Assessment of Heavy Metal Traces (Copper and Lead) In the Soft Tissues of Oysters *Crassostrea virginica*

An Undergraduate Research Paper
Presented to

Prof. Jesusa Libutaque

Division of Biological Sciences
College of Arts and Sciences
University of the Philippines Visayas
Miagao, Iloilo

In Partial Fulfillment
Of the Requirements for the
Degree of Bachelor of Science in Biology

Dexter Gicaro Balboa

April 5, 2010

Assessment of Heavy Metal Traces (Copper and Lead) in the Soft Tissues of Oysters *Crassostrea virginica*

Dexter Gicaro Balboa

Division of Biological Sciences
University of the Philippines- Visayas
Miagao, Iloilo

ABSTRACT

The bivalve mollusk *Crassostrea virginica* is abundant in Brgy. Calaparan, Arevalo and Brgy. Bacong, Dumangas; and are widely consumed by the residence as food. Bioaccumulation of Copper and Lead in the soft tissues of *C. virginica* from Brgy. Calaparan, Arevalo and Brgy. Bacong, Dumangas were measured and checked if they are still within the permissible levels of Copper and Lead in food based on Median International Standards for metals compiled by the Food and Agricultural Organization of the United Nations. Metal concentrations (μg/g) were determined using Flame Atomic Absorption Spectrophotometer. Mean concentrations of the heavy metals in *C. virginica* from Calaparan, Arevalo- Cu 27.829, Pb 1.2133; Bacong, Dumangas- Cu 57.834, Pb 0.1338. These levels of Copper and Lead in oyster tissue from both sites are within the the range of Median International Standards for metals and are safe for human consumption. Statistical analysis through one- way ANOVA ($F > F_{crit}$, showed significant difference between sites ($F_{crit} = 18.51282$) for Copper (F value, 215.06569) but not for Lead (F value, 2.25151). The study also provided further solid evidence that bivalve like *Crassostrea virginica* can recover and concentrate environmentally derived and anthropogenic traces of heavy metals.