

**TITLE:** ANTAGONISM ACTIVITY OF THE FUNGI SIMBIONTE X FUNGI *ESCOVOPSIS* OF THE AMAZON LEAF-CUTTER ANT *ATTA LAEVIGATA*.

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**ABSTRACT:**

Leaf-cutter ants (Hymenoptera: Formicidae), from the gender *Atta*, are efficient in the prevention of infection by pathogens due to the combination of hygienic behavior and the complexity of their social organization. They use antifungal and antibiotic substances. The primordial microorganism the survival of these species of ants is the symbiotic fungus of the genus *Leucoagaricus*, grown to serve as food for the anthill. Whereas, as in human agriculture, symbiotic fungus gardens (cutter ant food) are attacked by pathogens such as the fungus *Escovopsis sp.* Therefore the objective of this work was to evaluate and identify in vitro the potential in vitro antagonistic development of symbiotic fungi, isolated from *Atta laevigata*, on the parasitic fungus *Escovopsis sp.* The antagonism was applied by the paired culture method, or simply pairing, which consisted of the direct confrontation of the antagonist (parasite fungus) and symbiotic fungus associated with the cutter ant, in order to observe antibiosis or parasitism in relation to both fungi. The fungus symbiont was inoculated into the Petri dish containing medium PDA (Potato dextrose Agar) in 5 replicates, after which the plates were kept in a BOD oven at 28°C. It was observed for seven days and analyzed, it was possible to verify that the values obtained in the tests carried out with 76 samples of fungi symbiont, 47 showed positive result (antibiosis), about the fungus *Escovopsis*, could perceive a high rate of antagonism in relation to the fungus parasite of the nest of the leaf-cutter ant, even with the slow mycelium growth of some fungi symbiont was visible inhibition in general. Demonstrating the potential as an alternative to control future biological control programs in organic, agroecological, and antimicrobial areas.

**Keywords:** antagonism, symbiotic fungi, *Escovopsis sp.*, antibiosis.

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