

GEOGRAPHIC VARIATION IN BRADYKININ-RELATED PEPTIDES OF TREE-FROGS BELONGING *PHYLLOMEDUSA* GENUS

Mundim, N.C.C.R.^{1,2}; de Sá Mandel, S. M.^{1,2}; Prates, M.V.²; Silva, L.P.² and Bloch Jr, C.².

¹Programa de Pós-Graduação em Biologia Animal, Instituto de Biologia, UnB; ²Laboratório de Espectrometria de Massa, Embrapa Recursos Genéticos e Biotecnologia, Brasília-DF

Amphibian skins produce a number of bioactive compounds, many of which are understood to act preventing invasion by pathogens and ingestion by predators. One of these peptides known as bradykinin (BK) may be related to defense mechanism. The present study deals with a molecular screening of BKs analogs found in the secretion of three *Phyllomedusa* species from two regions of Brazil: *P. tomopterna* from the Amazon forest, and *P. burmeisteri* and *P. rohdei* from the Mata Atlantica forest. The skin secretion was obtained from adult frog specimens by mild electric stimulation, filtered and lyophilized. Aliquots of 2.0 mg of the crude secretion were submitted to RP-HPLC using semi-preparative columns. Chromatographic fractions were submitted to MS and MS/MS experiments using MALDI-TOF/TOF and ESI Q-TOF mass spectrometers. Peptides eluted on fractions ranging from 20-40% of acetonitrile were *De Novo* sequenced and at least eight analogs from each specie were obtained. Despite of some common sequences among all the studied species, some of them were specific to the geographic region where each frog inhabited. In this way, the presence or the absence of some BK analogs according to the geographic region could be related to specific relationships between the tree-frogs and their defensive strategies.