

**ANALYSIS AND CHARACTERIZATION OF THE BACTERIA COMMUNITY ASSOCIATED WITH TROPICAL MANGROVE FOREST**

Paulo Teixeira LACAVA<sup>1</sup>, Armando DIAS<sup>2</sup>, Vanessa Cicera SANTOS<sup>1</sup>, Anderson FERREIRA<sup>1</sup>, Maria Carolina QUECINE<sup>1</sup>, Wellington Luiz ARAÚJO<sup>1</sup>, Itamar Soares MELO<sup>2</sup> and João Lúcio AZEVEDO<sup>1</sup>

<sup>1</sup>Department of Genetics, Escola Superior de Agricultura "Luiz de Queiroz", University of São Paulo, ESALQ/USP, Piracicaba, Brazil; <sup>2</sup>Centro Nacional de Pesquisa de Monitoramento e Avaliação de Impacto Ambiental, EMBRAPA, Jaguariúna, Brazil. ptlacava@esalq.usp.br

Mangrove ecosystems are rich in organic matter, but they are nutrient-deficient ecosystems, especially of nitrogen and phosphorus, which are indispensable for plant growth. However, microbial activity is responsible for major nutrient transformations within a mangrove ecosystem and the microorganisms play important role in the nutrient recycling of the mangrove forest. The aim of this work was to study the diversity of bacteria from rhizosphere and endophytes of mangrove by culture-dependent and denaturing gradient-gel electrophoresis (DGGE). Also, the evaluation of enzyme production such as amylase, esterase, lipase, protease, pectinase and cellulose, by the bacteria isolated from mangrove was tested, as a biotechnological potential aspect. The predominant main groups of bacteria found from rhizosphere were *Vibrio*, *Microbacterium* and *Bacillus*. The analyses by DGGE showed similarity of bacteria communities from rhizosphere groups and from endophytic groups. These results suggest that DGGE is a practicable protocol to research the complex bacteria community of mangrove. The isolates presented enzymatic activity, which was ranked as follows: proteolytic (69%) and amilolytic activity (56%), lipolytic (9%), esterasic (47%), pectinolytic (75%). However, cellulolytic activity was not detected. Further analyses of the data collected in the present study are still being conducted and they will be presented at the congress. Financial support: FAPESP, Biota Grant Program.