



First report of *Alexandrium taylori* and *Alexandrium peruvianum* (Dinophyceae) in Malaysia waters

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Abstract

The occurrence of *Alexandrium taylori* and *Alexandrium peruvianum* is reported for the first time in Malaysia waters. The Malaysian *A. taylori* isolates were pyriform in shape with a transdiameter range of 36–40 μm and a cell length range of 33–37 μm . The first apical plate (1') was pentagonal with two distinctive anterior margins. No direct connection between 1' and the apical pore complex was observed. The posterior sulcal plate (S.p.) was large, elongated and oblique to the right with anterior projections. The ventral pore (vp) was relatively large and situated at a confluence point of 1', the second apical (2') and the fourth apical (4') plates. Cells of *A. peruvianum* were slightly anteriorly and posteriorly compressed. S.p. had an irregular pentagonal shape, with the anterior margin divided into 2 portions. 1' was boomerang-shaped with a large and truncated ventral pore in the middle right margin. The anterior right margin of 1' was straight. The sixth precingular plate (6'') was wider than long. The anterior sulcal plate (S.a.) was triangular and lacked a left portion extension. In laboratory cultures, both *A. taylori* and *A. peruvianum* produced paralytic shellfish toxins, with GTX4 and GTX6 as the predominant toxin, respectively. This is the first report of PSP toxins production for both species as well as the occurrences in Malaysia waters.

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1. Introduction

Malaysia is one of several countries affected by harmful algal bloom (HAB) events and associated shellfish toxicity. At present, the most significant HAB-related problem in the country is paralytic shellfish poisoning (PSP), dating back to 1976 on the west coast of Sabah (Roy, 1977). Since 1991, PSP has also been

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