

XANTHATIN FROM *Xanthium spinosum*

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We have investigated the epigeal part of *Xanthium spinosum* L. (spiny cocklebur), family Compositae, collected in the Tashkent region (flowering period, June, 1972).

The air-dry plant was extracted with hot water and the aqueous extract was treated with chloroform. The solvent was distilled off in vacuum. The yield of extractive substances was 0.2%. The resin was separated by chromatography on a column of neutral alumina (activity grade IV). The petroleum ether eluate yielded a substance with the composition $C_{15}H_{18}O_3$, mp 114°C [benzene-petroleum ether (4:1)] with R_f 0.58 in the ethyl acetate-petroleum ether (2:3) system; with a 1% solution of vanillin in concentrated sulfuric acid, the spot gave a crimson color. The same spot was observed on a chromatogram of the resin even before its separation on the column.

UV spectrum: $\lambda_{\max}^{\text{ethanol}}$ 210, 235, 275, 310 nm ($\log \epsilon$ 4.09, 3.57, 4.39, 3.49). IR spectrum: 1770 cm^{-1} (carbonyl of a γ -lactone) and 1690 cm^{-1} (α -unsaturated ketone).

On the basis of its spectral characteristics and a mixed melting point with an authentic sample, the substance isolated was identified as the sesquiterpene lactone xanthatin [1].

This is the first time that xanthatin has been isolated from *Xanthium spinosum*.

LITERATURE CITED

1. P. G. Deuel and T. A. Geissman, *J. Amer. Chem. Soc.*, **79**, 3778 (1957).

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