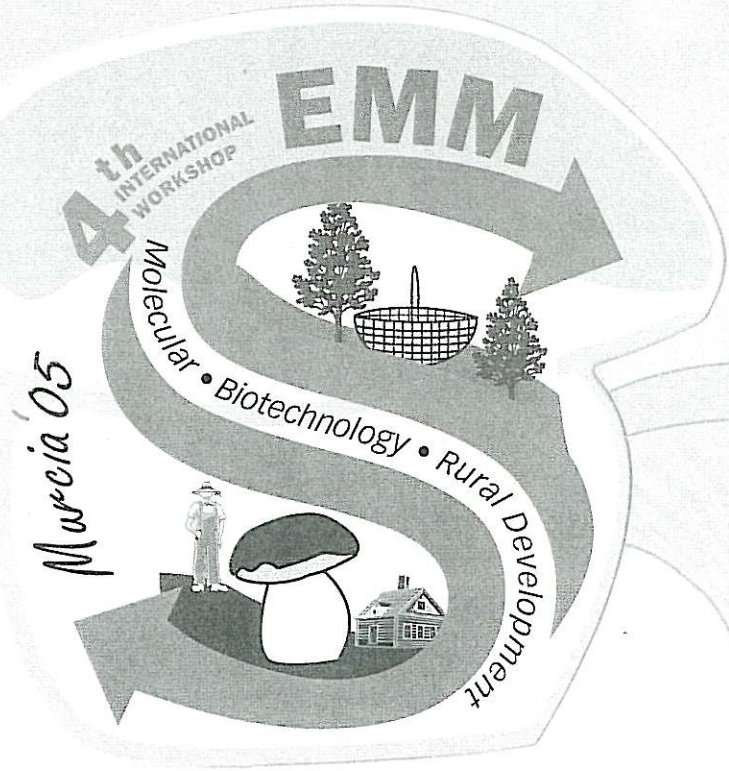

Abstract book

IV INTERNATIONAL WORKSHOP

EDIBLE MYCORRHIZAL MUSHROOMS

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ANTIOXIDATIVE PROPERTIES OF WILD EDIBLE MUSHROOMS: INDIVIDUAL CAP AND STIPE ACTIVITY

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Key words: wild edible mushrooms, *Lactarius deliciosus*, *Tricholoma portentosum*, scavenging effect, reducing power, total phenols

Reactive oxygen species are formed during normal cellular metabolism, but when present in high concentration they become toxic. Mammalian cells possess intracellular defences such as superoxide dismutase, catalase or glutathione peroxidase in order to protect the cells against excessive levels of free radicals. Also exogenous addition of compounds such as vitamins (A, E, -carotene), minerals (selenium, zinc), or proteins (transferring, ceruleoplasmin, albumin) can provide additional protection[1]. These natural antioxidants or other sources that can neutralize free radicals may be of central importance in the prevention of vascular diseases, some forms of cancer and oxidative stress responsible for DNA, protein and membrane damage.[2,3] The northeast of Portugal, due to their climatic conditions and flora diversity, is one of the European regions with higher wild edible mushrooms diversity, some of them with great gastronomic relevance.

We will report chemical assays on the antioxidant activity of two wild edible mushroom species, *Lactarius deliciosus* (L.) Gray and *Tricholoma portentosum* (Fr.) Quél., from northeast of Portugal. For the first time, the entire mushroom, the cap and the stipe individually were used in order to compare their antioxidant properties. Total phenolic content was determined using Folin and Ciocalteu's phenol reagent. The reducing power was evaluated measuring absorbance at 700 nm after mixing the samples with ferric compounds; higher absorbance indicates higher reducing power. The scavenging effects on DPPH (1,1-diphenyl-2-picrylhydrazyl) radicals were determined measuring the decay in absorbance at 517 nm due to the DPPH radical reduction, indicating the antioxidant activity of the compounds in a short time.

Overall, *L. deliciosus* revealed better antioxidant properties than *T. portentosum* (lower EC_{50} values), which is in agreement with the higher content of phenols found in the first species. The portion of the mushroom used has also influence in the results obtained, showing the cap methanolic extracts better results.

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