

R. N. Tursunova, V. A. Maslennikova,  
and N. K. Abubakirov

UDC 547.918:547.926

Continuing an investigation of plants of the genus *Cynanchum* (family Asclepiadaceae), we have studied the pregnane glycosides from the roots of the *Cynanchum maximoviczii* Pobed. (plant collected by P. G. Gorov on the island of Kunashir of the Kurile group).

The air-dry roots (325 g) were extracted with methanol at room temperature. When the solvent was evaporated, a large amount of crystals deposited which, after recrystallization from ethanol, were identified as sucrose (yield 4% on the weight of the raw material). After the separation of the sugar and further evaporation of the solvent in vacuum, 35 g of a resinous sum of extractive substances was obtained. From part of this material (5 g), by preparative chromatography [ $\text{SiO}_2$  with 5% of gypsum, chloroform-benzene-methanol (5:5:2)] we isolated in the amorphous form 0.8 g of individual pregnane glycoside (I) showing a positive xanthidrol reaction for a 2-deoxysugar. Composition of the glycoside (I):  $\text{C}_{62}\text{H}_{100}\text{O}_{23}$ ,  $[\alpha]_D^{22} -24.0 \pm 2^\circ$  (c 1,5; methanol);  $\lambda_{\text{max}}^{\text{C}_2\text{H}_5\text{OH}}$  220 nm (log  $\epsilon$  3.84).

Under the action of the pancreatic juice of the snail *Helix plectotropis*, the glycoside (I) was hydrolyzed, forming D-glucose and a desgluco compound (II) with the composition  $\text{C}_{56}\text{H}_{90}\text{O}_{18}$ . According to analysis, glycoside (II) contained four methoxy groups. The acid hydrolysis of compound (II) with 0.1 N sulfuric acid led to the formation of a mixture of two isomeric aglycones: cynanchogenin and sibirigenin [TLC, ethyl acetate-n-hexane (1:1); ethyl acetate-chloroform (4:1)]. In the sugar moiety of the glycoside (II) we found D-cymarose and D-oleandrose [PC, toluene-butan-1-ol-water (4:1:5), TLC, chloroform-methanol (9:1)]. Similar products were isolated when desglucosibiricoside D, which we have isolated previously from *Cynanchum sibiricum* Willd. [1], was hydrolyzed.

On the basis of the experimental facts given, glycoside (I) was identified as sibiricoside D. The identity of the samples of sibiricoside D from the two sources of raw material was also confirmed by a direct comparison of the samples.

## LITERATURE CITED

1. R. N. Tursunova, V. A. Maslennikova, and N. K. Abubakirov, *Khim. Prirodn. Soedin.*, 171 (1975).

---

Institute of the Chemistry of Plant Substances, Academy of Sciences of the Uzbek SSR. Translated from *Khimiya Prirodnikh Soedinenii*, No. 4, p. 522, July-August, 1975. Original article submitted March 18, 1975.

© 1976 Plenum Publishing Corporation, 227 West 17th Street, New York, N.Y. 10011. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, microfilming, recording or otherwise, without written permission of the publisher. A copy of this article is available from the publisher for \$15.00.