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ABSTRACTS

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**Passive Biomonitoring Study and Effect Biomarker in Oysters
Crassostrea brasiliana (Lamark, 1819: Mollusca, Bivalvia) in
Santos and Cananéia Estuaries in São Paulo State, Brazil**

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Estuaries are widely used for the disposal of urban and industrial effluents, causing water pollution and threat to marine life by several pollutants. This study assessed the exposure and effects of trace elements in sentinel organisms, using the bivalve *Crassostrea brasiliana* (Lamark, 1819: Mollusca, Bivalvia) in two estuarine areas in São Paulo State, Brazil: Santos Estuary (23° 58' S - 46° 19' W) (Bertioga and Canal de Santos), one of the most polluted in the world, as Canal de Santos is strongly impacted by industrial and domestic effluents and it has high harbour activities. Cananéia Estuary (25° 01' S - 47° 55' W), site of oyster farms, was used as reference site since it is one of the most preserved in the coast of the State of São Paulo. Seasonally, oysters were collected between September/2008 and July/2009 in each study site. Oysters were evaluated for bioaccumulation of As, Co, Cr, Fe, Se and Zn by Instrumental Neutron Activation Analysis (INAA) and Cd, Pb and Hg by Atomic Absorption Spectroscopy (AAS). Effect biomarker was assessed by evaluation of lysosomal membrane stability, using the Neutral Red assay (NR). In the study of bioaccumulation of trace elements among the sites of oyster collection, it was verified that Canal de Santos presented the largest concentrations of elements studied in most cases. Regarding the seasonal variation, it was observed that, in winter there was a greater accumulation of the elements. From the study of the cellular biomarker, it was verified that Canal de Santos and winter showed higher stress to organisms in the present study. Correlations between trace elements and the integrity of lysosomal membrane were evaluated.

Keywords: *Crassostrea brasiliana*, oyster, estuaries, biomonitoring, effect biomarker