

Null and neutral models for explaining spatial variations in intertidal invertebrate species diversity on rocky shores in Antofagasta town (23°S, Chile)

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Abstract

The intertidal invertebrate community on rocky shores in northern Chile is characterised by a high species richness resulting from the high productivity of this ecosystem. The present study aims to do the first characterisation of invertebrate communities on rocky shores in Antofagasta town and surroundings (23°S), using species co-occurrence and niche-sharing null models, analysis of similarities (ANOSIM) and nonmetric multidimensional scaling (NMDS). The null model results revealed that species associations are not structured, that the existing species do not have the same ecology, which would result in many repeated species by site, and that specificity in their ecological niches exists. The ANOSIM and NMDS revealed the absence of significant differences between sites with human intervention and without human intervention. The obtained results agree with the literature for northern and central Chilean and southern Peruvian rocky shores, and other coastal marine ecosystems with high productivity. © Koninklijke Brill NV, Leiden, 2023.

Author keywords

Antofagasta; community ecology; intertidal invertebrates; null models; rocky shores