

## **The trend from 1934 to 2001 of metal concentrations in bivalve shells (*Unio pictorum*) from two small lakes: Lake Levico and Lake Caldonazzo (Trento Province, Northern Italy)**

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### **ABSTRACT**

*This research follows the variations in calcium and 14 trace metal concentrations in mussel shells (*Unio pictorum*) from two lakes with different trophic levels, Lake Levico and Lake Caldonazzo (Northern Italy) from 1934 to 2001. During this period, the concentration of 11 trace metals increased and that of 3 decreased in the shells from Lake Levico, while the shells from Lake Caldonazzo showed an increase in the concentration of 6 metals, a decrease in 6 and no variation in 2. In both the lakes the concentration increases were far greater than the concentration decreases. In 1934 as well as in 2001 the metal concentrations in the shells from Lake Levico were higher than those from Lake Caldonazzo, although the concentrations of the most abundant metals in the filtered water of the latter lake were higher than those found in the water from Lake Levico. This apparent anomaly, also observed in an earlier study on the same species in 12 lakes, seems to be the combined effect of several causes (e.g. trophic level of the environment, metal concentration in the food), among which metal speciation in the water is probably one of the most important.*

*Key words: freshwater bivalve, trace metals, Lake Levico, Lake Caldonazzo, *Unio pictorum**

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