

COUMARINS OF ARTEMISIA CHAMAEMELIFOLIA. I

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Artemisia chamaemelifolia was collected in the flowering phase at the end of August, 1967, in the environs of Karachaevsk. Preliminary investigations have shown that the leaves and flowerheads of the plant contain polyphenolic compounds consisting of flavone glycosides, coumarins, and phenolic acids. Only coumarins are found in the roots and stems.

By absorption chromatography on alumina a chloroformic extract yielded two coumarin compounds. One of them had mp 201° C; UV spectrum, λ_{max} , $m\mu$: 230, 290, 340; IR spectrum, cm^{-1} : 1610, 1570 (—C=C of an aromatic bond), 1740 (δ -lactone ring of an α, β -unsaturated coumarin); R_f 0.85 [system 1: butan-1-ol-acetic acid-water (6 : 1 : 2)] and 0.38 [system 2: isopropanol-acetic acid-water (5 : 0.1 : 95)] and was identical with scopoletin, isolated previously from Artemisia abrotanum [1]. Its demethylation with hydriodic acid gave esculetin.

The second compound has mp 215° C, R_f 0.42 (1) and 0.74 (2), and on acid hydrolysis was split into D-glucose and scopoletin; it was identified as scopolin. It was also established that the roots and stems contained only scopoletin and the leaves and flowers both scopoletin and scopolin.

Caffeic acid was detected by the paper chromatography of an ethanolic extract in various systems of solvents in the presence of an authentic sample and by its color reaction [2]. Flavonoid compounds were represented by the glycosides of two flavonoid compounds having free hydroxyl groups at $C_{(7)}$, $C_{(3')}$, and $C_{(4')}$. Their structure is being studied.

A sample of esculetin was kindly given to us by V. G. Minaeva (Novosibirsk).

REFERENCES

1. P. Schmersahl, Naturwissensch., 52, 1965, p. 448.
2. P. Schmersahl, Planta med., 14, no. 2, 179, 1966.

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