

the average result", the following indicators were calculated: mean value sampling, \bar{x} ; sample size, n ; standard deviation, S ; standard deviation of the mean, S_x ; Student's test, t ($P = 0.95$, f); half-width of the confidence interval, ΔX ; relative error, $\varepsilon\%$.

The objects of research are herbs of *Filipendula ulmaria* L. and herbs of *Filipendula vulgaris* Moench., collected in the flowering phase on the territory of the Karaganda region (Abay district) of the Republic of Kazakhstan.

The study was conducted at the bases of the Karaganda Medical University (Kazakhstan) and the Medical University in Lublin (Poland).

Results and discussion. Based on the results of the study of biomorphological features and diagnostic signs, quality specifications were developed for the types of medicinal plant raw materials "Herbs of *Filipendula ulmaria* L." and "Herbs of *Filipendula vulgaris* Moench." growing in the territory of Central Kazakhstan.

The results of determining the qualitative and quantitative composition of ultrasonic extracts showed that the main components in them are polyphenols, including flavonoids: quercetin, quercetin-3'-glucoside, cinaroside, catechin, epicatechin, kempferol, rosmarinic acid, o-coumaric acid, rutin and etc.), as well as essential oils (methyl salicylate, 1.8 cineole, nepetelactone, germacrene, etc.).

Experimentally, the optimal parameters of the extraction of plant raw materials have been determined, which provide a quantitative yield of biologically active substances. Due to the prevailing amount of flavonoids in the composition of ultrasonic extracts of plants of the genus meadowsweet, according to preliminary screening data, the objects of study have such biological properties as: antimicrobial, antifungal, antioxidant activities.

At the moment, samples are being taken with pronounced biological effects for the development of pharmaceutical substances.

Conclusions. These results of the study confirm the prospects of using in medicine herbs of *Filipendula ulmaria* L. and herbs of *Filipendula vulgaris* Moench growing in the territory of Central Kazakhstan, as a medicinal plant raw material and for further pharmaceutical development of domestic medicines.

MORPHOLOGICAL AND ANATOMICAL STUDY OF SHRUBBY ALDER

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Introduction. *Duschekia fruticosa* (Rupr.) Pouzar (= *Alnaster fruticosus* (Rupr.) Ledeb.) is shrub alder belongs to the section *Alnobetula* of the *Betulaceae* family; the leaves are used to treat purulent wounds, as wound healing and bactericidal agents. Natural distribution area: Northern regions of the European part of Russia, the Urals, Northern regions of Western Siberia and Northeastern China.

Aim. Carry out a morphological and anatomical study of the leaves of *Duschekia fruticosa*. In order to identify diagnostic signs that can be used to identify medicinal plant materials.

Materials and methods. The objects of the study were selected samples of leaves of *Duschekia fruticosa*, which were collected after the full deployment of the leaf blade in the botanical garden of V. N. Karazin Kharkiv National University.

Results and discussion. *Duschekia fruticosa* is a monoecious, deciduous, anemophilous shrub that reaches the size of a tree with a straight trunk up to 6 m high. Bark is dark and gray,

reddish and brown on young shoots; the lenticels are scattered. Leaves are 5-10 cm length, 3-7 cm width, ovate or broadly ovate with a pointed apex, rounded, often unequal, rarely broadly wedge-shaped at the base, unevenly finely sharply toothed or double-toothed along the edge, dark green, matte or glossy, glabrous, paler below, often resinous with glandules, along the main veins, especially in the corners, with short reddish hairs. The basic cells of the lower and upper epidermis are small, parenchymatous, polygonal, with straight or slightly sinuous lateral walls. The stomata apparatus is anisocytic. The simple hairs are concentrated at the corners of the lateral veins and rarely founded on the lower epidermis. They are unicellular, straight, with thickened walls, dead or alive, with dark contents. Epidermis above veins covered simple hairs and corymbose glandular, in which the head is spherical, oval or cap-like, with yellowish contents. The columnar mesophyll of the leaf blade is usually two-layered, dense, and the spongy one is three-layered, loose. Cell-idioblasts are single with brownish secretion. The druses are frequent and also form the vein sheath. The main vein at the bottom of the blade protrudes significantly. The collenchyma of the vein is lamellar-angular, localized in a small area above the conducting bundle. The rounded-triangular central conductive bundle and an additional small bundle of the vein are connected to each other, united by the crystalline and sclerenchyma sheaths.

Conclusions. Thus, the established morphological and anatomical features of the studied plant can be used to identify medicinal plant materials.

DETERMINATION OF *ERODIUM CICUTARIUM* (L.) L Her. QUALITY INDICATORS

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Introduction. Skin diseases, for the time being, are one of the most spread health problems of the humanity. Their etiology, in most cases, has bacterial origin. This fact leads to the further usage of antibiotic drugs in the process of their treatment. However, the consumption of the last one is considered as a separate problem because of the resistance and multi-resistance phenomenon in bacterial agents. Looking at this, seeking out the new plant components with antibacterial, antifungal and antiviral activities is necessary and reasonable for today. *Erodium cicutarium* can be considered as one of the most prospective sources of the biologically active substances that possesses above-mentioned pharmacological effects.

Erodium cicutarium is no-official substance. That is why, the creation of methods of quality control and standardization of medicinal plant material play a considerable role in question of phyto-therapeutics drugs` quality and is considered as a basic requirement.

Aim. The goal of the research was to find out quality indicators of *Erodium cicutarium* (L.) L Her. and their forthcoming implementation in the creation of the regulatory documents.

Materials and methods. The object of the research was *Erodium cicutarium* (L.) L Her. (supplier - Phytomarket "Chlorophytum", Kharkiv city). During the experiment we conducted fractional analysis of the substance, measured weight loss during drying, general ash and also ash that is insoluble in hydrochloric acid according to the methodology of State Pharmacopoeia of Ukraine 2.0.

Results and discussion. According to the received data, as a result of fractional analysis of the plant substance (100 g), we got that the percentage of stems was $66,6 \pm 0,21\%$, flowers -