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Moss Anthocyanins

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From the red moss, *Bryum cryophilum* O. Mårt. (*B. obtusifolium* Lindb.) two crystalline anthocyanins have been isolated and by means of cellulose column chromatography separated from each other. One of these anthocyanins occurs in about 0.5 % of the dry weight of the moss whereas the other one occurs in a much smaller concentration, hence the latter has been investigated mainly chromatographically.

On acid hydrolysis, the two anthocyanins yield the same aglycone (identical absorption spectra, chromatographic data and colour reactions) and, according to the paper chromatogram, only one sugar, *viz.* glucose. The aglycone has been identified as luteolinidin (3′,4′,5,7-tetrahydroxyflavylium chloride) [1,2], by comparing its spectral and chromatographic data as well as its characteristic colour reactions with those of a synthetic sample [3].

By treating the anthocyanin occurring most abundantly with hydrochloric acid for a few minutes, a mixture of pigments is obtained. When this mixture is chromatographed on paper in 1 % of hydrochloric acid it gives three spots, one of which has the same R_F-value as the unchanged pigment (0.44) and another the same as the anthocyanidin (0.03). The third spot has the same R_F-value (0.13) and the same colour as those of the other isolated anthocyanin. Furthermore, this latter gives on partial hydrolysis only two spots having R_F-values of 0.13 and 0.03, corresponding to the unchanged pigment and to the aglycone, respectively. These facts indicate that the first anthocyanin is a bioside and the second one is the corresponding monoside [4].

According to Harborne [5], anthocyanins with a free hydroxyl group in the 5-position have higher absorption intensity in the region 410—450 mμ than those having a substituted hydroxyl group in this position. Since the ratios of the optical density at 440 mμ compared to that at the wavelength of maximal absorption (E_{440}/E_{max}) for the isolated anthocyanins are only half those of the corresponding anthocyanidins, the two anthocyanins ought to be luteolinidin-5-diglucoside and luteolinidin-5-monoglucoside.

A detailed report will appear later elsewhere.

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