Title: PROSPECTING OF FILAMENTOUS FUNGI ASSOCIATED WITH CULICIDAE AT TWO KINDS OF BREEDING AND AREAS WITH DIFFERENT DEGREES OF HUMAN PRESENCE

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Abstract:

The prospecting of fungi with entomopathogenic potential can be done by collecting insects, dead or alive, or substrates such as water and soil that allows the knowledge of the presence and diversity of biological control agents. The aim of this study was to increase the knowledge of entomopathogenic fungi associated with Culicidae larvae. Samples were taken from mosquitoes larvae and water samples in bamboo internodes in areas with different degrees of human presence: two at Sapucaia Park (intermediate and forest areas) and Campus Professor Darcy Ribeiro - Unimontes (urban area); ovitraps was required only in Campus Prof. Darcy Ribeiro - Unimontes, Montes Claros, Minas Gerais. The larvae were identified and separated into eppendorf tubes containing saline solution. Thereafter larvae were macerated and cultured, as well as water samples from breeding on potato dextrose agar. The fungi were identified by reproductive structures according to the specialized literature. The test Mantel in R software verified the relationship between the *Culicidae* matrix and fungi matrix. In both types of breeding were collected: *Aedes aegypti*, *Aedes albopictus*, *Toxorhynchites* sp, *Culex* sp1, *Culex* sp2, *Sabethes* sp1, *Sabethes* sp2, *Aedes* sp1, *Aedes* sp2, *Aedes* sp3, *Aedes* sp4, *Ochlerotatus* sp and *Mansonia* sp. The collections in ovitraps had higher number of mosquitoes specimens, 1346, and nine species. In bamboo internodes were collected 296 specimens of seven species. Of macerated larvae and water samples from breeding were isolated 20 species of fungi belonging to the genera described in the literature as entomopathogenic: *Aspergillus*, *Penicillium*, *Fusarium*, *Paecilomyces*, *Trichoderma* and *Geotrichum* except *Coccidioides immitis* species, because there is no previous record of its association with mosquitoes or like pathogen. There were performed fungi isolated from efficiency tests to control mosquitoes, but the species *Aspergillus niger*, *Fusarium oxysporum*, *Penicillium chrysogenum* and *P. citrinum* have been reported in several studies as entomopathogen of *Aedes aegypti* and *Culex* spp. According to the Mantel test revealed no significant relationship indicating specificity of the collected Culicidae larva and the fungus isolated. Thus, further studies are needed to test the efficiency of strains isolated for further control the population of mosquitoes in field conditions.

Key words: filamentous fungi; Prospecting; culicids, entomopathogens