The glucofructan obtained differs from known glucofructans of the *Allium* genus [5] and *Triticum vulgare* [6] by its molecular weight, the ratio of the types of bonds, and the absence of branching in the chain.

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WATER-SOLUBLE POLYSACCHARIDES OF THE LEAVES OF *Actinidia colomicta*

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We have studied the water-soluble polysaccharides (WSPSs) of the leaves of male and female plants of *Actinidia colomicta* M. [1] and their monosaccharide composition.

The WSPSs were extracted from the air-dry raw material (moisture content 10-11%, collected in 1984) with water and were demineralized, and their ash content was determined by methods described previously [1, 2] and the amount of uronic anhydride by complexonometric titration [3]. The ash content of the demineralized polysaccharides was 0.6-0.8%. The hydrolysis of the polysaccharides and the subsequent operations with them were carried out as described previously [2, 4]. The hydrolysates were investigated by PC in the butan-1-ol-pyridine—water (6:4:3) system. The neutral sugars were revealed with aniline phthalate.

It was established that the WSPSs of the leaves of male and female plants consisted of eight monosaccharide components: D-galacturonic acid, D-galactose, D-glucose, L-arabinose, D-xylose, L-rhamnose, and two unidentified monosaccharides present in trace amounts and chromatographically more mobile that D-xylose and L-rhamnose. The quantitative amounts of the neutral monosaccharides were determined as described in [4]:

Phase of development	Yield of WSPSs, %	Ash content, %	Amount of the monosaccharides on the total taxes as 100%					GalUA, %
			Gal	*Glc*	*Ara*	*Xyl*	*Rha*	
		Male plant						
Green fruit	2,9	18 9	50,4	6 1	31,3	7 8	4,4	54,9
Ripening fruit	3,1	18 8	45.5	12,1	33,3	5,1	4,0	50,8
Ripe fruit	3,3	19,1	50,0	6 9	29,2	8,3	5,[illegible]	51,2
Mass leaf-fall	4,1	20,3	45,7	4,9	33,4	11,1	4,9	51,1
		Female plant						
Green fruit	3,3	19 8	44,0	12,1	34,9	4,5	4,5	54 6
Ripening fruit	3,8	18,7	50,0	8,9	32,1	5,4	3,6	54.6
Ripe fruit	4,1	18,9	33,8	8,5	49 3	4,2	4 2	52,8
Mass leaf-fall	4,6	20 1	35,8	5,6	47,2	5,7	5,7	51.6

As we see, in ontogenesis, the accumulation of PSs in the leaves rises: their greatest amount accumulates in the male and female plants in the period of mass leaf-fall, and the smallest amount in the green-fruit phase. No substantial differences were detected in the amounts of ash and galacturonic acid residues in the WSPSs. The predominating components of the polysaccharides of the leaves in all stages of ontogenesis were galactose and arabinose, the amount of the former in the period of mass leaf-fall decreasing in the male plants by a factor of 1.1 and in the female plants by a factor of 1.2, while the amount of the latter rose (by factors of 1.1 and 1.3, respectively) in comparison with the green-fruit phase.

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The amounts of xylose and rhamnose also increased in the male plants (by 1.4 and 1.1 times, respectively) and in the female plants (both by 1.3 times), although in the individual stages of ontogenesis some decrease in them was also observed. The amount of glucose in the WSPSs of the leaves decreased: considerably (by a factor of 2.2) in the male plants and to a smaller degree (by a factor of 1.2) in the female plants, although in the latter its amount rose considerably in the fruit-ripening stage (2.0 times). The results obtained permit the WSPSs of the leaves of male and female plants of *Actinidia colomicta* to be assigned to the class of pectin substances.

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FAST-ATOM IONIZATION MASS SPECTRA OF SOME LICHEN METABOLITES

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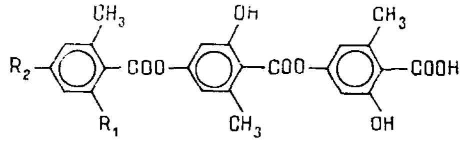
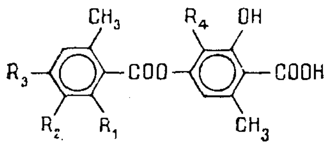
A mass-spectrometric study of lichen metabolites (depsides, depsidones, etc.) with the aim of determining their molecular weights and obtaining structurally informative fragmentary ions has been carried out previously with the aid of electron-impact mass spectrometry [1, 2]. However, in the electron-impact spectra of depsides and of depsidones having an oxoalkyl chain in the ortho position to the carbonyl group the peak of the molecular ions was not observed. Therefore the mass spectra could be regarded only as an indirect confirmation of the structures of the compounds as a whole, since the fragmentary ions unambiguously determine the nature of the substituents only in monomeric rings [3]. In rare cases, when it was observed in the spectrum, its intensity did not exceed 0.1%.

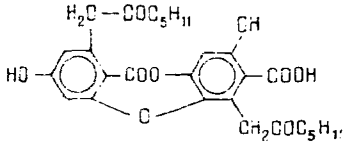
In view of the successful use of the method of mass spectrometry with ionization by fast-atom bombardment — the atom—ion emission (AIE) method — for the analysis of thermally unstable organic compounds of natural origin [4, 5], we decided to evaluate the possibility of this method for analyzing lichen metabolites. With this aim we have investigated depsides of the orcinol series: gyrophoric (1), 4-O-methylgyropheric (2), umbilicaric (3), lecanoric (4), evermic (5), and diffractaic (6) acids, and the depsidone alectoronic acid (7).



R$_1$	R$_2$	
OH	OH	— I
OH	OCH$_3$	— II
OCH$_3$	OH	— III



R$_1$	R$_2$	R$_3$	R$_4$
OH	H	OH	H — IV
OH	H	OCH$_3$	H — V
OCH$_3$	CH$_3$	OCH$_3$	CH$_3$ — VI



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