

The sample of scutellarin from Erigeron canadensis L. was kindly given to us by Dr. V. Plouvier (Paris).

19 September 1966

Pyatigorsk Pharmaceutical Institute
Tashkent Pharmaceutical Institute

THE QUERCIMERITRIN CONTENT OF SOME SPECIES OF CENTAUREA

V. A. Bandyukova

Khimiya Prirodnykh Soedinenii, Vol. 3, No. 1, pp. 58-59, 1967

By the chromatography on Kapron of an ethanolic extract of the epigeal part of Centaurea cyanus L. (cornflower) prepared in the Kiev Botanical Gardens in 1965, we have isolated a flavonol glycoside with mp 247-249°C, mol. wt. 466.8.

The IR spectrum of the substance exhibited the following absorption bands: 3380, 3420, 1160, 1615, 1085, 1055, 1025, 940, 905, 885, 850, 800, 735, 705 cm^{-1} (UR-10 spectrometer, tablets in KBr), which indicates the presence of hydroxy groups in ring A of the chromone nucleus and in the lateral phenyl radical, and the presence of a carbonyl group, a double bond, and a sugar in the pyranose form. In the UV: $\lambda_{\text{max}}^{\text{CH}_3\text{OH}}$ 375, 255; $\lambda_{\text{max}}^{\text{C}_2\text{H}_5\text{OH}}$ 372, 257; $\lambda_{\text{max}}^{\text{C}_2\text{H}_5\text{ONa}}$ 361, 291 ($\Delta\lambda + 3, + 34$); $\lambda_{\text{max}}^{\text{CH}_3\text{COONa}}$ 370, 258 ($\Delta\lambda + 1$); $\lambda_{\text{max}}^{\text{CH}_3\text{COONa}+\text{H}_3\text{BO}_3}$ 395, 259 ($\Delta\lambda + 23, + 2$); $\lambda_{\text{max}}^{\text{AlCl}_3}$ 424, 364 ($\Delta\lambda + 52$). Acid hydrolysis of the glycoside gave the aglycone with mp 309°C. The acetyl derivative had mp 192°C. By paper chromatography and its UV and IR spectra, the aglycone was identified as quercetin. Enzymatic hydrolysis with the enzyme from the fungus Aspergillus oryzae also gave quercetin, together with D-glucose.

On the basis of the above results, the glycoside was identified as 3, 5, 7, 3', 4'-pentahydroxyflavone 7- β -D-glucopyranoside, which is known under the name of quercimeritrin (quercetin 7- β -D-glucopyranoside). We have isolated the same glycoside from the flowers of C. cheiranthifolia Willd. collected in 1965 in the region of the Teberda reserve at a height of 3000 m. No quercimeritrin has been found in other species of centaury that we have investigated (C. ciscaucasica Sosn., C. nigrifimbria (C. Koch) Sosn., C. micranthos Gmel., C. rutenica Lam., C. solstitialis L., and C. sumensis Kaleh).

22 October 1966

Pyatigorsk Pharmaceutical Institute

ANTHOCYANINS OF THE SEEDS OF RHEUM TATARICUM II

T. K. Chumbalov and G. N. Nurgalieva

Khimiya Prirodnykh Soedinenii, Vol. 3, No. 1, pp. 59-60, 1967

The anthocyanins of the rhubarbs of the family Polygonaceae Lind. have not been studied previously. The anthocyanins were extracted from the raw material with methanol containing 1% of hydrochloric acid. The resulting extract was chromatographed on a column of silica gel using the organic phase of the butan-1-ol-acetic acid-water (4:1:5) system as the mobile solvent and the aqueous phase as the stationary solvent.

The paper chromatography of the anthocyanin fraction in various systems of solvents showed the presence of two anthocyanins in the fraction. The combined anthocyanins were separated by preparative paper chromatography in the acetic acid-concentrated hydrochloric acid-water (5:1:5) system. The sharply separated zones were cut out and eluted with methanol containing 0.01% of hydrochloric acid. Hydrolysis of the anthocyanins under severe conditions showed that the two compounds were glycosides of the same aglycone cyanidin.

The ratio of the intensity of the light absorption of a solution at 440 m μ to the intensity at the corresponding maximum was twice as great for anthocyanin 1 as for anthocyanin 2, which indicates the diglucosidic structure of the latter [1].