

REFERENCES

1. A. S. Sadykov, A. K. Karimdzhanov, A. I. Ismailov, and Sh. Yu. Islambekov, Nauchn. tr. TashGU, 2, no. 286, 51, 1966.
2. Sh. Yu. Islambekov, A. K. Karimdzhanov, A. I. Ismailov, and A. S. Sadykov, KhPS [Chemistry of Natural Compounds], 4, 191, 1968.

21 January 1969

Scientific-Research Institute for the Chemistry
and Technology of Cotton Cellulose, Tashkent

UDC 547.597+547.918

A TRITERPENE GLYCOSIDE FROM ACANTHOPHYLLUM ANDENOPHORUM

K. Amanmuradov and T. N. Tanyurcheva

Khimiya Prirodnikh Soedinenii, Vol. 5, No. 4, p. 326, 1969

From an ethanolic extract of the air-dry roots of A. adenophorum Freyn (family Caryophyllaceae) collected in Central Kopetday, TurkmSSR, we have obtained an individual triterpene glycoside which proved to be homogeneous on chromatography on paper and in a thin layer of silica gel in systems 1) butan-1-ol-acetic acid-water (4:1:5) and 2) butan-1-ol-ethanol-25% ammonia (7:2:5).

The glycoside was purified on a column of cellulose being eluted with solvent system 1. The yield of pure glycoside was 3% of the air-dry weight of the roots, mp 212–218° C (decomp.) $[\alpha]_D^{20} +19.7 \pm 2^\circ$ (c 1.6; water-ethanol (1:1)), mp of the acetate 151–154° C (decomp.), $[\alpha]_D^{20} +12 \pm 2^\circ$ (c 1.0; chloroform).

Hydrolysis of the glycoside with 2% sulfuric acid gave vacaroside [1], which was identified by its melting point, chromatographic behavior, a mixed melting point, and its IR spectrum. In the hydrolysate after neutralization of the sulfuric acid with EDE-10P anion-exchanger (OH⁻ form), paper chromatography in system 1 showed the presence of D-galactose, D-xylose, L-rhamnose, L-arabinose, and D-fucose.

Hydrolysis with a 3% hydrochloric acid gave the aglycone, with mp 269–271° C $[\alpha]_D^{20} +91.4 \pm 1.5^\circ$ (c 1.45; ethanol). The substance obtained was identified by a chromatographic comparison in various systems as gypsogenin.

The same composition of sugars and aglycone as that of the glycoside we have isolated is possessed by gypsoside—a triterpene glycoside from Gypsophila pacifica [3]. Gypsoside has also been found in several species of plants: G. paniculara [4, 6], G. patrinii [5], G. captata [7], G. trihotoma [6], and Acanthophyllum gypsophiloides [2]. A chromatographic comparison in a thin layer of silica gel of the glycosides from A. adenophorum and A. gypsophiloides in the systems described showed their identity.

The raw material was collected and identified by A. S. Moshchenko.

REFERENCES

1. N. K. Abubakirov and K. Amanmuradov, ZhOKh, 34, 1661, 1964.
2. K. Amanmuradov, E. S. Kondratenko, and N. K. Abubakirov, KhPS [Chemistry of Natural Compounds], 1, 143, 1965.
3. N. K. Kochetkov, A. Ya. Khorlin, and Yu. S. Ovodov, ZhOKh, 32, 782, 1962.
4. A. Ya. Khorlin, Yu. S. Ovodov, and R. G. Ovodova, Izv. AN SSSR, ser. khim., 1521, 1963.
5. V. G. Bukharov and S. P. Shcherbak, KhPS [Chemistry of Natural Compounds], 2, 291, 19667.
6. V. N. Luchanskaya, E. S. Kondratenko, and N. K. Abubakirov, Subjects of a Jubilee Republican Scientific Conference Celebrating 50 Years of Soviet Power [in Russian], Tashkent, p. 39, 1967.
7. G. B. Iskanderov, R. N. Aliev, and N. I. Libizova, Farmatsiya, 1, 29, 1967.

18 December 1968

Botanical Institute AS TurkmSSR