بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

"TAXONOMICAL AND ECOLOGICAL STUDIES ON FRESHWATER FLEAS(CRUSTACEA) IN QENA GOVERNORATE"

A THESIS

Submitted for The Award of
The Ph.D. Degree

By

Amal Ahmed Mahmoud

(M. Sc)

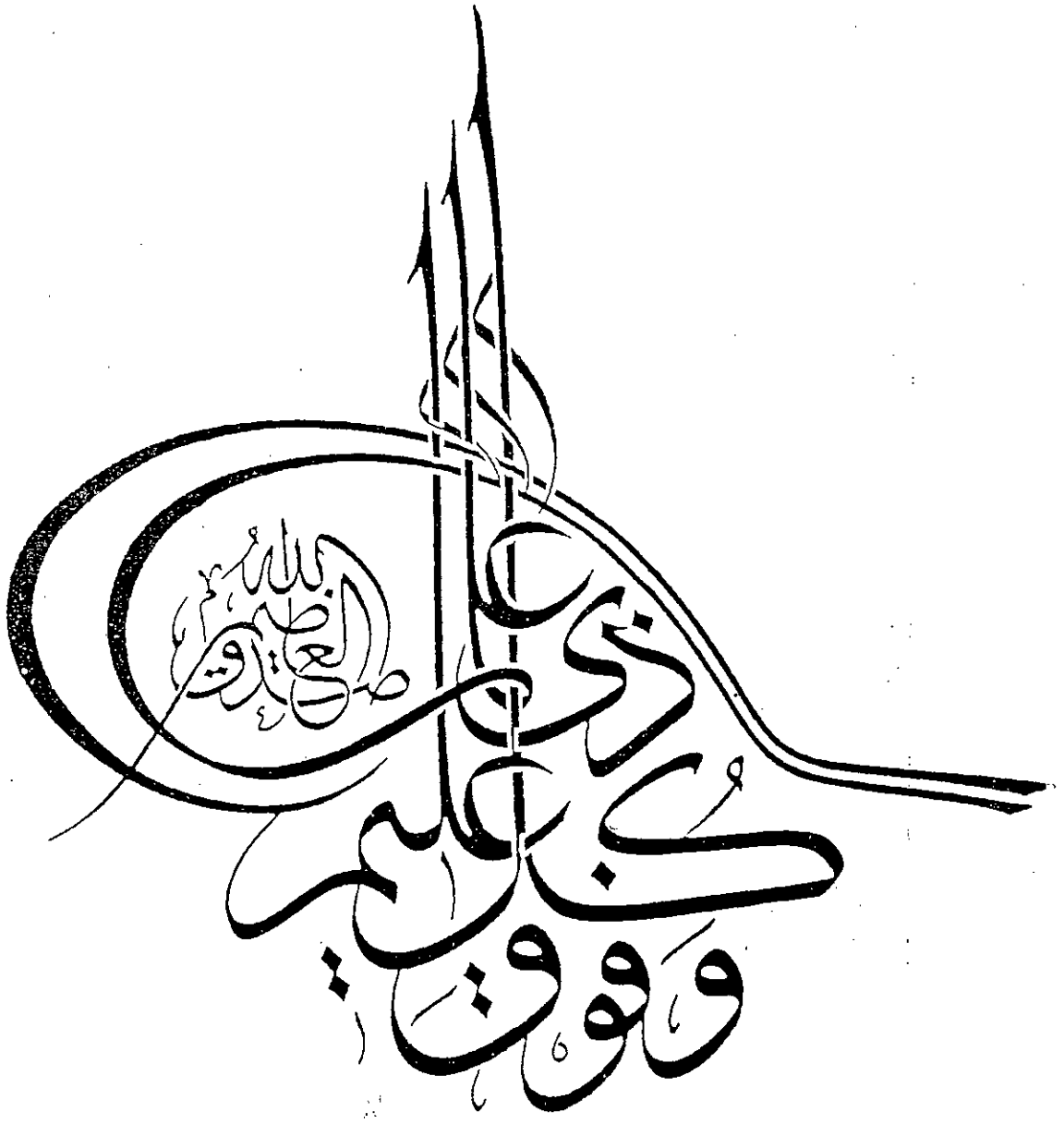
Under The Supervision of

Prof. Dr. M. A. Hussein
Department of Zoology
Faculty of Science
Assiut University

Dr. A. H. Obuid- Allah
Department of Zoology
Faculty of Science
Assiut University

Dr. A. S. M. Moustafa
Department of Zoology
Faculty of Scince, Qena
South Valley University

1995



(سورة يوسف ، آية ٧٦ ك)

To

My Parents

My Husband ; Yahia

My Sons ; Tamer, Basim and Mahmoud

My Daughter ; Dalia

ACKNOWLEDGEMENT

First of all thanks to the name of **Allah** to whome I related any success in my life.

This work was proposed and carried out under the supervision of ***Prof. Dr. M.A. Hussein***, Professor of Zoology, ***Dr. A.H. Obuid-Allah***, Assistant Professor of Zoology, Faculty of Science, Assiut University, and ***Dr. A.S. Moustafa***, Lecturer of Zoology, Faculty of Science, Qena, South Valley University.

To Prof. ***Dr. Hussein***, I wish to express my gratitude for continuous guidance and encouragement, and without his expert assistance and invaluable efforts, it would have been difficult to complete the present work.

To ***Dr. A.H. Obuid-Allah***, I am deeply indebted for his deep interest, continued advice, encouragement and constructive criticisms throughout different stages of this work.

To ***Dr. A.S. Moustafa***, my deep thanks for his deep interest, continued advice and encouragement and time he offered.

To ***Dr. H. Abo-Eldahab***, Lecturer of Zoology, Faculty of Science, Sohage, many thanks for his help during preparation of SEM.

My sincere thanks to ***Dr. M.Z. Yousif,*** Head of Zoology Department, Faculty of Science, Qena, South Valley University for his continues encouragement and facilities he offered during this work.

Moreover, I wish to express my deep appreciation to all members of the Department of Zoology, Faculty of Science in Assiut and Qena for their encouragement.

LIST OF CONTENTS

I. INTRODUCTION

Among the freshwater zooplankton community, Cladocera represents one of the most common elements of pelagic populations. Being almost exclusively filter feeders and algae users and, at the same time, the favourite prey of invertebrate and vertebrate predators, Cladocera represents the most important group in the plankton community of lakes, as regards energy transfer along the food chain (Bernardi *et al.*, 1987).

According to Frey (1982), serious taxonomic work on Cladocera began with O.F. Müller in 1776, and the next century was devoted almost exclusively to the fauna of Europe. Beginning essentially with E.A. Birge in 1878. Scientists studied Cladocera from other regions, and, seeing taxa that resembled those already described from Europe, gave them the same names. The idea quickly became accepted that many species of Cladocera are essentially cosmopolitan in distribution, but few attempts were made to ascertain if widely separated taxa bearing the same name are indeed the same. Recent studies of some examples of Cladocera have demonstrated that each of these wide-ranging taxa consists of a group or complex of species, no one of which by itself is cosmopolitan. It seems certain that many of the other "species", at least of chydorids, with claimed cosmopolitan distribution will likewise be found to consist of clusters of closely related species. Serious questioning of the con-

cept of cosmopolitanism began with a paper by Frey (1973) that established a new species of *Eurycerus* and defined three subgenera. Also, Frey (1987) indicated that from the studies he had published and from examination of hundreds of samples from different parts of the world, many taxa presently having the same names are really different. They look alike on a gross basis, but at the level of significant details they are different. They often are members of a species group of sibling species that as a group is widely distributed around the world, but the individual species of which are much more restricted. Frey also added that the present confusion in the taxonomy of Cladocera has arisen from accepting cosmopolitanism.

From the abovementioned concept of non cosmopolitanism of Cladocera, one can conclude the importance of local and national taxonomic studies on the Cladocera to fulfill the gap and to enlarge our knowledge about the confused taxonomy of these animals.

Accordingly, many taxonomic studies including revisions on some cladoceran genera of the world were carried out. It is worthy to mention in this regard the work of Frey (1975) who published work on the chydorid Cladocera and described a new species from northern Sweden. Hebert (1977) revised the taxonomy of genus *Daphnia* in South-eastern Australia. Paggi (1978) revised the Argentine species of genus *Diaphanosoma* Fischer. Korovchinsky (1981) worked on the taxonomic and