

TRITERPENE GLYCOSIDES OF *Chenopodium*
ambrosioides

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We have investigated the roots of *Chenopodium ambrosioides* L., collected in 1969 in the Moscow oblast [Introduction Laboratory of the All-Union Scientific-Research Institute for Medicinal Plants (VILR)]. The combined saponins isolated by the extraction of the roots with methanol and subsequent twice-repeated reprecipitation in acetone consisted, according to thin-layer chromatography, of two glycosides which we have called in order of increasing polarity chenopodiosides A and B. When the combined triterpene glycosides were chromatographed on a column of KSK silica gel, chenopodioside B was isolated, with the composition $C_{52}H_{82}O_{22}$, mp 213-216°C $[\alpha]_D^{20} - 50^\circ$ (c 0.5; ethanol), mol. wt. 1071 (spectrophotometrically) [1]. The complete acid hydrolysis of chenopodioside B gave us echinocystic acid with mp 304-306°C (methanol), $[\alpha]_D^{20} + 47.6^\circ$ (c 0.3; ethanol). Literature data: mp 305-306°C, $[\alpha]_D^{20} + 33^\circ$ (c 1.5; chloroform) [2].

The acetate of this echinocystic acid, with mp 260-264°C (methanol), had physicochemical constants which agreed with those of an authentic sample kindly given to us by V. Ya. Chirva (Kishinev). According to paper chromatography, the carbohydrate part of chenopodioside B contains glucuronic acid, rhamnose, xylose, and arabinose.

The alkaline hydrolysis of chenopodioside B formed a less polar glycoside with mp 285-287°C (methanol) giving on acid hydrolysis glucuronic acid and rhamnose, while xylose and arabinose were found in the aqueous fraction from the alkaline hydrolyzate.

The stepwise acid hydrolysis of chenopodioside B gave a glucuronide of echinocystic acid with mp 182-185°C (methanol), $[\alpha]_D^{20} - 34.3^\circ$ (c 0.5; ethanol).

Thus, in the glycoside studied glucuronic acid and rhamnose are attached to the hydroxy group of echinocystic acid and xylose and arabinose to the carboxy group.

LITERATURE CITED

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