





MEMORIES

The 7th International Workshop on Edible Mycorrhizal Mushrooms

IWEMM 7
Toward a New World

La Antigua Guatemala, Guatemala
July 30th - August 3rd, 2013

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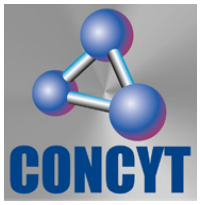

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INTRODUCTION

In these pages you will find the abstracts of presentations and posters shown at the 7th International Workshop on Edible Mycorrhizal Mushrooms-IWEMM-7 held in La Antigua Guatemala, from 29 July to August 02 of 2013.

They are the result of the effort of many researchers of the world that decided to come despite of the difficulties derivate of the current economical global crisis, trusting and helping to contribute to the development of the science, especially on the ectomycorhizal edible mushrooms field and how to approach them to behave, protect and conserve natural forest and ecosystems as well as plantations for reforestation and production valuable edible mushrooms.

You will also find abstracts of researchers that could not come due to illness or lack of financial support. We really feel the absence of African colleagues that sent very important documents about diversity of ECM in that amazing Continent, place of possible origin of some genera.

This IWEMM-7 was a success not only by the presence of researchers of 28 countries, the high quality of presentations and posters but the participation of scientists with a high human sense and wish of transform the current world into a more communicative and conscientious world. It was also a success because of the participation of more Latin

American mycologists, professionals and students that for first time participate in the history of IWEMM's. That was the goal of the name of this IWEMM-7: Toward a New World, because the "New World", as was knew the American Continent centuries ago, it's the place of important evolution centers for biodiversity including mushrooms and where countries still remain unstudied awaiting the presence of local and international mycologists groups decided to work together for the benefit of local people, ecosystems, universities and research centers. Latin America includes some countries declared Megadiverse as Guatemala, Costa Rica, Mexico, Brazil, and others. This fact is an opportunity to invest in research in these countries to obtain information that could give answer to alimentation problems, climatic change and adaptation of species, medicinal and pharmaceutical components present in fungal species to old and new illnesses as well as places of recreation as scientific tourism. All countries have a great deposit of cultures and knowledge that one can discover and enjoy by sharing, teaching, learning and studying.

University of San Carlos de Guatemala, the second university erected in the Americas (1676), is a pioneer in mushrooms studies in Central America and opens its doors to all scientist who want to collaborate to know better the local diversity of ectomycorrhizal mushrooms at phylogenetic, taxonomic, evolutive, pharmaceutical, cultivation and production of valuable edible species.

The more we know, the more we can give to future generations in a New World.

Dr. Roberto Flores Arzú
CHAIRMAN IWEMM-7

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TAXONOMY, PHYLOGENY AND ECOLOGY

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TRUFFLE CULTIVATION AND CURRENT MARKET

MUSHROOM CULTIVATION AND MARKETING

POSTERS

Chemical composition and bioactivity of wild samples of *Morchella esculenta* from Portugal and Serbia.

Martins, A.
(Portugal)

La Antigua Guatemala, Guatemala • IWEMM-7 61

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Mushrooms contain a huge diversity of biomolecules with nutritional[1] and/or bioactive properties.[2,3] *Morchella esculenta* (L.) Pers. (morel) is one of the most widely appreciated wild edible mushrooms.

Herein, a comparative study on chemical composition (nutritional value, primary and secondary metabolites), antioxidant properties (scavenging activity, reducing power and inhibi-

tion of lipid peroxidation), and antimicrobial activity (antibacterial and demelanizing properties) of two samples of *Morchella esculenta* (morel) from different countries (Portugal and Serbia) was performed. This species was chosen for being one of the most highly prized edible mushrooms in the world. Both samples are rich in carbohydrates (including free sugars) and proteins, and contain several bioactive compounds such as organic acids, phenolic compounds and tocopherols. Polyunsaturated fatty acids were the most abundant compounds followed by mono or saturated fatty acids. Sample from Portugal (SP) gave higher radical scavenging activity and reducing power, while sample from Serbia (SS) showed higher lipid peroxidation inhibition. Both samples gave antibacterial acti-vity against five bacteria (in some cases even better than standard antibiotics) and demelanizing activity against four micromycetes, showing SS higher activities. As far as we know, this is the first study reporting chemical compounds and bioactivity of morel samples from Portugal and Serbia. Furthermore, a novel method for evaluation of demelanizing activity was presented.

Keywords

Morchella esculenta; Nutrients; Antioxidants; Antibacterial activity; Demelanizing activity

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