

## BRIEF COMMUNICATIONS

### HYDROXYLCINNAMIC ACIDS OF *Glechoma hederaceae*

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In the USSR Flora, the genus *Glechoma*, family Lamiaceae is represented by three species: *G. hederaceae* L. (ground ivy), *G. hirsuta* W., and *G. longituba* Navial [1].

So far as concerns the first of these plants, its chemical composition has been studied inadequately. There is information in the literature on the presence in the herbage of ground ivy of essential oils, tanning substances, and choline [2]. Some authors have reported the presence in ground ivy herbage of saponins, bitter substances, resins, and amino acids, while ascorbic acid has been found in the leaves [3].

We have investigated the epigeal part of ground ivy gathered in the flowering phase. The raw material was exhaustively extracted with 80% ethanol. The ethanol was driven off in vacuum. The residue was dissolved in distilled water and was freed from ballast substances and chlorophyll with diethyl ether. The ether was distilled off and the residue was chromatographed on the polyamide sorbent Kapron [polycaprolactam] and on a column with cellulose powder. On elution with water, ethanol, and 2% CH<sub>3</sub>COOH solution by a known procedure [4, 6], three hydroxycinnamic acids were isolated. The structures of the acids isolated were confirmed by the results of elementary analysis, UV and IR spectroscopy, the results of alkaline hydrolysis, melting, and acetylation, and also by comparison with authentic samples.

Substance (I) - C<sub>9</sub>H<sub>8</sub>O<sub>4</sub>, mp 194-195°C, yellow crystals, R<sub>f</sub> 0.32 in system 1 (2% CH<sub>3</sub>COOH), 0.84 in system 2 (butanol-acetic acid-water (4:1:2)), 0.21 in system 3 (0.1 N hydrochloric acid). On alkaline degradation with KOH, protocatechuic acid was formed. A mixture with an authentic sample of caffeic acid gave no depression of the melting point [5].

Substance (II) - C<sub>10</sub>H<sub>10</sub>O<sub>4</sub>, mp 167-169°C, R<sub>f</sub> 0.87 (system 2), 0.34 (system 1), 0.37 (system 3). On comparison with an authentic sample it was identified as ferulic acid [7].

Substance (III) - C<sub>11</sub>H<sub>12</sub>O<sub>5</sub>, mp 200-202°C. A mixture with an authentic sample of sinapic acid gave no depression of the melting point [6].

This is the first time that any of these hydroxycinnamic acids have been detected in the epigeal part of ground ivy.

#### LITERATURE CITED

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