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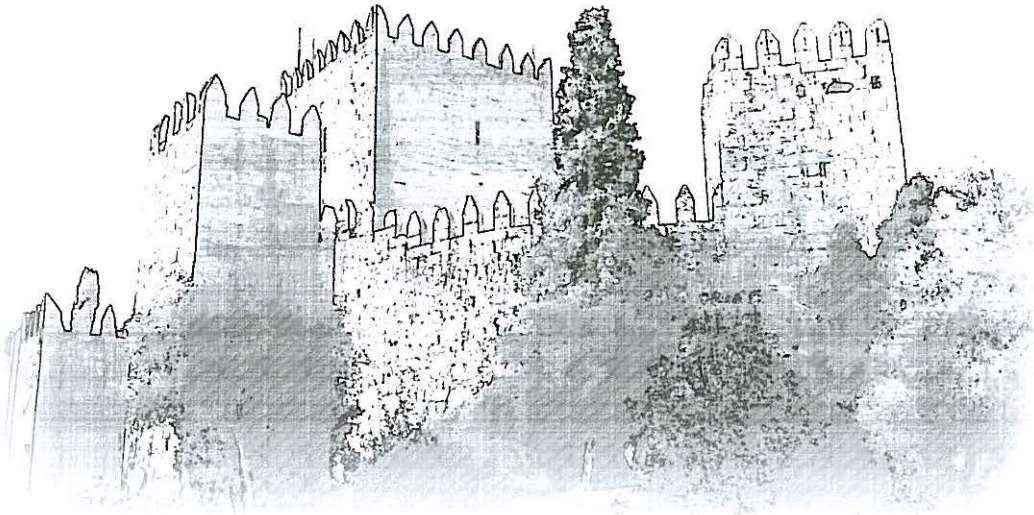
Book of Abstracts



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contenders for further isolation of specific compounds with chemotherapeutic potential.

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Keywords: *Marine sponge-derived fungi, Apoptosis, Cytotoxicity, Antitumor, Anti-proliferative activity, Cancer cell lines*

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P1N4 *Suillus granulatus* (L.) Roussel as a source of bioactive compounds: comparative study between mushrooms from different origins

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Mushrooms have become attractive as functional foods and as a source of many biologically active compounds. Different species have been reported as having an excellent nutritional value and bioactivity [1-3]. The present study outlines a detailed chemical characterization of *Suillus granulatus*, a species harvested and consumed worldwide, as well as its methanolic extracts due to it antioxidant and antimicrobial properties. To this end, the nutritional value of samples from Portugal and Serbia was determined as well as the composition in hydrophilic and lipophilic compounds, which were detected and identified by chromatographic techniques coupled to different detectors. The study was carried out with samples collected from the aforementioned countries in order to confirm that, although mushrooms are strongly influenced by the environment in which they grow, they have a specific chemical profile that can be typical of their genus or species. The studied samples proved to be healthy foods, due to their low fat content and rich in protein and carbohydrates, with mannitol and trehalose as the main free sugars detected. They also proved to be a source of organic and phenolic acids, as well as mono- and polyunsaturated fatty acids and tocopherols. The Serbian sample revealed higher antioxidant and antimicrobial potential, although both samples showed similar chemical profiles. In conclusion, we find that the *S. granulatus* species is likely to be considered a functional food, since it is a good source of nutraceutical and biologically active compounds.

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Keywords: *Chemical characterization, nutraceuticals, bioactive compounds, antioxidant and antimicrobial potential.*

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P1N5 Screening of lichen extracts on HT-29 human colon-cancer cells

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Colorectal cancer is one of the most common cancer types and the third leading cause of cancer related death in the western world [1]. Generally colorectal cancers are particularly resistant to anticancer drugs. Lichens and its metabolites exhibit biological activities including anticancer activities [2-3]. To identify potential new anticancer phytochemicals acetone extracts of twenty lichens were tested on HT29 human colon cancer cells which are known to be more resistant to anticancer drugs. Among them, four extracts displayed antiproliferative effects with IC_{50} ranging from 5 to 20 µg/mL. We further examined the acetone extract of the foliose lichen *Pleurosticta acetabulum* for additional anti-proliferative activity and also tested its major compound: norstictic acid. Results showed that acetone extracts of *P. acetabulum* had the strongest anticancer activity towards HT29 cells with an IC_{50} value of 6 µg/mL after 48h treatment. Cytotoxic effects appeared starting at 24h exposure with an IC_{50} value of 25 µg/mL. In the same conditions norstictic acid, which represents 30% of the extract, had a moderate anti-proliferative effect. Moreover apoptosis was required for the anti-proliferative effects of the *P. acetabulum* acetone extract as shown by DNA fragmentation after 24 and 48h treatment. Thorough phytochemical characterization of this lichen will be carried out in order to characterize minor metabolites. Their activities and effects on apoptosis will be determined.

Keywords: *Lichens, HT-29, colon cancer, Pleurosticta*

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