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ANTIOXIDANT ACTIVITY AND PHENOLICS CONTENT OF *Capsella bursa-pastoris* AND *Marrubium vulgare* DEPENDING ON ENVIRONMENTAL FACTORS

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Abstract

In this work we aimed to examine the influence of the main abiotic factors (temperature, rainfall, relative humidity, atmospheric pressure) on the synthesis of active compounds (phenolics, flavonoids), with antioxidant and therapeutic effect of two herbs - *Capsella bursa-pastoris* (shepherd's purse) and *Marrubium vulgare* (horehound) collected from two different areas of Romania: Dobrogea (Constanta) and Muntenia (Bucharest). The studies have shown that biogenesis and accumulation of secondary metabolites that gives the therapeutic properties of medicinal plants is influenced by biotic and abiotic factors. In this work we aimed to determine the profile of concentrations of biologically active compounds from the studied herbs depending on the harvest time period and variability of the environmental factors. The medicinal herbs had harvested in autumn (September, 2013) and in spring (May – June, 2014); the alcoholic and aqueous extracts were analyzed in terms of composition: in main biologically active compounds (phenolics, flavonoids) and antioxidant activity as DPPH and ABTS, and spectral data analysis by FTIR. Experimental data obtained showed a significantly higher phenolics and flavonoids content and also a higher antioxidant activity in herbs harvested from the Dobrogea (Constanta) area, for the herbs studied.

Key words: abiotic factors, antioxidant activity, *Capsella bursa-pastoris*, flavonoids, *Marrubium vulgare*, phenolics

Received: December, 2017; Revised final: June, 2018; Accepted: July, 2019; Published in final edited form: July, 2019

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