Salwa Akl

بسم اللّه الرحمن الرحيم

مركز الشبكات وتكنولوجيا المعلومات

قسم التوثيق الإلكتروني

Salwa Akl

جامعة عين شمس

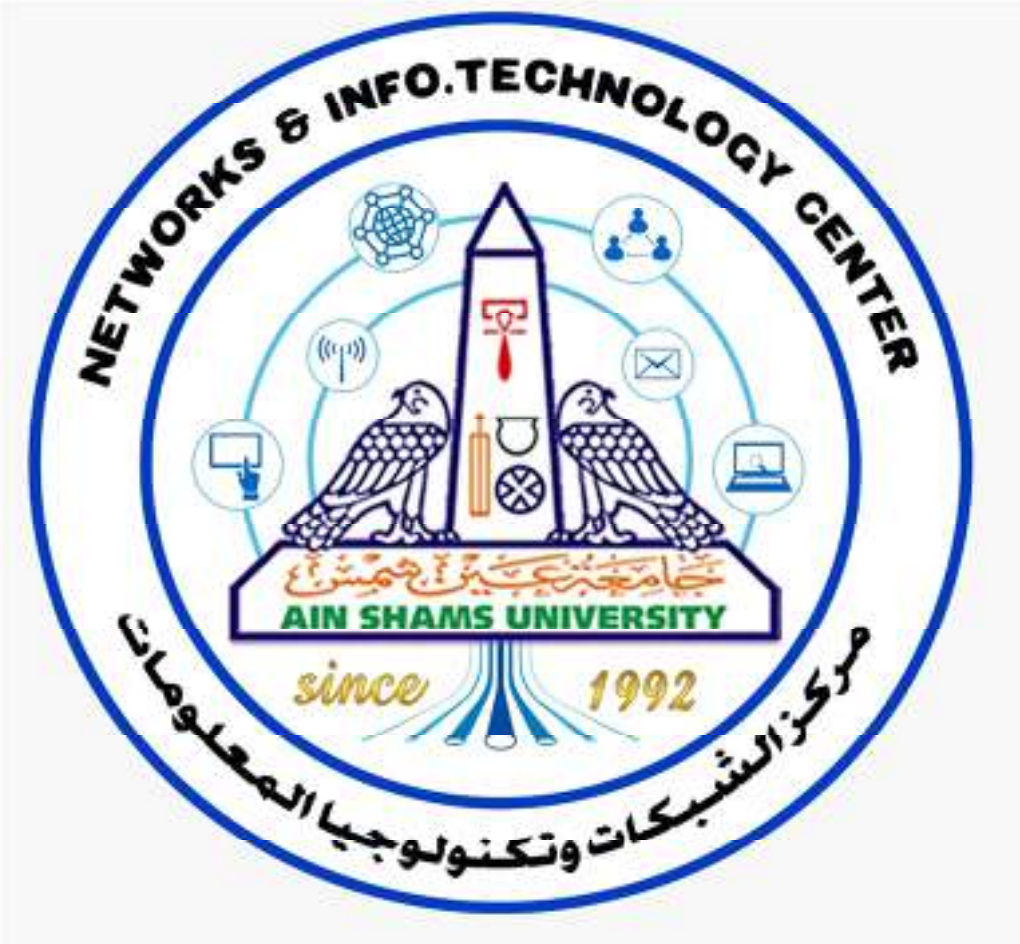
التوثيق الإلكتروني والميكروفيلم

قسم

نقسم باللّه العظيم أن المادة التي تم توثيقها وتسجيلها

علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

Salwa Akl



بعض الوثائق الأصلية تالفة
وبالرسالة صفحات لم ترد بالأصل

ECOLOGICAL AND BIOLOGICAL STUDIES ON SOME CORAL REEF FISHES IN SOUTH SINAI (RED SEA - GULF OF AQABA)

A THESIS
SUBMITTED TO THE FACULTY OF SCIENCE, SUEZ CANAL UNIVERSITY
IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF
MASTER OF SCIENCE

By

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EGYPT
1997

بِسْمِ ٱللَّهِ ٱلرَّحْمَٰنِ ٱلرَّحِيمِ

" وَ قُل رَّبِّ أَدْخِلْنِي مُدْخَلَ صِدْقٍ وَ أَخْرِجْنِي
مُخْرَجَ صِدْقٍ وَ ٱجْعَل لِّي مِن لَّدُنكَ سُلْطَٰنًا
نَّصِيرًا"

صدق الله العظيم

سورة الإسراء آيه ٨٠

APPROVAL SHEET

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ECOLOGICAL AND BIOLOGICAL STUDIES ON SOME CORAL REEF FISHES IN SOUTH SINAI (RED SEA - GULF OF AQABA)

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TO

MY PARENTS, BROTHERS, SISTERS, AND MY WIFE

FOR THEIR GORDIAL ENCOURAGEMENT INSPIRATION
AND
LOVE THEY DEVOTED TO ME

CONTENTS

INTRODUCTION

1. INTRODUCTION

The Red Sea contains representatives of all the major tropical marine communities except estuaries, which cannot receive any river. The coastal communities of mangals, seagrass beds and coral reefs are very interdependent (Ogden & Gladfelter, 1983). The semi-isolation of the Red Sea from the main body of the Indian Ocean might lead one to predict high proportions of endemic species. The Red Sea proper and the Gulf of Aqaba are part of the African Rift valley system. In these respects, the Gulf of Aqaba is a model, on a very small scale, of the Red Sea it self. The highest salinity of the north Red Sea being over 40 % ,makes it a rather extreme environment and consequently a little diverse than the central and southern parts (Head, 1987).

Fishes constitute a dominant component of the reef fauna, and those inhabiting reefs comprise the most diverse and abundant assemblages of vertebrates found anywhere on the planet, and certainly within the marine ecosystems. Much of the research on coral reef fishes in the last decade has focused on mechanisms of coexistence and a relatively fruitless argument as to whether or not reef fishes partition their resources in ways consistent with niche theory (e.g., Anderson *et al.*, 1981; Sale & Williams, 1982; Sheppard *et al.*, 1992). Many of these studies have provided good descriptive data of patterns of distributions but have done little to increase our knowledge of factors determining the distribution and abundance of reef fishes.

Reef fish assemblages of the Red Sea region are as varied as the reefs themselves. There are marked differences among areas in species richness, assemblage composition and abundance of species (Sheppard *et al.*, 1992). The fishes assemblages are helpful in illuminating many important ecological processes, which help to study the contexts of the environments.

Butterfly and angelfishes have generally been considered sub-families of the family chaetodontidae. In recent studies they are considered as separate families and

information. Therefore, it could be concluded that establishing a data base on this subject is urgently and hardly needed.

The information about marine communities in the Gulf of Aqaba are very limited. Most studies, carried out in this area were short-term studies concerning the biology of certain groups. This study is aimed to be the first long term investigation on some aspect on the ecology and biology of butterfly and angel fishes. The study is planed firstly to survey the distribution of the two families along the coast of the Gulf of Aqaba; secondly, to study the seasonality in feeding and abundance of fishes; thirdly to investigate the feeding behaviour and selectivity. These studies we hope will shade some light on the use of such group of fishes in assessing the status of the coral reef in areas exposed to human activities.

REVIEW OF LITERATURE