On Anthocyanins in *Hippuris*
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The stems of *Hippuris vulgaris* and also to a lesser degree those of *Hippuris tetraphylla* sometimes exhibit a red colour indicating the presence of anthocyanins. The two species have now been found to contain cyanidin glycosides. From *H. tetraphylla* cyanidin-3-monoglucoside has been isolated and identified by spectral data, by co-chromatography with an authentic specimen and by identification of its hydrolysis products. The more red-coloured *H. vulgaris*, on the other hand, has been found to contain not only cyanidin-3-monoglucoside but also cyanidin-3-mono-galactoside. Those two anthocyanins having almost identical *Rf*-values in all conventional solvent mixtures used were first considered as one pigment which yielded one spot by all chromatographical methods tried. According to its very low *Rf*-values in 1% aqueous HCl the pigment ought to be a monoside which was also confirmed by the result obtained upon controlled hydrolysis. Furthermore, judging from its absorption spectrum the hydroxy group at position 3 must be free. However, upon acid hydrolysis the pigment did yield one aglycone, cyanidin, but two sugars, glucose and galactose. All these data indicated that the pigment must be a mixture of two anthocyanins. Their resolution was finally achieved by paper chromatography in 1% aqueous HCl for 45 h and the two anthocyanins were identified by spectral measurements and by the simultaneous chromatography of authentic markers as well as of a mixture thereof.

*Experimental.* The methods used for TLC, PC, extraction, and purification of the anthocyanins as well as those used for spectral measurements have been described earlier. The anthocyanin isolated from *H. tetraphylla* (obtained from the University Botanical Garden) was identified as cyanidin-3-mono-

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