IDENTIFICATION OF BIOACTIVE COMPOUNDS USING RP-HPLC ANALYSIS OF SOME HAWTHORN SPECIES EXTRACTS (*CRATAEGUS PINNATIFIDA BGE., C. MONOGYNA JACQ., C. CRUS-GALLI.)* AND ANTIOXIDANT ACTIVITY EVALUATION.

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Abstract
Hawthorn is belonging to the Rosaceae family and is one of the plants that have been used as a source of bioactive products. The goal of this work was to determine the phenolic and flavonoid contents and antioxidant activity of ethanolic extracts of some hawthorn species (Crataegus pinnatifida Bge., C. monogyna Jacq., C. crus-Galli.). The extraction was performed at 45 °C, by using ethanol 50 v/v% as a solvent (10 g of the fruit in 100 ml solvent) for 50 min. The Folin-Ciocalteu's method was used for the determination of total phenols, the aluminium chloride method was used for the determination of flavonoids, and the ferric reduction antioxidant power (FRAP) method was used to assess the antioxidant activity of extracts. The identification of phenolic compounds present in extracts was performed using RP-HPLC. A positive linear correlation between the antioxidant activity index and total phenolic content of ethanolic extracts was observed. The order of antioxidant activity in species was as follows (C. crus-Galli > C. pinnatifida Bge. > C. monogyna Jacq.) The RP-HPLC procedure showed that the most abundant compounds were chlorogenic, ferulic and ellagic acids and (+)-Catechin while gallic and caffeic acid were not detected. The extracts have significant antioxidant properties due to the existence of phenolic compounds. It is noteworthy to emphasize that for C. crus-Galli species, its extracts have not been studied or referred to, to the best of our knowledge.

Keywords:
Hawthorn, Total phenolic and flavonoid content, RP-HPLC, Antioxidant Activity