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FORTUNELLIN FROM *ACINOS THYMOIDES*

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From the herb *Acinos thymoides* Moench., in addition to flavanone glycosides [1], we have isolated a flavone compound with the composition $C_{28}H_{32}O_{14}$, mp 210°–212°C; $[\alpha]^{20}_{D}$ −90.0° (c 0.5; dimethylformamide); R_f 0.37 (15% CH_3COOH); R_f 0.60 [BAW(4 : 1 : 5)]; $\lambda^{\text{ethanol}}_{\text{max}}$ 327, 270.

The substance gives a positive cyanidin reaction and reduces Fehling's solution only after acid hydrolysis.

According to the results of acid hydrolysis and spectroscopy, the compound is a bioside of acacetin, and its carbohydrate chain, consisting of D-glucose and L-rhamnose, is attached in position 7.

The sequence of attachment of the sugars was established on the basis of stepwise acid hydrolysis, which gave a monoglycoside of acacetin with mp 252°–253° C; $[\alpha]^{20}_{D}$ −65.0° (c 0.1; dimethylformamide), identical with tilianin. Consequently, the D-glucose is directly attached to the aglycone and the L-rhamnose is attached to the second atom of the D-glucose, which is confirmed by periodate-nitric acid oxidation.

A polarimetric analysis showed that the D-glucose has the β-configuration of the glucosidic link and the pyranose form and the L-rhamnose have the α-configuration of the link and the same form.

To confirm the structure of the substance, we carried out the iodine oxidation of a flavanone glycoside—poncirin—with the bond between the rhamnose and the glucose in the 1–2 position. The compound obtained was shown to be identical with the flavone under investigation.

Thus, the flavone bioside of *Acinos thymoides* is acacetin 7-(β-D-glucopyranosyl-2-α-L-rhamnopyranoside), i.e., fortunellin [2], isolated from a plant of our domestic flora for the first time.

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FLAVONOIDS OF *CHIMAPHILA UMBELLATA*

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It has previously been reported that *Chimaphila umbellata* (L.) Nutt. (common chimphaphila) contains flavonoids [1]. The total flavonoids obtained were separated on a column of Kapron polyamide sorbent [2], the eluting solvents used being distilled water, various concentrations of ethanol, and mixtures of ethanol and chloroform. Three individual flavonoids were obtained. The results of a study of the products of acid and aromatic hydrolysis, alkaline degradation, and UV and IR spectra showed that one of the substances, $C_{21}H_{20}O_{12}$ with mp 241°–243° C, is hyperoside (quercetin 3-β-D-galactopyranoside); the second, $C_{20}H_{18}O_{11}$ with mp 208°–211° C is avicularin (quercetin 3-α-L-arabinoside) [3–5]; and the third, $C_{15}H_{10}O_6$ with mp 275°–277° C, is kaempferol [6].

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