

Various authors have previously isolated four substances of coumarin nature from the flowers of the chamomile *Matricaria recutita* L., family Asteraceae. Three of them were identified as herniarin, umbelliferone, and esculetin [1-3]. In addition, a new substance has been isolated [1-(2-hydroxy-4-methoxycinnamoyl)- β -D-glucopyranose] which hydrolysis converts into herniarin [3].

In the present paper we give information on the isolation and identification of three substances that have been assigned to γ -pyrone derivatives.

The flowers of *M. recutita* gathered in 1989 (Ordzhonikidze sovkhos [communal farm], Khmel'nitskii province) were extracted with 80% ethanol. The extract was concentrated in vacuum to small volume. The residue obtained after evaporation was freed from accompanying substances with hexane, and then the coumarins were extracted with ethyl acetate. The combined ethyl acetate extracts were concentrated and deposited on a column filled with silica gel suspended in hexane. On elution with hexane-chloroform (7:3), substances (I) and (II) were isolated, while hexane-ethanol (5:1 and 5:2) gave (III) and (IV).

The compounds that had been isolated were identified on the basis of UV and IR spectra, R_f values in various solvent systems, and other physicochemical constants: (I), $C_9H_8O_2$, mp 67-68°C - coumarin; (II), $C_{10}H_8O_3$, mp 117-118°C - herniarin; (III), $C_{16}H_8O_4$, mp 184-187°C - isoscopoletin; (IV), $C_{16}H_8O_4$, mp 204-205°C - scopoletin; (V), $C_9H_6O_3$, mp 233-234°C - umbelliferone; and (VI), $C_9H_6O_4$, mp 268-272°C - esculetin.

Thus, together with substances known previously for *M. recutita* [herniarin (II), umbelliferone (V), and esculetin (VI)] we have isolated for the first time coumarin (I), isoscopoletin (III), and scopoletin (IV).

LITERATURE CITED

1. J. Hölzl and G. Demuth, *Planta Med.*, **27**, No. 1, 37-45 (1975).
2. C. Redelli, L. Formentini, and E. Santaniello, *Planta Med.*, **43**, No. 4, 412-413 (1981).
3. L. G. Dolganenko, "A phytochemical investigation of the milk thistle and the wild chamomile," Author's Abstract of Candidate's Dissertation, Pharmaceutical Sciences, Khar'kov (1990).