

The hydroxycoumarins of the inflorescences of *H. arenarium* were investigated similarly, and scopoletin and umbelliferone were isolated from them.

On comparing the results of a study of the hydroxycoumarins of the inflorescences of *C. officinalis*, *H. arenarium*, and *Taraxacum officinale* [3], it must be mentioned that all the species studied are similar with respect to their coumarin composition, and scopoletin is the main component of the total hydroxycoumarins.

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COUMARINS OF *Vicia sativa*

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UDC 547.992:582.738

The vetch genus (*Vicia* L., family *Fabaceae*) is represented in the Ukraine by 30 species, some of which have been introduced into cultivation as protein-rich fodder herbage [1, 2].

Plants of the genus have found use in Tibetan and Far Eastern folk medicine and in modern dietetics and hematology [3, 4].

We have investigated common vetch (*Vicia sativa* L.) — one of the most widespread fodder crops. In a study of the chemical composition of the epigeal part of the vetch (variety Vinnitskaya-30), up to 30 substances of phenolic nature were revealed, which were assigned to coumarin derivatives, phenolic carboxylic acids, and flavonoids.

The comminuted air-dry raw material (4 kg) collected in the period of fruit bearing after the threshing out of the seeds was exhaustively extracted with 80% ethanol. The extracts were evaporated in vacuum, the residue was treated with water (1;1), and the precipitate was filtered off and subjected to fractionation with solvents having increasing polarity according to a known procedure [4]. Separation of the chloroform extract on a silica gel column (with increasing concentrations of ethyl acetate in benzene as eluents) followed by thin-layer chromatography (in alumina and silica gel) yielded substances (I-V).

Substance (I) — $C_{12}H_8O_4$, mp 148–152°C, λ_{max} 298, 248 nm, was identified as xanthotoxin.

Substance (II) — $C_{12}H_8O_4$, mp 188–191°C, λ_{max} 298, 247 nm — was characterized as bergapten.

Substance (III) — $C_9H_6O_3$, mp 233–234°C, λ_{max} 325, 216 nm — was identical with umbelliferone.

Substance (IV) — $C_9H_6O_4$, mp 272–273, λ_{max} 357, 232 nm — was esculetin.

Substance (V) — $C_{10}H_8O_4$, mp 204–205°C, λ_{max} 347, 230 nm — consisted of scopoletin.

The structure of substances (I-V) were shown on the basis of their physicochemical constants and UV and PMR spectra. This is the first time that substances (I-IV) have been isolated from the genus *Vicia*.

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Khar'kov State Pharmaceutical Institute. Translated from *Khimiya Prirodnikh Soedinenii*, No. 6, p. 778, November-December, 1986.