شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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جامعة عين شمس

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قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

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Identification of Histamine-producing Bacteria Isolated from Fish and Its Products

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DEDICATION

I would like to dedicate this thesis to my family: -

My Father (the sole of my father)

My loving & caring Mother

My Brothers

My Best Friends

Acknowledgment

*My thanks are submitted first and for most to **Allah** who gave me the strength and ability to complete this work.*

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Abstract:

Production of histamine as one of biogenic amines (BA) in fish and fish products represents health risk to human food intoxication. The current survey was conducted to estimate histamine level in fish and fish products in Egypt, and identify the most predominant histamine producing bacteria (HPB) among the samples as well as assessment of human health risk of consumed contaminated fish and its products with histamine levels by estimated Target hazard quotient (THQ) and Hazard Index (HI) of histamine levels. One hundred and fifty samples (Tilapia, Sardines, Smoked herring, Mackerel, Filet of Carp, Morgan, and Mugil) collected from Giza retail shops were investigated bacteriologically by conventional identification methods. The results indicated that *Enterobacteriaceae* was the predominant histamine producing isolates. Using ELISA test, 15 out of 150 examined fish and fish products samples (10%) had histamine in their tissues. and the most frequently isolated species were *Klebsiella* (33.3%), staphylococci (24.7%), *Salmonella* (22.7%), *E. coli* (18.7%), *Pseudomonas* (18%), *Proteus* (16.7%) and *Vibrio* (6.7%) species. 32.23% of HPB screened colonies on Niven's media and modified Niven medium were positive for the presence of *hdc* gene. Fesikh had the highest histamine level and still showing the highest THQ and HI (0.47, 0.41 respectively) compared with other examined fish types. Conclusively, the application of early detection of biogenic amines mainly histamine producing bacteria could reduce the health risk of histamine intoxication associated fish and fish product microbial deterioration. Improvement of a selective medium to detect decarboxylating bacteria may be a valuable tool.

Key words: Biogenic amines, *Enterobacteriaceae*, Fish, Histamine intoxication, *Staphylococci*, *Pseudomonas* and *Vibrio*.

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