

# Trace elements accumulation in the sea lamprey along the major hydrographic basins of Portugal

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## **Abstract**

The sea lamprey, *Petromyzon marinus* L., is an anadromous cyclostome that occurs in the main basins of Portugal. It is classified in the Portuguese Red List of Vertebrates as “Vulnerable” but, nonetheless, it is overfished in estuaries and freshwater during its reproductive migration, since it is considered a gastronomic delicacy. The sea lamprey is also explored in Spain and France. The contamination profile of this species is fairly unknown, in Portugal as in the rest of the world, as far as trace metals are concerned, with only a few studies on mercury and methyl-mercury accumulation in North America. Trace metals accumulation was analyzed by ICP-AES in 80 specimens from eight Portuguese river basins (sex ratio 1:1), in muscle and liver samples. This study aimed to: i) determine the safety of sea lamprey consumption regarding its heavy metals content; ii) analyze sex related differences between contamination profiles that may prevail from

the differences in the lipid content of male and female spawners; and iii) investigate differences of dietary and/or geographic nature in trace metals accumulation, based on the team's previous works that show some evidences that the sea lampreys of the Western Iberia coast are, probably, using distinct oceanic regions and/or targeting different groups of hosts during the parasitic feeding phase of their life cycle.

#### Keywords

*Petromyzon marinus*; metal accumulation; muscle; liver; Portuguese coast