PHENOLIC ACIDS OF Equisetum arvense

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Continuing an investigation of the ether-soluble fraction of a methanolic extract of the herb Equisetum arvense L., by preparative chromatography on a polyamide sorbent and dilution with water and water-methanol we have obtained phenolic acid fractions [1].

In the form of their TMS derivatives the phenolic acids were analyzed by the GLC method on a Tsvet-4 chromatograph with a flame-ionization detector, using a column 300×0.3 cm with 5% of SE-30 on Chromaton N-AW-DMCS at 212°C with helium as the carrier gas. The relative retention times of the TMS derivatives of the phenolic acids are given below.

p-Hydroxybenzoic 0.666 Vanillic* 1.000 Protocatechuic 1.222 Gallic 2.162 p-Coumaric 2.055 Ferulic 3.444 Caffeic 4.166	TMS Derivatives of the Acids	$\mathbf{R}_{\mathbf{t}}$
Protocatechuic 1.222 Gallic 2.162 p-Coumaric 2.055 Ferulic 3.444	p-Hydroxybenzoic	0.666
Gallic 2.162 p-Coumaric 2.055 Ferulic 3.444	Vanillie*	1.000
p-Coumaric 2.055 Ferulic 3.444	Protocatechuic	1.222
Ferulic 3.444	Gallic	2.162
	p-Coumaric	2.055
Caffeic 4.166	Ferulic	3.444
	Caffeic	4.166

^{*}The RT of the standard was 4.5 min.

The acids were identified by the method of additives and by comparison of the retention times of the TMS derivatives with those of authentic samples [2].

It must be observed that the predominating phenolic acid in Equisetum arvense is caffeic acid. Phenolic acids of the hydroxybenzoic type (p-hydroxybenzoic, vanillic, gallic) are present in small amounts.

This is the first time that phenolic acids have been found in Equisetum arvense L.

LITERATURE CITED

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