سامية محمد مصطفى

شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

سامية محمد مصطفى

شبكة المعلومات الجامعية

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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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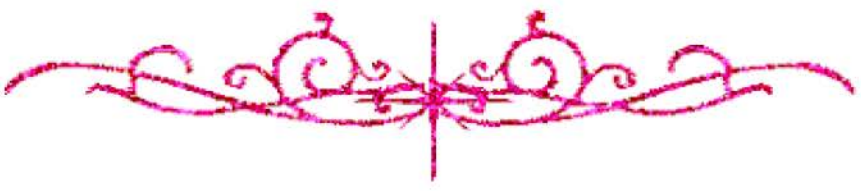
بعض الوثائق الأصلية تالفة



سامية محمد مصطفى

شبكة المعلومات الجامعية

بالرسالة صفحات لم ترد بالأصل

Morphological and Epidemiological Studies on Marine Fishes Ectoparasitic Crustacea from the Red Sea

By

Mahi. A. A. Ghobashy

A thesis submitted for the degree of Doctor of Philosophy of Science, Ph.D. (Zoology - Parasitology)

To

Zoology Department
Faculty of Science
Suez Canal University

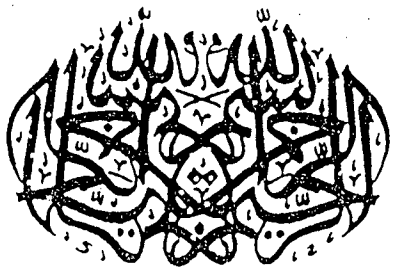
Supervisors

Prof. Ameen A. Ashour **Prof. Ismail M. Shalaby**

and

Prof. John W. Lewis

2000



وَمَا يَسْتَوِي الْبَحْرَانِ هَٰذَا عَذْبٌ فُرَاتٌ سَائِغٌ شَرَابُهُ وَهَٰذَا
مِلْحٌ أُجَاجٌ وَمِن كُلٍّ تَأْكُلُونَ لَحْمًا طَرِيًّا وَتَسْتَخْرِجُونَ
حِلْيَةً تَلْبَسُونَهَا وَتَرَى الْفُلْكَ فِيهِ مَوَاخِرَ لِتَبْتَغُوا مِن فَضْلِهِ
وَلَعَلَّكُمْ تَشْكُرُونَ ﴿١٢﴾

"Nor are the two seas alike, the one palatable, sweet, and pleasant to drink, and the other, salt and bitter. Yet from each (kind of water) do ye eat flesh tender, and ye extract ornaments to wear, and thou seest the ships therein that plough the waves, that ye may seek (thus) of the Bounty Of Allah that ye may be grateful."

Fatir : 12

وَيَخْلُقُ مَا لَا تَعْلَمُونَ ﴿٨﴾

"And He has created (other) things of which ye have no Knowledge"

An Nahl : 8

[illegible] بتاريخ ٢٢ / ١١ / ٢٠٠٢

على تشكيل لجنة [illegible] لرسالة الدكتوراه [illegible]

بالطالبة/ هالة عبد الفتاح على عياشى [illegible] علم الحيوان

[illegible] دراسات هستولوجية ودقيقة على الشريانات المتطفلة على الأسماك البحرية من البحر الأحمر

أ.د/ محمد محمد البحار

م/ زينب الدين عبد العال

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To The Memory
of
My Grandmother
And TO
My Parents
And
My Family

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GENERAL INTRODUCTION

General introduction

Crustacea and fish were thrown into ecological propinquity by the very fact of their aquatic existence. Both in marine and fresh water environments, fishes are undoubtedly, among the best potential hosts for any prospective parasite. It is, therefore, not surprising that those crustaceans, which tend to adopt parasitism as their mode of life very often, become parasitic on or in fish. Parasitic crustaceans on fish are numerous as species and abundant as individuals, they show the most interesting array of morphological adaptations, whereas, the structural diversification of the crustacean parasites is extensive and there effects on the host fishes are correspondingly varied. In addition to the academic interest they hold numerous parasitic crustaceans are of substantial economic importance, especially as some crustaceans induce mortality of the host under certain conditions (Kabata1970).

Most parasitic crustaceans are external, living on the body surface of their host, but others have colonised more sheltered microhabitats on their hosts, such as the gills, nostrils and mouth (Kabata, 1981; Lamb, 1998). As early as 300 BC, parasitic copepods irritating tuna and swordfish in the Mediterranean Sea were noted by the Greek Philosopher Aristotle (cited by Wilson, 1917).

In 1554 Rondelet figured a tuna with one of the copepods in place near the pectoral fin. Also Stroem (1762), and Baster (1765) described and figured some parasites which they call fish lice, but they regarded the egg strings as antennae and printed their figures upside down (Wilson, 1905). It is not surprising, therefore, that there has been an increasing demand for knowledge about the nature of these crustacean parasites all over the world.

Baird (1850) produced the first monograph on British crustacean published by the Ray Society and it was the first work to use the now accepted familial ending "dae" for his family group taxa. Then in 1913 Scott added a new