



BOOK OF
ABSTRACTS



Ecology across borders

Embedding Ecology in Sustainable Development Goals

29 July - 2 August 2019, Lisbon, Portugal



11h00

Topic 2 - Science communication**T2.P1 EMBEDDING ECOLOGICAL CONCEPTS IN SOCIETY
2.2.12**

Learning how to use ecological models: an effective approach
Afonso Dinis

Ecosystem services maps to improve scientific communication
Ana Genua Olmedo

Nature of Science-enriched Problem-Based Learning about the ecological niche concept using a socioscientific issue | **Cristina Sousa**

Ria de Aveiro as a show case for Natura 2000 sites ecosystem-based management | **Ana Lillebø**

Topic 3 - Freshwater ecology**T3.P1 KNOWING AND MAINTAINING THE FRESHWATER BIODIVERSITY
2.2.15**

Combining geostatistical and biotic interactions modelling to predict amphibian refugia under crayfish invasion across dendritic stream networks | **Mário Mota-Ferreira**

Assessing translocation success of freshwater mussels | **Joaquim Reis**

A trait-based approach to understand the functional structure of bryophyte communities in Portuguese headwater streams | **Juliana Monteiro**

Invertebrate and benthic diatom dynamics in Mediterranean intermittent streams of southern Portugal | **Maria Helena Novais**

Accumulation of microbead in fish species of Dhanmondi Lake, Dhaka
Soharab Hossain

Topic 4 - Eco-solutions and bio-economy**T4.P1 PAINTING THE ECONOMY WITH GREEN AND BLUE
2.2.14**

Role of fisheries and aquaculture activities in the Northwestern Region of Portugal for national Blue Economy
Emilio Salas-Leiton

Mapping cultural ecosystem services in conflict areas: Considering attractions and constraints acting transboundary in the Sahara-Sahel
Frederico Santarém

Can we trigger green growth in urban-rural systems? Applying socio-ecological lens to blue-green solutions
Kinga Krauze

Assessing ecosystem services with Life Cycle Assessment: The case of sown biodiverse pastures
Ricardo Teixeira

Topic 6 - Sustainable agro-ecosystems**T6.P1 IDENTIFYING AND SOLVING PEST-RELATED CHALLENGES
2.2.21**

The role of the density of field margins and the structure of their vegetation on parasitism rates of cereal aphids
Agnès Salat Moltó

Ecological intensification and pest control in Mediterranean oak agro-ecosystems | **Tara Canelo**

Similarities of carabid assemblages in neighboring cereal and grassland fields in three intensive agricultural areas | **Damien Massaloux**

The use of subtilases as a disease control approach for grapevine downy mildew | **Joana Figueiredo**

Using model plants to study proteases involved in plant-pathogen interactions
Rita B. Santos

15h20

Topic 1 - Environmental risks and health**T1.P1 ON THE CONTAMINATION OF FRESHWATER RESOURCES
2.2.12**

Assembly of photogranules for wastewater treatment
Lukas M. Trebuch

Interactions on Cerium oxide nanoparticles with natural biomolecules affect toxicity for aquatic biota | **Camilla Della Torre**

Impacts of silver nanoparticles on freshwater detrital food webs
Daniela Batista

Omics reveal distinct mechanisms of toxicity of nanoparticulate and ionic silver in microbes | **Diana Barros**

Topic 3 - Freshwater ecology**T3.P2 WATERSHED MANAGEMENT AND RESTORATION
2.2.14**

Hydropeaking: current status and new insights on ecological impacts mitigation | **Miguel Moreira**

Ecological compensation in the Xin'an River Basin, China | **Fengran Xu**

Comparing Policy Mixes and Freshwater Ecosystem Restoration Practices Results in Europe and China
Ana Mendes

Instruments for assessing and arguing in favour of ecological restoration in Lower Danube land Waterscape
Geamana Nicoleta

Topic 5 - Urban sustainability**T5.P1 SHARING THE CITY WITH OTHER INHABITANTS
2.2.15**

Vegetated roofs support arthropods associated with open dry habitats, but show little benefits for rare species and may introduce non-natives
Kukka Kyrö

Urban Pollinators - Solitary bees in Freising | **Julie Weissmann**

Urban Forest of Bangkok's Inner Orchard | **Vudipong Davivongs**

Topic 6 - Sustainable agro-ecosystems**T6.P2 THE SOIL UNDER THE CROPS
2.2.21**

The ecology of plant nutrition
Cristina Cruz

Essential oils stimulating microbial activity | **Despoina Vokou**

Nitric oxide and auxin production are required for the Azospirillum brasilense-induced increase in the root density of wheat
Rodolfo Ferreira

Agricultural value of Black Soldier Fly larvae insect frass as organic fertilizer
Regina Menino

Importance of the contribution of nitrogen in irrigation water to gross nitrogen balances, and pollution hotspots, in a Mediterranean context
João Serra

17h50

Topic 1 - Environmental risks and health**T1.P2 HUMAN EXPOSURE TO ENVIRONMENTAL RISKS
2.2.12**

Urban planning for minimization of air pollution exposure considering "street canyons" | **Olga Krukowskaya**

The interface between ecological models in health and SDGs 2030 Agenda for the promotion of professors' health | **Ivani Carlotto**

Chemicals in daily life - An emerging concern ignored in Portugal?
Susana Fonseca

Human Health, Biodiversity and Ecosystems: Vector-borne Diseases
Paulo Almeida

Risk of anisakid larvae in the most consumed fish species in Madeira archipelago | **Margarida Hermida**

Topic 2 - Science communication**T2.P2 SCIENCE EDUCATION AT THE SERVICES OF CONSERVATION
2.4.16**

Constructivism in Conservation Education | **Jamie Ashton**

Celebrating the Fungi to boost Conservation | **Susana C. Gonçalves**

Partners in learning and innovative teaching Practices - An approach to conservation education
Antonieta Costa

Playing scientific game to help the protection of the Mediterranean Sea
Federica Rescio

Topic 4 - Eco-solutions and bio-economy**T4.P2 LOOKING FOR SUSTAINABLE SOLUTIONS
2.2.14**

Biological swimming pools - a Nature-based solution | **Udo Schwarzer**

Potato peel waste as a source of bioactive compounds for the food industry | **Shirley De Lima Sampaio**

Eco-sustainable recovery of ergosterol-rich bioactive extracts from Pleurotus eryngii (DC.) Qué! | **Taofiq Oludemi**

Cork thread by Casa GRIGI
Mónica Gonçalves

Topic 6 - Sustainable agro-ecosystems**T6.P3 CURRENT SCENARIOS OF AGRICULTURAL DEVELOPMENT
2.2.21**

Assessing European-wide biodiversity-landscape relationships in farmland to improve the ecological effectiveness of the Common Agricultural Policy
Mário Díaz

Sustainable Development Goals: How working equids delivers for development of mountain areas | **João B. Rodrigues**

Evaluation and preservation of Montados: the case of Holm oak in Portugal | **Leonor Sucena-Paiva**

Agricultural landscapes and Sustainable Development Goals - a qualitative assessment | **Diana Surová**

Global change-driven modulation of bottom-up forces and cascading effects on biocontrol service | **Han Peng**

30/07 | 17h50

PARALELL SESSION III - T4.P2 - LOOKING FOR SUSTAINABLE SOLUTIONS

Room 2.2.14 | Topic 4 - Eco-solutions and bio-economy (4)

OC-064 - (EEF2019-13945) - ECO-SUSTAINABLE RECOVERY OF ERGOSTEROL-RICH BIOACTIVE EXTRACTS FROM PLEUROTUS ERYNGII (DC.) QUÉL.

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2 - Centre Bio R&D Unit, Association BLC3 – Technology and Innovation Campus, Rua Nossa Senhora da Conceição, n2, 3405-155 Oliveira do Hospital, Portugal;

3 - Nutrition and Bromatology Group, Faculty of Food Science and Technology, University of Vigo, Ourense Campus, E32004 Ourense, Spain

Pleurotus eryngii (DC.) QuéL. is widely recognized for its organoleptic qualities and health benefits, being commercially produced in great extent in Asia, Europe, and North America [1]. Depending on the size of the mushroom industry, an expressive volume (20 to 35% in weight of fresh mushrooms) of bio-residues are often discarded, even though their content in biomolecules is not necessarily compromised [2]. Hence, there are major opportunities to turn these outcomes into high-value products through the recovery of bioactive compounds, such as ergosterol rich extracts. Ergosterol, one of the main sterols in mushrooms, has been reported to be the major contributor in *P. eryngii* bio-functionalities [2]. In the present work, *P. eryngii* bio-residues (PER) and intact mushrooms (PEG) were compared for their ergosterol content. Response Surface Methodology (RSM) was applied using heat-assisted extraction methodology. The combined effect of time (10-150 min) and temperature (30-90°C) was performed using a circumscribed central composite design (CCCD), and the response criteria were extraction yield and ergosterol content using HPLC-UV. The global optimum conditions predicted by the model were 112.7 min, 90°C, and 150 min, 61.8°C for PER and PEG, respectively. Under these conditions, 190.14 and 360.58 mg of ergosterol per 100 g of dry weight sample were recovered from PER and PEG, correspondingly. Even though *P. eryngii* bio-residues presented up to 53% of PEG ergosterol yield, PER offers sustainable and economic advantages. These results confirm the enormous potential of the under-exploited *P. eryngii* bio-residues as a valuable source of ergosterol-rich extracts.