# FLAVONOL GLYCOSIDES OF SOME PLANTS OF THE TEBERDA RESERVE. I

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We have studied the composition of the polyphenolic compounds of Hypericum caucasicum (L. Woron) Gorsch, H. ptarmicifolium Spach., H. nummularioides Trautv., H. hirsutum L., H. polygonifolium Rupr. (family Guttiferae), and Myricaria alopecuroides Schrenk. (family Tamaricaceae) collected in the flowering period in the Teberda Reserve at a height of 1600–2100 m.

By column chromatography on Kapron powder we have isolated from alcoholic extracts and identified by chemical and spectroscopic methods hyperoside (H. ptarmicifolium, H. nummularioides, H. caucasicum, H. hirsutum), quercitrin (H. ptarmicifolium, H. polygonifolium), and quercetin (H. ptarmicifolium, H. polygonifolium).

In an ethanolic extract of the herbs Myricaria alopecuroides we have detected eight flavonoid compounds.

One of them has mp 248–250° C, $R_f$ 0.76 [$CHCl_3$–$CH_3COOH$–$H_2O$ (55 : 45 : 10) (system 1)], 0.15 [15% $CH_3COOH$ (system 2)]; UV spectrum, mμ: $\lambda_{max}^{C_2H_5OH}$ 370, 290 (shoulder), 255; $\lambda_{max}^{AlCl_3}$ 400, 355, 260, $\lambda_{max}^{CH_3COONa}$ 375, 255 $\lambda_{max}^{CH_3COONa+H_3BO_3}$ 370, 255; acetate with mp 198–203° C (from ethanol); $\lambda_{max}^{C_2H_5OH}$ 350, 267 mμ. On alkaline degradation (fusion with KOH for 2.5 min), isovanillic acid and phloroglucinol were obtained. The UV-spectroscopic studies and alkaline degradation showed that one of the hydroxyl groups in the lateral phenyl radical was methylated. The substance was demethylated with hydriodic acid, which yielded quercetin, showing that the substance was tamarixetin (quercetin 4'-methyl ether).

The second substance had in UV light, mμ: $\lambda_{max}^{C_2H_5OH}$ 360, 275; $\lambda_{max}^{AlCl_3}$ 395, 355, 275; $\lambda_{max}^{AlCl_3+HCl}$ 395, 355, 275; $\lambda_{max}^{CH_3COONa+H_3BO_3}$ 360, 267; $\lambda_{max}^{C_2H_5ONa}$ 375, 275; mp 226° C; $R_f$ 0.74 (system 2). It was readily hydrolyzed with 15% acetic acid and was split into tamarixetin and a sugar with a $R_f$ value differing from that of known monosides characteristic for flavonoid glycosides. We assume that the substance is a 6-desoxyhexose. Isoquercitrin, quercetin, and kaempferide have been isolated and identified by preparative paper chromatography of the combined flavonol compounds of this plant.

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