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### MERCURY BIOACCUMULATION IN A VULNERABLE DOLPHIN FROM A COASTAL BAY, RIO DE JANEIRO, BRAZIL

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Tema/Meio de apresentação: Histórias de vida/Pôster

Guiana dolphin (*Sotalia guianensis*) is a resident delphinidae that occurs in Brazilian waters, mainly in estuarine environments, such as Sepetiba Bay. Due to its presence near the coast and its high position in the food webs, the species is exposed to many threats, such as chemical pollution. Since mercury undergoes bioaccumulation and biomagnification, high concentrations can be found in Guiana dolphin tissues. The objective of the present study was to determine total mercury concentrations in muscle and liver of Guiana dolphin (N=42) collected between 2011 and 2015 in Sepetiba Bay, Rio de Janeiro. The ages were determined by the numbers of growth layer groups (range: 0- 23 years old). Concentrations were obtained by atomic absorption spectrophotometry with cold vapour generation (Perkin Elmer, FIMS-400). Muscular and hepatic concentrations were not sex dependent (Mann-Whitney test;  $p=0.41$ ) but varied significantly between tissues for males and females (Wilcoxon test,  $p < 0.05$ ), with a preferential accumulation in liver. For males (N=25), mean muscular concentrations were:  $0.24 \pm 0.19 \text{ mg.kg}^{-1}$  (min-max: 0.03-0.73  $\text{mg.kg}^{-1}$ ) and mean hepatic concentrations were  $2.21 \pm 7.14 \text{ mg.kg}^{-1}$  (min-max: 0.03-36.3  $\text{mg.kg}^{-1}$ ). For females (N=17), mean muscular concentrations were:  $0.22 \pm 0.18 \text{ mg.kg}^{-1}$  (min-max: 0.03-0.63  $\text{mg.kg}^{-1}$ ) and mean hepatic concentrations were  $1.21 \pm 2.41 \text{ mg.kg}^{-1}$  (min-max: 0.10-9.99  $\text{mg.kg}^{-1}$ ). The highest hepatic and muscular concentrations were found in males, with six years and 18 years old, respectively. Total mercury concentrations were positively correlated with age for males (Spearman correlation,  $p < 0.05$ ), suggesting mercury bioaccumulation according to age (Spearman correlation,  $p < 0.05$ ). However, for females, these concentrations did not increase with age (Spearman correlation,  $p > 0.05$ ). So, other factors may influence these findings, such as differences in diet. In conclusion, total mercury concentrations were higher in liver than muscle for all individuals and showed differences regarding the bioaccumulation according to age.

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