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PROANTHOCYANIDINS OF THE LEAVES OF *Laurocerasus officinalis*

G. Ch. Tsiklauri

UDC 547.972

We have previously reported the isolation from the leaves and flowers of *Laurocerasus officinalis* Roem. (*Prunus laurocerasus*; common laurel cherry) of catechins and anthocyanidins and their identification [1, 2]. Continuing our investigation of the leaves of this plant, we have isolated two more compounds (I, II) by column chromatography on cellulose. Elution was performed with distilled water [3].

The compounds obtained gave the qualitative reactions characteristic for leucoanthocyanidins with the vanillin reagent and with p-toluenesulfonic acid, and on being heated with the leucoanthocyanidin reagent they were converted into the corresponding anthocyanidins [4, 5].

In the butan-1-ol-acetic acid-water (40:12:28) solvent system, compounds (I) and (II) had  $R_f$  0.55 and 0.50, and in 2% acetic acid 0.44 and 0.46, respectively. The UV spectra [ $\lambda_{max}$  (ethanol), 280 nm] and IR spectra [3400-3000  $cm^{-1}$  (OH), 1615-1600  $cm^{-1}$  ( $C_6H_5$ ), and 1000  $cm^{-1}$  (C-C)] of the two compounds were identical.

The anthocyanidins obtained from the compounds (I) and (II) by heating with the leucoanthocyanidin reagent were studied chromatographically and spectrally. They had  $R_f$  0.58 in the acetic acid-hydrochloric acid-water (30:35:10) solvent system and 0.32 in the same system at a ratio of 5:1:5. The absorption maxima in the visible region of the spectrum were also identical:  $\lambda_{max}$  (ethanol) 545 nm, (+  $AlCl_3$ ) 562 nm. These results agree with the chromatographic and spectral characteristics of authentic cyanidin.

After acid hydrolysis [6] of the initial compounds, (+)-catechin for compound (I) and (+)-catechin and (-)-epicatechin for compound (II) were found in the hydrolysates by paper chromatography with markers.

In the study of the products of alkaline cleavage [7] of compounds (I) and (II), phloroglucinol and protocathechuic acid were detected, being identified by comparison with authentic samples on paper chromatography.

On the basis of the results obtained it has been established that compound (I) is a dimer consisting of (+)-catechin and leucocyanidin and (II) is a trimer the monomers of which are (+)-catechin, (-)-epicatechin, and leucoanthocyanidin. The ease of liberating the monomers on the acid hydrolysis of (I) and (II) with dilute acid and literature information show that the monomers are linked through a  $C_4-C_8$  bond [7-9].

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Institute of Plant Biochemistry, Academy of Sciences of the Georgian SSR, Tbilisi.  
Translated from *Khimiya Prirodnikh Soedinenii*, No. 4, pp. 526-527, July-August, 1978. Original article submitted May 3, 1978.