

POLYPHENOLS OF THE LEAVES OF *Vaccinium arctostaphylos*

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We have studied the phenol composition of the leaves of *Vaccinium arctostaphylos* L. collected in the mountain regions of Western Georgia. The steam-fixed material was extracted with 70% ethanol. The extract was evaporated and treated with chloroform. The aqueous phase was separated on a column of polyamide sorbent, using as eluent water and mixtures of water and ethanol. From the resulting fractions by preparative paper chromatography (2% acetic acid; FN-15 paper) we isolated nine compounds in the individual state. Six substances were identified as hydroxycinnamic acids: caffeic acid, (λ_{\max} 330, 299, 325 nm; $\lambda_{\max}^{\text{KOH}}$ 250, 350 nm); chlorogenic acid, (λ_{\max} 245, 298, 325 nm, $\lambda_{\max}^{\text{KOH}}$ 255, 375 nm), neochlorogenic acid (λ_{\max} 250, 300, 326 nm; $\lambda_{\max}^{\text{KOH}}$ 260, 370 nm); 3-*p*-coumaroylquinic acid (λ_{\max} 245, 315 nm; $\lambda_{\max}^{\text{KOH}}$ 250, 360 nm); 5-*p*-coumaroylquinic acid (λ_{\max} 250, 305 nm; $\lambda_{\max}^{\text{KOH}}$ 240, 305, 365 nm); and 3,5-dicaffeoylquinic acid (isochlorogenic acid, λ_{\max} 255, 295, 328 nm; $\lambda_{\max}^{\text{KOH}}$ 270, 380 nm). A substance with λ_{\max} 265, 298, 325 nm; $\lambda_{\max}^{\text{KOH}}$ 275, 380 nm and R_f 0.40 in 2% acetic acid we provisionally identified as rosmarinic acid. Carbohydrate derivatives of caffeic acid were also found. Two substances proved to be identical with the hydroxycoumarins scopoletin and esculetin.

In order to prove the structure of the above compounds, we used alkaline (0.1 N KOH; 30 min in an atmosphere of nitrogen) and acid hydrolysis, color reactions for functional groups, the results of comparison with authentic samples, and spectrophotometry in the UV region.

The leaves of *Vaccinium arctostaphylos* contain a large amount of chlorogenic acid.

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