

# ANALYSIS OF FOULING FAUNAL COMMUNITY IN AUTONOMOUS REEF MONITORING STRUCTURES (ARMS) IN THE NORTHERN AREA OF CABO VERDE

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## Abstract

The benthic environment is crucial for marine biodiversity, influencing species density, and significantly contributing to marine life diversity. Threats arising from human activities, such as uncontrolled urbanization, coastal infrastructure development, and the impacts of maritime transport, can lead to occasionally irreversible environmental disturbances in the community structure, particularly among encrusting organisms. This study focuses on the assessment of encrusting organism diversity on islands in the northern zone of Cabo Verde within this context. The methodology involved the installation of fifteen minimally invasive Artificial Reef Monitoring Structures (ARMS) in two Northwest islands, during two distinct periods: deployment (January 2022) and recovery (October 2022). Photographs of the structures were processed using CPCe, revealing 88 taxa encrusted on the ARMS, with Bryozoans being the predominant group (36%). Comparative analysis of encrusting fauna across different locations demonstrated significant proximity between the international Port and the marina. The composition of sessile fauna varied significantly between locations, with the Bryozoa group prevailing universally, especially in port environments. The variation in anthropogenic influence showcased a notable contrast between highly influenced (Marina) and low influenced place. The presented observations bear significant implications for marine conservation strategies and pro-

vide a robust foundation for future research in this region rich in marine diversity. <sup>73</sup>

**Keywords:** ARMS, marine biodiversity, sessile marine fauna, bio-encrustation, Cabo Verde