

# **Diatom *Pseudo-nitzschia* cf. *caciantha* (Bacillariophyceae), the Most Likely Source of Domoic Acid Contamination in the Thorny Oyster *Spondylus versicolor* Schreibers 1793 in Nha Phu Bay, Khanh Hoa Province, Vietnam**

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## **Abstract**

Domoic acid (DA) contamination in the thorny oyster *Spondylus versicolor* Schreibers 1793 was discovered in 2005, in Nha Phu Bay, Khanh Hoa Province, Vietnam. Concurrently, DA was detected in the net-plankton samples. The causative organism responsible for the DA was not detected then. In 2006, DA in *S. versicolor* (maximum of 43.6  $\mu\text{g}\cdot\text{g}^{-1}$ ) and in net-plankton samples (maximum of 0.78  $\text{ng}\cdot\text{L}^{-1}$ ) recurred, suggesting the existence of DA producers in the bay. When DA in *S. versicolor* again increased in 2007, a net-plankton sample was collected, and cultures of *Pseudo-nitzschia* species were established for DA analysis and species identification. Eight out of eleven cultured isolates of *Pseudo-nitzschia* spp. showed DA production (111–244  $\text{ng}\cdot\text{mL}^{-1}$ ), as confirmed by liquid chromatography-tandem mass spectroscopy. The toxic isolates examined by transmission electron microscopy shared identical morphological characteristics: a single row of poroids, hymens divided into 2–6 sectors, and mantles 1–2 poroids high. They resembled *Pseudo-nitzschia caciantha* Lundholm, Moestrup & Hasle, 2003 thus we designated it as *P. cf. caciantha*. Our results indicated that *P. cf. caciantha* most likely contributed to the DA contamination in *S. versicolor* in Nha Phu Bay. This is the first report of DA production by *P. cf. caciantha* anywhere in the world.

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