# PHENOLIC COMPOUNDS OF Callipeltis cuccularis

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UDC 547.972:547.918:582.971

In an ethanolic extract of the herb Callipeltis cuccularis (Jusl.) Rothm., family Rubiaceae Juss., collected in the full-flowering phase close to the settlements of Daraut-Kurgan and Sufi-Kurgan, Osh oblast of the Kirghiz SSR, by two-dimensional chromatography on paper in the ethyl acetate–formic acid–water (10:2:3) and 15% acetic acid systems we have found no less than six substances of phenolic nature. By means of qualitative reactions on paper it has been established that three of them are flavonoids and three are phenolic carboxylic acids.

By chromatography on polyamide sorbent we isolated a flavonoid with the composition $C_{27}H_{30}O_{16}$, mp 190-191.5°C (from water), $[\alpha]_D^{20}$ −33° (c 0.1%; dimethylformamide).

The acid hydrolysis (with 1% aqueous $H_2SO_4$) and the enzymatic hydrolysis with a preparation from Aspergillus oryzae of the glycoside gave the aglycone (yield 46%) and sugar components which were identified by paper chromatography in the phenol–water (95:5) system as D-glucose and L-rhamnose. Acid hydrolysis under mild conditions [1% $H_2SO_4$, ethanol–water (1:1), 30 min in the boiling water bath] gave quercetin and rutinose with mp 187-188°C.

The aglycone, $C_{15}H_{10}O_7$, mp 308-311°C (decomp., from ethanol) (acetate with mp 195-196°C), was characterized by its UV and IR spectra and by a mixed melting point as quercetin.

Treatment with a 0.5% aqueous solution of caustic potash for 3 h did not lead to hydrolysis, which shows the addition of the sugar residue to the aglycone at $C_3$ [1].

The facts presented, a mixed melting point, the IR spectrum, and the fact that on stepwise hydrolysis under the usual conditions the bioside did not give an intermediate monoglycoside show that the substance under investigation was rutin, and not isorutin [2].

By preparative paper chromatography in the 0.1% HCl system, two phenolic carboxylic acids were isolated in the individual state, and they were characterized by their UV spectra, products of alkaline degradation, and by paper chromatography as 3-O-caffeoyl-D-quinic acid and 3,4-dihydroxycinnamic acid.

## LITERATURE CITED

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2. V. I. Litvinenko and T. P. Nadezhdina, Rast. Res., 1968, No. 4, Part 1, 68.

Khar'kov Pharmaceutical Institute. Translated from Khimiya Prirodnykh Soedinenii, No. 2, pp. 244-245, March-April, 1972. Original article submitted December 8, 1971.