

CHEMICAL DIVERSITY AND ANTIFOULING ACTIVITY OF NATURAL PRODUCTS OF GENICULATE CORALLINE ALGAE

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Marine biofouling results a process of colonization and growth of many organisms, in the submerged man-made surfaces. The process causes serious problems for marine industries around the world and allows the entry of exotic species in various marine environment. One promising alternative to minimize biofouling is the development new coatings from marine bioactive compounds. Macroalgae are an important source of bioactive products which are hold responsible for several biological activities including antibacterial, antiviral, antifungal and antifouling. Thus, the goal of this study was to analyze the lipophilic chemical profile and the antifouling potential of the geniculate coralline algae (*Amphiroa beauvoisii*, *Arthrocardia flabellata*, *Cheilosporum sagittatum* and *Jania crassa*) against fouling marine bacteria strains (*Polaribacter irgensii*, *Pseudoalteromonas elyakovii*, *Pseudomonas fluorescens*, *Shewanella putrefaciens* and *Vibrio aestuarianus*) and the mussel *Perna perna*. Algae samples were collected in Arraial do Cabo city (RJ), lyophilized and extracted with ethyl acetate and methanol (1:1) to yield the crude extract. The crude extracts were analyzed using thin layer chromatography (TLC) and gas chromatography-mass spectrometry (GC-MS). For the bioassays with marine bacteria was used disk diffusion method and was recorded the inhibition halo. For the bioassays with *P. perna* were used filter paper cut into 5 cm diameter circles and was recorded the byssal threads in each experimental condition. In all the experiments the natural concentration of the extract were used. TLC and GC-MS results showed the difference between the algal chemical profiles. Pigments, fatty acids and their derivatives and sterols were identified as the major compounds. Moreover, the antifouling potential, mainly from the *J. crassa* and *C. sagittatum* extracts showed promising results.