



MOLECULAR BIOMARKERS AND INORGANIC PROFILE TO CHARACTERIZE *AMANITA PONDEROSA* MUSHROOMS STRAINS

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Abstract

Amanita ponderosa are wild mushroom eatable, very appreciated in gastronomy, with high exportation potential, that grow spontaneously in some microclimates, particularly in Alentejo and Andalusia. Due to the symbiotic relation, mushrooms can accumulate high concentrations of some metals, consequently is important to estimate the trace metal contents to assessing exposure risks. Although some species of genera *Amanita* are toxic, others are edible and very appreciate, namely *A. ponderosa* that grows spontaneously in southwest of the Iberian Peninsula. Therefore is important to improve methods to characterize different *Amanita* strains.

In this study, we intend to evaluate the inorganic composition (P, Na, K, Ca, Mg, Fe, Cu, Zn and Mn content) of several *Amanita ponderosa* strains and to characterise these mushrooms with molecular biomarkers. *A. ponderosa* strains showed different inorganic profile according to their locate area. The amplified DNA polymorphic sequences analyses by MSP-PCR allowed to identify at specie level and to differentiate *A. ponderosa* at strain from each origin sites.

KeyWords: *Amanita ponderosa*, Wild edible mushrooms, Metal content, Species differentiation, Fingerprinting, MSP-PCR.