Early Life Exposure to Environmentally Relevant Levels of Endocrine Disruptors Drive Multigenerational and Transgenerational Epigenetic Changes in a Fish Model

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ABSTRACT

Molecular-based approaches can provide timely biodiversity assessments, showing an immense potential to facilitate decision-making in marine environmental management. However, the uptake of molecular data into en-vironmental policy remains minimal. Here, we showcase a selection of local to global scale studies applying molecular-based methodologies for environmental management at various stages of implementation. Drawing upon lessons learned from these case-studies, we provide a roadmap to facilitate applications of DNA-based methods to marine policies and to overcome the existing challenges. The main impediment identified is the need for standardized protocols to guarantee data comparison across spatial and temporal scales. Adoption of Translational Molecular Ecology—the sustained collaboration between molecular ecologists and stakeholders, will enhance consensus with regards to the objectives, methods, and outcomes of environmental management projects. Establishing a sustained dialogue among stakeholders is key to accelerating the adoption of molecular-based approaches for marine monitoring and assessment.

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