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PHENOLIC ACIDS FROM *Trifolium alpestre*, *T. medium*, AND *T. pratense*

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Studying the chemical composition of plants of the genus *Trifolium* growing in the Northern Caucasus, we have previously established that clover is rich in phenolic compounds.

From the epigeal parts of *Trifolium alpestre* L., *T. medium* L., and *T. pratense* L. we obtained 40% ethanolic extracts. Paper chromatography in the 2% acetic acid system revealed three spots of substances with R_f 0.30, 0.58, and 0.63 which were assigned on the basis of their qualitative reactions to the phenolic carboxylic acids.

The following individual substances were obtained by physicochemical methods.

Substance (I). $C_9H_8O_3$, mp 210–212°C, λ_{max} 300 nm — p-coumaric acid.

Substance (II). $C_{16}H_{18}O_9$, mp 203–205°C, $[\alpha]_D^{20}$ -36.2° (c 0.1; methanol), λ_{max} 325, 240 nm — chlorogenic acid.

Substance (III). $C_{16}H_{18}O_8$, mp 243–242°C, $[\alpha]_D^{20}$ -52.3° (c 0.1; methanol) — 3-p-coumaroyl-quinic acid.

The substances obtained were identified by a study of their physicochemical properties and comparison with authentic samples provided by L. I. Dranik (KhNIKhfI [Khar'kov Scientific-Research Institute of Pharmaceutical Chemistry], Khar'kov). The phenolic acids from the plants mentioned have not been studied previously.

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