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FLAVONOIDS AND COUMARINS OF *Dictamnus dasycarpus*

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UDC 547.972

Psoralen and xanthotoxin have been isolated previously from *Dictamnus dasycarpus* Furcz. collected in the environs of the town of Khabarovsk [1]. In the present communication we give the results of a study of the epigeal part of this plant collected by the resource-prospecting division of the Combined Soviet-Mongolian Complex Biological Expedition in the Eastern Aimak (Khamar-Daba somoch) in 1973 during the fruit-bearing period.

To isolate the flavonoids and coumarins, the comminuted raw material was extracted with a tenfold amount of 80% ethanol. The extract was evaporated to eliminate the solvent, and the residue was mixed with distilled water, 1:1. The precipitate that deposited was filtered off, and the filtrate was treated successively with chloroform and ethyl acetate. Then the solvents were evaporated off in vacuum and the residues were subjected to column chromatography.

On separation of the residue from the chloroform extract with the aid of partition chromatography on silica gel (with formamide as the mobile phase), the column was washed with petroleum ether-benzene (8:2), and then with chloroform. This gave furocoumarins: psoralen ($C_{11}H_8O_3$, mp 161-163°C); xanthotoxin ($C_{12}H_8O_4$, mp 145-146°C); and the hydroxycoumarin scopoletin ($C_{10}H_8O_4$, mp 200-202°C).

The residue from the ethyl acetate extract was separated on a column of polyamide sorbent. The column was washed with chloroform and with mixtures of chloroform and ethanol with increasing concentrations of the latter of from 5 to 20%. This led to the isolation of quercetin ($C_{15}H_{10}O_7$, mp 308-310°C) and of quercetin 3-O- β -D-glucopyranoside (isoquercetrin, $C_{21}H_{20}O_{12}$, mp 218-222°C, $[\alpha]_D^{20}$ -39°C (methanol)).

After the treatment of the aqueous phase with the solvents mentioned above and evaporation of the aqueous phase to a small residue, crystals of rutin (quercetin 3-O- β -rutoside, $C_{27}H_{30}O_{16}$) deposited, with mp 188-192°C, $[\alpha]_D^{20}$ -29° (dimethylformamide).

The substances were identified from their physicochemical properties, R_f values in various solvent systems, the results of UV and IR spectroscopy, and mixed melting points with authentic samples.

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V. L. Komarov Botanical Institute, Academy of Sciences of the USSR. Translated from Khimiya Prirodnykh Soedinenii, No. 4, pp. 529-530, July-August, 1983. Original article submitted March 5, 1983.