

SURVEY OF ENTOMOPATHOGENIC FUNGI ASSOCIATED WITH THE OLIVE FRUIT FLY, *BACTROCERA OLEAE* (GMELIN) IN THE NORTHEAST OF PORTUGAL

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The olive fruit fly, *Bactrocera oleae* (Gmelin) is a major pest of olives in the Mediterranean Basin. The ecological and toxicological effects of organophosphorous insecticide treatments currently used against this pest, argue for the development of more sustainable means of control. Entomopathogenic fungi have been successfully used to control other pests and can be a promising alternative to conventional chemical pesticides, but information about this subject is yet scarce. The aim of this study was to identify fungal species occurring naturally in the northeast of Portugal, potentially interesting as biological control agents of *B. oleae*. For that purpose, samples of infested olive fruits were collected during the end of the autumn of 2005 from ten olive groves at Mirandela region and two groves at Vila Real region. The fruits were placed in laboratory at approximately 20°C, until larvae completed their development and left the fruit to pupate. Pupae were also collected from olive oil factories (five at Mirandela region, one at Vila Flor and one at Almendra). The pupae were put in a climatic chamber at 22°C, 60% relative humidity and a photoperiod cycle of 12 light:12 dark, until emergence of the adults. A 10% of the dead pupae were sterilized by submersion in 1% sodium hypochlorite solution for 5 min.. After that, they were washed three times with distilled water and each one was placed on potato dextrose agar (PDA) plates and incubated at 25°C. Pure cultures were identified. The identifications were carried out by phylogenetic analysis based on sequence of ITS1, ITS2, 5.8S and D1/D2 regions of the rDNA. From the identified species, three: *Cordyceps bassiana* Z.Z.Li,C.R.Li,B.Huang & M.Z.Fan, *Penicillium corylophilum* Dierckx, and *Mucor hiemalis* f. *hiemalis* Wehmer, as well species of the families Niessliaceae and Mycosphaerellaceae which identification resulted inconclusive, needing a more detailed phylogenetic analyse, seems to be interesting in future studies to evaluate their virulence against the olive fruit fly.

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