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THE CRYSTALLINE SUBSTANCE FROM CARPESIUM EXIMIUM C. WINKLER

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Two sesquiterpene lactones have previously been isolated from Carpesium abrotanoides L.: carpesialactone [1, 2] with bp 200-202/5 mm and composition $C_{15}H_{20}O_3$, and carabrone with mp 90-91°, $[\alpha]_D$ + 116.9° and empirical formula $C_{15}H_{20}O_3$ [3].

The sesquiterpene lactone content of other representatives of the genus Carpesium has not been investigated.

We have studied Carpesium eximium C. Winkler (C. macrocephalum Franch. et Sav.). It has been established provisionally that the leaves of this plant contain γ-lactones. The Carpesium eximium was collected in July 1964 in the south of Primorskii Krai.

Aqueous extraction of the leaves and flower heads [4] gave a colorless crystalline substance with mp 155-157.5°. The thin-layer chromatography of this substance, as well as of its mother liquor, on alumina in the petroleum ether–benzene–chloroform–methanol (5:4:1:2) system gave only one spot with R_f 0.74.

The IR spectrum of the compound obtained had absorption bands of an OH group (3450 cm^{-1}), an α, β-unsaturated γ-lactone (1745, 1672 cm^{-1}), and a double bond (1647 cm^{-1}). Found, %: C 74.20, 74.29; H 8.14, 8.08; mol. wt. 284. Calculated for $C_{17}H_{22}O_3$, %: C 74.45, 8.02; mol. wt. 274.

The presence of a lactone ring was confirmed by the solubility of the substance in alkalies on heating. This substance is readily soluble in alcohol and ether.

On comparing the results obtained for the substance isolated with literature data, we came to the conclusion that it is probably a new, previously unreported sesquiterpene lactone.

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INVESTIGATION OF THE ALKALOIDS OF PEDICULARIS OLGAE

The Structure of Plantagonine and Indicaine

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We have previously isolated plantagonine and indicaine from the epigeal part of Pedicularis olgae [1]. In the present communication the structure of these alkaloids is considered. Indicaine is a cyclic aminoaldehyde, and oxidation converts it into plantagonine.

The UV spectrum of plantagonine has one maximum at 270 mμ (lg ε 3.12), which is characteristic of alkaloids of the pyridine series [2].