ABSTRACT

MORPHO-MOLECULAR STUDIES OF TOXIC AND NON-TOXIC DINOFLAGELLATES AND THEIR RESTING STAGES (CYSTS) AND THEIR IMPLICATIONS FOR BIODIVERSITY ASSESSMENTS

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Dinoflagellates are a large group of microalgae (about 2000 species) that live in diverse environments and have a wide range of feeding strategies. Dinoflagellates can produce resting stages during the sexual part of their life cycle, which can preserve in the sediments for millions of years. Several dinoflagellates are harmful in that they produce toxins that can accumulate in the food chain. The identification of dinoflagellates to species level is done using a combination of morphological, specifically microscopic, and molecular techniques, such as single-cell PCR. Here several examples will be given of species identification within different groups of dinoflagellates, highlighting the complexity of identification of dinoflagellates to species level. The implications for biodiversity assessments, such as based on metabarcoding, will be discussed.