Determination and Monitoring of Seafood Contamination with Pathogenic and Non-Pathogenic Bacteria at Majmaah Province, Saudi Arabia

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Abstract

Seafood has traditionally being a popular part of the diet in many parts of the world and in some countries constituted the main supply of animal protein, lipids, carbohydrates, amino acids, fatty acids, vitamins and minerals. Seafood is part of a healthful diet, but seafood consumption is not risk-free. Seafood is responsible for an important proportion of food-borne illnesses and outbreaks in the world. A number of bacterial illnesses may arise from the consumption of seafood. Understanding the transfer of bacteria contaminants through the food web is critical to predict the exposure of humans to contaminants either through subsistence or commercial consumption of seafood and the possible health consequences of such exposure. In addition, such information is crucial in making accurate risk assessment for seafood safety purposes, a topic which is attracting much National and International attention. The results of the present study recorded that nine bacterial species were isolated from different tissues of both sexes of shrimp species (Penaeus semisulcatus) and crab species (Portunus pelagicus). In this research the occurrence of Gram negative bacteria was more frequent comparing with Gram positive ones. Furthermore, bacteria communities isolated from different organs of crustacean organisms collected from the study area showed a highly diverse and varied bacteria population associated with different organs, sex and species.

Keywords: Pathogenic bacteria, Seafood, Shrimps, Crabs.