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Biological potential of fungi associated to Prays oleae in Trás-os-Montes (Northeastern region of Portugal)

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Olive groves represent an important fraction of the agricultural practices in Portugal, mainly in the region of Trás-os-Montes. Our work pretends to disclose the fungal diversity associated to one of the major olives pests, the Prays oleae Bern. Besides evaluating the extent of the presence of entomopathogenic fungi, we also intend to reveal other promising fungi with potential to be used as biological control agents. In order to achieve this goal, larvae and pupae of the three generations of P. oleae were collected from several orchards. Whenever a fungal agent was associated to the cause of death, we proceeded to the preparation of fungal pure cultures, DNA isolation, amplification and sequencing of their ITS region for species identification. High fungal diversity was found, with the majority of the fungi presenting simultaneously entomopathogenic, antagonistic or phytopathogenic characteristics. 22 different species were identified, being Beauveria bassiana, a well-known entomopathogen, the most frequently isolated fungi. The ones described as antagonistic were tested in dual cultures for antagonistic activity against phytopathogenic fungi.

Keywords: Entomopathogenic fungi, Antagonistic fungi, Biocontrol, Fungal diversity