The PMR spectrum of the acetate of substance C in $CDCl_3$ (0 – TMS) has the following signals: 7.41 ppm (doublet of the H-5 proton, J = 8.5 Hz), 6.6 ppm (quartet of the H-6 proton, J_1 = 8.5 Hz, J_2 = 2.5 Hz), 6.69 ppm (singlet of the H-2' proton), 6.58 ppm (doublet of the H-8 proton, J = 2.5 Hz), 6.40 ppm (singlet of the H-5 proton), 5.88 ppm (singlet of the 3',4'-methylenedioxy group), and 5.44 ppm (doublet of the H-4 proton, J = 2.5 Hz). A complex, unresolved multiplet of four sugar protons has its center at 5.19 ppm, and a two-proton signal of the methylene group of the glucose appears at 4.25 ppm. In the 3.35-4.19 ppm region there is a multiplet group of signals of the H-3, 2H-2, and H-5" signals of the carbohydrate residue, and at 2.05 ppm the signals of four acetyl groups of acetylated glucose.

Thus, on the basis of UV, IR, and PMR spectra substance C has been identified as 3',4'-methylenedioxypterocarpan 7-O-β-D-glucopyranoside or trifolirizin [5, 8]. This is the first time that this compound has been isolated from the genus Ononis.

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THE STRUCTURE OF TEFERIDIN – A NEW ESTER FROM THE FRUIT OF *Ferula tenuisecta*

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UDC 547.58:547.913.5.668.5

Continuing a study of the esters of plants of the genus Ferula [1-4] from the fruit of Ferula tenuisecta Eug. Kor., we have isolated a new ester with the composition $C_{22}H_{30}O_3$, M^+ 342, $[\alpha]_D$ +37.5° (c 1.0; chloroform), which we have called teferidin. The substance is readily soluble in all organic solvents and insoluble in water.

The UV spectrum of teferidin shows a maximum at 231 nm ($\log \varepsilon$ 3.58) and the IR spectrum has absorption bands at (cm^{-1}) 3400-3600 (hydroxy group), 1725 (ester carbonyl), and 1620, 1580, and 1520 (aromatic nucleus).

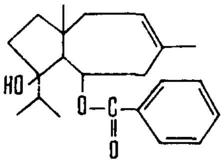
When the substance was hydrolyzed by heating with 5% aqueous methanolic caustic potash, the neutral fraction yielded an alcohol with the composition $C_{15}H_{26}O_2$, mp 91-92°C, identical with ferutinol [2], and the acid fraction of the hydrolyzate yielded benzoic acid with mp 119-120°C.

The hydrolysis products of teferidin were identified by mixed melting points and IR spectroscopy.

Thus, teferidin is an ester of ferutinol and benzoic acid. The position of the acid residue was established by the chemical shift and multiplicity of the signal of the hemiacyl proton in the NMR spectrum of teferidin, which appeared in the form of a sextet ($J_1 = J_2$ = 10 Hz, J_3 = 4 Hz) at 5.17 ppm. It follows from this that the benzoic acid residue in the teferidin molecule, as in ferutin and ferutinin [1, 2], ferutidin [3], and terefin [4], is located on the secondary hydroxy group.

In addition to teferidin, we also isolated ferutin and ferutinin from the fruit, these being identified by mixed melting points [1, 2].

Institute of the Chemistry of Plant Substances, Academy of Sciences of the Uzbek SSR, Tashkent. Translated from Khimiya Prirodnykh Soedinenii, No. 1, pp. 105-106, January-February, 1976. Original article submitted June 17, 1975.



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AMOUNTS OF RUTIN AND HYPEROSIDE IN Menyanthes trifoliata

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UDC 547.972

We have investigated the amounts of rutin and hyperoside in the leaves of Menyanthes trifoliata L. (common bogbean) collected in the flowering period in 1974 in the Usol'e region, Perm oblast [1]. The flavonoids were extracted with 70% ethanol after preliminary treatment of the raw material with chloroform. The combined flavonoids was separated on a column of polyamide sorbent with elution by 50% ethanol and mixtures of ethanol and chloroform. On the basis of the results of a study of acid hydrolysis, alkaline fusion, mixed melting points with authentic samples of rutin and hyperoside, and UV spectroscopy with diagnostic reagents, the two flavonoids isolated were identified as rutin and hyperoside [2-4].

Quantitative determination was performed by the spectrophotometric method after the preliminary separation of the flavonoids by ascending chromatography on "Filtrak" FN No. 3 paper [5, 6]. A standard solution was prepared from rutin and hyperoside which were isolated as described above and recrystallized from ethanol.

Depending on the growth site of the plant, the amounts of rutin and hyperoside were 0.32-0.93% and 0.41-1.15%, respectively (calculated on the absolutely dry weight of the raw material). This is the first time that information has been given on the amounts of rutin and hyperoside in the leaves of the bogbean.

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Perm Pharmaceutical Institute. Translated from Khimiya Prirodnykh Soedinenii, No. 1, p. 106, January-February, 1976. Original article submitted June 23, 1975.