



Study of the Biomass of Some Macroinvertebrates in Khor Al Zubair, Southern Iraq

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ABSTRACT

In the current study, the relationship between length and weight (or biomass) of some marine invertebrates prevalent in the Khor Al-Zubair area, located in southern Iraq, was analyzed. The primary objective of this study was to estimate the biomass of organisms using allometric relationships between length and weights. Barnacle and crab samples were collected for further analyses; an estimation of biomass was conducted; length was accurately measured, followed by the determination of wet, dry, and organic matter weights. According to the average lengths, the average weights of the dominant species in Khor Al Zubair, barnacles, and crabs, were recorded at the selected study stations along the Khor Al Zubair waterway. According to the annual average biomass (\bar{B}) as a function of dry weight and organic matter weight, positive correlations were recorded between length, dry weight, ash, and organic matter. The length, wet and dry weights, ash content, and organic matter were calculated for each animal, and the results showed that the longer the animal, the higher the weight. The biomass of barnacles and crabs was calculated for 50 samples each, as a function of length and average dry weight. The highest crab biomass was recorded at station 1 (61.274 g/m²/yr), and the barnacle biomass as a function of average length and dry weight was 269.338 g/m²/yr at the first station. The results indicate that barnacles had the highest biomass in Khor Al-Zubair.

INTRODUCTION

Biomass is the mass of living organisms in a given area or ecosystem at a specific point in time, whether in liquid, gaseous, or solid form (**Lambden & Johnson, 2013**). The importance of biomass in ecology lies in understanding the processes that drive changes in ecosystems, and it can be used to understand

seasonal patterns, food relationships, life history, secondary production, and biological interactions, including feeding relationships between functional groups and nutrient or food energy budgets of food webs and their components (**Novack, 2008**). Invertebrates in ecosystems have been studied to understand the distribution of biomass among various taxonomic groups, including arthropods, annelids, nematodes, and mollusks (**Bazairi, 2003**). Benthic invertebrates live on or in bottom sediments or on solid substrates, whether living or dead. They

