

## FIRST CASE OF BREVETOXICOSIS LINKED TO ROUGH-TOOTHED DOLPHIN (*Steno bredanensis*) MASS-MORTALITY EVENT IN EASTERN CENTRAL ATLANTIC OCEAN: A CLIMATE CHANGE EFFECT?

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**Abstract:** Climate change is influencing marine systems to a global scale, with alterations ranging from the strictly oceanographic perspective to the loss of biodiversity. As an example of these increasing disturbances, a rise of reports of Harmful algal blooms (HABs) have been notified in the last decade. These events occur when algae grow rapidly leading to a rise in production of a series of toxins that can be harmful for many species, that go from fish, shellfish, or birds to marine mammals and even humans, compromising ecosystem viability and public health as a transdisciplinary concept. Many multispecies mass-mortality events due to these toxins have been notified in the central eastern Atlantic Ocean, but no cetacean species were reportedly affected until date. During the course of one week in the spring of 2008, twelve rough-toothed dolphins (*Steno bredanensis*) appeared dead stranded or floating in the southwestern coast of Gran Canaria, in the Canary Islands, Spain. Concurrent necropsy findings were multisystemic hemorrhage and undigested material in the gastric compartments. The state of decomposition of the carcasses diffculted the pathologic examinations, but further toxicologic analysis of the gastric contents identified PbTx2 and PbTx2 brevetoxins. These results show powerful toxicopathologic proof of fatal brevetoxicosis in a group of rough-toothed dolphins. The work hereby presented documents for the first time the epidemiologic, pathologic, microbiologic and toxicologic occurrence of cetacean mass-mortalities due to brevetoxins in European waters, consistent with the global situation regarding HABs and stressing the need for further investigation and monitorization of these greatly damaging events and addressing once again the ongoing universal climate crisis.

**Key words:** Biotoxin, *Karenia brevis*, Harmful algal bloom, climate change, PbTx.