

A GLYCOSIDE OF MERISTOTROPIC ACID

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In a further study of the glycosides of plants of the family Leguminosae, our attention was attracted by Meristotropis xanthioides Vass. = Glycyrrhiza triphylla Fisch. et Mey.*

From ethanolic aqueous extracts of the roots we isolated a saponin for which we propose the name meristotroposide. The results that we obtained differ from those of Kir'yalov and Amirova [1].

The saponin proved to be homogeneous on chromatography in a thin layer of silica gel in acid, neutral, and alkaline systems: 1) butan-2-ol-acetic acid-water (15:4:7); 2) chloroform-methanol-water (6:7:2); 3) butan-1-ol-ethanol-ammonia (9:2:5). To free the glycosidic fraction from reserve sugar, glucose, the extract was chromatographed in system 1. Elementary analysis of the pure meristotroposide showed the presence of an ash residue. This could not be removed either by repeated reprecipitation of the saponin with acetone from aqueous methanol or by means of ion-exchange resins.

The glycoside is apparently the calcium salt of a saponin, since spectrograms taken on an ISP-30 instrument show the presence of lines of calcium atoms.

When meristotroposide was subjected to acid hydrolysis with 2% H₂SO₄, a progenin precipitated which was cleaved by Kiliani's mixture into glucuronic and meristotropic acids. The structure of the latter has been shown by a number of authors [2-3]. After neutralization of the sulfuric acid, the solution was found to contain galactose, glucose, arabinose, xylose, fucose, and rhamnose. The glycoside did not undergo alkaline saponification. On oxidation with sodium periodate it was found that the glucuronic acid and glucose remained in the saponin.

Thus, a glycoside of the oligoside type containing the whole of the variety of sugars known for saponins attached to only one functional group of the aglycone has been found in Glycyrrhiza triphylla for the first time. The study of the structure of meristotroposide is continuing.

LITERATURE CITED

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