

## Summer profile of lipophilic toxins in shellfish from the Black Sea, Bulgaria

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**Abstract.** The presence of phytoplankton responsible for the production of marine biotoxins (phycotoxins) is well recognized globally. Phycotoxins accumulate in filter feeding bivalves and through the food chain find their way to humans. In certain quantities they can cause severe illness. According to the symptoms they cause marine biotoxins are classified as paralytic (*e.g.* saxitoxin), amnesic (*e.g.* domoic acid), which are hydrophilic and diarrheic (*e.g.* okadaic acid) toxins etc. which have lipophilic nature. The aim of this study was to assess the presence of lipophilic toxins in both cultivated and wild mussel (*Mytilus galloprovincialis*) samples, harvested in summer 2017 from the south coast of the Black Sea, Bulgaria. Determination was performed by liquid chromatography coupled to tandem mass spectrometry. Despite of the recent evidence for the presence of a variety of potentially toxigenic producers in the investigated area, only yessotoxins were found in the studied samples. Mean levels of YTX in cultivated mussels were determined as 5832.86 pg YTX/g hepatopancreas (hp) and as 920.42 pg YTX/g hp in wild mussels. In both cases, YTX levels did not exceed the legislative limit of 3.75 mg/kg shellfish meat. These results indicated that the risk through consumption of studied shellfish is low.

**Keywords:** yessotoxins, mussels, the Black Sea, LC-MS.

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