

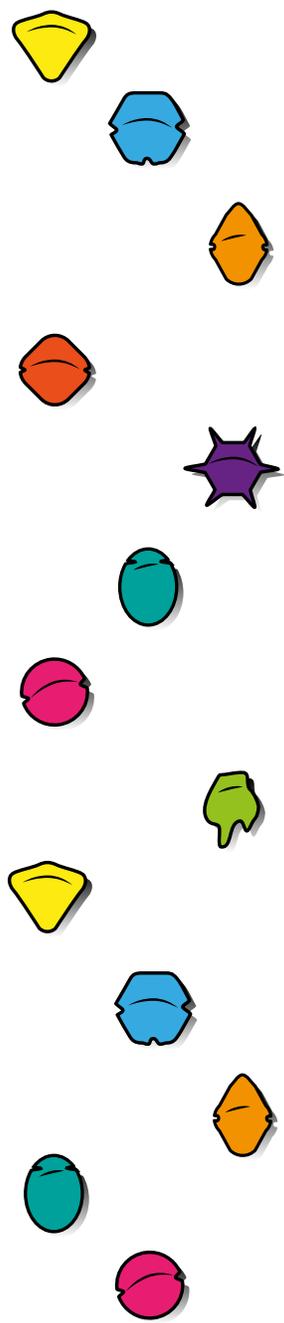
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ABSTRACT BOOK



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Protoceratium reticulatum bloom in NW Iberia mid-shelf waters

Maria Teresa Moita¹, Oliveira P.B.², Borges C.³, Palma C.⁴, Santos A.I.⁵, Zacarias N.⁵, Amorim A.⁶

¹ Centre of Marine Sciences (CCMAR), Universidade do Algarve, Campus de Gambelas, 8005-139 Faro, Portugal. Universidade do Algarve, Portugal, Praceta Mario Viegas 45 Murtal 2775-126, Parede Universidade do Algarve Campus de Gambelas 8005-139 Faro, Portugal.

² Portuguese Institute for Sea and Atmosphere, I. P. (IPMA, IP), Av. Alfredo Magalhães Ramalho 6, 1495-165, Algés, Portugal. ³ Hydrographic Institute, Instituto de Oceanografia, Universidade Federal do Rio Grande, FURG, Rio Grande, RS 7 96203-900, Brazil. ⁴ IH. ⁵ Marine Geology Division, Instituto Hidrográfico (IH), Lisbon, Portugal. ⁶ Centro de Ciências do Mar e do Ambiente (MARE), Faculdade de Ciências, Universidade de Lisboa, Campo Grande, 1749-016 Lisbon, Portugal.

The yessotoxin (YTX)-producing dinoflagellate *Protoceratium reticulatum* is a cosmopolitan species occasionally observed in Portuguese coastal waters. In September 2019, and for the first time, a bloom was detected during a cruise carried out offshore F. Foz, Portugal (latitude 40° 13' N). The study sampled a cross shelf section 3 times in one week, and revealed the bloom was already present at mid-shelf in stratified warm waters and was separated from the coast by coastal upwelling waters. SST and chlorophyll *a* satellite images indicated that two days prior to the cruise there was a short but strong upwelling event with a large and strong patch of chlorophyll *a* identified in the leeward side of the upwelling plume rooted at cape Mondego. The *P. reticulatum* bloom coincided with the northern side of this patch. It was distributed above the pycnocline, in waters with temperatures from 14 ° to 17 °C, reaching maxima of 2,250 cells L⁻¹ at the surface (17 °C). With the observed upwelling relaxation conditions until the end of the cruise, the bloom approached the coast being observed in low numbers at the most coastal station. Pairs of fusing cells and cysts of *P. reticulatum* were observed in the water column, mainly at the end of the cruise. *Protoceratium reticulatum* co-occurred within a dense mixture of diatoms and dinoflagellates, particularly other HAB species such as a dense bloom of *Dinophysis acuta* (168 x 10³ cells L⁻¹), *Pseudo-nitzschia seriata* group (740 x 10³ cells L⁻¹) and *Pseudo-nitzschia delicatissima* group (1,360 x 10³ cells L⁻¹).

