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BOOK OF ABSTRACT

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Phytocomplexes with antioxidant potential extracted from *Gentiana lutea* and *Hypericum perforatum*, two native plants from the Pollino National Park

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INTRODUCTION: With aging process, the body is subjected to increasing oxidative stress, responsible for the onset of various chronic pathologies. Plant-based medicines represent a source for human health, as plants synthesize a wide variety of organic molecules (flavonoids, terpenes, phenolic acids, carotenoids, etc.), defined as Secondary Metabolites (SM), able to exert antioxidant and protective actions against free radicals.

METHODS: Two native species from the Pollino National Park in Southern Italy, *Hypericum perforatum* and *Gentiana lutea*, were analyzed for their antioxidant potential and for the biotic and abiotic factors that influence it. The matrix was dried, pounded and subjected to extraction in EtOH 80%. The phytochemical profile of plants collected at different altitudes in both wild and cultivated fields was analyzed and compared.

RESULTS: As regards *H. perforatum*, the TLC analyses showed a ubiquitous presence of some components, such as hypericin and pseudohypericin, in the investigated tissues (leaves, flowers and fruits), while in HPLC analyses significant differences were observed at increasing altitude of the collection site. These data were consistent with antioxidant activity measured through ABTS assay. On the contrary, regarding *G. lutea*, both total polyphenol content and antioxidant potential appeared stable at increasing altitude. The phytochemical pattern obtained by TLC and confirmed by HPLC, showed a superimposable profile.

CONCLUSIONS AND PERSPECTIVES: Obtained results suggested how *H. perforatum* and *G. lutea* native species from the Pollino National Park, although exerting two different adaptation strategies to the environment, can be considered potential antioxidant agents for the improvement of risk factors related to the development of chronic diseases supported by the action of free radicals.

Keywords: Hypericum perforatum; Gentiana lutea; secondary metabolites, antioxidant activity

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