

TITLE: MUTUALISTIC ENDOPHYTIC PHYTOBACTERIA FROM *Uncaria tomentosa* (Willd.) DC. WITH POTENTIAL FOR PROMOTION OF GROWTH AND PLANT DEVELOPMENT.

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ABSTRACT: 2000 CARACTERES

The predatory extractivism of medicinal plants has an impact on populations of forest species, which can lead to extinction. This may still be accentuated when there is no ex situ technology for the production of the extracted species, as is the case of *Uncaria tomentosa* (Willd.) DC. Thus, the objective of this work was to determine the phytobacteria that have mutualism relationship with *U. tomentosa* and detect which have in vitro potential of growth promotion and plant development. 180 endophytic bacteria were isolated from two individuals, one in full sun and the other in the shade, using tryptone agar and Luria-Bertani agar media, with and without 10% (m: v) plant extract, using two temperatures of incubation, 18 and 28 °C. The environmental condition in which these individuals were submitted did not influence the total amount of isolates as well as type of medium. The temperature was the only treatment that altered the quantitative of colonies, at 28 °C there was a greater frequency of isolation of endophytic phytobacteria. The 180 bacteria were classified into 165 morphotypes for morphological and physiological analysis. In macromorphological characterization the characteristics that were most described for the isolated strains for elevation, margin, color and shape were: high (45.5%), whole (73.3%), yellow (49.1%) and pontiform (49.6%), respectively. The coccus form was the most frequent, totaling 147 isolates. As to the arrangement of the cells, the most common were Diplococcus, Staphylococcus and Streptococcus. Among these, the Staphylococcus type was superior in relation to the others with 60 verified strains. The majority of the bacteria verified were Gram-positive (90.9%). For the analyzed physiological characteristics, 79 strains (47.87%) were able to perform biological nitrogen fixation, 36 (21.81%) formed inorganic phosphate degradation halos, and 36 (21.81%) were able to produce 3-indole-acetic acid (AIA). Only four phytobacteria showed positive results for the three physiological analyzes. *U. tomentosa* has a mutualistic relationship with a large number of endophytic bacteria, as well as having strains with in vitro potential to promote plant growth and development.

Keywords: cat's nail; Amazonian; Endophytic

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