SCREENING FOR SPECIE-SPECIFIC PEPTIDES FROM *Hypsiboas punctatus* SKIN SECRETION

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Studies of numerous toad species have yielded an unexpected diversity of peptides, which have attracted pharmaceutical and agricultural interests. Moreover, the identification of these molecules may represent an important set of elements that could help taxonomical differentiation not only for the studied species here but could also represent a powerful methodology to be applied in similar cases. In this work, we have characterized the secretion of *H. punctatus* from the Amazon Forest (Manaus) and the transition forest between the Amazon and Cerrado (Tocantins). The skin secretions from both specimens were fractionated by RP-HPLC using C18 semi-preparative column in an acetonitrile gradient and monitored at 216 and 280 nm. All fractions were submitted to a further purification step using analytical under the similar conditions. Each fraction was evaluated by MALDI-TOF/TOF MS for purity, mass determination and submitted to *De novo* MS/MS sequencing. The spatial localization and skin detection of these molecules were also obtained by imaging mass spectrometry. In addition, cDNA analyses were carried out in order to compare genomic and proteomic data. In total more than 30 new molecules were identified for each investigated specimen and at least 8 new peptides have been fully sequenced and may represent specie-specific molecular markers for these genus.

Keywords: *Hypsiboas punctatus*; Bioactive peptides; *De Novo* sequencing
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