FLAVONOIDS OF THE BARK OF *Corylus avellana*

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With the aid of two-dimensional paper chromatography in the 15% acetic acid and BAW (4:1:5) systems. The presence of seven substances of flavonoid nature has been detected in the bark of *Corylus avellana* L. (European filbert) collected in April 1981, in the environs of Vitebsk. Their chromatographic behavior and qualitative reaction showed that four of the substances were glycosides and three were aglycons.

The dry crushed bark was extracted with 80% ethanol. After the ethanol had been distilled off, the concentrated extract was diluted with hot water and was purified by extraction with dichloroethane. The purified aqueous extract was reextracted successively with diethyl ether and butanol. By chromatography on a column of polyamide with elution by mixtures of chloroform and ethanol, the ethereal extract yielded substances (I-III).

Substance (I) — $C_{15}H_{10}O_6$, mp 277-279°C, λ_{max} (ethanol) 265, 296, 370 nm — was kaempferol.

Substance (II) — $C_{15}H_{10}O_7$, mp 310-312°C, λ_{max} 256, 265, 301, 370 nm — was identified as quercetin.

Substance (III) — $C_{15}H_{10}O_8$, mp 357-360°C, acetate with mp 220-221°C, λ_{max} 254, 304, 278 nm — was myricetin.

Chromatography of the butanol fraction gave substances (IV-VI).

Substance (IV) — $C_{21}H_{20}O_{10}\cdot 1.5\ H_2O$, mp 172-174°C, $[\alpha]_D$ −148° (c 1.0; dimethylformamide) λ_{max} (ethanol) 268, 350 nm — was afzelin [2].

Substance (V) — $C_{21}H_{20}O_{11}\cdot 1.5\ H_2O$, mp 182-184°C, $[\alpha]_D$ −154.8° (c 1.0; dimethylformamide), λ_{max} (ethanol) 265, 350 nm — was quercitrin [3].

Substance (VI) — $C_{21}H_{20}O_{12}\cdot 1.5\ H_2O$, mp 188-190°C, $[\alpha]_D$ −143.9° (c 1.0; dimethylformamide), λ_{max} (ethanol), 265, 366 nm — was myricitrin [4].

The structures of the compounds isolated were confirmed by the results of elementary analysis and of UV, IR, and PMR spectroscopy and by a study of the products of acid hydrolysis.

LITERATURE CITED

1. G. G. Zapesochnaya, Khim. Prir. Soedin., 695 (1982).
2. G. G. Zapesochnaya, É. Ya. Yarosh, N. V. Svanidze, and G. I. Yarosh, Khim. Prir. Soedin., 252 (1980).
3. M. I. Borisov, T. I. Isakova, A. G. Serbin, Khim. Prir. Soedin., 229 (1979).
4. G. P. Shnyakina and G. G. Zapesochnaya, Khim. Prir. Soedin., 673 (1973).

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