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We have studied for their content of triterpene glycosides the flowers and roots of two species of *Cephalaria* — *C. kotschyi* Boiss. et Hoh. and *C. nachiczevanica* Bobr. (family Dipsacaceae) collected in August, 1974, in the locality of Bata-Bat (Nakhichevan ASSR) in the flowering stage.

Methanolic extracts of the flowers and roots of each species were evaporated to dryness separately, the residues were dissolved in water, and the solutions were washed with chloroform and ethyl acetate and were then extracted with n-butanol. The concentrated butanolic extracts were purified by chromatography on KSK silica gel in the butan-1-ol-methanol (3:1) system. According to thin-layer chromatography (TLC) on silica gel in the butan-1-ol-methanol-25% ammonia (10:2:5) system, the combined saponins isolated contained seven triterpene glycosides, which were called, in order of increasing polarity, cephalarosides A, B, C, D, E, F, and G. The compositions of the glycosides of the two plants proved to be identical.

The total saponins were hydrolyzed with 5% sulfuric acid. The precipitate that deposited consisted of two substances [TLC in the chloroform-methanol (20:1) system]. After the separation of the precipitate on a column of silica gel (1:100) in the benzene-ether (6:1) system, we isolated oleanolic acid with mp 305-307°C (methanol), $[\alpha]_D^{20} + 76^\circ$ (c 0.82; chloroform) and hederagenin with mp 328-330°C (methanol), $[\alpha]_D^{20} + 78^\circ$ (c 0.8; pyridine), coinciding in all their physicochemical properties with authentic samples. Consequently, all the cephalarosides are glycosides of hederagenin and oleanolic acid.

Chromatography of the combined saponins on a column of silica gel in the chloroform-methanol-water (65:35:8) system gave cephalaroside D with mp 207-209°C (decomp.), $[\alpha]_D^{20} -10.6 \pm 1.2^\circ$ (c 3.37; methanol). The hydrolysis of cephalaroside D with 5% sulfuric acid yielded hederagenin, and when the hydrolyzate purified with barium carbonate was subjected to TLC in the butan-1-ol-methanol-water (5:3:1) system on plates of silica gel impregnated with a 0.3 M solution of NaH_2PO_4 [1], D-glycose, L-rhamnose, and L-arabinose were detected.

The alkaline saponification of cephalaroside D with 10% KOH in aqueous methanolic (1:1) solution gave a progenin which, after acid hydrolysis, showed the presence of only L-rhamnose and L-arabinose. Consequently, cephalaroside D is a bisglycoside of hederagenin with two sugar chains. The structure of the latter are being studied. It must be mentioned that triterpene glycosides have been found previously in only one plant of the family Dipsacaceae, *Dipsacus azureus* [2].

LITERATURE CITED

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