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Natural Bioactive Compounds, Functional and Traditional Food Products
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Abstract Oral

Section **NATURAL BIOACTIVE COMPOUNDS, FUNCTIONAL AND TRADITIONAL FOOD PRODUCTS**
Sector A

CHEMICAL CHARACTERIZATION AND BIOACTIVITY OF TWO DIFFERENT SPECIES OF WILD MUSHROOMS: COMPARISON BETWEEN PORTUGUESE AND SERBIAN SAMPLES

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Mushrooms are widely appreciated all over the world for their nutritional properties, and also for their pharmacological value. They have been considered valuable health foods, being a source of many different bioactive compounds such as unsaturated fatty acids, tocopherols, organic acids and phenolic compounds. The present work reports and compares the nutritional value, bioactive compounds and antioxidant properties of two wild edible mushroom species from Portugal and Serbia: *Boletus aereus* and *Calocybe gambosa*. Regarding the nutritional value of the studied species, carbohydrates were the macronutrients found in higher amounts and no major differences were observed between the energetic values of the samples. Mannitol and trehalose were quantified in all the studied samples and it was also possible to quantify rhamnose and fructose in *Boletus aereus* from Serbia. Analyzing the fatty acids profile, unsaturated fatty acids predominated over saturated fatty acids. About tocopherols, β -tocopherol was only found in *Boletus aereus* from Serbia; α - γ - and δ -isoforms were part of the profile of the Portuguese samples. Protocatechuic acid was only quantified in *Calocybe gambosa* from Portugal. Two acids, *p*-hydroxybenzoic and *p*-coumaric, and the related compound cinnamic acid were found in the four samples analyzed. Concerning the organic acids, Portuguese samples revealed a similar profile, being detected oxalic, malic and fumaric acids; in Serbian species was also possible to quantify quinic and citric acids. *Boletus aereus* from Portugal was the one that revealed the highest antioxidant potential. Overall this study reports a detailed characterization of two appreciated edible mushrooms, valorizing them as a source of nutritional and bioactive compounds.

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KEY WORDS: wild mushrooms, nutritional value, bioactive compounds, antioxidant potential

FOOD OF THE FUTURE. WHAT WILL IT BE?

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The international community is increasingly trying to look to the future, with particular attention to unsolved problems, among which an important place belongs to the food problem.

Humanity was always facing food shortages, but now it became a global acute problem. It is difficult to characterize the global food problem with sufficient accuracy, since the calculations are suppositive.

According to the estimations, over 800 million people are obtaining hungry diet, causing physical degradation of the organism. Another 1.5 billion people in the world suffer from chronic malnutrition.

Population of the Earth is rapidly increasing. Today it exceeds 7 billion. UN predicts by 2050 it will exceed 9 billion.

Moreover, the increase in world population will occur solely by the poorest countries. The population of the 49 poorest countries in the world will double to 1.7 billion people, which will greatly complicate the fight against poverty.

What could be solution of global food problem? What will be the food of the future?

KEY WORDS: food deficiency, food of the future