POLYPHENOLIC COMPOUNDS OF TWO SPECIES OF Rosa

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We have investigated the flavonoid composition of the flowers of Rosa spinosissima L. and Rosa corymbifera Borkh. By two-dimensional paper chromatography four compounds of a flavonoid nature were found in Rosa spinosissima L. and three in Rosa corymbifera Borkh.

The freshly gathered (region of the Podkumok station) petals of the flowers were extracted with acetone, and the flavonoids were precipitated with benzene–chloroform (1 : 1). Kaempferol and quercetin were found in the products of the acid hydrolysis of the combined flavonoids.

Substance (I) with the composition $C_{21}H_{20}O_{11}$ was isolated by recrystallization from acetone. It had mp 216-218°C; UV spectrum: $\lambda_{max}^{C_2H_5OH}$ 350, 267 nm, R_f 0.05 [chloroform–methanol (9 : 1)] and 0.32 [ethyl acetate–acetic acid–water (25 : 1 : 25)], Silufol UV-254 plates, spots revealed with ammonia vapor. Its acetate had mp 205-207°C. Hydrolysis with 3% sulfuric acid and with a preparation of Aspergillus oryzae led to the formation of D-glucose and kaempferol (1 : 1).

On the basis of spectral features and a mixed melting point, the glycoside obtained was identified as kaempferol 3-O-β-D-glucopyranoside (astragalin).

Substance (II) with the composition $C_9H_8O_4$, mp 195-198°C was isolated from an ethanolic extract (pH 3) by extraction with diethyl ether.

UV spectrum: $\lambda_{max}^{C_2H_5OH}$ 325, 299, 235 nm. The physicochemical properties of substance (II) and its acetyl derivative (mp 197-198°C) correspond to literature figures for 3,4-dihydroxycinnamic acid [1].

The compounds mentioned were isolated from both species of rose.

LITERATURE CITED

1. K. Herrman, Die Pharmazie, 1958, No. 5, 13, 266.

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