

THE CHEMICAL COMPOSITION OF *Galium verum*

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In ethanolic extracts of the herb *Galium verum* L. (yellow bedstraw) collected in June 1969 in the full flowering phase (environs of the town of Shushi, Azerbaidzhan SSR), we have found five flavonoid and five iridoid compounds and not less than three phenolic carboxylic acids by two-dimensional paper chromatography in the ethyl acetate-formic acid-water (10:2:3) system (direction I) and the 15% acetic acid system (direction II). By chromatography on columns of Kapron, we have isolated four individual substances.

Substance (I), $C_{27}H_{30}O_{15}$, forms pale yellow needles with mp 178-180°C (aqueous ethanol), $[\alpha]_D^{20} - 59^\circ$ (dimethylformamide), and on acid hydrolysis with 20% H_2SO_4 it gave diosmetin, L-arabinose, and D-glucose. This substance can be characterized as diosmetin 7-O- β -D-glucopyranosyl-(6 \rightarrow 1)-O- α -L-arabopyranoside (palustroside), isolated previously from *G. palustre* L. (marsh bedstraw) [1].

Substance (II) formed pale yellow needles with mp 188-190°C (70% ethanol) $[\alpha]_D^{18} - 33^\circ$ (ethanol) and was identified by its IR spectrum and the absence of a depression of the melting point in admixture with an authentic sample as rutin.

Substance (III), mp 129-131°C (ethanol) appeared (after the treatment of chromatograms with 5% HCl) in the form of a dark blue spot with R_f 0.40 [ethyl acetate-formic acid-water (10:2:3) system] and 0.68 (15% acetic acid). The isolated compound gave all the reactions characteristic for iridoids [2].

Acid hydrolysis with 2% H_2SO_4 gave an amorphous aglycone and a sugar which was identified as D-glucose. A mixture of substance (III) with an authentic sample of asperuloside showed no depression of the melting point.

Substance (IV), $C_{16}H_{18}O_9$, mp 201-203°C (water), $[\alpha]_D^{20} - 34^\circ$ (ethanol) was identified by its physico-chemical properties and a mixed melting point as chlorogenic acid.

LITERATURE CITED

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