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Conference Abstract

Marine Species Traits in the LifeWatch Taxonomic Backbone

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Abstract

Describing species patterns and their underlying processes are essential to assessing the status and future evolution of marine ecosystems. This effort requires biological information on functional and structural species traits, such as feeding ecology, body size, reproduction, and life history.

Basic trait information was already available within the World Register of Marine Species (WoRMS), for a limited number of taxa:

- Biological and ecological traits (e.g., body size, feeding type)
- Taxonomic traits (e.g., paraphyletic groups)
- Human-defined traits (e.g., Red List species)

Within the EMODnet Biology project and the LifeWatch Taxonomic Backbone, this initiative was taken one step further, and ten traits were prioritized to document: taxonomy, environment, geography, depth, body size, substratum, mobility, skeleton, diet, and reproduction.

Criteria for selecting these traits were: applicability to most taxa, easy availability, and the fact that their inclusion would result in new research and/or management applications.

Taxonomy- and environment-related information are available within WoRMS, whereas geography data are available through the Ocean Biogeographic Information System (OBIS).

During 2018, the skeleton information was added to WoRMS. Currently, almost 4,000 accepted marine species have information regarding their supporting structure, enclosures, and composition.

Body size information wascollected for distinct (taxonomic) groups, which resulted in more than 6,000 accepted marine species having quantitative body size information included in WoRMS. An ongoing traits data mining exercise is combining body size with benthos-plankton information, extracted both from WoRMS and the European Ocean Biogeographic Information System (EurOBIS), to assign functional groups such as macrobenthos, microplankton, etc. to the taxa in WoRMS.

All trait information collected in WoRMS is made available through a dedicated thematic traits portal.

Keywords

taxonomic backbone, marine species, species traits

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