of leaves and small roots, washed from the ground, cut into pieces up to 10 cm long and dried at a temperature of 400 C either in dryers or in well-ventilated rooms, and in good weather you can open air. Spread out the rhizomes in a thin layer and turn over daily. Repeated harvesting in the same places is carried out no earlier than after 8-12 years. Dry raw material, odorless, has a brownish-pink color at the fracture. The shelf life of raw materials is 2 years.

### Chemical composition

Knotweed rhizomes contain up to 25% tannins, 0.44% gallic acid, 0.5% catechin, 26.5% starch, 1.1% calcium oxalate, as well as oxymethylantraquinones, ascorbic acid, potassium, magnesium, iron, dyes, vitamin C, provitamin A. The plant accumulates selenium, strontium and barium. The herb contains: coffee, chlorogenic and protocatechuic acids, flavonoid glycosides (hyperoside), rutin, avicularin, quercetin, kaempferol, cyanidin. Ascorbic acid is also found in flowers, leaves and roots in fairly large quantities.

### Pharmacological properties

The anti-inflammatory, hemostatic, antibacterial, astringent and deodorizing effect of the mountaineer Serpentine is due to the content in it of a large amount of tannins. Preparations from the rhizomes of Serpentine knotweed regulate the functional activity of the digestive system and have a wound-healing, calming effect on the nervous system, as well as effectively relieve diarrhea, which helps with cheilitis and periodontitis associated with stomach and intestinal disorders.

### Application in traditional medicine

Since ancient times, the rhizomes of the alpine Serpentine have been used in folk medicine as an astringent for disorders of the gastrointestinal tract. A decoction of rhizomes is

used for diarrhea, dysentery, cholelithiasis (for the destruction of stones in the gallbladder), women's diseases, nervous disorders, all types of bleeding, for prostate and rectal cancer, rheumatism and neuralgia (as a diuretic), as well as with anemia and heartburn. Outwardly, the powder from the rhizomes is used as a powder for various bleeding, and a decoction for lotions for long-term non-healing wounds and for the healing of bleeding ulcers. A Serpentine climber is a fairly widely used remedy in folk medicine for rinsing colitis, stomatitis and gingivitis, as well as for various kinds of poisoning.

### History reference

The healing properties of the Serpentine, like many buckwheat, have been known for a long time. So, in the Chinese Encyclopedia of Medicines, as early as the 11th century BC, the medicinal properties of this plant were already mentioned. The Indo-Tibetan medical literature also mentions the use of the coil as a medicine. One cautionary tale is connected with the name "highlander". In one village, a proud and sharp-tongued beauty appeared, no one knew where she was from. The villagers did not like her, especially the crippled and sick from her. And they named her for the match - Highlander. Once I met a beggar on the bank of a forest stream and laughed at her. And the unfortunate woman says to her: "You will be punished for your sharp and evil tongue." she said, hitting the ground with her staff and disappearing. The highlander also disappeared, and after a while people began to find an unfamiliar plant by the stream: graceful, thin, but the entire stem was broken. The flowers are inconspicuous, bashfully sinking in tassels to the ground. Chewing on fresh leaves will burn your mouth. The people called this plant "highlander". Therefore, this plant has many names among the people: throat, veal tongue, serpentine.

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