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COUMARINS FROM THE ROOTS AND EPIGEAL MASS OF Prangos acaulis

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We have studied for the first time the qualitative composition of the coumarins of the roots and epigeal mass of Prangos acaulis (DC.) Bornm. collected in the fruit-bearing stage in the environs of Nakhichevan', Nakhichevan ASSR. The roots contained 1.39% and the epigeal mass 0.19% of coumarin. Analysis of alcoholic extracts and of the coumarin fractions obtained from this plant by Svendsen's method [1] was carried out by paper chromatography (with markers) in two systems [2] and by gas-liquid chromatography on a column (l 1.5 m) with the stationary phase OV-17 (3%) under programmed conditions [3].

The following natural coumarins were identified: osthole, meranzin, meranzin hydrate, and suberosin and also the furocoumarins psoralen and its 5- and 8-substituted derivatives — bergapten, isoimperatorin, oxypeucedanin, oxypeucedanin hydrate, pranferol, an isomer of pranferol, xanthotoxin, and imperatorin, and the dihydrofurocoumarins marmezin and deltoin.

The qualitative difference between the coumarin compositions of the roots and epigeal mass was slight: xanthotoxin (traces) and oxypeucedanin hydrate were detected only in the roots of this species. The sets of coumarins of the roots and epigeal mass of P. acaulis differed to a considerably greater degree by the quantitative ratios of the individual components — in particular, suberosin, osthole, psoralen, isoimperatorin, and deltoin. The majority of these compounds, apart from the deltoin, were detected in the epigeal mass in this stage of development of the plant in minor amount.

The roots of P. acaulis are particularly rich in suberosin and deltoin, while osthole is found in minor amount, which distinguishes this species of Prangos from P. arcis-romanae growing in the Armenian SSR.

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