

An integrative morphological-molecular taxonomic study of marine copepods: building a DNA reference library of metabarcoding studies

The recent development of DNA metabarcoding protocols has the potential to transform marine biodiversity research, by enabling rapid and accurate species identification of bulk zooplankton samples. Metabarcoding protocols require that robust DNA barcode reference libraries are developed, in which DNA barcodes of individual species are linked with validated taxonomic descriptions of morphospecies. To date, few or no molecular records are available for calanoid copepods occurring in South African marine waters. Calanoida is central to trophic links between phytoplankton and commercially important fish stocks, but their taxonomy is still poorly understood with the validity of some species questioned by genetic data. This study aims to bridge this knowledge gap by establishing a validated DNA barcode reference library for calanoid copepods. The project will contribute data towards the basic understanding of marine biodiversity in South African waters, contribute to the global databases on marine biodiversity (i.e. Genbank, BOLD).