شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها

علي هذه الأفلام قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ منوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

STUDIES ON SOIL ALGAE IN ASSIUT AREA

A THESIS

Submitted, in partial fulfillment, for the degree of M. Sc. in Botany

By

Awatief Fahmey Hifney

B. Sc. (Botany) Assiut University

Supervisors

Prof. Dr. A. A. Mohammed

Prof. of Algae, Botany Department,
Faculty of Science,
Assiut University

Dr. M. S. Adam

Assist. Prof. of Algae
Botany Department,
Faculty of Science,
Assiut University

Dr. A. A. Issa

Assist. Prof. of Algae
Botany Department,
Faculty of Science,
Assiut University

Botany Department,

Faculty of Science,
Assiut University

1998

STUDIES ON SOIL ALGAE IN ASSIUT AREA

A THESIS

Submitted, in partial fulfillment, for the degree of M. Sc. in Botany

By

Awatief Fahmey Hifney

B. Sc. (Botany) Assiut University

Supervisors

Prof. Dr. A. A. Mohammed

Prof. of Algae, Botany Department,
Faculty of Science,
Assiut University

Dr. M. S. Adam

Assist. Prof. of Algae
Botany Department,
Faculty of Science,
Assiut University

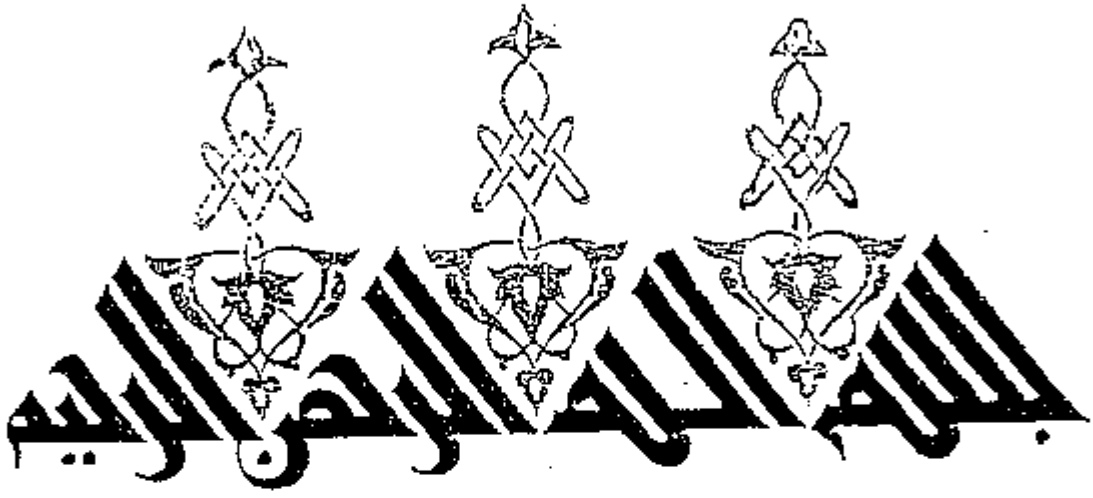
Dr. A. A. Issa

Assist. Prof. of Algae
Botany Department,
Faculty of Science,
Assiut University

Botany Department,

Faculty of Science,
Assiut University

1998


بسم الله الرحمن الرحيم

TO MY FAMILY

THIS THESIS HAS NOT PREVIOUSLY
BEEN SUBMITTED FOR ANY
DEGREE AT THIS OR AT ANY
OTHER UNIVERSITY

ACKNOWLEDGEMENT

ACKNOWLEDGEMENT

The author wishes to express her sincerest gratitude and appreciation to **Prof. Dr. A. A. Mohammed, Assistant Prof. Dr. M. S. Adam** and **Assistant Prof. Dr. A. A. Issa**, Botany Department, Faculty of Science, Assiut University, for suggesting and supervising this work.

I am also deeply indebted to **Prof. Dr. F. T. El- Hissy**, Head of Botany Department, Assiut University, for her constant encouragement and human kindness.

Sincere thanks are also due to all the members of this Department, for their continuous help and fruitful cooperation.

Awatief Fahmey Hifney

CONTENTS

Contents

Page

****

INTRODUCTION

1- INTRODUCTION

Algae are of widespread occurrance in the soils of all continents, from the polar regions to hot deserts (Starks *et al.*, 1981). Soil algae are virtually ubiquitous on or near the soil surface, even in soils which support few higher plants (Cushing, 1967). Soil algae are cosmopolitan and have been isolated from soils in a variety of habitats (Metting, 1981). The study of microscopic algal flora of soil habitats has been stimulated by the assumption that any extra-terrestrial life which may exist probably develops under similar harsh environmental conditions (Metting and Rayburn, 1983).

The soil flora is selected from a limited range of algae within the Chlorophyceae,Cyanophyceae, Bacillariopheeae and Xanthophyceae, with occasional species from the Euglenophyceae and Rhodophyceae (Metting, 1981 ; Round, 1981 and Darly, 1982) . Most soil algae, however,both in kind and number, are members of the Cyanophyceae and Chlorophyceae (Metting, 1981) . The soil flora is sufficiently distinct so that it should not merely be regarded as a part of the aquatic flora living in an unfavourable environment (Metting, 1981 and Round, 1981). Metting (1981) listed 38 genera of prokaryotic and 147 genera of eukaryotic algae that include terrestrial species, the majority of which are edaphic . The soil algal flora does not consist of species which are entirely confined to this habitat many extend their range into other terrestrial habitats, and frequently into small or temporary