

solution containing 0.4% β -mercaptoethanol was poured there. The vial was hermetically closed and held for 24 hours at a temperature of 110 ° C. The samples were placed in a vacuum desiccator at a temperature of 40-45°C and a pressure of 1.5 mm Hg until complete removal of hydrochloric acid. Then, 200 μ l of 0.8 M borate buffer, pH 9.0, 200 μ l of 20 mM solution of 9-fluorenylmethoxycarbonyl chloride in acetonitrile were successively added to the vial for analysis by an automatic dispenser, after 10 min exposure, 20 μ l of a 150 mM solution of amantadine hydrochloride in 50% acetonitrile were added to the reaction vial.

Amino acids were identified by retention times of standards

Results and discussion. 15 free and 16 bound amino acids were determined in dried plum fruits. eight among them are essential amino acids: L-Threonine, L-Valine, L-Isoleucine, L-Leucine, L-Phenylalanine, L-Histidine, L-Lysine and L-Arginine. L-Methionine was found only as bound amino acid. The total amount of free and bound amino acids were (μ g/mg) 3.33 and 18.42 respectively. The highest content among free amino acids was found for L-Alanine (0.81 μ g/mg) and L-Serine (0.31 μ g/mg). The highest content among bound amino acids was determined for L-Aspartic (8.05 μ g/mg), L-Glutamic (2.57 μ g/mg), L-Leucine (1.00), L-Valine (0.96 μ g/mg), L-Serine (0.74 μ g/mg) and L-Alanine (0.69 μ g/mg).

Conclusions. Study of chemical composition and content of free and bound amino acids was performed with HPLC in dried plum fruits.

DETERMINING THE AMOUNT OF FLAVONOIDS IN VEGETATIVE ORGANS OF *GEUM URBANUM* L., *GEUM ALEPPICUM* JACQ., *GEUM RIVALE* L.

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Introduction. About 50% of medicinal drugs in Ukraine are made from a plant raw material aggregated in natural conditions. Phenol compounds are interesting for researchers as biologically active substances which determine the pharmacological action of many medicinal forms based on a plant raw material.

Plants of *Geum* genus (gravilat) are related to *Rosoideae* subfamily of *Rosaceae* family. There are three species such as *G. aleppicum* Jacq., *G. rivale* L. and *G. urbanum* L. that grow throughout the territory of Ukraine and are used in the folk medicine as anti-inflammatory, cholagogue, styptic and wound healing agents.

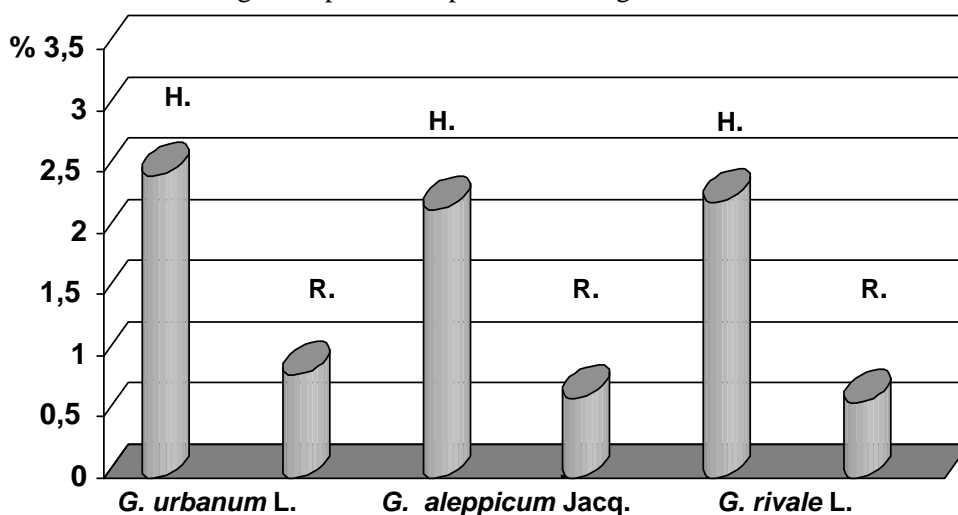
According to the preliminary chemical researches it is established the presence of a considerable number of tanning agents and flavonoids, so the determination of the amount of flavonoids in a raw material of studied species has a certain interest.

Aim. The purpose of this work is to determine the quantitative content of flavonoids in grass, rhizomes with roots *G. urbanum* L., *G. aleppicum* Jacq. and *G. rivale* L.

Materials and methods. The herb (*Herba Gei*) and the rhizome with roots (*Rhizomata cum radicibus Gei*) which were prepared in Kharkov region in 2018-2019 were taken as the investigation subjects.

It was made the spectrophotometric determination of the amount of flavonoids in herb and in rhizomes with roots of the three studied species of *Geum* L. genus with the recomputation to a rutin. It is applied the differential spectrophotometry method which is the most widely spread. The operating range of wavelength for flavonoids is the long-wave maximum 330-370 nm. It is appearing the shift of the first band absorption of flavonoids in the range 385-460 nm.

Results and discussion. The results of quantitative determination of flavonoids in the vegetative organs of the studied *Geum* L. genus species are presented in fig. 1.



Notes: H. – herb, R. – rhizome with roots.

Fig. 1. Quantitative determination no flavonoids sumin the plants of *Geum* L. genus.

Conclusions. The obtained data show that the biggest sum of flavonoids has the following herbs: *G. urbanum* L., *G. aleppicum* Jacq. And *G. rivale* L. – 2,47%, 2,19% and 2,25% respectively. Thus our results indicate the availability of a subsequent advanced pharmacognosical and pharmacological study of *Geum* L. genus plants herb.

MORPHOLOGICAL AND ANATOMICAL STUDY OF SEA BUCKTHORN PLANT MATERIAL

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Introduction. Sea buckthorn (*Hippophae rhamnoides*, Elaeagnaceae) is well- known and widely used medical plant. Various organs of this plant are used in traditional and folk medicine. It's fruits have been using for ages, but also since recently leaves have attracted attention of scientists. This herbal drug is harvested in summer and autumn moreover, it is used for gastrointestinal upsets, atherosclerosis, hypertension and as an antiviral agent.

Aim. In this regard, it is relevant to study the morphological and anatomical features of a sea buckthorn's leaf to identify plant materials.

Methods and materials. Object of research: sea buckthorn's leaves and sucker (*Elaeagnus commutata*) leaves, harvested in the flowering phase of the plant in the botanical garden of NUPH. Macroscopic study of herbal drugs was carried out visually according to the requirements of the State Pharmacopoeia of Ukraine. To identify the anatomical and diagnostic features, micropreparations were prepared according to State Pharmacopoeia of Ukraine and from fixed (70% ethanol-glycerin) samples. Sections from samples of the test materials were performed by hand with a safety razor blade and, after appropriating treatment, were enclosed in glycerol-gelatin. In the study of dried leaves, micropreparations were prepared using chloral hydrate and a 3% sodium hydroxide solution for enlightenment. Microchemical