

## **DNA barcoding of coastal zooplankton for species identification and recognition (Algoa Bay, South Africa)**

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FBIS170607237999**

Research on the distribution and abundance of coastal plankton is hampered by the precision of identifying individual specimens to the species level based on morphological characteristics. Zooplankton is not only notoriously difficult to sample, but individual zooplankton are tiny and diverse, and visual identification under a microscope is time consuming and requires considerable taxonomic expertise. Correct identification will allow for a better understanding of coastal zooplankton community dynamics, a very important first step towards predicting ocean ecosystem function, health, and overall dynamics. Genetic identification of coastal zooplankton species using the DNA barcoding technique has the potential to address these taxonomic issues. Correct identification of zooplankton will allow for better estimates of diversity for regional checklists, species occurrence and distributions. A primary goal of this research would be the creation of a DNA barcode database for identified specimens of zooplankton to decipher patterns of species diversity in the coastal zone.