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THE IMPACT OF MARINE NOISE POLLUTION ON CEPHALOCHORDATES

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In recent decades, human activities have significantly increased marine noise, posing a growing threat to ecosystems. Anthropogenic underwater noise is known to affect survival, development, physiology and behavior of many marine species. However, most research has focused on sound perception in mammals and fish, while invertebrate bioacoustics and their responses remain largely understudied. Cephalochordates (amphioxus) are a subphylum of marine deuterostome invertebrates with anatomical features resembling those of vertebrates. Notably, these organisms possess two types of sensory cells, some believed to be homologous to vertebrate hair cells, making amphioxus an ideal model for studying the effects of noise pollution. In this study, we examined the impact of marine noise on various biochemical parameters and the filter-feeding activity of *Branchiostoma lanceolatum*. Laboratory tests used two soundtracks of maritime traffic noise: one artificial and one from real underwater recordings. Amphioxus were exposed to noise for 1 or 24 hours or kept in silence. Responses were measured immediately and after 24 hours of recovery. Our findings reveal the harmful effects of anthropogenic marine noise on amphioxus, highlighting the need for further investigation into the vulnerability of invertebrates to acoustic pollution.

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