

COUMARINS OF *Bidens tripartita*

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On studying the chemical composition of the herb *Bidens tripartita* L. (burr beggarticks), we have detected substances of a coumarin nature in it by qualitative reactions [1].

The comminuted raw material was treated with 50% ethanol, the extracts were dried in vacuum to an aqueous residue, and the latter was purified with chloroform. When the aqueous phase was separated on a column of polyamide (the eluents being mixtures of ethanol and chloroform in various ratios), a substance $C_9H_8O_4$ was obtained with mp 268–270°C, R_f 0.24 (2% acetic acid) and 0.49 (15% acetic acid), which was identified by its physicochemical properties, its IR and UV spectra [2], and by a mixed melting point as 6,7-dihydroxycoumarin.

The chloroform extract was separated into its individual components by two-dimensional thin-layer chromatography on acidic alumina (activity grade II) [3] in the solvent systems 1) cyclohexane–ethyl acetate (3:1) and 2) ethyl acetate–chloroform–cyclohexane (2:1:7). Two compounds were obtained: $C_9H_8O_3$, mp 232–235°C, R_f 0.16 (system 1) and 0.24 (system 2), and $C_{10}H_8O_4$, mp 200–202°C, R_f 0.25 (system 1) and 0.30 (system 2), which were identified on the basis of the investigations performed as umbelliferone and scopoletin, respectively.

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