FLAVONOIDS OF Dracocephalum multicaule

G. B. Oganesyan and V. A. Mnatsakanyan

UDC 547.972

From the chloroform-soluble fraction of an aqueous extract of the epigeal part of Dracocephalum multicaule Montbr. et Auch ex Benth., Lamiaceae, we have previously isolated six polymethyoxylated flavonoids [1].

Continuing our investigation of the nonpolar fraction, by repeated rechromatography of the mixture of unseparated components of the chloroform extract, using column chromatography on silica gel L (Czechoslovakia, 40/100 mesh) with the solvent systems benzene–ether (8:1) and (6:1), we have isolated, together with the calycopterin, penduletin, and xanthomicrol previously detected in the plant [1] another two flavonoid compounds, (I) and (II), new for this species, and accompanying calycopterin and peduletin, respectively, as minor components.

To study the extractive substances of the polar fraction, the plant was exhaustively extracted with methanol. The concentrated methanolic extract was diluted 1:1 with water, the resulting precipitate was filtered off, and the filtrate was extracted successively with hexane, chloroform, and ethyl acetate. From the ethyl acetate fraction, by column chromatography on silica gel with the solvent system chloroform-methanol (5%), we isolated cirsimaritin, detected previously in this plant [1], and the flavonoid compounds (III) and (IV).

The ubstances were identified on the basis of their IR, UV (with diagnostic additives), PMR, and mass spectra, by acetylation (in the case of compound (III)), through their other physicochemical characteristics, and by direct comparison with authentic samples (in the cases of (I) and (IV) as acacetin (5,7-dihydroxy-4'-methoxyflavone) (I), genkwanin (4',5-dihydroxy-7-methylflavone) (II), apigenin (4',5,7-trihydroxyflavone) (III), and luteolin (3',4',5,7-tetrahydroxyflavone (IV) [2].

This is the first time that compounds (I-IV) have been isolated from Dracocephalum multicaule.

LITERATUE CITED

1. G. B. Oganesyan, V. A. Mnatsakanyan, and É. Gacg-Bait-ts, Arm. Khim. Zh., 42, No. 11, 717 (1989).
2. L. K. Klyshev, V. A. Bandyukova, and L. S. Alyukina, Plant Flavonoids [in Russian], Nauka, Alma-Ata (1978).

A. L. Mndzhoyan Institute of Fine Organic Chemistry, Armenian Academy of Sciences, Erevan. Translated from Khimiya Prirodnykh Soedinenii, No. 6, pp. 719-720, November-December, 1992. Original article submitted February 20, 1992.

 0009-3130/92/2806-0626$12.50