

COUMARINS, CAROTENOIDS, AND β -SITOSTEROL FROM THE EPIGEAL PARTS
OF SOME SPECIES OF THE GENUS *Potentilla*

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The isolation of coumarins from the epigeal part of *tormentilla cinquefoil* [1] and of β -carotene from its flowers [2] has been reported previously. Silverweed cinquefoil contains sitosterol [3] and carotene [4].

Continuing an investigation of cinquefoils, *Potentilla*, family *Rosaceae* (silverweed cinquefoil *P. anserina*, silver cinquefoil *P. argentea*, tormentilla cinquefoil *P. erecta*), we have studied these species for the presence of coumarins, carotenoids, and phytosterols.

The raw material was gathered in 1990 in Kursk province. The isolation and identification of the coumarins, carotenoids, and phytosterols from each species was carried out as described in the literature [1, 3, 5]. As a result, six compounds (I-VI) were isolated.

These compounds were identified on the basis of UV and IR spectra, R_f values in various solvent systems, and other physicochemical characteristics: substance (I), $C_{40}H_{56}$, mp 176-178°C - α -carotene [5]; substance (II), $C_{40}H_{56}$, mp 179-180°C - β -carotene [5]; substance (III), $C_{29}H_{50}O$, mp 136-138°C, $[\alpha]_D^{25} +37.8^\circ$ ($CHCl_3$) - β -sitosterol [3]; substance (IV), $C_{10}H_8O_4$, mp 200-202°C - scopoletin [7]; substance (V), $C_9H_6O_4$, mp 230-232°C - umbelliferone [7]; and substance (VI), $C_9H_6O_4$, mp 268-272°C - esculetin [6].

Thus, for the first time, scopoletin (IV) and umbelliferone (V) have been isolated from the herb silverweed cinquefoil; scopoletin (IV), umbelliferone (V), β -sitosterol (III), α -carotene (I), and β -carotene (II) from silver cinquefoil; and esculetin (VI), β -sitosterol (III), α -carotene (I), and β -carotene (II) from tormentilla cinquefoil.

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