

## LIPIDS OF THE LEAVES OF CENTRAL ASIAN FORMS OF SEA BUCKTHORN

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We have obtained hexane extracts by exhaustive extraction from the leaves of five forms of sea buckthorn growing on the territory of Central Asia, and have determined their yields, their total carotenoid contents [1], and their acid Nos. (Table 1).

All the samples investigated had high carotenoid contents, exceeding that of pharmacopeial sea buckthorn oil (180 mg-%). The acid numbers, which were higher than that of the same pharmaceutical oil (according to the requirements of the pharmaceutical specification, the acid No. should not exceed 14.5 mg KOH), were due to the titration not only of the free fatty acids but also of the triterpene acids present in large amounts in the cuticle of the leaves [2].

The total FA compositions of all the samples were determined by the GLC method and are given in Table 2.

In all the extracts we found a high level of the 16:0 acid, which is characteristic for the oils of the pericarp of Central Asian forms of sea buckthorn studied previously [3]. A high percentage of the 18:3 acid is a characteristic feature of the majority of leaves of higher plants [4]. Furthermore, acids with more than 18 C-atoms appeared in the leaves.

TABLE 1. Some Physicochemical Indices of the Leaf Extracts

Growth region	Yield of extract, % by weight	Amount of carotenoids, mg-%	Acid No., mg KOH
Zeravshan	9.7	368	94.9
Basharyk	5.6	577	34.9
Paltau*	14.8	199	17.9
Talasskii Ala-Tau	6.9	597	8.0
Issyk-Kul'	5.7	460	16.3

\*The leaves of this sample were stored for two years, which explains their lower carotenoid content.

TABLE 2. Fatty Acid Compositions of the Extracts of Sea Buckthorn Leaves

Growth region	Proportions of the acids (% GLC) with the given RRTs to the 16:0 acid										
	14:0	15:0	16:0	16:1	18:0	18:1	18:2	18:3	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>
	0.6	0.8	1.0	1.2	1.7	2.0	2.5	3.3	3.9	5.1	6.2
Paltau	1.0	1.0	35.3	24.7	21.6	9.8	2.1	2.2	2.3	-	-
Basharyk	0.6	0.4	25.5	31.4	2.0	9.1	8.7	20.7	1.6	-	-
Zeravshan	Tr.	—	28.9	36.8	1.5	10.7	8.8	13.3	-	-	-
Tal. Ala-Tau	1.2	0.9	17.1	8.9	1.9	7.8	8.5	41.9	1.6	3.3	6.9
Issyk-Kul'	0.4	0.5	19.8	12.4	1.8	6.3	9.5	46.4	2.8	-	-

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Thus, the express analysis of various forms of Central Asian sea buckthorn has shown the promising nature of a further investigation of the biologically active compounds of the vegetative organs of this plant with the aim of finding chemotaxonomic features within the family and the possibility of its practical use. A detailed study of the lipids of the leaves of the sea buckthorn is continuing.

#### REFERENCES

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