IDENTIFICATION OF BIOLOGICALLY ACTIVE COMPOUNDS IN CHRYSANTHEMUM INDIAN HERB

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Introduction. Indian chrysanthemum (*Chrysanthemum indicum* L.) is a species of perennial herbaceous plants of the *Asteraceae* family. Plants reach 0.5-1 m in height, the stems are usually simple. The leaves are deeply divided into lobes; the edge of the leaf is serrated. Inflorescence is a yellow apical, rarely axillary basket. Marginal flowers are ligulate, usually golden yellow, central tubular. The fruit is a small seed. The chemical composition of Indian chrysanthemum presented by essential oil, vitamins, phenolic compounds, anthocyanins. In folk medicine, flowers are used as hypotensive and antipyretic, leaves are used for migraine [2]. Therefore, it is urgent to carry out more detailed phytochemical study of Indian chrysanthemum.

Purpose. The purpose of our work was to identify the main groups of biologically active compounds in the Indian chrysanthemum herb.

Materials and methods. 5.0 g of the researched crushed raw material was used to prepare water extracts from Indian chrysanthemum herb, which was poured with water in a ratio of 1:5 and heated in a boiling water bath for 60 minutes, periodically shaking. The resulting extract was filtered through a pleated filter into a 200 ml flask. The extraction of raw materials was repeated two more times in the conditions described above with new portions of the extractant. The combined extract was concentrated and used to determine polysaccharides, amino acids, tannins. The water-alcohol extract was obtained according to the method described above. Extraction of raw materials was carried out with 70% ethanol, concentrated water-alcohol extraction for the detection of flavonoids. For the detection of polysaccharides, four times the volume of 96% ethanol was used, which was added to the extract from the Indian chrysanthemum herb (formation of an amorphous precipitate). The presence of flavonoids and tannins was determined using well-known chemical reactions: cyanidin reaction (pink color), with 10% solution of iron (III) chloride (black-green color), 2% solution of aluminum chloride (green-yellow color), 10% solution potassium hydroxide (yellow-green color) and 1% quinine hydrochloride solution (amorphous precipitate), 1% gelatin solution (turbidity appeared), iron (III) ammonium sulfate (black-green color). Detection of amino acids was carried out using a reaction with 0.2% freshly prepared solution of ninhydrin in isopropyl alcohol (purple-red color) [1].

Results and their discussion. The results of the experiment confirmed the presence of polysaccharides, amino acids, flavonoids, tannins in the Indian chrysanthemum herb. The obtained data can be used for further phytochemical study of raw material of Indian chrysanthemum (*Chrysanthemum indicum* L.).

References:

1. Pharmacognosy: textbook for students of higher schools / V. S. Kyslychenko, L. V. Lenchyk, I. G. Gurieva, et al. Kharkiv: NUPh: Golden Pages, 2019. 584 p.
2. The genus Chrysanthemum: Phylogeny, biodiversity, phytometabolites, and chemodiversity / Hao D. C. et al. *Frontiers in Plant Science*. 2022. № 13. P. 973197.