Differences In REDOX Balance In Males And Females Of Mussels (Perna perna, Linnaeus, 1758) From The Northern Coast, RS/BRASIL

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INTRODUCTION: Mussels are used to evaluate the toxic effects of pollutants in aquatic environmental. Mussel antioxidant defence enzymes as well as biomacromolecules damage are usually measured as biomarkers of poor water quality.

OBJECTIVES: The aim of this work was evaluated the variations of REDOX parameters (CAT, SOD, TBARS, carbonil e sulphydryl levels) in relation to the sex of the animals collected in Cidreira, Tramandaí and Atlântida fishing platforms on winter 2014.

MATERIALS AND METHODS: Mussels were collected on fishing platform in September 2014. They were measured, sexed, and the gills and mantle removed. Each sample was composed of a tissue pool of 3 males/females, resulting in 5 samples. Tissues were homogenized in buffer on ice, centrifugated and supernatant was removed. CAT activity was determined as Aebi (1984), SOD as described by JV Bannister Lm and Calabrese (1987), TBARS by Draper and Hadley method (1990) sulphhydril contents by com Ellman method (1959), carbonyl by Levine method (1990) and the protein amount by Lowry method (1951). The statistics was performed using Student's t test for independent samples using the Levene test. The results considered different for a p<0.05 and are expressed as mean±standard error.

RESULTS: The activities of SOD and CAT in mantle and gills tissues were higher in females compared to males in three points sampled. The lipid peroxidation (TBARS levels) was higher in males mussels too. Reduced thiol levels were higher in the mantle and the gills of mussels males from three platforms indicating less protein oxidation.

CONCLUSIONS: Our results indicates greater antioxidant defense in females and consequently minor damages to lipids. However in proteins did not find differences in the carbonyl levels but in reduced sulphydryl residues were increased in males.

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KEY WORDS: REDOX balance, Perna perna, sex differences.