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HYPNO – Hydrozoan pelagic diversity in Norway

Aino Hosia

University Museum of Bergen, University of Bergen, N-5020 Bergen, Norway

Hydrozoa are a class of cnidarians, the pelagic representatives of which include solitary hydromedusae as well as colonial siphonophores and porpitids. Their size ranges from small medusae of <1 mm to siphonophore colonies of several meters. As predators on other zooplankton, hydrozoans are important components of the pelagic community. Unfortunately, many pelagic hydrozoans are fragile and difficult to sample in good condition. For morphological studies, they are best preserved in formalin, since most other fixatives used for zooplankton - including ethanol- cause distortion and shrinkage, rendering the animals impossible to identify. Formalin fixation, however, hinders further genetic work such as DNA barcoding. Due to these challenges, gelatinous zooplankton has generally been less studied than the hardier crustaceans, and is often neglected in plankton surveys. HYPNO aims to chart the currently insufficiently known diversity of pelagic Hydrozoa in Norwegian waters, and to document it in a manner facilitating future identification of hydromedusae and siphonophores by both scientists and non-specialists. Net sampling will be carried out in several environments along the Norwegian coast. Collected samples are immediately examined for hydrozoans, with morphological examination and photographic documentation of live specimens followed by fixation in ethanol for DNA barcoding of CO1 and 16S sequences. This approach will allow us to settle taxonomic uncertainties and resolve potential cryptic species. The project will produce an up-to-date list of pelagic hydrozoans found in Norwegian waters, with several new species records for Norway expected. Here, we present the project with activities and results since project start in April 2015.

Keywords: Cnidaria, Hydrozoa, hydromedusa, siphonophore, DNA barcoding, integrative taxonomy, photographic vouchers

Contact author: Aino Hosia; Department of Natural History, University Museum of Bergen, University of Bergen, PO box 7800, N-5020 Bergen, Norway; aino.hosia@uib.no