



STUDY OF MERCURY CONCENTRATION IN *Cathorops spixii* IN THE ESTUARINE-LAGOON COMPLEX OF CANANÉIA-IGUAPE, SÃO PAULO - BRAZIL

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Abstract

The mining activities in the Ribeira Valley during the past years introduced into the environment several metals to the Ribeira de Iguape River. This is the biggest river of São Paulo State and its course was modified in 1841, due to the construction of an artificial channel called Valo Grande. Consequently, the Estuarine-Lagoon Complex of Cananéia-Iguape has been receiving a high fresh water input associated to substances e particles from the human activity in the Valley.

The aim of this study was assess mercury concentrations in the fish muscle of *Cathorops spixii* collected in the Estuarine-Lagoon Complex of Cananéia-Iguape, considering the northern (Iguape) and southern (Cananéia) sectors, in the summer and winter of 2009, in order to verify the anthropogenic and seasonal influences in individuals from each area.

The fish were sampled using an otter trawl net. Mercury concentrations in muscle tissues were analyzed by Cold Vapor Atomic Absorption Spectrometry technique (CVAAS). Certified material was used to validate the data.

Fish presented safe levels for human consumption. It was not observed concentrations of Hg above the limit values established by Brazilian Environmental Legislation (1.000 ng g⁻¹ wet weight). Concentrations of Hg were higher in the fishes from Iguape (Northern sector), regardless of the season. Seasonal variations were observed in both regions showed higher concentrations of Hg in the summer, a rainy period. The range of Hg concentrations in each point sampled and in each seasonal period were: Cananéia/Summer 7,09 - 32,31; Iguape/Summer 6,76 -35,17; Cananéia/Winter 1,59 - 17,98; Iguape/Winter <LD - 23,47.

C. spixii showed a potential for use as biomonitor species in coastal regions, due to the adaptability to be present in environments with a wide range of salinity and the capability to accumulate metals in your tissues due to the benthic habits facilitating the contact with the toxic agents accumulating in sediments.

References

- Grasshoff, K., Ehrhardt, M., Kremling, K., 1999. Methods of seawater analysis. 3ed. Verlag Chemie, Weinheim, 419.