



## BIOACTIVE SECONDARY METABOLITES PRODUCED BY THE MARINE FUNGUS *Nigrograna* sp.

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Malaria is a potentially fatal disease caused by *Plasmodium falciparum*, with a high global incidence, particularly concentrated in Sub-Saharan Africa and, in Latin America, in countries such as Colombia, Ecuador and Brazil. In 2021, the World Health Organization reported 247 million cases and over 419,000 deaths resulting from this disease (MADHAV et al., 2023). Although artemisinin derivatives initially showed effectiveness in malaria treatment, the emergence of resistant strains of *P. falciparum* has compromised their therapeutic efficacy, highlighting the urgent need to identify new natural bioactive compounds with antimalarial potential (PENNA-COUTINHO et al., 2021) (KYEI-BAFFOUR et al., 2020)

In this study, secondary metabolites from aqueous, AcOEt, and mycelial extracts produced by the marine fungus *Nigrograna* sp. M13 have been isolated, identified and subjected to bioassays. Purification of the extracts was performed using size-exclusion chromatography on Sephadex LH-20, and by solid-phase extraction. The resulting fractions were subjected to chemical and biological dereplication, prioritizing those that exhibited poorly investigated m/z ions in natural product databases, as well as those that demonstrated antiplasmodial activity  $\geq 90\%$ . Selected fractions were purified by HPLC-UV and identified. A series of aromatic polyketides and unusual nitrogenated metabolites have been isolated and identified, two of which displayed moderate antiplasmodial activity, with IC<sub>50</sub> values of  $4.9 \pm 0.3 \mu\text{M}$  and  $7.1 \pm 0.8 \mu\text{M}$ , respectively.

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**Keywords:** Marine natural products, Marine fungi, *Nigrograna* sp.

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