

TITLE: *IN VITRO* ANTIMICROBIAL POTENTIAL OF EXTRACT OF *Amburana cearensis* ON *Aeromonas* spp. ISOLATED FROM NILE TILAPIA

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ABSTRACT:

In fish farming, bacterial diseases unbalance fishing chain productive causing harmful damage. Among some agents, may be cited *Aeromonas* spp., characterized as the main causes of diseases in fish, causing inflammation and resulting in losses in use and consequently in consumption. With the growth of bacterial diseases arises the need to minimize the impacts caused by these microorganisms. However, with the resistance of these pathogens, new sources are sought to be effective in relation to the antimicrobial activity. Thus, the use of ethnobotany became a viable tool, favoring the exploitation of the potential of plants. The plants of the Caatinga stand out because they present purposes with pharmacological applications, being easy to access and low cost. The present study aimed to evaluate the *in vitro* antimicrobial activity of ethanolic extract of *A. cearensis* against *Aeromonas* spp. isolated from Nile tilapia from the São Francisco Valley region. The experiment was carried out in the laboratory of Microbiology and Animal Immunology, At the Campus of agrarian Sciences of the Federal University of Valley of São Francisco, at a lat. of 09° 23' 55" and long. of 40° 30' 03" in Petrolina, Brazil. To evaluate the antibacterial activity of the extract was used the microdilution methodology in broth to determine the minimum bactericidal concentration (MBC), in the following concentrations: 12.500 µg/mL; 6.250 µg/mL; 3.125 µg/mL; 1.562,5 µg/mL; 781,3 µg/mL; 390,6 µg/mL; 195,3 µg/mL; 97,6 µg/mL. The minimum inhibitory concentration (MIC) was not evaluated due to the extract having staining making it difficult to read when inserting the 2,3,5-triphenyltetrazolium chloride (TTC). The 20 isolates of *Aeromonas* spp. showed to be sensitive to the ethanolic extract of *A. cearensis*, with an average MBC of 781.25 µg/mL. *In vitro* antimicrobial activity tests were demonstrated in the statistical evaluation the concentrations as a function of the isolate, in which the extract of *A. cearensis* presented bactericidal action on the 20 (100%) *Aeromonas* spp isolates with activity for 7 (35%) from 781.25µg/mL, activity to 6 (30%) from 1562.50µg/mL. The extract of *A. cearensis* showed antimicrobial activity on the isolates of *Aeromonas* spp., can be used as a therapeutic alternative. The exploitation of Phytotherapy enables the minimization of diseases of bacterial origin, consequently reducing the losses in the production chain and showing itself as a viable alternative of low cost.

Keywords: Aquaculture; MBC; Pisciculture; Plants of the Caatinga.

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