

Aquatic Invertebrates as Indicators to Pollution-induced Stress: Validation of the Locomotory Behaviour of Freshwater and Marine Crustaceans as Response to Sublethal Heavy Metal Stress with Video Imaging, Hubert Untersteiner, 9783838104232, 2009, Suedwestdeutscher Verlag fuer Hochschulschriften, 2009

How metals get into freshwater Metals are introduced in aquatic systems as a result of the weathering of soils and rocks, from volcanic eruptions, and from a variety of human activities involving the mining, processing, or use of metals and/or substances that contain metal pollutants. The most common heavy metal pollutants are arsenic, cadmium, chromium, copper, nickel, lead and mercury. The most common metal pollution in freshwater comes from mining companies. Campbell and Stokes (1985) described two contrasting responses of an organism to a metal toxicity with declining pH: - If there is little change in speciation and the metal binding is weak at the biological surface, a decrease in pH will decrease owing to competition for binding sites from hydrogen ions. In this study changes in the locomotory behaviour of the freshwater cladoceran *Daphnia magna* STRAUS were used as sublethal indicators of toxic copper (Cu) stress. The behavioural responses were determined by a real time image analysis, using a video camera and a Pentium-PC equipped with a standard low cost frame grabber. For a sequence of 50 images per group, where 10 daphnids were moving simultaneously, the trajectories have been reconstructed in binary image sequences. As biological endpoints, we defined the average swimming velocity and the average duration of swimming activity and inactivi Heavy Metal Stress with Video Imaging. Kitap. Aquatic Invertebrates as Indicators to Pollution-induced Stress: Validation of the Locomotory Behaviour of Freshwater and Marine Crustaceans as Heavy Metal Stress with Video Imaging. ISBN. 9783838104232.