In the PMR spectrum of (VI), the signal of the anomeric proton of the rhamnose residue is observed at 4.64 ppm and the ratio of the intensities of the protons of the sugar moiety at 3.4-4.4 and 4.5-5.6 ppm corresponds to 4:8. These facts are characteristic for acetates of rutinosides [5]. The value of the ^{13}C chemical shift of the C_6' atom (δ 66.2 ppm) also confirms the 1 → 6 arrangement of the bond of the rhamnose residue with the glucose residue [1].

Thus, compound (V) is a natural monoacetyl derivative of scopoletin 7-O-rutinoside.

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PHENOLIC COMPOUNDS OF THE EPIGEAL PART OF *Vicia truncatula*

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We have studied the composition of the phenolic compounds of the epigeal part of *Vicia truncatula* Fisch., family Leguminosae collected in the flowering period in the Pyatigorsk region (Mount Mashuk).

The comminuted air-dry raw material was exhaustively extracted with 50% ethanol with heating. The ethanolic extract was evaporated to 1/3 volume and the residue was treated repeatedly with chloroform. Qualitative reactions showed the presence of phenolic compounds in the chloroform fraction and in the aqueous residue.

The chloroform fraction was concentrated and transferred to a column of L 40/100 silica gel. Elution was performed with toluene, and then with a mixture of toluene and ethyl acetate (9:1). Three compounds possessing a blue fluorescence in UV light were isolated. The substances were additionally purified by TLC on L 5/40 silica gel in the ethyl acetate–heptane (4:1) system.

Substance (I) consisted of yellowish crystals with mp 204-206°C, composition $C_{10}H_8O_4$. UV spectrum: $\lambda_{max}^{CH_3OH}$ (nm), 230, 254, 298, 346. IR spectrum: ν_{max}^{KBr} (cm^{-1}), 3045, 1720 (C=O of an α-pyrone), 1614, 1571, 1520 (C=C). In a chromatographic comparison of the substance with an authentic sample of scopoletin, no differences were observed.

On further elution of the chloroform extract from the column of silica gel with a mixture of toluene and ethyl acetate in a ratio of 9:2, substance (II) was obtained, this consisting, after recrystallization from a mixture of heptane, chloroform, and methanol, of pale yellow crystals with the composition $C_{16}H_{12}O_6$, M^+ 300, mp 260-263°C. Its IR spectrum (in paraffin oil) showed a broad band at 3500-3300 cm^{-1} (–OH group), 2985 cm^{-1} ($-OCH_3$), 1650 cm^{-1} (C=O of a γ-pyrone), 1605, 1510, 1450 cm^{-1} (aromatic nucleus). UV spectrum, λ, nm: CH_3OH 252, 292 sh, 344, CH_3COONa 269, 345, $CH_3COONa + H_3BO_3$ 253, 269, 345, $AlCl_3 + HCl$ 259, 271, 352, $AlCl_3$ 261, 275, 358, C_2H_5ONa, 270, 327 sh., 382.

In the PMR spectrum of substance (II) (in deuteropyridine, δ scale, ppm) there were the following signals: 3.78 (singlet, 3 H, $-OCH_3$), 6.75 (quartet, 2 H), 6.96 (singlet, 1 H), doublets at 7.05 (1 H), 7.52 (1 H), and 7.89 (1 H) – the signals of the aromatic protons H-6, H-8, H-3, H-5, H-2', and H-6', respectively. The location of the methoxy group at position 4' was shown by independent synthesis of the substance from hesperidin by a known procedure [2]. In this way, we identified substance (II) as 3',5,7-trihydroxy-4'-methoxyflavone (diosmetin).

This is the first time that a coumarin has been detected in a plant of the genus *Vicia*.

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COUMARINS OF *Coronilla elegans*

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In a chemotoxonomic study of the genus *Coronilla* L. [1], no fewer than six substances of coumarin nature have been detected in the seeds of *C. elegans* Panc. In contrast to other species, the plant investigated contained a substance the Rf value of which in the chloroform—formamide system differed from that of scopoletin. On chromatograms, before treatment with an ethanolic solution of alkali, this compound was detected in the form of faint blue spot, and, after treatment, by a bright yellow fluorescence.

To isolate the coumarins the seeds were ground and extracted with a tenfold amount of 80% ethanol. The extract obtained was evaporated until the solvent has been eliminated, and the residue was mixed with water (1:1) and was treated successively with petroleum ether, chloroform, and ethyl acetate. The petroleum ether extract contained no coumarins and was not investigated further. Not fewer than six substances exhibiting a blue fluorescence in UV light were detected in the chloroform extract.

The substances detected were separated by partition chromatography on a column of silica gel. Formamide was used as the stationary phase and chloforom and benzene and mixtures of them as the mobile phases. When the column was washed with benzene containing 10% of chloroform, a substance was obtained with the empirical formula $C_{19}H_{12}O_7$, mp 254-256°C, $\lambda_{max}^{C_2H_5OH}$ 266, 345 nm, which was identified as daphnoretin [2]. When the column was then washed with benzene containing 80% of chloroform, and also with pure chloroform, a substance was isolated with the formula $C_{10}H_8O_4$, mp 185-187°C, $\lambda_{max}^{C_2H_5OH}$ 239, 255, 295, 347 nm. Its IR spectrum showed bands at 1712 cm^{-1} (α-pyrone) and 2930 cm^{-1} ($-OCH_3$). When the substance under investigation was demethylated with aluminum chloride, esculetin was formed. A derivative of esculetin is scopoletin (6-methoxyesculetin), but the substance obtained differed from scopoletin by its Rf value, melting point, color, and fluorescence after treatment of chromatograms with an ethanolic solution of caustic soda. It may be assumed that this compound is an isomer of scopoletin — 7-methoxyesculetin.

To confirm this structure we methylated esculin (esculetin 6-O-β-D-glucopyranoside) with dimethyl sulfate in acetone using anhydrous potassium carbonate as catalyst. The methylation product was hydrolyzed with 5% sulfuric acid, which gave 7-methoxyesculetin ($C_{10}H_8O_4$, mp 185-187°C), identical with the substance isolated from the seeds.

On further elution of the column with chloroform, scopoletin and umbelliferone were isolated [2].

Thus, from *C. elegans* we have isolated four hydroxycoumarins for the first time, and of these it is the first time that isoscopoletin (6-hydroxy-7-methoxycoumarin) has been isolated from the genus *Coronilla*.

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