having the composition of $C_{15}H_{26}O_2$, mp 135-137°C, $[\alpha]_D^{20}$ −65° (c 1.0; ethanol), identical with the angrendiol described previously [3-5]. The acid fractions of the hydrolyzates of (I) and (II) yielded vanillic and p-hydroxybenzoic acids, respectively.

Thus, substance (I) is chimganidin [4] and (II) is ferolin [5] which has been isolated previously from other species of Ferula [6]. The identities of the substances were also confirmed by comparing their IR spectra and by direct mixed melting points with authentic samples.

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FLAVONOIDS OF Veronica spicata

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We have investigated the epigeal part of Veronica spicata L. (spiked speedwell), family Scrophulariaceae Lindl. collected in the flowering period in the Kungursko-Krasnoufimsk forest-steppe zone of Predural'.

By two-dimensional paper chromatography using standard color reactions, 16 substances of flavonoid nature were detected in the plant. Four substances of flavonoid nature were isolated from a methanolic extract of spiked speedwell by adsorption chromatography on a polyamide sorbent and by a preparative method. From the color of the spots on the chromatogram, and the results of qualitative reactions (Bryant's test) it was established that the substances isolated belonged to the flavone group of compounds, two of them being of glycosidic nature and two being aglycones.

Substance (I) formed a yellow powder with mp 256-258°C. The UV spectrum [λ_{max} (in ethanol) 350, 167, 255 nm] and the spectra of the substance with ionizing and complex-forming additives were identical with those of cynaroside [1, 3, 4].

On the basis of the results of spectral, chromatographic, and other investigations the glycoside isolated was identified as cynaroside (luteolin 7-O-β-D-glucoside) and its aglycone as luteolin (3',4',5,7-tetrahydroxyflavone) [1-4].

Substance (II) was identified as luteolin [1, 2, 3, 4].

Substance (III) formed a light yellow crystalline powder with mp above 300-304°C. UV spectrum, λ_{max} (in ethanol) 336, 270 nm. Acid hydrolysis gave an aglycone with mp 346-348°C which was identified as apigenin. Glucuronic acid was found in the hydrolyzate. The results of UV spectroscopy showed that the glucuronic acid was present in position 7 of the apigenin [4]. The acetyl derivative of the substance had mp 183-185°C, which corresponded to apigenin acetate [5].

From the results of chromatographic and spectral investigations in the UV region with ionizing and complex-forming reagents [1, 3] and from the absence of depressions of the melting points of mixtures with authentic samples, the glycoside isolated and its aglycone were identified as apigenin 7-β-D-glucuronide and apigenin (4',5,7-trihydroxyflavone), respectively.

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Substance (IV) was identified by its physicochemical and spectral characteristics as apigenin [1, 3, 5].

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C-GLYCOSIDES OF SPECIES OF DIPSACACEAE. III

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We have previously reported the presence of C-glycosides in species of the family Dipsacaceae [1, 2]. Further investigations of the epigeal part (flowers and leaves) of representatives of the genera Scabiosa L., Cephalaria Schrad., Dipsacus L., Pterocephalus Vaill., and Knautia L. have shown the presence of swertisin and swertiajaponin. We have not studied samples collected during the flowering period in the region of the Caucasian Mineral'nye Vody of Knautia montana (M.B.) DC., Scabiosa caucasica M. B., Sc. olgae Albov., Dipsacus strigosus Willd., Cephalaria gigantea (Ldb.) Bobr., C. transsylvanica (L.) Schrad., C. coriaceae Willd., C. balkharica E. Busch., and C. uralensis (Murr.) Schrad., and in the Crimea Scabiosa atropurpurea, Sc. ucranica L., Pterocephalus plumosus (L.) Coult., Knautia arvensis (L.) Coult., and Scabiosa argentea L.

The air-dry raw material was extracted three times with methanol at its boiling point, the combined extracts were concentrated, and the residue was treated with an equal amount of water and then with chloroform. After the mixture had stood for ten days, a precipitate separated out at the boundary between the layers, and this was removed and was treated for three hours with 5% sulfuric acid (to hydrolyze the O-glycosides). The hydrolyzate was chromatographed in a thin layer of silica gel with 5% acetic acid to separate the flavonoid aglycones of the O-glycosides (which remained at the start) and the C-glycoside. The latter were separated by repeated preparative chromatography in 15% acetic acid after the starting line had first been removed from the chromatogram. Substance (I), from its melting point (263-264°C), UV spectra (CH_3OH: 244, 260, 348 nm; CH_3COONa: 268, 406 nm; $CH_3COONa + H_3BO_3$ 268, 400 nm; $AlCl_3$: 276, 304, 334, 428 nm), the results of chromatographic analysis (colored orange under the action of basic lead acetate), and the products of acid hydrolysis (7-methoxyluteolin) consisted of 7-O-methyluteolin 6-C-β-D-glucopyranoside (swertiajaponin) [3]. It was detected in Knautia montana (M. B.) DC., Cephalaria uralensis, and Pterocephalus plumosus.

Substance (II), from the results of UV spectroscopy (CH_3OH: 270, 335 nm; CH_3COONa: 268, 335 nm; $H_3BO_3 + CH_3COONa$: 270, 336 nm; $AlCl_3$: 380 nm; CH_3ONa: 398 nm), chromatographic analysis, and the products of acid cleavage (7-O-methylapigenin or genkwanin) was identified as genkwanin 6-C-β-D-glucopyranoside (swertisin). This compound was detected in Knautia montana (M. B.) DC. Cephalaria gigantea, Cephalaria coriaceae, Pterocephalus plumosus, (flowers), Scabiosa atropurpurea and Sc. olgae (herbage).

At the present time, the following C-glycosides have been found in various species of the family Dipsacaceae: orientin, vitexin, isoorientin, saponaretin, swertiajaponin, swertisin, saponarin, and knautoside [1, 2].

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