

DIOSGENIN AND β -SITOSTEROL FROM THE HYPOGEAL
ORGANS OF Polygonatum stenophyllum

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Continuing the study of the steroid components of the hypogeal organs of Polygonatum stenophyllum Maxim (Liliaceae) [1], we have isolated from the products of the hydrolysis (3 N H₂SO₄, benzene, 5 h in the boiling water bath) of the total glycosides extractable by n-butanol an aglycone (I) with mp 205-207°C (acetone). From the TLC and GLC behavior and the mass, IR, and ¹³C spectra of (I) and its acetate, compound (I) was identified as diosgenin. Aglycone (II) was identified as β -sitosterol from the results of the TLC, GLC, and mass spectroscopy of (II) and its acetate.

The amounts of (I) and (II) in hydrolysates of methanolic extracts of the rhizomes collected in the vegetation period of 1983 in the Shkotovo region of Maritime Territory were determined in the form of their acetates by the GLC method with a flame-ionization detector on a column containing 1.5% of OV-1 on Chromaton N-super, using cholesterol acetate as the internal standard and calibration factors of 1.2 and 1.15, respectively.

It was found that in various vegetation phases of the plant the amount of (I) ranged from 0.07 to 0.15%, and that of (II) from 0.03 to 0.08% on the absolutely dry weight of the raw material. No free (I) and (II) were detected in ethereal extracts of the rhizomes by TLC and GLC.

LITERATURE CITED

1. L. I. Strigina, E. V. Kol'chuk, A. I. Kalinovskii, and V. V. Isakov, Khim. Prir. Soedin, 580 (1977).