



## **The evolution of latitudinal gradients in marine mollusks of Chile since the Miocene**

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The modern latitudinal diversity (richness) gradient in marine mollusks (gastropods and bivalves) along the Chilean coast is a global exception, since there are more species towards the pole than at lower latitudes. It was demonstrated, that this inverse gradient is a geologically young feature, dated to the Quaternary, because normal gradients exist in both the lower Miocene and the Plio-Pleistocene. New collections added additional species for different units, but mostly for the Navidad Formation of central Chile, thereby further increasing the normal latitudinal gradient of the lower Miocene while other units are not significantly affected. Apart from biodiversity, we explore gradients in ecological traits (functional diversity) and predation intensity along the same latitudinal gradient (30°-45°S). For example, the lower Miocene fauna includes many more epifaunal predators, which decrease in quantity during eastern Pacific cooling through the later Miocene. This ecological change is mostly generated by gastropods, although each family seems to have its own pattern that warrants more detailed analyses.