COUMARINS OF *Daucus carota*

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The fruit and leaves of *Daucus carota* L. (wild carrot), family Umbelliferae contain an essential oil [1, 2]. From the epigeal part of the plant grown in Moscow Province and gathered at the end of flowering peucedanin has been isolated [3]. Foreign authors have obtained umbelliferone from the leaves and 6-methoxymellein [4] from the roots.

We have investigated for the first time the coumarins from the umbels of the wild carrot collected in the Buinaksk region of the Dagestan ASSR at the end of June, 1970. The following were isolated: osthole (I), bergapten (II), zosimin (III), and β-sitosterol (IV). Substances (I), (II), and (IV) were identified on the basis of their IR spectra [5], from the absence of the depression of the melting point of mixtures with authentic samples, and from their R_f values on paper with markers. Zosimin (III) was identified from its IR spectrum [5, 6] and its melting point [6].

The comminuted umbels of the plant (960.5 g) were extracted with ethyl acetate. This gave 104.7 g (10.9%) of a resin, of which 50 g was dissolved in 18 ml of chloroform and chromatographed on a column of neutral Al_2O_3 (activity grade III). The ratio of Al_2O_3 to resin was 10:1. Substances were eluted with gasoline (3200 ml) and with gasoline–chloroform (1:1) (1800 ml). The gasoline eluates contained a fatty oil (1.40%) and osthole (0.062%). The residue obtained after the isolation of osthole and those from the gasoline–chloroform eluates were passed through a column of Al_2O_3 again. Substances were eluted with gasoline (100 ml), gasoline–chloroform (2:1) (250 ml), and chloroform (200 ml). Osthole, bergapten, zosimin, and β-sitosterol were isolated.

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