



SCREENING OF BRYOZOANS FROM SÃO SEBASTIÃO COASTLINE AND ISOLATION OF NOVEL INDOLE ALKALOIDS FROM *Amathia brasiliensis*

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The marine biodiversity is an exceptional source of bioactive compounds with potential applications in biotechnology and medicine. Among marine invertebrates, bryozoans (phylum Bryozoa) stand out due to their production of structurally unique secondary metabolites, including indole alkaloids and macrolactones. This study aimed to perform a chemical screening of bryozoans collected at the São Sebastião coastline (SP). Fourteen samples representing nine bryozoan species were freeze-dried and extracted with MeOH. The extracts were partitioned into hexane, EtOAc, and H₂O. EtOAc fractions were pre-fractionated using solid-phase extraction with cyanopropyl-modified silica-gel columns, and the fractions obtained were analysed by HPLC-UV-MS. A dereplication step was carried out by comparing MS data with natural product databases. *Amathia brasiliensis* sample (SS23BRI-14) was selected for further investigation. Three fractions (BRI14A, BRI14B, and BRI14F) were submitted to biological assays. Fractions BRI14B and BRI14F displayed promising antiplasmodial activity, inhibiting the growth of *Plasmodium falciparum* at $95 \pm 1\%$ and $94 \pm 0\%$, respectively, at concentrations of 50 $\mu\text{g/mL}$. Fraction BRI14A was fractionated by HPLC, yielding three major compounds (BRI14A24, BRI14A28 and BRI14A10D). Structural elucidation was performed using 1D and 2D NMR (¹H, ¹³C, COSY, HSQC, HMBC), UPLC-QToF-MS/MS, and optical rotation. Three novel halogenated indole alkaloids were isolated and identified by analysis of spectroscopic data. Our findings indicate that the bryozoan *Amathia brasiliensis*, endemic of Brazil, is a source of unique secondary metabolites and reinforces the importance of investigating secondary metabolites from Brazilian marine invertebrates. The authors thank CAPES for the student research scholarship and FAPESP for financial support through the thematic project.

Keywords: Marine natural products, Bryozoa, alkaloids

