Benthic fauna distribution over different seamounts in the Mozambique Channel, from towed camera data

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The objectives of this study are to describe and compare the composition, density and diversity of seamount benthic populations, at local and regional scales.

Abstract:

Seamounts in the Mozambique Channel host rich but potentially vulnerable ecosystems. A towed camera survey was used to assess the composition, vulnerability and resilience of four seamounts: Glorieuses, Sakalaves, Bassas da India, and Hall Bank. This six dive survey, between 300 and 1,000 m depth recorded > 40 hours of videos, > 6000 still images, covering > 200,000 m^2. Over 70,000 individuals were observed and 400 morphospecies identified. The main taxonomic groups were sponges, corals, crustaceans, echinoderms, and fish. Preliminary analysis based on morphotypes suggests that composition, densities and diversity of these groups varied significantly between seamounts. Variability has also been observed at a local scale, between the peak and upper slope of a seamount. Glorieuses is a muddy terrace dominated by three sponge morphotypes. Sakalaves' plateau is dominated by brittle stars and corals, while the upper slopes are mainly dominated by fish and urchins, sponges and crabs. The contrary pattern was observed on Bassas da India and Hall Bank, where the peak is dominated by fish, and the upper slopes by sponges and corals. Relief and substrate appear to be the two main drivers of faunal community distribution. Ongoing work with taxonomists will verify image-based morphotypes with biological sample identifications.

Key-words: Deep-sea seamounts, Mozambique Channel, Substrate, Megafauna

Description: Distribution of benthic megafauna over deep-sea seamounts in the Mozambique Channel in relation to habitat.