

ABSTRACT

The Presence of Scombroid Toxin and Factors Influencing Its Levels in Two Popularly Consumed Marine Fish in Trinidad

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Fish is an essential part of a well balanced diet. The consumer is becoming more mindful of the numerous health benefits associated with the consumption of fish. However there are numerous public health hazards related to the intake of fish. There is little information available on these potential hazards to the fish consuming population in Trinidad.

This study focused on the detection and quantitation of Scombroid Toxin (histamine) and selected histamine producing bacteria present in carite (*Scomberomorus brasiliensis*) and kingfish (*Scomberomorus cavalla*) in Trinidad. A prevalence study was conducted to determine levels of toxins and microbiological quality of fish sold at different market types in Trinidad. Potential sources of histamine producing bacteria and the influence of market type on histamine production on fish were then evaluated. Finally, the impact of different storage conditions on histamine production in carite was assessed. Of the fish sampled, 98.7% had histamine levels within USFDA acceptable limits of below 50ppm. Carite had significantly higher histamine levels than kingfish. A significant relationship was observed between sensory evaluation and histamine levels. There was a significant ($p = 0.05$) relationship between market type and presence of histamine producing bacteria with the highest percentage of positive HPB isolated from landing sites and retail markets (12.9% each) as compared to other market types ($\leq 11.3\%$). Fish tissue and gills were the main sources of histamine producing bacteria. In addition, it was found that fish kept at refrigerated temperatures for two weeks yielded histamine levels over 50ppm and the highest diversity of histamine producing bacteria.

Keywords: Scombroid toxin, Carite, Kingfish, *Scomberomorus brasiliensis*, *Scomberomorus cavalla*