

COMPONENTS OF *Thymus transcaucasicus*

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Species of the genus *Thymus* (thyme) from the flora of Azerbaijan are polymorphic and possess a high intraspecies polychemistry [1, 2].

In the present communication we give the results of a study of the component composition of individual organs of *Thymus transcaucasicus* Ronn. [~ transcaucasian thyme] collected in the Zakataly region on Mt. Din-Din in herbaceous sites and under the conditions of cultivation at the time of mass flowering.

In the samples taken, the component composition of the carbohydrates was determined by O. A. Pavlinova's method [3], the composition of the organic acids by S. V. Soldatenkov and T. I. Mazurova's method [3], the free amino acids by paper chromatography as described by T. F. Andreeva and O. P. Osipova [3], tannin substances by the method of Levental' [4], carbohydrates by Bertrand's method [5], fatty oils by extraction by petroleum ether (bp 40–60°C) in a Soxhlet apparatus [5], total nitrogen by the Kjeldahl method and protein and cellulose as described by Genneberg and Shtoman [6].

To identify the component composition of the carbohydrates in the epigeal part of the plant, as solvent we used a mixture of n-butanol, acetic acid, and water, in a ratio of 4:1:5. Aniline phthalate was used as the revealing agents, and markers showed the presence of galactose (R_f 0.14), glucose (R_f 0.18), and arabinose (R_f 0.29).

We studied the qualitative composition of the organic acids in the epigeal part of *Th. transcaucasicus* by paper-chromatographic analysis in the n-butanol-formic acid-water (18:2:9) solvent system. The revealing agent was a solution of Bromophenol Blue. It was found that the epigeal part of the plant contained tartaric acid (R_f 0.27), malic acid (R_f 0.49), oxalic acid (R_f 0.77), and fumaric acid (R_f 0.92).

We studied the components of the free amino acids in various organs of the thyme by descending paper chromatography. The solvent used was n-butanol-acetic acid-water (4:1:1). It was established that the stems contained 13, the inflorescences 12, and the leaves 6 amino acids: cystine (R_f 0.15), histidine (R_f 0.23), arginine-asparagine (R_f 0.31), aspartic acid-glutamine (R_f 0.44), glycine (R_f 0.46), α -aminoglutaric acid (R_f 0.49), threonine (R_f 0.52), alanine (R_f 0.62), tyrosine (R_f 0.71), α -aminobutyric acid (R_f 0.73), valine (R_f 0.81), and leucine (R_f 0.88).

The smallest amount of tannin substances was present in the inflorescences (1.16%) and the largest amount in the leaves (2.33% on the air-dry mass).

A fatty oil was present in various amounts in all the organs of *Th transcaucasicus* studied: 5.66% in the inflorescences, 3.12% in the stems, and 4.83% in the leaves.

On determining the amounts of carbohydrates, it was found that in the leaves of *Th. transcaucasicus* the difference in the amounts of mono- and disaccharides was very small – 2.18–2.14%; in the leaves and inflorescences the amount of monosaccharides (0.83–2.36%) was smaller than the amount of disaccharides (1.84–3.74%).

In addition, we studied the amount of cellulose: 21.90% in the leaves, 41.82% in the stems, and 27.64% in the inflorescences.

The maximum amounts of nitrogen and of protein were found in the inflorescences – 1.02% and 6.34%, respectively.

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