

According to the literature [1-3], the rhizomes of Rhodiola linearifolia Boriss., family Crassulaceae, containing pyrogallol, gallic acid, tyrosol, salidroside, esculetin, and oleanic acid.

In the course of a comparative study of plants of the genus Rhodiola, we have established that a chemical diagnostic feature characteristic only of Rhodiola rosea is formed by cinnamyl glycosides [4] and the second marker with respect to specificity, being characteristic of only two species of Rhodiola (rosea and linearifolia), is the monoterpene rosiridol and its glucoside rosiridin. These substances, which we isolated for the first time from Rb. rosea [5], are revealed on Silufol plates in the form of characteristic bright blue spots when chromatograms are sprayed with sulfuric acid, followed by heating.

The results of a study of the chemical composition confirmed our prediction relative to Rh. linearifolia. From a methanolic extract of the rhizomes of this plant collected in August, 1979, in the East Kazakhstan province (Narynskii range), using multiple chromatography on polyamide and silica gel, we isolated four substances of terpenoid nature (I-IV). For their identification we used the results of chemical transformations and IR, PMR, and mass spectra, and also a direct comparison with authentic samples.

3,7-Dimethylocta-2,6-diene-1,4-diol (rosiridol) (I) was obtained with a yield of 0.01% on the weight of the raw material. Colorless syrupy substance with the composition  $C_{10}H_{18}O_2$ ,  $[\alpha]_D^{20} -7.7^\circ$  (c 1.3; acetone).

3,7-Dimethylocta-2,6-diene-1,4-diol 1-O- $\beta$ -D-glucopyranoside (rosiridin) (II) was obtained with a yield of 0.5% on the weight of the raw material. This syrupy substance had the composition  $C_{16}H_{28}O_7 \cdot 0.5H_2O$ ,  $[\alpha]_D^{20} -32.7^\circ$  (c 1.1; acetone). On enzymatic hydrolysis with  $\beta$ -glucosidase, rosiridin was split into glucose and an aglycon identical with rosiridol (I). Under the conditions of the hydrolysis of compound (II), the aglycon broke down (only glucose was detected in the hydrolysate). The acetylation of rosiridin gave a pentaacetate with the composition  $C_{26}H_{38}O_{12}$ , mp 61-64°C (from ethanol),  $[\alpha]_D^{20} -28.4^\circ$  (c 1.0; acetone).

$\beta$ -Sitosterol (III). Colorless crystals with the composition  $C_{29}H_{50}O$ , mp 132-133°C (from MeOH).

Daucosterol (IV). Colorless crystals with the composition  $C_{35}H_{60}O_6$ , mp 315-319°C (from chloroform-MeOH (1:1)). On acid hydrolysis (1% HCl) and also under the action of  $\beta$ -glucosidase, daucosterol was split into glucose (PC) and an aglycon identical with  $\beta$ -sitersterol (I).

It must be mentioned that we had isolated all these components (I-IV) previously from the rhizomes of Rhodiola rosea [5].

## LITERATURE CITED

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All-Union Scientific Institute of Medicinal Plants, Moscow. Translated from Khimiya Prirodnikh Soedinenii, No. 5, pp. 639-644, September-October, 1986. Original article submitted May 13, 1986.