FLAVONES AND PHENOLIC ACIDS OF Scabiosa olgae

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UDC 517.972

We have investigated the epigeal part of the plant Scabiosa olgae N. Alb., family Dipsacaceae, collected in the flowering period in Abkhazia (gorge of the R. Mzymta). The air-dry raw material was treated with methanol, and the extract was concentrated to 1/5 of its volume, diluted with water, and extracted with chloroform. After 48 h, a substance with the composition $C_{21}H_{20}O_{11}$, mp $255-256^{\circ}C$ (from acetone) [α] $_{D}^{20}-52^{\circ}$ (0.1; methanol) deposited at the boundary of the two phases. The melting point of its acetate was $134-135^{\circ}C$. According to UV spectroscopy, the compound is a 7-glycoside and has free hydroxy groups in the 3', 4', and 5 positions. Acid hydrolysis formed glucose and luteolin.

On the basis of its UV and NMR spectra [1], the compound was identified as luteolin $7-\beta$ -D-gluco-pyranoside.

When the methanolic extract was diluted with water, a flavone was obtained with the composition $C_{15}H_{10}O_6$, mp 326°C. The melting point of the acetyl derivative was 224°C. UV spectrum: $\lambda_{max}^{CH_3OH}$ 350, 267, 255 nm. The substance was identified by its bathochromic shifts as luteolin. In the preliminary chromatographic analysis luteolin was absent, and it appeared in the process of isolation, which shows that it was present in the plant in the form of a readily hydrolyzable compound. A similar phenomenon is observed for other species of scabious (Sc. ochroleuca L., Sc. caucasica M.B., and Sc. bipinnata C. Koch).

Extraction with acidified diethyl ether of the concentrated methanolic extract gave two phenolic acids which were identified by their physicochemical properties as 3,4-dihydroxycinnamic and chlorogenic acids.

LITERATURE CITED

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Pyatigorsk Pharmaceutical Institute. Translated from Khimiya Prirodnykh Soedinenii, No. 5, p. 675, September-October, 1972. Original article submitted March 20, 1972.

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