

(11 mg) was isolated from the basic extract (1.55 g) of *A. tabernaemontana* roots (500 g) collected late in the winter. This proved to be *decarbomethoxytetrahydrosecamine*. Its high resolution MS gave a molecular ion peak at  $m/e$  622 (622.4248 corr. to  $C_{40}H_{54}N_4O_2$ ) and base peak at  $m/e$  126. Amorphous;  $[\alpha]_D^{20}$  0° (EtOH);  $\lambda_{max}$  (EtOH) 224, 284, 292 nm;  $\nu_{max}$  (CHCl<sub>3</sub>) 3360 (NH), 1738 (satd. ester)  $cm^{-1}$ . (The latter is of much smaller intensity than the corr. peak of tetrahydrosecamine.)

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ANTHOCYANIN OF *ACANTHOPANAX DIVARICATUS*

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**Key Word Index**—*Acanthopanax divaricatus*; Araliaceae; delphinidin 3-xylosylgalactoside.

Preparative chromatography of the fruit extract of *Acanthopanax divaricatus* (Sieb. et Zucc.) Seeman revealed the presence of two anthocyanins, one of which was a new pigment. On complete acid hydrolysis, the new anthocyanin yielded delphinidin, xylose and galactose. The absorption spectrum (in 0.01 % MeOH-HCl) of the glycoside showed  $\lambda_{max}$  (nm) 283 and 532 and a bathochromic shift of 13 nm by the addition of AlCl<sub>3</sub> indicating the presence of a free *o*-dihydroxylic grouping in the B-ring. The ratios of  $Eu.v_{max}/Evis_{max}$  and  $E440/Evis_{max}$  were 58 and 22, respectively. These values suggest that the pigment is the 3-glycoside [1]. By H<sub>2</sub>O<sub>2</sub> oxidation the glycoside yielded the disaccharide which was identified paper chromatographically as lathyrrose. On partial acid hydrolysis delphinidin 3-galactoside was detected as an intermediate. The pigment must therefore be delphinidin 3-xylosylgalactoside (3-lathyrroside), which has not been reported before. Recently, cyanidin 3-lathyrroside has been found in the ripe berries of *Aralia elata* [2] and its variety *canescens* [3], and *A. cordata* [2]. Therefore, the glycosidic similarity of the anthocyanins

in the plants in the family Araliaceae may be of systematic interest.

## EXPERIMENTAL

The anthocyanin extract of the ripe black fruits was separated into two components by PC in HOAc-HCl-H<sub>2</sub>O (15:3:82). Diagnostic chromatography of the new anthocyanin, its anthocyanidin and sugars were carried out by standard procedures [4]. The quantity of the second anthocyanin was too small to examine in detail. Chromatographic identification of lathyrrose followed H<sub>2</sub>O<sub>2</sub> oxidation of the glycoside [5]. Delphinidin 3-galactoside as the partial hydrolysate was identified by direct comparison with empetrin from *Empetrum nigrum* L. var. *japonicum* K. Koch [6].

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