

MOLLUSCS IN THEIR ELEMENT? AN X-RAY VIEW INSIDE

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Some mollusc species like oysters and mussels can have a wide geographic distribution. As such different populations of these species are exposed to different types of environmental stress: pollution, temperature changes, eutrophication... The physiology of molluscs is an important factor determining the toxicity of different pollutants acting on the ion regulation. The distribution of different chemical elements within organisms can be visualised and quantified at a very high spatial resolution with state of the art micro-X-ray fluorescence (XRF) techniques (De Samber *et al.*, 2010).

In this study, these methods were applied to determine the (trace) element composition of larvae of the Pacific oyster *Crassostrea gigas*, exposed for 48h in copper spiked or clean seawater. The results demonstrate and visualize significant changes in the ion regulation of this species. These preliminary results indicate that this technique can be used to assess the homeostatic status of marine species under stress.

References

De Samber B., G. Silversmit, K. De Schamphelaere, R. Evens, T. Schoonjans, B. Vekemans, C.R. Janssen, B. Masschaele, L. Van Hoorebeke, I. Szaloki, F. Vanhaecke, K. Rickers, G. Falkenberg and L. Vincze. 2010. Element-to-tissue correlation in biological samples determined by three-dimensional X-ray imaging methods. *Journal of Analytical Atomic Spectrometry* 25:544-553.