The fatty-acid compositions of the methyl esters of the sea buckthorn oil and its phospholipids were determined by the GLC method [3]:

Acid	Amount in the oil,%	Amount in the phospholipid, %
Myristric	0.3	1.2
Palmitic	28.1	35.2
Palmitoleic	41.1	39.3
Stearic	4.2	3.9
Oleic	11.0	12.3
Linoleic	9.2	7.6
Linolenic	6.1	0.5

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MINOR PHOSPHOLIPIDS OF Gossypium barbadense OF VARIETIES 5904-I AND TERMEZ-7

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We have previously reported the isolation of the unidentified phospholipids (PLs) X_1 and X_2 [1]. X_1 had the molar ratio N:P:RCOO 1:1:3, and X_2 1:1:2; R_f values 0.96 and 0.80 in the chloroform–methanol–25% ammonia (65:35:5) system, respectively. Both PLs give a negative reaction to ninhydrin and they did not react with phospholipase A_2 in ethereal solution.

On comparing the chromatographic mobilities and IR spectra of the substances under investigation with the product of the reaction of acetyl chloride with phosphatidylethanolamine (PE), they were found to be very similar, indicating that X_1 is an N-acylphosphatidylethanolamine (N-acyl-PE), and X_2 is an N-acyllysophosphatidylethanolamine (N-acyllyso-PE). To confirm this, the N-acyl-PE was de-O-acylated (0.1 M KOH in methanol, 30 min at 40°C), and the O-acyls were separated. In the water-soluble part of the hydrolyzate, one phosphorus-containing spot not stained by ninhydrin with R_f 0.65 was found by TLC in the above-mentioned solvent system. The material of this spot was subjected to acid hydrolysis with 2 M HCl at 100°C for 3 h [2], and the hydrolysis products were distributed between water and ether. Fatty acids (N-acyls) were found in the ethereal solution, and the glycerol and ethanolamine in the aqueous solution.

To determine the positions of the fatty acids in the glycerol part of the molecule, the X_1-PL was dephosphorylated as described by Hasegawa and Suzuki [3, 4] and the diglyceride acetates formed were subjected to enzymatic hydrolysis with the lipase obtained from porcine pancreatic gland. The hydrolysis products were separated by TLC in the ether–petroleum ether (9:1) system. On acid methanolysis (5% HCl in methanol) [5] the monoglyceride fraction yielded the methyl esters of the fatty acids in position 2, and these were analyzed by the GLC method.

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TABLE 1. Compositions and Position Distributions of the Fatty Acids in the X_1 Phospholipid (%)

Acid	5904-I					Termez-7				
	total	O-acyls			N-acyls	total	O-acyls			N-acyls
		total	position				total	position		
			1	2				1	2	
12:0	7,0	2,9	3,6	2,2	5,0	6,2	4,4	5,9	2,2	14,0
14:0	2,9	2,1	2.6	1.6	1,4	4,3	2,9	3,6	1,9	10,3
16:0	31,2	31,6	42,1	21,1	46,2	30,5	30,4	41,2	15,0	28,2
16:1	2,7	3,2	6,4	—	10,4	3,9	4,5	5,0	3,4	9,3
18:0	2,4	2,2	4,4	—	5,9	3,0	2,4	0,2	4,9	5,1
18:1	14,8	15,0	21,1	8,9	11,1	16,1	16,9	—	44,8	12,3
18:2	39,0	43,0	19,8	66,2	20,0	36,0	38,5	44,1	27,8	20,8
Σ_S	43,5	38,8	52,7	24,9	58,5	44,0	40,1	50,9	23,7	57,6
Σ_U	56,5	61,2	47,3	75,1	41,5	56,0	59,9	49,1	76,3	42,4

Unsaturated fatty acids were found to predominate in position 2 of the glycerol moiety, and saturated acids in position 1 and the amino alcohol moiety (Table 1).

For X_2 we determined the total fatty-acid composition, the ratio of saturated and unsaturated fatty acids (S/U) being 22.2/77.8% (for variety 5904-I) and 12.6/87.4% (for variety Termez-7).

The investigations showed that X_1 is a known compound – N-acylphosphatidylethanolamine – and X_2 is N-acyllysophosphatidylethanolamine. They have previously been detected in several plants [6]. We are the first to have studied the distribution of the fatty-acid radicals in such compounds.

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MASS-SPECTROMETRIC STUDY OF ESTERS OF MARMESIN AND SATURATED ACIDS

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We have previously studied the dissociative ionization of acyl derivatives of marmesin containing residues of α,β-unsaturated acids [1]. We now give the results of a mass-spectrometric investigation of esters of marmesin and saturated acids (I-IX); the mass spectra of these compounds are given in Fig. 1. (See scheme on p. 588.

As for the group of compounds studied previously, the main direction of decomposition of the molecular ions of (I-IX) is the formation of the fragments $M^+ - RCOOH$ (m/e 228) and $M^+ - RCOOH - CH_3$ (m/e 213) (Scheme 1, A).

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