QUERCETIN ARABOGLYCOSIDES FROM SOME SPECIES OF RHODODENDRON

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We have previously reported the flavonoid composition of the Pontic azalea, the Caucasian rhododendron, the Dahurian rhododendron, the royal azalea, and the Kamchatka rhododendron [1-4]. Quercetin 3-L-arabinoside was isolated from all the species mentioned. As further chemical and physicochemical investigations have shown, the quercetin 3-arabinoside isolated from the Pontic azalea differed in its physicochemical properties from the others.

The quercetin 3-arabinosides from the Caucasian, Dahurian, and Kamchatka rhododendrons and the royal azalea are identical in their physicochemical properties: mp 209-211°C (from ethanol), $[\alpha]_D^{20} - 162°$; the melting points of their methyl and acetyl derivatives are also identical and give no depression in a mixed sample. UV and IR spectroscopy also show the identity of these substances. A comparison of the specific and molecular rotations with those given in the literature permits the assumption that in these glycosides the L-arabinose corresponds to α-L-arabofuranose. This is confirmed by the methyl and acetyl derivatives formed and by differential IR spectroscopy. These facts show that in the species mentioned the quercetin is present in the form of the 3-O-α-L-arabofuranoside (avicularin) [5].

The quercetin 3-arabinoside from the Pontic azalea has mp 240-241°C (from ethanol), $[\alpha]_D^{20} - 59°$, and the melting points of the acetyl and methyl derivatives also differ from those of the arabinosides of the other species of rhododendron.

On comparing the specific and molecular rotations with those given in the literature, it can be seen that the L-arabinose is present in the pyranose form and is represented by α-L-arabopyranose, which is confirmed by the constants of the acetyl and methyl derivatives and also by differential IR spectroscopy.

Thus, the glycoside isolated from the Pontic azalea differs by the size of the oxide ring of the arabinose and is identical with quercetin 3-O-α-L-arabopyranose (guaijaverin) [5].

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