World Fungi 2007

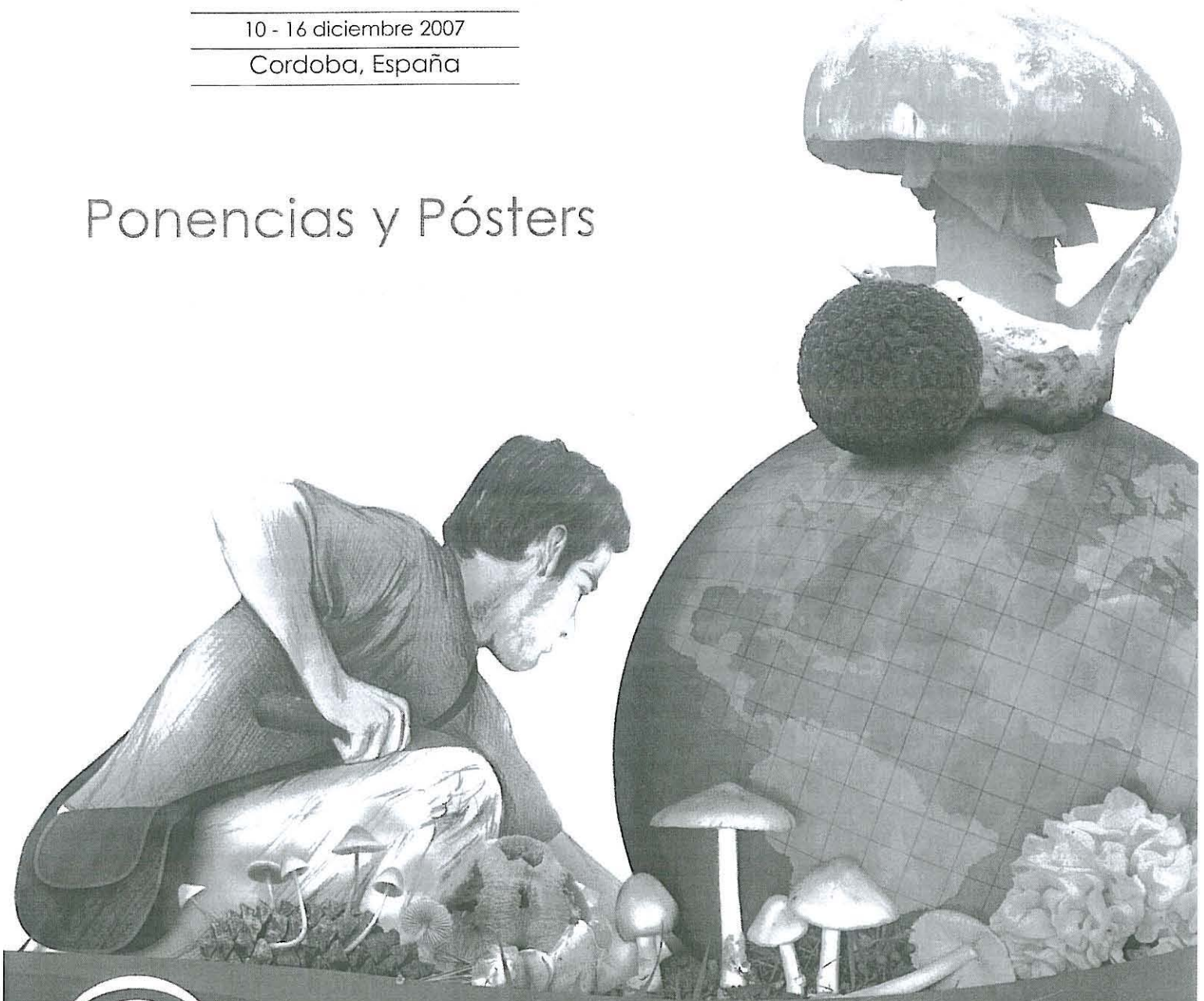
Ia Conferencia Mundial sobre Conservación y Uso Sostenible de Hongos Silvestres

Ist World Conference on the Conservation and Sustainable Use of Wild Fungi

10 - 16 diciembre 2007

Cordoba, España

Ponencias y Pósters



JUNTA DE ANDALUCIA
CONSEJERÍA DE MEDIO AMBIENTE

The project received great interest. Because of the many newspaper articles, matsutake became well-known, which helped to create an overview about the yield. The most productive habitats were in Lapland. The thematic maps proved to be useful in searching for new matsutake sites. The first experiences showed great potential for export of Finnish matsutake to Japan.

Chemical composition of *Lactarius sp.* mushrooms in different maturity stages

Barros, Lillian; **Baptista, Paula**; Ferreira, Isabel C.F.R. *

CIMO- ESAB, Instituto Politécnico de Bragança, Campus de Sta. Apolónia, Apartado 1172, 5301-855 Bragança, Portugal.

*Email: *iferreira@ipb.pt*

Key words: Chemical composition; fruiting body maturity; Lactarius deliciosus; Lactarius piperatus

Wild mushrooms are becoming more and more important in our diet for their nutritional value, including high protein and low fat/energy contents [1]. Dikeman *et al.* [2] reported the effects of stage of maturity and cooking on the chemical composition of mushroom species commonly cultivated and consumed in the United States. Nevertheless, there are no detailed studies on the influence in fatty acid and sugars profiles, particularly on mushrooms from Northeast Portugal.

In this study, we examined the evolution of chemical composition of Portuguese *Lactarius* species (*Lactarius deliciosus* and *Lactarius piperatus*), in three stages of fruiting body maturity (immature, mature with immature spores, and mature with mature spores).

Chemical composition evaluation included moisture, fat, protein, ash, carbohydrates, and nutritional value, as well as bioactive compounds determination such as phenols, flavonoids, and carotenoids. Fatty acid and sugar

profiles were also obtained by gas-liquid chromatography/flame ionization detection (GLC/FID) and high-performance liquid chromatography/refraction index (HPLC/RI), respectively [3].

Protein content, MUFA (monounsaturated fatty acids), and PUFA (polyunsaturated fatty acids) percentages increased with the fruiting body maturity stage, while carbohydrate and SFA (saturated fatty acids) content decreased. The maturity stage did not significantly affect the individual sugar profile.

The knowledge about mushrooms chemical composition in different stages of fruiting body maturity could be useful in order to find the best stage to achieve better nutritional properties, and in this study, we concluded that the last stage of fruiting body maturity is not recommended for those proposals.

Acknowledgements: Research project PPCDT/AGR/56661/2004 (FCT- Portugal).

Bibliography

[1] Barros L., Baptista P., Correia D.M., Casal S., Oliveira B., Ferreira I.C.F.R. *Food Chem.* 2007, *105*, 140-145.

[2] Dikeman C.L., Bauer L.L., Flickinger E.A., Fahey Jr. G.C. *J. Agric. Food Chem.* 2005, *53*, 1130-1138.

[3] Barros L., Baptista P., Estevinho L., Ferreira I.C.F.R. *J. Agric. Food Chem.* 2007, *55*, 8766–8771.

What micro-environmental factors affect *Suillus luteus* fructification in ponderosa pine afforestations in Patagonia?

Barroetaveña, Carolina [1,2]

[1] *Comisión Nacional de Investigaciones Científicas y Técnicas CONICET.* [2] *Centro Forestal CIEFAP, C.C. 14, Esquel (9200) Chubut, Argentina.*

Email: cbarroetavena@ciefap.org.ar.

Key words: Slippery jack, edible mushrooms, productivity, environmental factors.

The objective of this study was to determine the biotic and abiotic micro-environmental factors, and their interrelationships, that enhance high fruit body productivity of *Suillus luteus* (Slippery jack) in certain patches. The study site was a pure 17-18 years old, first rotation, ponderosa pine plantation with sandy loam soil, located close to Esquel City, Chubut, Argentina. Twelve plots with and 12 with out fructifications were randomly selected to make different measurements. Crown cover (CROWN), percentage of herbs + small-shrubs cover (HERB) and species composition were recorded, along with percentage of duff cover (DUFFC), percentage of naked soil (NAKED), duff depth (TDUFFD), gravimetric water (SOILH), soil texture and chemistry variables (pH, organic matter (OM), Nitrogen , Phosphorus, S-SO4 and exchangeable cations including Ca, Mg, K and Na. Multiple logistic regressions were used to select variables that explain presence or absence of fructifications, and a principal component analysis to further analyze the relationship between shrubs cover and fructification. The occurrence of fructifications was associated with