LIPIDS OF *SENNA ANGUSTIFOLIA* LEAVES

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Relevance. *Senna angustifolia* Vahl. (syn. Cassia angustifolia Vahl), from the Fabaceae family, is a valuable medicinal plant that grows in the desert regions of Sudan, Saudi Arabia, and Somalia. It is cultivated in Russia, Azerbaijan, and the Surkhandarya region of Uzbekistan. Senna leaves are among the oldest traditional remedies used in folk medicine as a natural laxative.

The therapeutic effect is primarily due to aloe-emodin and the anthraquinone glycosides sennosides A and B. Resinous substances present in the leaves may cause intestinal discomfort if infusions are prepared incorrectly. The leaves and plant extracts have long been used not only as a laxative, but also for treating liver and gallbladder disorders.

Objective of the study: To investigate the lipids of *S. angustifolia* leaves collected in the Surkhandarya region.

Materials and Methods. Neutral lipids (NL) were extracted from the powdered plant material by triple maceration using extraction-grade petroleum ether. Polar lipids (PL) were obtained from the remaining plant residue by triple extraction with a chloroform: methanol mixture (2:1, v/v). The composition of NL classes was determined by thin-layer chromatography (TLC) using solvent systems hexane:diethyl ether (4:1 and 3:2, v/v). Visualization was performed using iodine vapors and 50% H_2SO_4 followed by heating. Alkaline hydrolysis of NL was carried out using 10% KOH in methanol. The resulting fatty acids were methylated with diazomethane. Fatty acid composition was analyzed by gas chromatography (GC) using an Agilent 8860GC chromatograph.

Results.The *S. angustifolia* leaf samples had a moisture content of 7.8% and contained 2.3% neutral lipids (NL) and 6.6% polar lipids (PL). The NL fraction was found to contain hydrocarbons, free fatty acids, anthraquinones (R_f 0.37, dark red spot), esters with aliphatic alcohols, triterpenols and phytosterols, as well as free triterpenols and phytosterols. Triacylglycerols were present in trace amounts in the leaf lipid fraction. Fatty acids were isolated from the NL fraction, methylated with diazomethane, and analyzed (see table).

Table. Fatty acid composition of neutral lipids from *S. angustifolia* leaves, GC, % of total fatty acid mass

Fatty acid	%	Fatty acid	%
12:0, 14:0, 15:0	9,95	18:2n6	7,18
16:0	22,83	18:3n3	24,11
16:1n9	1,94	20:0	4,03
17:0	0,81	22:0	0,81
18:0	6,36	$\Sigma_{\text{saturated fatty acid}}$	44,79
cis-18:1n9	21,98	$\Sigma_{\text{unsaturated fatty acid}}$	55,21

The data in the table show that the fatty acids in the lipids of *S. angustifolia* consist of 12 components, with a dominance of unsaturated fatty acids. Among the unsaturated fatty acids of the neutral lipids in the leaves, the highest contribution is made by trienoic acid (α-linolenic acid, 18:3 (24.11%)), which is absent in the seed lipids.

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