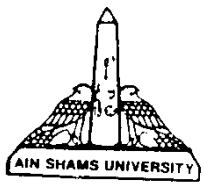


'EFFECT OF WATER EXTRACTS OF SOME MEDICINAL PLANTS ON CELL DIVISION AND NUCLEIC ACIDS CONTENT'

THESIS
Submitted for the degree of
Ph.D.
Botany (Cytology)

By
MAHER MOHAMED SHEHATA
(M.Sc.)

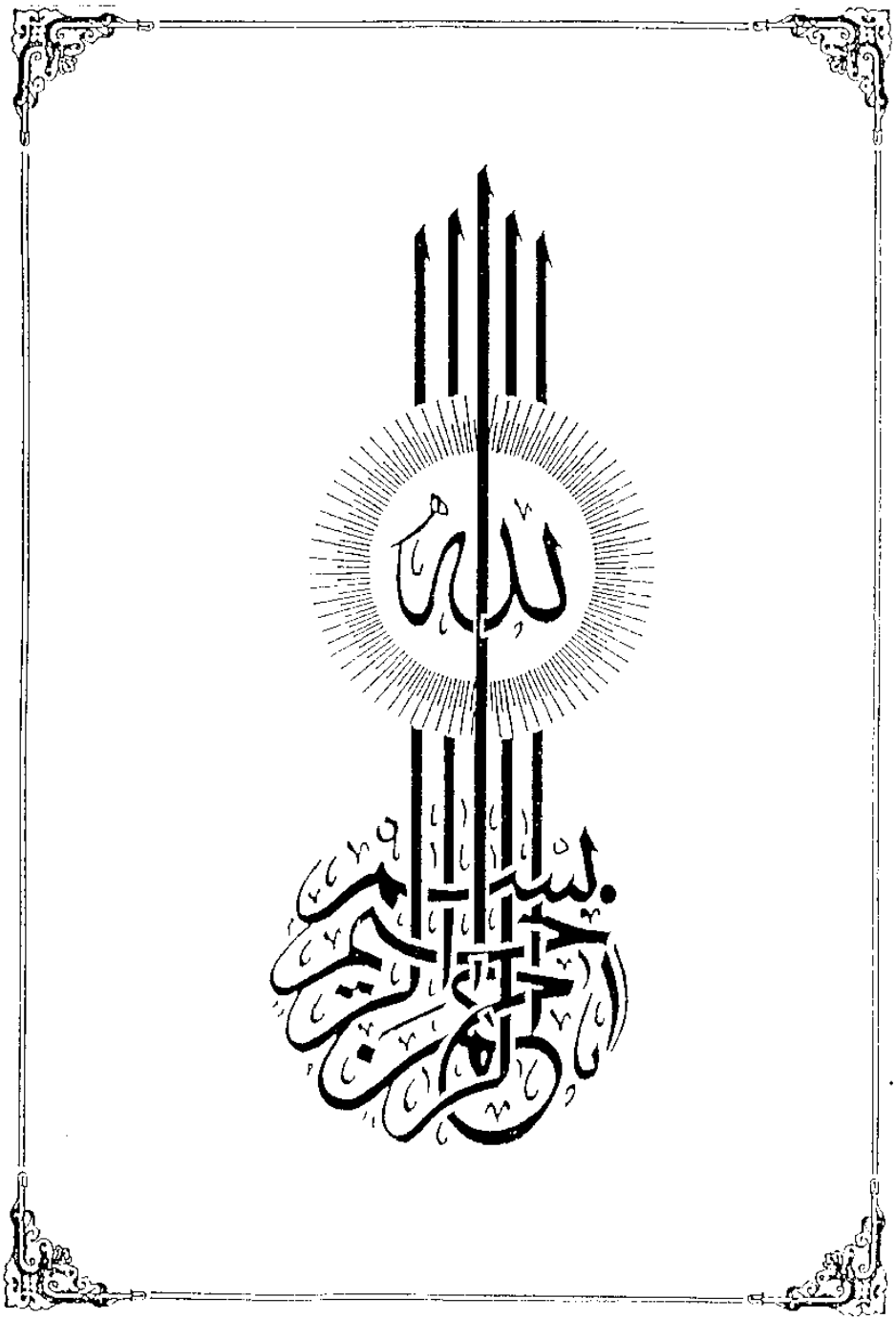
Ain Shams University
Faculty of Science
Botany Department

1993

بسم الله الرحمن الرحيم

وَ تَرى الْمَلائِكَةَ حَافّينَ مِنْ حَوْلِ العَرْشِ يُسَبِّحُونَ
بِحمْدِ رَبِهِّم وَ قُضِىَ بَيْنَهُم بِالحَقِّ و قِيلَ
الحَمْدُ لِلَّه رَبِّ الْعَالَمِينَ ..

صدق الله العظيم
الزمر (٧٥)



Ph. D. THESIS

Name : ***Maher Mohamed Shehata Ahmed***
(B. Sc. Botany Honour dgree & M. Sc. Cytology-Botany)

Title : Effect of water extracts of some medicinal plants on cell division and nucleic acids content

Degree : Ph. D. (Botany)

SUPERVISORS

Prof. Dr. Soheir El-Khodary, Professor of plant Cytology, Faculty of Science, Ain Shams University.

Dr. Antoinette Abdou Habib, Assistant professor of plant Cytology, Faculty of Science, Ain Shams University.

Dr. Hoda Mohamed Sobhi, Lecturer of plant Cytology, Faculty of Science, Ain Shams University.

Head of Botany Department

Prof. Dr. W. El-Saadawi

Acknowledgements

The author wishes to express his great thanks and gratitude to Prof. Dr. Soheir El-Khodary, Professor of Cytogenetics, Botany Department, Faculty of Science, Ain Shams University, for supervising the work, valuable suggestions, constructive criticism, continuous encouragement and help throughout this work.

The author wishes also to express his appreciation and gratitude to Dr. Antoinette Abdou Habib, Assistant Professor of Cytogenetics, Botany Department, Faculty of Science, Ain Shams University, for her supervision, fruitful guidance, continuous encouragement, following up and sincere help throughout the whole work.

I express also my thanks to Dr. Hoda Sobhi, Lecturer of Cytogenetics, Botany Department, Faculty of Science, Ain Shams University, for her continuous encouragement and helpful advice during this study.

I also express my deep thanks and gratitude to Prof. Dr. W. El-Saadawi, Head of Botany Department, Faculty of Science, Ain Shams Universiy.

Many thanks also to the staff members and research students of Botany Department, Faculty of Science, Ain Shams University.

Maher Shehata

This Thesis has not previously been submitted for a degree at this or at any other university

Maher M. Shehata

CONTENTS

Page

B. Cytological studies on the effect of water extracts of *Capsicum annuum* on *Allium cepa* root tips :

C. Cytological studies on the effect of water extracts of *Anthemis nobilis* on *Allium cepa* root tips :

F. Effect of water extracts of *Capsicum annuum* on nucleic acids content :

G. Effect of water extracts of *Anthemis nobilis* on nucleic acids content :

Page

List of Tables

List of Plates

List of Figures

INTRODUCTION

Plants and plant products play an important role in the life of everyone. We look to the plant for a large number of our drugs and to their constituents for the chemical synthesis of a large number of important organic chemicals which are daily used in pharmacy and medicine.

The medicinal plants contain these chemicals in the tissues of most organs (roots, seeds, leaves, bark, wood, flowers and fruits). These chemical compounds include alkaloids, glucosides, volatile oils, fats, resins, gums ... etc. These compounds have a physiological effect on the human body.

The medicinal properties of plants were discovered very early. In fact, the use of plants for treating diseases dates back for at least four thousand years. One of the earliest references to the medicinal use of plants was found in the *Ebers papyrus* , discovered in the old Egyptian tombs in 1873, dating from approximately the sixteenth century B.C. It describes more than 700 herbal remedies including many which are familiar to-day. Many of the medicinal herbs of the Egyptians seem to have been chosen primarily for their aromatic properties. pleasant smells were believed to expel the evil-vapours of disease.

By the start of the present century many hundreds of medicinal plants are fully recognized, pure drugs have been already isolated from them and prescribed in the pharmacopoeias of the world.

The use of plant extract instead of synthetic drugs in the treatment of some diseases increased progressively. Many investigators made trails to test the mode of action, toxicity, physiology and cytology of some plant ex-