

PROSPECTS FOR THE PHARMACOGNOSTIC STUDY OF *PULMONARIA OBSCURA*

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Introduction. The study of medicinal plants in terms of chemical composition and the development of drugs based on them is an urgent task of pharmacy.

Species of the *Pulmonaria* genus from the *Boraginaceae* family are used for lung diseases, including asthma, chronic bronchitis, tuberculosis, laryngitis, cough. The drugs have expectorant, antitussive and diaphoretic effects. *Pulmonaria officinalis* is listed in the British Herbal Pharmacopoeia as an expectorant. Cough syrups are prepared from the herb, as well as to alleviate inflammation in the lungs. *Pulmonaria* exhibits positive properties with prolonged pneumonia and bronchitis, tracheitis, laryngitis. In the aspect of an additional species with a similar effect, the *Pulmonaria obscura*, common in European countries, attracted attention.

Purpose of the study. Pharmacognostic study of grass and leaves rosette of the *Pulmonaria obscura*, determination of the chemical composition of raw materials, macroscopic and microscopic features of raw materials.

Materials and methods. The objects of study are grass, rosette leaves of the *Pulmonaria obscura*, harvested in May 2021 at the pharmacognostic site of NUPh, dried in air-shadow conditions. Qualitative analysis of medicinal plant material and the quantitative content of the main groups of biologically active substances were studied using well-known pharmacopoeial methods.

Research work. "Pharmacognostic study of biologically active substances, the creation of herbal medicines" (state registration number 0103U000476).

Results. Amino acids, polysaccharides, organic acids, substances of a phenolic nature (hydroxycinnamic acids, flavonoids) were identified using modern methods for identifying and determining the quantitative content of biologically active substances in the objects of study, and the elemental composition was determined. The polysaccharide composition is represented by glucose and fructose. At least 11 amino acids were found in the dark lungwort herb, and 9 amino acids were found in rosette leaves. Organic acids are represented by malic, citric and ascorbic acid. From hydroxycinnamic acids, chlorogenic and neochlorogenic acids were found, from flavonoids - kaempferol, quercetin, rutin and hyperoside. The elemental composition of the dark lungwort herb is represented by 6 macro- and 13 microelements. The content of heavy metals did not exceed the permissible limits.

Macro- and microscopic diagnostic features have been identified for medicinal plant material: angular collenchyma of the stem, starch-bearing endoderm, mechanical ring of the sclerenchyma; simple covers 1-3 - cellular, capitate 2-4-celled and bristly hairs with a multicellular protruding base and a multicellular rosette, their topography;

anomocytic and anisocytic types of stomatal apparatus of the leaf epidermis; the shape of the cells of the epidermis of the leaf, calyx and petals.

Findings. Thus, the analysis of the *Pulmonaria obscura* herb showed the prospects for further study of this species.

PHARMACOGNOSTIC STUDY OF *VIOLA ODORATA* L.

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Introduction. One of the most important tasks of pharmacy is the study of plants in terms of chemical composition and pharmacological action. Phytopreparations containing natural substances, in comparison with synthetic agents, have a mild effect on the human body, and can be used to treat diseases for a long time. One of the urgent tasks of pharmacy is the search for plants that can become an additional source of raw materials and expand the base of official plant species. Species such as field violet and tricolor violet are included in the HFC, EurPh, and are widely used as an expectorant, mucolytic, anti-inflammatory, diuretic and choleric agent. In the aspect of an additional species with a similar effect, fragrant violet, widespread in Europe and Asia, attracted attention.

Purpose of the study. Pharmacognostic study of *Viola odorata* herb to establish the possibility of using it as a promising source of biologically active substances.

Materials and methods. The objects of the study are grass, leaves, flowers of the *Viola odorata*, harvested in May 2021, dried in air-shadow conditions. Qualitative analysis of MPC and the quantitative content of the main groups of biologically active substances were studied using well-known pharmacopoeia methods.

Research work. "Pharmacognostic study of biologically active substances, the creation of herbal medicines" (state registration number 0103U000476).

Results. With the help of modern methods of identification and determination of the quantitative content of biologically active substances in the objects of study, amino acids, substances of a phenolic nature (hydroxycinnamic acids, flavonoids, phenolcarboxylic acids and anthocyanins) were identified, and the elemental composition was determined. At least 9 free amino acids were found in the grass and leaves of the fragrant violet, and 8 in the flowers. From hydroxycinnamic acids, chlorogenic, neochlorogenic, caffeic acids, phenolcarboxylic acids – gallic and salicylic acids, from flavonoids – kaempferol, quercetin, rutin and hyperoside were found; anthocyanins are represented by 2 substances of the delphinidin group. The content of the total anthocyanins in the grass is 1.47%, and in the flowers - 2.15%, the amount of hydroxycinnamic acids in the grass – 1.87%, leaves – 1.64%, flowers – 1.68%, the total