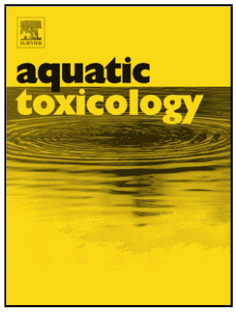

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Authors: Priscila Ortega, Marcio R. Custódio, Flavia P. Zanotto

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Characterization of cadmium transport in hepatopancreatic cells of a mangrove crab *Ucides cordatus*: the role of calcium.

[a] Priscila Ortega, Marcio R. Custódio, Flavia P. Zanotto

[a] Invertebrate Biology Cellular Laboratory, Biosciences Institute, Department of Physiology, University of São Paulo (USP), São Paulo, Brazil.

E-mail: priortega218@gmail.com; mcust@usp.br; fzanotto@usp.br

Corresponding author: Flavia Pinheiro Zanotto

Biosciences Institute, Department of Physiology, University of São Paulo, Rua do Matão, Travessa 14, #101, São Paulo, 05508-900, SP, Brazil.

E-mail: fzanotto@usp.br

Phone: + 55 11 3091 7611

Highlights

- Cell cadmium (Cd) transport from different cell types of hepatopancreas of a crab is characterized.
- Cadmium transport for each cell type depends on extracellular and intracellular calcium and aligns with each cell function in the hepatopancreas
- Knowledge and manipulations of Ca^{2+} can help mitigate Cd accumulation in the hepatopancreas of these animals.
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Abstract

Cadmium is a toxic metal, present in batteries and discarded in estuaries and mangrove habitats. Apart from that, it is a non-essential metal that causes toxic effects in many organisms. Cadmium accumulates in gills and hepatopancreas of crustaceans and its route into the cell is unknown. It is possible that occurs by calcium channels or calcium transporters. The objective of this study was to characterize the transport of cadmium and the role of calcium in different cell types from hepatopancreas of the mangrove crab *Ucides cordatus*. For this, the hepatopancreas was dissociated by magnetic stirring and after that separated by a sucrose gradient. Then, the cells were labeled with FluoZin-3 AM and different $CdCl_2$ concentrations were added together with a variety of inhibitors. The results showed that Cd^{2+} transport occurs differently in each cell type from hepatopancreas and is partially explained by the function the cells perform in this organ. Embryonic (E) and Resorptive (R) cells transported more Cd^{2+} compared