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Studies Related to Naturally Occurring Acetylene Compounds

XXVIII. A Note on the Occurrence of Pontica Epoxide in the Genus *Achillea* L.

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In a recent paper Bohlmann, Arndt and Boronowski¹ have described the isolation of the polyacetylenic epoxide C₁₃H₁₀O (I) from four different *Artemisia* species. After the first isolation from *A. pontica* L. the substance has been named "pontica epoxide". Some 100 members of the tribus *Anthemideae* of the *Compositae* are stated to have been investigated. Outside the genus *Artemisia* pontica epoxide was iso-

lated only from three members of the genus *Chrysanthemum* (*viz. serotinum* L., *boreale* L. and *vulgare* Bernh.) and *Cladanthus arabicus* Cars.

A substance with the same properties as I had been isolated in our laboratory some years ago^{2,3} from some members of the genus *Achillea*, also a member of the tribus *Anthemideae*. The m.p. and U.V. maxima are given below together with those of pontica epoxide.

	m.p.		U.V.-maxima			
Pontica epoxide	66°					
<i>Achillea ptarmica</i>	60–63°		3 335	3 115	2 920	2 755
<i>A. atrata</i> * <i>clusiana</i>	62–62.5°		3 335	3 112	2 928	2 756
			3 345	3 130	2 930	2 765
					2 500	2 400

The U.V. absorption curves are conform in height of all the 6 maxima and the 5 minima.

Bohlmann *et al.* have reported the infrared spectrum of pontica epoxide in carbon tetrachloride solution. Our measurements on the compound from the above mentioned *Achillea* species are in chloroform and in carbon disulfide. The small differences between the three spectra may be due to the effect of the solvents.

In five other *Achillea* species no I could be demonstrated. Besides some unknown polyacetylenes some members of this genus contained *cis*- and *trans*-dehydromatricaria-ester.

Details of our investigations will be presented in another contribution to this journal.

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