STUDY THE PHENOLIC COMPOUNDS OF *CRATAEGUS FLAVA* AIT. LEAVES

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Introduction. Phenolic compounds are the most widespread class of biologically active substances (BAS), encountered in plant raw material. In plants phenolic compounds are involved in the process of breathing, it natural coloring agents, play the role of filters and protects the plants from UV radiation, perform antioxidant affect, influence in plants growth process. Phenolic compounds have a broad spectrum of pharmacological activity: hypotensive, cardiotonic, diuretic, astringent, anti-inflammatory, hemostatic, choleretic, antimicrobial.

Well known that basic BAS of representatives of genus Hawthorn (Crataegus) is phenolic compounds (flavonoids and hydroxycinnamic acids). The most studied of hawthorn raw materials are fruits and flowers, leaves insufficiently studied. Therefore we think that a promising the depth study of the chemical composition of the leaves of unpharmacopoeia species of hawthorn. One of these species is *Crataegus flava* Ait.

The **aim of our study** was to investigate the phenolic compounds of *Crataegus flava* Ait. leaves.

Materials and methods. The object of the study was the dried leaves of *Crataegus flava* Ait., collected in May, 2015 year. Raw materials is collected in Botanical Garden of V.N. Karazin Kharkiv National University.

For the study of phenolic compounds obtained alcohol extract in the proportion raw material-extractant (1:10). Extraction was conducted of 70° ethanol. For identification of phenolic compounds used qualitative chemical reactions and chromatographic methods. Chromatographic research were carried out using one-dimensional and two-dimensional paper chromatography in solvent system: I direction - ethyl acetate-formic acid-water (10:2:3); II direction – 2% acetic acid.

Chromatograms were analyzed in daylight and UV-light after processing of ammonia pairs. The identification of compounds was carried out by R_f values and color of spots after processing of alcoholic solution of alkali. Also used chromatography in compared whis a reference samples: quercetin, rutin, hyperoside, kemppherol, chlorogenic acid. For identification of flavonoids used cyanidine reaction by Briant, the reaction with 10% alcohol-water solution of alkali, reaction with lead acetate, reaction with $FeCl_3$.

Results and discussion. In leaves of *C.flava* Ait. were identified 8 compounds of phenolic nature. The results of chromatographic research are shown in Fig. 1. and Table 1.

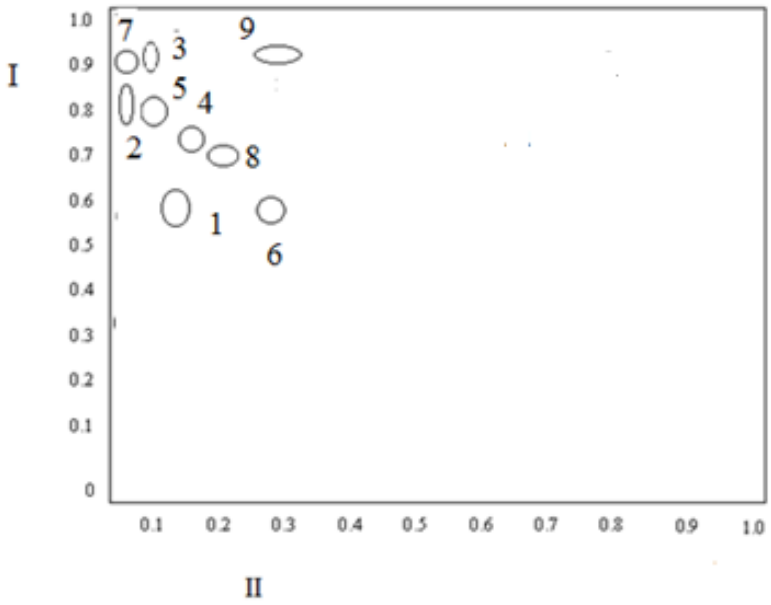

Fig. 1. Chromatogram of phenolic compounds from C. flava Ait. leaves

Table 1

Chromatographic characteristic of phenolic compounds from *C. flava* Ait. leaves

№ of compound	Rf·100		Fluorescence in UV-light	
	I direction	II direction	before processing the reagent	after processing of ammonia pairs
1	62	15	Dark	Orange
2	85	5	Dark	Dark
3	93	13	Dark	Dark
4	70	20	Dark	Dark
5	80	10	Yellow	Yellow
6	62	31	Dark	Green
7	90	7	Yellow	Yellow –green
8	70	17	Yellow	Yellow
9	93	30	Light blue	Light blue

Conclusions. For the first time in *C. flava* Ait. leaves were identified phenolic compounds. According to the results of qualitative reactions, chromatographic research in compared with standard substances was established: 1 – hyperoside, 5 – quercetin, 7- kemppherol, 9 - chlorogenic acid.