vitexin and saponaretin) have a ratio of 1:1 or 1:2 [3, 4]. The α configuration of the glycosidic bonds in substance (V) and its isomer (VII) is confirmed by the high positive rotation of their acetates [5].

Thus, on the basis of the results of chemical and chromatographic investigations and spectroscopy, substance (V) was characterized as apigenin 6-C-syn-α-D-glucopyranoside or neoavroside, and substance (VI) as apigenin 6-C-anti-α-D-glucopyranoside, or isoneoavroside. This is the first time that either substance has been isolated from plants of the family Caryophyllaceae.

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FLAVONOID COMPOUNDS OF *Dianthus superbus*

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We have found no information in the literature available to us of the chemical composition of *Dianthus superbus* L. (lilac pink), preparations of which in the form of tinctures, decoctions, and liquid extracts are used in cases of hypotonia and atonia of the uterus and of postnatal hemorrhages. There are only statements of the presence in it of triterpene saponins consisting of derivatives of gypsogenin and gypsogenic acid [2].

We have studied the flavonoid compounds of the epigeal part of this plant collected in the Bryansk oblast.

By qualitative reactions and by one- and two-dimensional chromatography we have established the presence in the herbage of the lilac pink of about eight flavonoids. By column chromatography on polyamide sorbent we have isolated substance D with mp 238-240°C, $[\alpha]_D^{20}$ +30°, (c 0.1; ethanol), $E_{1cm}^{1\%}$ = 530, R_f (15% acetic acid, ascending) 0.41, λ_{max} (in ethanol) 350, 258, 270 nm.

The IR spectrum shows absorption bands characteristic for C-glycosides (1010-1040 cm^{-1}) [3].

For exhaustive hydrolysis we used a mixture of 30% solutions of sulfuric and acetic acids. After hydrolysis for ten hours, the algycone, D-glucose, and D-arabinose were found. According to the results of UV spectroscopy, alkaline degradation, and a mixed melting point with an authentic sample, the aglycone was identified as luteolin.

Hydrolysis in a 10% ethanolic solution of hydrochloric acid permitted the following isomerization to be observed. On acid hydrolysis, substance D gave two compounds (D → D + E) with R_f 0.41 and 0.15 (15% acetic acid); substance E with mp 264-265°C, $[\alpha]_D^{20}$ +20°C (c 0.1, ethanol) yielded the same products. This enabled us to state that they are C-glycosides of luteolin. Spectral investigation in the UV region of substance E showed free hydroxy groups in the 3',4', 5, and 7 positions.

Chromatographic mobility on paper, the absence of a depression of the melting point of mixtures with authentic samples, and the identity of the IR spectra of these compounds enabled substance D to be identified as homoorientin and substance E as orientin [4].

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PHENOLIC ACIDS AND FLAVONOIDS OF THE SPORE-BEARING STEMS OF *Equisetum arvense*

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The spore-bearing stems of *Equisetum arvense* L. (field horsetail) develop earlier than the sterile stems (herbage) and die off after the formation of the spores. Freshly collected spore-bearing stems (Irkutsk region, end of May, moisture content 73-75%) were extracted with methanol, and the extract was treated successively with chloroform, diethyl ether, ethyl acetate, and butanol.

From the ether-soluble fraction by preparative chromatography on polyamide sorbent and elution with water and a mixture of water and ethanol we obtained phenolic acid fractions, and by elution with chloroform and chloroform–methanol (with increasing proportions of methanol from 5 to 30%) fractions enriched with flavonoid compounds.

The phenolic acids and the flavonoids in the form of their TMS ethers were analyzed by GLC on the Tsvet-4 chromatograph with a flame-ionization detector under the conditions described previously [1, 2].

Acids and flavonoids were identified by the method of additives and by comparison of the retention times of the TMS ethers with those of authentic samples. Below we give the relative retention times (RRTs) of the TMS ethers of the phenolic acids.

TMS Derivatives of the Acids	RRT
p-Hydroxybenzoic	0.63
Vanillic*	1.00
Protocatachuic	1.25
p-Coumaric	1.85
Ferulic	3.08
Caffeic	3.78

*The retention time of the standard was 5 min.

In the flavonoid fraction we identified the following compounds:

TMS Derivatives of the Flavonoids	RRT
Naringenin*	1.03
Dihydrokaempferol	1.24
Dihydroquercetin	1.48
Apigenin	1.95
Luteolin	2.71

*The retention time of the standard was 7.25 min (column temperature 288°C).

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