

KALOPANAX SAPONIN B FROM HEDERA CAUCASIGENA

G. E. Dekanosidze, T. T. Gorovits, T. A. Pkheidze, and É. P. Kemertelidze

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From the leaves of Hedera caucasigena Pojark we have isolated two triterpene glycosides: hederacaucasides B and D. Hederacaucaside D contains hederagenin as the aglycone and D-glucose, L-arabinose, and L-rhamnose in the carbohydrate moiety [1].

The gas-chromatographic analysis [2, 3] of the carbohydrate moiety of hederacaucaside D on a UKh-1 chromatograph showed that the molar ratio of glucose to arabinose to rhamnose was 2 : 1 : 2 (2 : 0.97 : 1.89).

The alkaline hydrolysis of the glycoside gave a crystalline saponin with mp 225-228° C (decomp), $[\alpha]_D^{20} +15.8^\circ$ (c 1.1, ethanol). On a chromatogram it appeared in the region of an authentic sample of kalopanax saponin A, a bioside of hederagenin [4]. The gas-chromatographic analysis of the carbohydrate moiety of this substance showed the presence of L-arabinose and L-rhamnose (1 : 1). Thus, it has been established that the product of the alkaline hydrolysis of hederacaucaside D is kalopanax saponin A.

These results, the melting point and specific rotation of hederacaucaside D, and also a chromatogram with an authentic sample, show that hederacaucaside D is identical with kalopanax saponin B, a pentaoside of hederagenin isolated by A. V. Khorlin and A. G. Ven'yaminova from Kalopanax septemlobum [5, 6], and, with hederasaponin C, isolated by Tschesche et al. from Hedera helix [7].

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Kutateladze Institute of Pharmacochimistry, AS Georgian SSR

Institute of the Chemistry of Plant Substances, AS UzSSR