# ANTHROPOGENIC INFLUENCE ON MERCURY LEVELS IN A COMMERCIAL SNAPPER (*LUTJANUS JOCU*) FROM ESPIRITO SANTO COAST, BRAZIL

**INTRODUCTION:** Mercury is a heavy metal toxic to humans and marine life, reported in tissues of various aquatic species. *Lutjanus jocu* is a reef fish species with limited migration, making it a good indicator of local contamination and an economically important species. **OBJECTIVES:** To assess mercury contamination in *Lutjanus jocu* and potential anthropogenic influences in the northern coastal region of Espírito Santo, Brazil. **MATERIALS AND METHODS:** Specimens were collected from the São Mateus coast, ES, and, as a control with low anthropogenic activity, from the coast of the Abrolhos Marine National Park, BA, between March 2022 and June 2023. Total mercury concentration in the liver, gills, and muscle tissue of the collected fish was analyzed by atomic absorption spectrophotometry after gold amalgamation, with absorbance readings at 253.7 nm. Concentration was determined by interpolation using a 7-point analytical curve ranging from 0 to 11 ng of mercury ($r^2 = 0.9987$). Data were evaluated using unpaired t-tests for pairwise comparisons and ANOVA with Tukey's test for multiple comparisons. **RESULTS AND CONCLUSION:** The mean mercury concentration in liver (0.085±0.06 mg/kg, n = 59) was 1.6 times higher than in muscle tissue (0.053±0.02 mg/kg, n = 17, p = 0.0136) and 8.7 times higher than in gills (0.0098±0.0073 mg/kg, n = 31, $p < 0.0001$), while muscle showed a 5.4 times higher concentration compared to gills ($p < 0.0001$). Mercury concentration in livers of São Mateus fish (0.085±0.06 mg/kg, n = 59), a coastal region, was 1.9 times higher than that in fish from the Abrolhos archipelago (0.044±0.02 mg/kg, n = 30, p = 0.0008), a protected environmental area. Bioaccumulation of mercury was observed in liver and muscle, while gills, which indicate acute exposure, showed significantly lower levels. The results suggest anthropogenic influence on mercury total levels in liver of fish collected along the northern coast of Espírito Santo (São Mateus) when compared to the protected area. However, the mercury levels found were below the maximum limit established by the Codex Alimentarius Commission (0.5 mg/kg).

***Keywords:*** *Metal; fish; bioaccumulation*