

Article

## Culture-Independent Study of the Late-Stage of a Bloom of the Toxic Dinoflagellate *Ostreopsis* cf. *ovata*: Preliminary Findings Suggest Genetic Differences at the Sub-Species Level and Allow ITS2 Structure Characterization

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Academic Editor: Greg Boyer

Received: 26 March 2015 / Accepted: 24 June 2015 / Published: 30 June 2015

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**Abstract:** Available genomic data for the toxic, bloom-forming, benthic *Ostreopsis* spp. are traditionally obtained from isolates rather than from individuals originally present in environmental samples. Samples from the final phase of the first reported *Ostreopsis* bloom in European North Atlantic waters (Algarve, south coast of Portugal) were studied and characterized, using a culture-independent approach. In the first instance, a microscopy-based analysis revealed the intricate complexity of the samples. Then, we evaluated the adequacy of commonly used molecular tools (*i.e.*, primers and nuclear ribosomal markers) for the study of *Ostreopsis* diversity in natural samples. A PCR-based methodology previously developed to identify/detect common *Ostreopsis* species was tested, including one new combination of existing PCR primers. Two sets of environmental rRNA sequences were obtained, one of them (1052 bp) with the newly tested primer set.