Título: EVALUATION OF COPPER RESISTANCE IN BACTERIA ASSOCIATED WITH FREE-FLOATING PLANT *Pistia stratiotes*

Autores: DANIEL, C.B[1,2], INTORNE, A.C[2]

Instituição: **[1] Faculdade Multivix Cachoeiro – Instituto de Ensino Superior do Espírito Santo (Rod. Gumercindo Moura Nunes, 134 – Alto Novo Parque – Cachoeiro de Itapemirim, ES), [2] UENF – Universidade Estadual do Norte Fluminense Darcy Ribeiro (Av. Alberto Lamego, 2000, Campos dos Goytacazes - RJ).**

Resumo:

The copper is a heavy metal with important key in the cellular metabolism, performing structural, physical, chemical and catalytic functions. However, high concentrations of this metal become toxic and affect cell function. Pollution has increased the quantity of copper in biosphere. Industrial activities and agriculture are the main sources of contamination by metal. The aquatic environment is most affected because copper contaminates large areas such as rivers and aquifers. One strategy to remedy the environment contaminated by copper is made through the use of living organisms with bioremediation potential. Aquatic weeds are organisms known for their bioremediation potential, among these *Pistia stratiotes*, a free-floating aquatic macrophyte that can survive in contaminated environments. Studies have shown that *Pistia stratiotes* is capable of remedying environment contaminated by copper. Bacteria associated with the plant may assist in contaminant removal process. Thus, our objective was to evaluate the resistance of bacteria associated with *P. stratiotes* to copper. To do so, previously isolated bacteria from root and leaves of the plant were grown in DYGS at 30 ° C until O.D. $_{600\ nm}$ = 1.0. Then, three drops of 5 uL each were inoculated in DYGS with five different concentrations of copper sulphate (1, 3, 5, 7 and 9 mM). The plates were incubated at 30 ° C for 72 h and the Minimal Inhibitory Concentration was determined. Two of them had MIC above 5 mM, while seven isolates showed MIC above 3 mM and 14 were above 1 mM. The results showed a biotechnological potential to these bacteria. In the future, such isolates will be tested for bioremediation ability, and their roles in the association with *P. stratiotes* will be described better.

Palavras-chave:Bioremediation; benefical bacteria; environmental microbiology.

Agência Fomento: CNPq; FAPERJ; UENF