

Towards a practical knowledgebase for marine genetic resources

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The earth's most biodiverse habitats are marine. Around 75% of known eukaryotic phyla occur in the sea, many of them exclusively. This super-diversity of macro-organisms is overlaid with another order of magnitude in diversity of marine micro-organisms, often associated in complex symbiotic relationships. The combined diversity of marine genetic resources, which seems to be growing larger as new techniques emerge to measure it, is mirrored by an immense cache of molecules utilised by organisms to meet the challenges of life in even the most extreme environments. The resulting molecular arsenal is the result of 4 billion years of successful adaptation and evolution, and stands to benefit humankind through discovery of applications in parallel circumstances including in human health, biotechnology, and environmental change. Informatics to curate, catalogue, and facilitate maximum utilisation of the data generated by marine genetic resources research (biosystematics, microbiology, ecology, physiology, metabolite chemistry etc), is fundamental to