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TERPENOID COUMARINS FROM *Ferula kokanica*

A. U. Babekov,[2] A. I. Saidkhodzhaev,[1] and B. M. Keneshov[2]

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In continuation of our chemical investigation of terpenoid coumarins from plants of the celery genus *Ferula*, we studied roots of *Ferula kokanica* (Apiaceae) that were collected during flowering in Laglan, Osh district, Kirghiz Republic.

The ground, air-dried roots (1.5 kg) were extracted three times with ethanol. Evaporation of solvent under vacuum gave a thick resinous substance (120 g). The concentrated extract was diluted with water (1:2) and treated with ether. The extractant was distilled off to give extracted substances (10 g) that were placed on a silica-gel L 100/250 column (3×100 cm). Elution with hexane—ethylacetate (19:1, increasing concentration of the latter) gave fractions of 100 ml volume.

Chromatographic separation with elution by hexane—ethylacetate in the ratio 9:1, 8:1, 7:1, 6:1, and 5:1 isolated five compounds with coumarin-like properties: $C_{24}H_{30}O_4$ (**1**), mp 154-155°C, M^+ 382; $C_{26}H_{32}O_5$ (**2**), mp 148-149°C, M^+ 424; $C_{24}H_{28}O_5$ (**3**), mp 89-90°C, M^+ 396; $C_{24}H_{30}O_5$ (**4**), mp 94-96°C, M^+ 398; $C_{15}H_{24}O_2$ (**5**), mp 93-94°C, M^+ 236.

Comparison of the physicochemical properties and spectral data (IR, NMR, mass spectra) of **1-5** identified them as farnesiferol A [1], polyanthin [2, 3], karatavic [4, 5] and galbanic acids [6, 7], and mogoltone [8], respectively.

The terpenoid coumarins polyanthinin, mogoltadone, gummosin, kellerin, feshurin, and umbelliferone were previously isolated from roots of *Ferula kokanica* collected near Oman-Kutan of Samarkand district. These data indicate that the coumarin composition depends qualitatively on the habitat.

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1) Institute of the Chemistry of Plant Substances, Academy of Sciences of the Republic of Uzbekistan, Tashkent, fax (99871) 120 64 75; 2) Institute of Medical Problems, South Division, National Academy of Sciences, Kirghiz Republic, Osh. Translated from Khimiya Prirodnykh Soedinenii, No. 2, p. 175, March-April, 2000. Original article submitted May 8, 2000.

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