

TITLE: ANTIMICROBIAL SENSITIVITY TESTS USING ISOLATED BACTERIA FROM *NASUTITERMES CORNIGER* (MOTSCHULSKY)

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ABSTRACT:

Insects may present internally or externally associated body microorganisms, to whom they may also provide protection. On the other hand, these microorganisms produce compounds that can be used as defense agents by their hosts. Thus, this association provides insect advantage over adverse conditions. However, associated bacteria can be considered sensitive or resistant to antibiotics. Thus, the aim of this study was to verify the sensitivity of bacteria isolated from the termite *Nasutitermes corniger* to four antibiotics. Active termite collections were carried out at the Federal University of Amazonas – Manaus, and the specimens were then taken to the Microbiology Laboratory, where microorganism isolation was carried out. The termites were maintained in a freezer for two minutes for numbness to set it. Half of the insects were submitted to an asepsis process for subsequent inoculation, while the other half were inoculated without asepsis. Both inoculations were performed in Potato Dextrose Agar (BDA) culture medium and each plate contained four termites at equidistant positions. Replications were performed and the isolated bacteria were suspended in a BDA culture medium and then submitted to an *in vitro* sensitivity test with four antibiotics. Three replicates were carried out for each bacterium. The applied antibiotics were ampicillin, amoxicillin, DMSO and tetracycline. The disc diffusion method was performed (BAUER et al., 1966) in order to test *in vitro* bacteria microbial sensitivity. A total of 10 µL of all antibiotics were used. Seven bacteria were isolated, both gram-positive and gram-negative. Antimicrobial sensitivity was verified by measuring the halos around the discs. The antibiotic that promoted the greatest bacterial growth inhibition was tetracycline, effective for four of the seven bacteria. Ampicillin inhibited only one bacterium, while the others did not inhibit bacteria growth. Tests with other antibiotics should be performed in order to increase information on the sensitivity of bacteria associated with the termite *Nasutitermes corniger*. This result is important for future studies in the biotechnology area, using possible microorganisms for the biological control of insects.

Keywords: sensitivity, antibiotics, microorganisms.

Development Agency: Universidade Federal do Amazonas