

PHENOLIC COMPONENTS OF THE BARK OF PINUS SIBIRICA AND P. SILVESTRIS

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In addition to studying the extractive substances of the wood of Pinus silvestris (Scotch pine) and P. sibirica (Siberian pine), we have investigated the phenolic components of the bark of these trees.

The ground bark was extracted successively with petroleum ether, diethyl ether, benzene, and methanol [1]. Thin-layer chromatography in a fixed layer of polyamide (Kapron powder from the Barnaul combine) showed that the hydroxyaromatic components were mainly extracted by diethyl ether and partly by benzene.

Crystalline substances were isolated by preparative chromatography on polyamide sorbent and were characterized by their UV and IR spectra and melting points. In addition, the compounds obtained were identified in the presence of authentic samples of phenols by thin-layer chromatography on polyamide under the conditions of both partition (methanol-water system) and adsorption (chloroform-methanol) processes [2].

We found that the bark of the Siberian pine contains pinosylvin and dihydroquercetin, and the bark of Scotch pine quercetin and dihydroquercetin.

Pinosylvin, which is characteristic for the heartwood of the Siberian pine and the Scotch pine [3], is present only in the bark of the Siberian pine.

The bark of these species was found to contain flavonoids with a higher degree of hydroxylation than those found previously in the heartwood: chrysin, tectochrysin [4], pinocembrin, and pinostrobin [5].

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