

Life history-related organotin body burden in the catadromous eels *Anguilla marmorata* and *A. bicolor pacifica* in Vietnam.

ABSTRACT

In order to understand the ecological risks caused by organotin compounds (OTs) in diadromous fish migrating between sea and freshwater, tributyltin (TBT) and triphenyltin (TPT) compounds, and their breakdown products, were determined in the catadromous eels *Anguilla marmorata* and *A. bicolor pacifica*, collected in Vietnam waters. Ontogenic changes in otolith strontium (Sr) and calcium (Ca) concentrations were examined along life history transects in order to determine habitat use in the eel. There were generally no significant correlations between TBT and TPT accumulation and various biological characteristics such as total length (TL) and body weight (BW). In *A. bicolor pacifica*, TBT and the total butyltin (BT) concentrations of yellow-stage eels (immature eels) were significantly higher than those in silver-stage eels (mature eels). This suggests that yellow-stage eels have a higher risk of contamination by TBT than silver-stage individuals. Positive linear relationships were found between Sr:Ca ratios, total BTs and total phenyltins. These results suggest that the ecological risk of OTs in these eels increases with increasing sea residence period. Thus, migratory history and maturation stage are the most important factor for OT accumulation in catadromous eels.

Keyword: Catadromous eel; Ecological risk; Habitat use; Migration; Tributyltin; Triphenyltin.