TERPENE COUMARINS FROM THE ROOTS OF Ferula kelifii

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The chemical composition of <u>Ferula kelifii</u> Korov., which, according to E. P. Korovin's system [1], belongs to the subgenus <u>Merwia</u> (B. Fedtsch.) Korov., has not been investigated previously. The other species of the subgenus differ markedly from one another in chemical composition: furocoumarine have been isolated from some of them, terpenoid coumarins from others, and sesquiterpene lactones from a third group [2].

The plant material (roots) for the present chemical investigation was collected in the enrirons of the village of Dekhkanabad (Surkhandar'ya province, Uzbekistan). The roots were extracted with ethanol, and the total extractive substances obtained were separated into acidic, phenolic, and neutral fractions by treatment with solutions of potassium carbonate and caustic soda.

The neutral fraction was deposited on a column $(3 \times 80 \text{ cm})$ of KSK silica gel, and the substances were eluted with hexane—ethyl acetate mixtures, starting from a 9:1 ratio and then increasing the proportion of ethyl acetate, with the collection of 50-ml fractions. Five substances of coumarin nature were isolated:

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substance (I), C_{24}H_{34}O_6, mp 151-153°C, [\alpha]_D +26° (c 1.0; chloroform); substance (II), C_{24}H_{30}O_4, mp 137-138°C, [\alpha]_D -82° (c 1.0; chloroform); substance (III), C_{24}H_{30}O_4, mp 176-177°C, [\alpha]_D -54° (c 1.0; chloroform); substance (IV), C_{24}H_{30}O_4, mp 78-80°C, [\alpha]_D -76.4° (c 1.0; chloroform); substance (V), C_{24}H_{32}O_5, mp 176-177°C, [\alpha]_D +24° (c 1.0; chloroform).
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Substances (I)-(V) were identified, by a comparison of their physicochemical constants, IR spectra, and mixed melting points with authentic samples, as samarcandin acetate, conferol, gummosin, moschatol, and samarcandin, respectively.

When \underline{F} . $\underline{kelifii}$ was compared with other studied species of the subgenus \underline{Merwia} , the closest proved to be \underline{F} . $\underline{szovitsiana}$ (\underline{F} . $\underline{microloba}$), which also contains terpene coumarins.

LITERATURE CITED

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