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FLAVONOIDS OF THE LEAVES OF POLYGONUM CORIARIUM. I

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From a methanolic extract of the leaves of Polygonum coriarium Grig. by absorption chromatography on polyamide with the use of preparative paper chromatography [with the systems 15% acetic acid and ethyl acetate–formic acid–water (10 : 2 : 3)] we have isolated three flavonoids.

It has been shown by the results of alkaline cleavage, reduction, acid hydrolysis, elementary analysis, spectroscopic investigations in the UV region using ionizing and complex-forming reagents, and IR spectroscopy [1–4] that the first of the substances isolated is quercetin, with mp 312° C, mp of the pentaacetate 194° C, R_f in 15% acetic acid 0.07; the second is avicularin [quercetin 3-(α-L-arabofuranoside)] with mp 216°–217° C, $[\alpha]_D^{22}$ −172.5° (c 0.68; methanol), R_f 0.46; and the third is quercitrin[quercetin 3-(α-L-rhamnofuranoside)] with mp 183°–185° C, $[\alpha]_D^{22}$ −160.6° (c 0.74; methanol), R_f 0.61.

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THE ESSENTIAL OIL OF ARTEMISIA LERCHEANA

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On treating the epigeal part of Artemisia lercheana Web. et Stechm. collected in the Makhach-Kala district with steam we obtained 0.18% of essential oil (on the weight of the air-dry plant collected in the flowering period).

The physicochemical constants of the oil are as follows: d_4^{20} 0.9192, n_D^{20} 1.4680; $[\alpha]_D$ −29.28°; acid no. 0.14; ester no. 1762.

A preliminary fractionation of the essential oil was carried out by vacuum distillation. To isolate the individual components we used repeated chromatography on alumina, (neutral, activity grade II).

The individual components of the essential oil were identified by their IR spectra, by suitable derivatives, and by the results of gas-chromatographic analysis. The analysis was carried out on a UKh-1 chromatograph using as the stationary liquid phases PEG-400 (temperature of separation 120° C) and bis-(β-cyanoethyl) ether (temperature of separation 70° C), deposited on INZ-600 inert carrier (grain size 0.3–0.4 mm) in an amount of 20% of the weight of the carrier. The carrier gas was helium and the rate of flow 30–50 ml/min. Limonene was used as the standard substance for calculating the retention volumes.