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TITLE: Access to Marine Genetic Resources (MGR): Raising Awareness of Best-Practice Through a New Agreement for Biodiversity Beyond National Jurisdiction (BBNJ)

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ABSTRACT:

Better knowledge of the little known deep sea and areas beyond national jurisdiction (ABNJ) is key to conservation, an urgent need in light of increasing environmental change. Access to marine genetic resources (MGR) for the biodiversity research community to allow these environments to be better characterised is therefore essential. Negotiations have commenced under the auspices of the United Nations Convention on the Law of the Sea (UNCLOS) to develop a new treaty to further the conservation and sustainable use of marine biological diversity in ABNJ. It is timely to consider the relevant issues with the development of the treaty underway. Currently uncertainties surround the legal definition of MGR and scope of related benefit-sharing, against a background of regional and global governance gaps in ABNJ. These complications are mirrored in science, with recent major advances in the field of genomics, but variability in handling of the resulting increasing volumes of data. Here we attempt to define the concept of MGR from a scientific perspective, review current practices for the generation of and access to MGR from ABNJ in the context of relevant regulations, and illustrate the utility of best-practice with reference to recent examples. We contribute recommendations with a view to strengthen best-practice in accessibility of MGR, including: funder recognition of the central importance of taxonomy; support of museums/collections for long-term sample curation; open access to data; usage and further development of globally recognised data standards and existing platforms; publishing of datasets via open-access, quality controlled and standardised data systems and open access journals; commitment to best-practice workflows; a global registry of cruises; and lastly development of a clearing house to further centralised access to the above. We argue that commitment to best-practice would allow greater sharing of MGR for research and extensive secondary use including conservation and environmental monitoring, and provide an exemplar for access and benefit-sharing (ABS) to inform the biodiversity beyond national jurisdiction (BBNJ) process.

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