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PHENOLIC COMPOUNDS OF SOME TANNIDE-BEARING PLANTS AND THEIR PHARMACOLOGICAL ACTIVITY

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With the aim of finding new sources of drug raw material, we have studied the chemical composition of the blood-red geranium *Geranium sanguineum* and of two species of sumac cultivated in Uzbekistan – *Rhus glabra* and *Rh. typhina*.

The main tannides of the geranium were bishexahydroxydiphenoyltrigalloylglucose [1] and tri-1,2,3-galloyl-4,6-hexahydroxydiphenoylglucose (a new compound, not previously described). In addition to these, the polyphenol complex contained corilagin, 2-galloylglucose, 2,3-digalloylglucose, 3-galloylglucose, gallic acid, kaempferol, quercetin, and rutin.

From the geranium roots two catechins and three proanthocyanidins were isolated. The catechins were identified as (+)-catechin and (±)-gallocatechin. The results of a study of the products of acid and reductive (in a current of SO_2) hydrolysis showed that the first two proanthocyanidins were formed from four flavan units: (+)-catechin, (±)-gallocatechin, leucocyanidin, and leucodelphinidin. These proanthocyanidins differed from one another only by their degrees of condensation. The third proanthocyanidin consisted of three flavan units: (+)-catechin, (±)gallocatechin, and leucodelphinidin.

We isolated the main tannide of sumac leaves – a gallotannin the structure of which has been established as 3,6-bis-O-digalloyl-1,2,4-tri-O-galloyl-β-D-glucose [2]. The polyphenols of the stems of the sumac species studied, unlike those of the leaves, were represented by 3′,4′,6-trihydroxyaurone, catechins, and proanthocyanidins. They differed from one another by the compositions of the catechins and their amounts [3].

A method has been developed for the quantitative determination of the compounds isolated with the aid of high-pressure liquid chromatography. High interferon-inducing, antiviral, and antitumoral activities of the tannides isolated have been revealed, with very low toxicities both *in vitro* and *in vivo*. Their good water-solubility permits their introduction into the organism both perorally and parenterally.

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