BLOOMS OF *OSTREOPSIS OVATA* IN THE GULF OF LA SPEZIA ARE RELATED TO ABIOTIC FACTORS AND MAY THREAT A BENTHIC POLYCHAETE.

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Blooms of the ticoplanktonic-epibenthic dinoflagellate *Ostreopsis ovata* Fukuyo 1981 are an increasingly phenomenon in the Mediterranean Sea, reflected in the rapid growth of publications during the last years. Between 2000 and 2010, particularly during the summer seasons, several blooms were reported along the Italian coastal area (Sansoni *et al.*, 2003; Simoni *et al.*, 2004; Ungaro *et al.*, 2005; Grillo *et al.*, 2006; Zingone *et al.*, 2006; Bianco *et al.*, 2007; Totti *et al.*, 2007) in some cases associated with health problems in persons living at the seashore.

In the Gulf of La Spezia (Ligurian Sea) the first massive occurrence of O. ovata was observed during August 1998 (Abbate *et al.*, 2007). After the 2006 harmful bloom at the Gulf of La Spezia, an investigation was carried out to identify the critical factors that could favour O. ovata growth in order to predict its development.

Since 2008, the density of the cells of *O. ovata* in seawater was monitored weekly from spring to autumn; at the same time, seawater temperature and climatic parameters (air temperature, wind direction, wind speed, global solar radiation and rain precipitation) were continuously recorded. During summer 2010, four additional samples (200 ml) of *O. ovata* were collected on the coastal hard bottoms near Tellaro especially dedicated to toxicological tests with the polychaete *Dinophilus gyrociliatus* as model speces.

Direct sampling of benthic microalgae from the substrates was performed following the technique developed by Abbate *et al.* (2010).

Results suggested a synergic effect of water/air temperature and light as responsible for the dynamics of *Ostreopsis ovata* blooms. Our data showed that, along the coast of the Gulf of La Spezia, the bloom started with a sea temperature above 19 °C and the maximum abundances occurred, generally, after about two weeks of water temperature above 24 °C and mean daily global solar radiation over 275 W/m².

Our preliminary results on toxicity tests suggested that the microalgae growth phase, in addition to its density, could be the main factor producing harmful effect on organisms living in temperate marine coastal hard bottoms.

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