

PREDATION ON MIOCENE MARINE MOLLUSKS ALONG A LATITUDINAL GRADIENT IN THE SOUTHEASTERN PACIFIC

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Predation traces in the fossil record have been the subject of several studies over the years because they are evidence of predator-prey interactions in the past. Through the analysis of drillings and repair scars in mollusk shells, information can be obtained to infer the macroevolutionary impact of predators on the structure of communities, and evaluate the effect of latitude on these interactions, considering that globally there is a gradient of increasing species diversity from high to low latitudes. Today, Chile has an inverse latitudinal gradient of species diversity (which increases from low latitudes to high latitudes). This gradient originated during the Quaternary, while before this period the latitudinal gradient was conventional (with increasing diversity from high to low latitudes), which would influence a higher frequency of predation interactions at low latitudes. We analyzed 15,627 gastropod, bivalve and scaphopod shells from the Navidad Formation, Ranquil Formation, Lacui Formation and Ipún beds. Our study shows that a latitudinal gradient exists in predator-prey interactions in the lower Miocene of Chile as inferred from the frequency of predation traces (drillings and repair scars). This increase in predation frequency from higher towards lower latitudes, which is influenced by latitudinal factors and species richness, is evidence that predator-prey interactions are important for the configuration of these populations of marine mollusks.