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ANTIOXIDANT POTENTIAL AND PHENOLIC COMPOUNDS CHARACTERIZATION OF ARENARIA MONTANA L.

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The therapeutic benefits of medicinal plants arise from a diverse phytochemical composition, which confers antioxidant potential among other bioactive properties. The scientific community has been interested in phenolic compounds, since epidemiological studies have associated the consumption of diets rich in natural antioxidants with decreased risk of diseases related to oxidative stress. Their potent antioxidant activity has been related to different pharmacological actions namely, anticarcinogenic/antimutagenic, antibacterial, antiviral or anti-inflammatory properties. Arenaria montana L. is an herbaceous plant native to mountainous regions of southwestern Europe and the infusion of this plant (stems, leaves and flowers) is used in Portuguese traditional medicine for its anti-inflammatory and diuretic properties [1-3]. The present work describes the phenolic compounds in A. montana, analyzed by HPLC-DAD-ESI/MS, and the antioxidant activity (scavenging activity, reducing power and inhibition of lipid peroxidation) of its hydromethanolic extract and infusion. Ten phenolic compounds were identified as flavone derivatives. Methyl-luteolin 2''-O-feruloylhexosyl-C-hexoside was the main flavone found (0.45 g/100 g dw) in A. montana, being the total amount of flavones 1.20 g/100 g dw. Regarding to antioxidant activity, the infusion gave higher antioxidant potential than the hydromethanolic extract in all the assays, with the exception of DPPH scavenging activity assay in which both samples showed similar results. A. montana may be used as a functional food, due to the presence of bioactive compounds and this study supports the documented medicinal effect of this species, and opens the possibilities of food and pharmaceutical applications. As far as we know, this is the first detailed study of phenolic compounds and antioxidant potential of this plant.

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