



BOOK OF ABSTRACTS



III International Conference on Environmental, Industrial and Applied Microbiology

Fostering Cross-disciplinary Applied Research in Microbiology and Microbial Biotechnology

BioMicroWorld 2009

2 - 4 December 2009

Lisbon, Portugal

<http://www.formatex.org/biomicroworld2009>

Fungal diversity associated to *Prays oleae* in Trás-os-Montes (Northeastern region of Portugal). A survey of potential entomopathogenic fungi

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Olive groves are one of the main agricultural activities in the Portuguese region of Trás-os-Montes. They occupy a very large area, where new biological agricultural practices have been increasingly applied. In order to control the pests that attack this culture, using methods that do not rely on chemical substances, an effort must be conducted to achieve new processes. One of the most important pest in the olive groves in this region is the olive moth (*Prays oleae* Bern.), responsible for high losses in olive yields. One of the promising approaches to control this pest is the use of entomopathogenic fungi that naturally occur in the olive orchards and are able to infect and kill olive moths. The present work intends to evaluate the diversity of fungal species associated to *P. oleae* in several olive orchards located in Trás-os-Montes region. To achieve this goal, we collected larvae and pupae of the three annual generations (phylophagous, antophagus and carpophagus) of *P. oleae*. Whenever a fungal agent was associated to the cause of death of the moth, we proceeded to the *in vitro* isolation of the fungal specimen. Pure cultures of each fungus were obtained and were molecularly identified by sequencing the amplified internal transcribed spacer (ITS) region of rDNA. The higher diversity of fungal species was found in the phylophagous generation, followed by the carpophagus and antophagus. In the phylophagous generation, 77% of the total isolates were entomopathogenic fungi, whereas 18% were phytopathogenic fungi, being the remaining described as antagonistic fungi. Among the entomopathogenic fungi, the most frequent isolated species (97%) was the mitosporic ascomycete *Beauveria bassiana*. In the antophagus generation, 55% of the total isolates were phytopathogenic fungi, 41% were antagonistic fungi and only 4% corresponded to entomopathogenic fungus. In the carpophagus generation, more than 50% of the total isolates were phytopathogenic fungi. In this work, it will be discussed the extent of the fungal presence in *P. oleae*, as well as the characteristics of each fungal species and their applicability in pest control.

Keywords: Fungal diversity; *Prays oleae*; Entomopathogenic fungi; *Beauveria bassiana*