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UDC 547.972

We have found three flavonol glycosides and two dihydroflavonols in the bark of *Larix sibirica* Ledeb. (Siberian larch). They were extracted from the bark with acetone. Phenolic acids were removed from the dry acetone extract by the bicarbonate method, and flavonoids with ethyl acetate. The combined flavonoids were separated by partition chromatography on KSK silica gel. Ether eluted successively: flavonols, dihydroflavonols, and catechins [1, 2], and methanol eluted flavonol glycosides and flavane polymers. The dihydroflavonols were separated from the catechins by repeated chromatography on KSK silica gel and from the flavonols by preparative paper chromatography in 2% acetic acid (with methanol as the eluent). Substances I and II were obtained.

Substance I formed colorless crystals with mp 235–236°C (from water), $[\alpha]_D^{21} + 51.6^\circ$ (c 1.76; ethanol), λ_{\max} 292 nm, R_f 0.89 in BAW (40 : 12.5 : 29) and 0.46 in 2% acetic acid. These constants and qualitative reactions correspond to literature data for dihydroquercetin (taxifolin) [3].

Substance II, present in the bark in the form of traces, was identified by qualitative reactions and paper chromatography as dihydrokaempferol (aromadendrin) [3].

The flavonol glycosides were separated from the accompanying flavane polymers by adsorption chromatography on Kapron (with methanol as the eluent). Final purification from oxidation products was achieved by preparative paper chromatography [BAW (40 : 12.5 : 29)], and separation was achieved in 15% acetic acid. This gave substance III and substances IV and V combined. Substances IV and V were separated by partition chromatography in the water–ether system, ether extracting successively IV and then V. On the basis of the results of acid and enzymatic hydrolysis, UV spectroscopy with ionizing and complex-forming additives, and analyses of specific rotations, substance III was identified as quercetin 3- α -L-rhammofuranoside (quercitrin), mp 182–184°C, $[\alpha]_D^{25} - 153.1^\circ$ (c 0.3; methanol), λ_{\max} 260, 352 nm, R_f 0.69 [BAW (4 : 1 : 5)] [4], IV as quercetin 3- α -L-arabofuranoside (avicularin), mp 215–217°C, $[\alpha]_D^{25} - 112^\circ$ (c 0.3; methanol), λ_{\max} 258, 360 nm, R_f 0.54, and V as quercetin 3- α -L-arabopyranoside (guaijaverin), mp 236–238°C, λ_{\max} 260, 360 nm, R_f 0.67 [5].

This is the first time that flavonol glycosides have been isolated from the leaves of the larch.

LITERATURE CITED

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Kirov Kazakh State University. Translated from *Khimiya Prirodnikh Soedinenii*, No. 6, pp. 763–764, November–December, 1970. Original article submitted September 22, 1970.

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