

Features of the extraction of biologically active substances of clubmossclub-shaped

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Clubmoss (lat. *Lycopodium clavatum* L.) belongs to the genus clubmoss (lat. *Lycopodium*) of the club moss family (lat. *Lycopodiaceae*) of the order Lycopodiales. The genus clubmoss is the oldest, known from the Upper Devonian, includes 200 species. A perennial evergreen herbaceous plant, ascending dichotomously branching shoots reach up to 10–25 cm in height. The stem is densely leafy, creeping, reaching 1.5 m or more in length. Slightly rising, also densely leafy branches extend from the stem, ending in two spore-bearing spikelets (2–5 cm in length). The leaves are small, numerous, arranged spirally, linear or linear-lanceolate, entire. Each leaf ends at the tip with a long white hair [1]. Spikelets on long stalks, also covered with small green-yellow leaves. The spikelet consists of imbricated modified leaves — sporolists, which on the inner side at the base bear one sporangium (spore container) containing many spores, representing in the mass a light yellow velvety powder, greasy to the touch. The spores ripen in July–August.

In general, the species is widespread in the Carpathian and Polish pine forests, but its raw material base is currently exhausted. There are limited raw material stocks of mace, the use of which is subject to strict control, in the Transcarpathia, Ivano-Frankivsk, Chernivtsi, Ternopil, Lviv regions. When collecting spores for your own use, it is unacceptable to damage the plants or pull them up by the roots [2].

The plant contains carbohydrates (sucrose), triterpenoids, steroids, alkaloids (0.12%, including lycopodine, clavatoxin, nicotine), flavonoids. The shoots contain carotenoids, including β -carotene and lutein, and triterpenoids. Flavonoids are found in the leaves.

Moss spores contain a non-drying fatty oil — up to 50%, consisting of glycerides of stearic, hexadecic linoleic, palmitic, oleic, myristic, arachidic, lycopodic, arachidic, dihydroxystearic and tanacetac acids. In addition, the spores contain phytosterol, proteins and mineral salts. Clavatin, clavotoxin, nicotine, lycopodine, alkaloids, flavonoids, sugars, proteins and other biologically active substances were found in the vegetative parts (stems and leaves) of the moss.

Spores and grass (stems and leaves) of club moss have long been used in folk medicine. The spores were used internally in the treatment of many diseases as a diuretic, anti-inflammatory, hemostatic, choleric and antispasmodic. Decoctions, infusions of moss spores and shoots were used for diseases of the liver, gastrointestinal tract, upper respiratory tract, inflammation of the kidneys and bladder, for convulsions, urinary retention in children, hepatic and renal colic, also stones in the kidneys and bladder, colitis, neuralgia, rheumatic

pain. Externally, decoctions of moss spores are used for washing and lotions, as well as in the form of baths in the treatment of various skin diseases (psoriasis, boils, itchy skin rashes, pustules), purulent wounds and bruises. Moss moss spore powder is used for excessive sweating (especially of the feet). For oily scalp seborrhea, moss spores are used in mixtures for “dry washing”. Tincture of club moss is used in the complex treatment of chronic alcoholism to strengthen the gag reflex.

References

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