

127, 17 27, 17 (20) 77, 17 (20









جامعة عين شمس

التوثيق الالكتروني والميكروفيلم



نقسم بللله 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 %



ثبكة المعلومات الجامعية





Information Netw. " Shams Children Sha شبكة المعلومات الجامعية @ ASUNET بالرسالة صفحات لم ترد بالأص

Ecological and Phytochemical Studies on *Heliotropium arbainense* Fres.

By

Iman Saad Mohammed Mahdy B.Sc., Faculty of Girls, Ain Shams University, (1974)

A Thesis Submitted in partial Fulfillment
of
The Requirements for The Degree of Master Degree
In
Environmental Science
Department of Environmental Biological Science

Institute of Environmental Studies & Researches
Ain Shams University

2002

Bayor



Approval Sheet

Ecological and Phytochemical Studies on Heliotropium arbainense Fres.

By

Iman Saad Mohammed Mahdy

(B.Sc., Faculty of Girls, Ain Shams University, 1974)

This Thesis for Master Degree in Environmental Science has been approved by:

Name

Prof. Dr.\ Mohammed EL-Monayeri Osh

Prof. of Plant Ecology

Faculty of Science (Girls) -AL - Azhar University.

Signature

M. CeMonageni Ush

Prof. Dr.\ Sayed Farag Khalifa

Prof. of Flora and Plant Taxonomy
Faculty of Science - Ain Shams University.

S. F. Khalifa

Prof. Dr. \ Shams EL-Din Embaby

Prof. of Pharmacognosy and Chemistry of Medicinal plant Department National Research Center - Dokki - Cairo Shamed Jamil

•

. •

And the second of the second o

Ecological and Phytochemical Studies on *Heliotropium arbainense* Fres.

By

Iman Saad Mohammed Mahdy

B.Sc., Faculty of Girls, Ain Shams University, (1974)

A Thesis Submitted in partial Fulfillment
of
The Requirements for The Degree of Master Degree
In
Environmental Science
Department of Environmental Biological Science

Under The Supervision of:

1. Prof. Dr.\ Sayed Farag Khalifa

Prof. of Flora and Plant Taxonomy
Faculty of Science - Ain Shams University.

2. Prof. Dr.\ Inas Abd EL-Moatti Mohammed Tolba

Prof. of Ecology and Phytochemistry Desert Research Center.

3. Dr.\ Abdel Nasser Badway Singab

Assistant Prof. of the Pharmacognosy Faculty of Pharmacy-Ain Shams University.

. $\int_{\mathbb{R}^{n}}$

بسم الله الرحمن الرحيم

(قَالَ رَبِ الشُّرَحُ لِي صَدَّرِي وَيَسَرُ لِيَ أَمْرِي وَيَسَرُ لِيَ أَمْرِي وَلَيْسَرُ لِيَ أَمْرِي وَاحْلُلُ عُقْدَةً مِن لسانِي يَقْقَهُوا قَوْلِي)

صدق الله العظيم سورة طه آية: ٢٥-٢٨

Acknowledgement

I feel great pleasure to express my deep gratitude to Prof. Dr. Sayed Farag Khalifa, Professor of Flora & Plant Taxonomy, Department and Head of Botany, Faculty of Science, Ain Shams University for supervising the work, valuable criticism, encouragement and continous guidance, Prof. Dr. Inas Abd EL-Moatti Mohammed Tolba, Professor of Ecology and Phytochemistry, Medicinal Plants Unit, Desert Research Center for supervising the work, valuable criticism, encouragement and continous guidance, Associate Prof. Dr. Abdel Nasser Badway Singab, Head of the Pharmacognosy Department, Faculty of Pharmacy, Ain Shams University, for supervising the work, valuable criticism and continous guidance.

I would like to express my deep thanks to Prof. Dr. Adel Kamel Youssef, Professor of Ecology and Phytochemistry, Medicinal Plants Unit, Desert Research Center, Assistant Prof. Dr. Fatma Ali Ahmed, Dr. Shalabia Shahat Emam, Dr. Nahid Abd EL-Raouf EL-Said and Dr. Emad EL-Dien Mahrous, Medicinal Plants Unit, Desert Research Center for their help, advice and guidance through this investigation.

Deep thanks to my colleagues in Medicinal Plants Unit for their help in laboratory and field.

