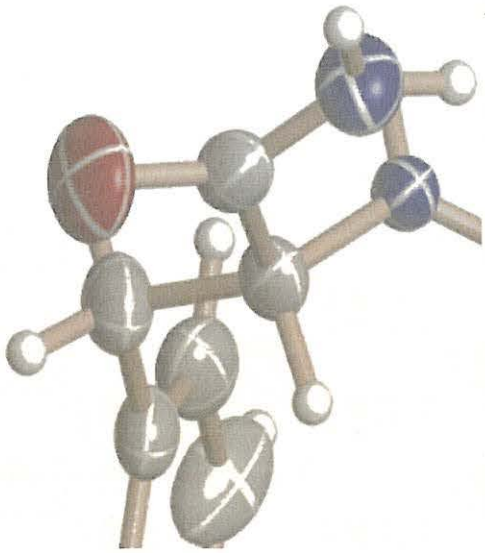

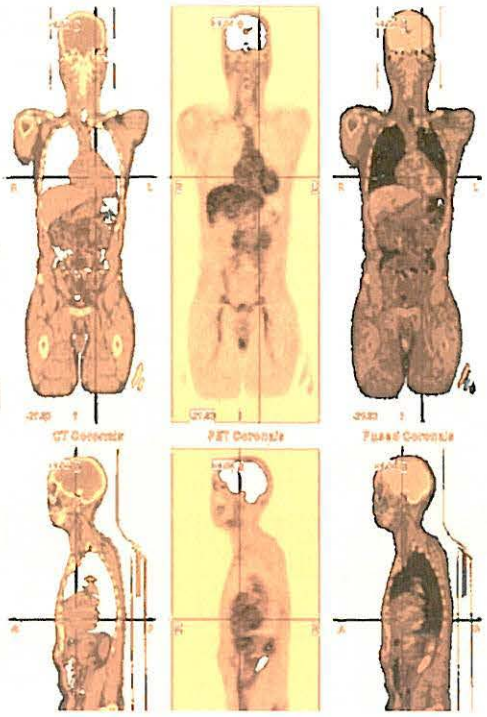

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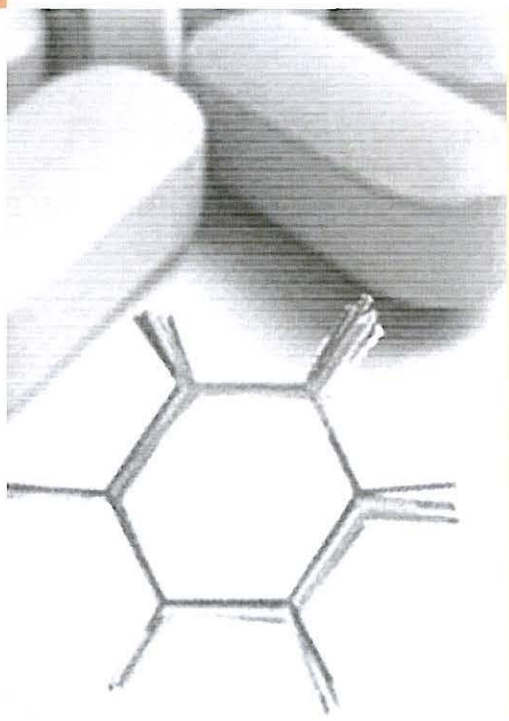

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Antioxidant properties of two *Lactarius* wild species from the Northeast of Portugal

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Wild mushrooms are widely appreciated not only for their organoleptic and nutritional properties, but also for their medicinal potential due to the accumulation of bioactive compounds. They have been described as a source of many antioxidant compounds such as phenolic compounds, tocopherols, ascorbic acid and carotenoids [1]. In the present work, the antioxidant properties of two wild *Lactarius* species from the Northeast of Portugal (*Lactarius citroleus* and *Lactarius plumbeus*) were evaluated for the first time, allowing the comparison between these two species. The antioxidant properties were determined through five different assays. The reducing power of the samples was assessed through the *Folin-Ciocalteu* (or total phenolics) and the Ferricyanide/Prussian blue assays. To evaluate the radical scavenging activity, the DPPH-2,2-diphenyl-1-picrylhydrazylassay was applied.Lipid peroxidation inhibition was measured through two different assays: β-carotene/linoleate (or β-carotene bleaching inhibition) and TBARS-thiobarbituric-acid-reactive-species assays. Although *L. plumbeus* has shown the highest content in total phenolics (22.02 mg of gallic acid equivalents/g extract), *L. citroleus* presented the highest reducing power determined by the Ferricyanide/Prussian blue assay (EC_{50}=1.53 mg/mL). *L. plumbeus* revealed the highest radical scavenging activity (EC_{50}=4.18 mg/mL) as also the highest lipid peroxidation inhibition measured by β-carotene/linoleate assay (EC_{50}=4.92 mg/mL). Nevertheless the lowest EC_{50} value for TBARS assay was revealed by *L. citroleus* (0.57 mg/mL). This study contributes for the inventorying of the wild mushroom species from the Northeast of Portugal, providing more information about the antioxidant potential of these natural matrices.

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[1] I. C. F. R. Ferreira, L. Barros and R. M. V. Abreu, *Cur. Med. Chem.*, **2009**, 16, 1543-1560.