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

MACROSCOPIC AND MICROSCOPIC STUDIES ON SOME VERTEBRATES IN EGYPT

A THESIS SUBMITTED FOR
THE AWARD OF THE M.SC. DEGREE OF SCIENCE TEACHER PREPARATION
(ZOOLOGY)

BY

Fatma Mohamed Ali Taki El-Deen

B.Sc. & Ed. (1997)
General Diploma in Science Teacher Preparation – Zoology (1998)
Special Diploma in Science Teacher Preparation – Zoology (1999)

Supervised By

Prof. Dr. Ibrahim Gomaa Ibrahim
Professor of Comparative Anatomy - Zoology Department
Faculty of Science – Al Azhar University

Dr. Mohammed Ibrahim Rady
Assistant Professor of Cytology & Histochemistry - Zoology Department
Faculty of Science – Al Azhar University

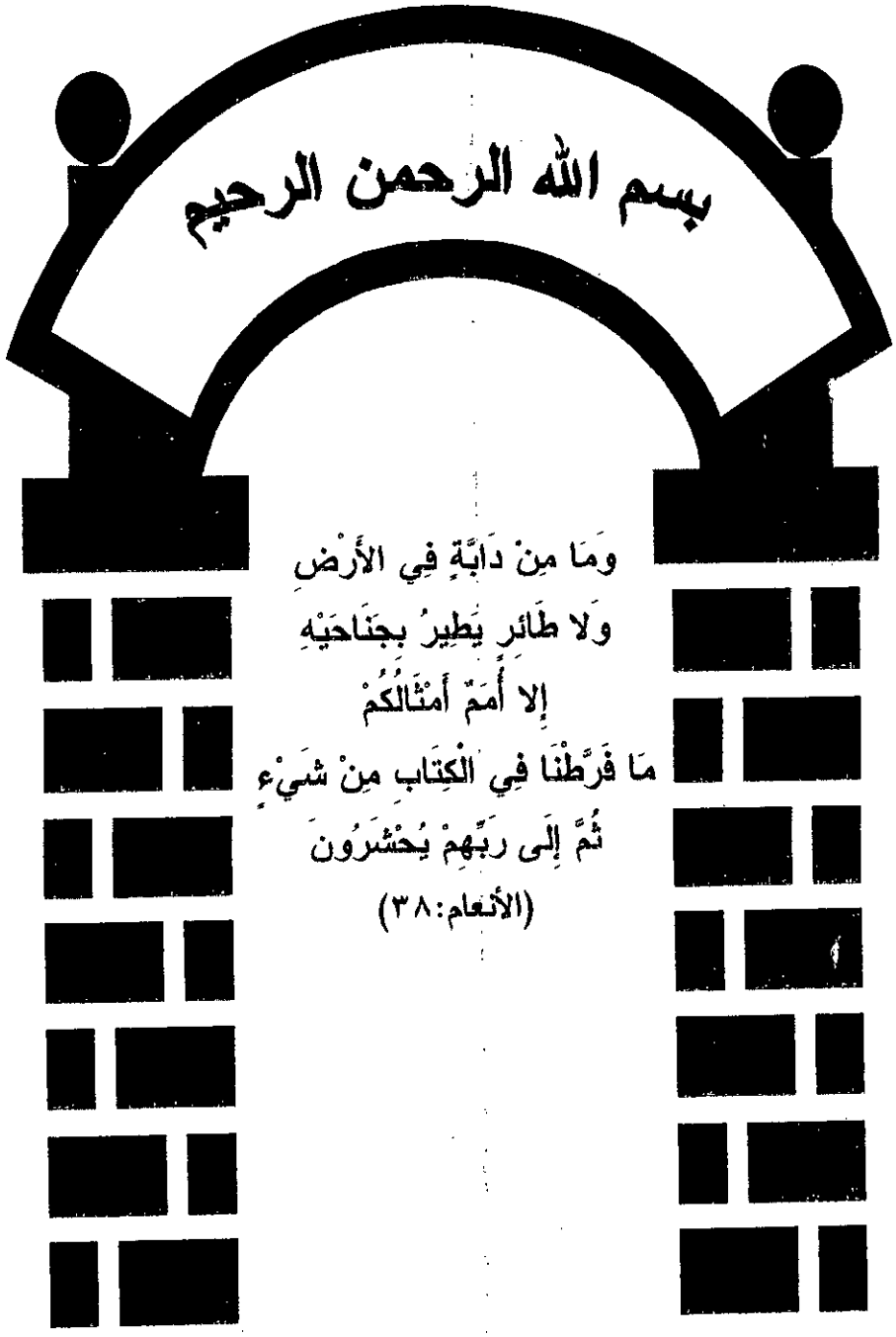
Dr. Fatma Gezmaty Bahgat
Lecturer of Vertebrates & Embryology– Biological and Geological Sciences Department
Faculty of Education - Ain Shams University

Dr. Khaled Ahmed Mahmoud Gomaa
Lecturer of Experimental Zoology – Biological and Geological Sciences Department
Faculty of Education - Ain Shams University

TO

BIOLOGICAL AND GEOLOGICAL SCIENCES DEPARTMENT
FACULTY OF EDUCATION- AIN SHAMS UNIVERSITY

2003


بسم الله الرحمن الرحيم
وَمَا مِنْ دَابَّةٍ فِي الأَرْضِ
وَلا طَائِرٍ يَطِيرُ بِجَنَاحَيْهِ
إِلا أُمَمٌ أَمْثَالُكُمْ
مَا فَرَّطْنَا فِي الْكِتَابِ مِنْ شَيْءٍ
ثُمَّ إِلَى رَبِّهِمْ يُحْشَرُونَ
(الأنعام:٣٨)

APPROVAL SHEET

Name: Fatma Mohamed Ali Taki El-Deen.

Title: Macroscopic and microscopic studies on some vertebrates in Egypt.

Supervisors

Prof. Dr. Ibrahim Gomaa Ibrahim
Professor of Comparative Anatomy,
Zoology Department, Faculty of Science,
Al Azhar University.

Dr. Mohammed Ibrahim Rady
Assistant Professor of Cytology & Histochemistry,
Zoology Department, Faculty of Science,
Al Azhar University.

Dr. Fatma Gezmaty Bahgat
Lecturer of Vertebrates & Embryology,
Biological and Geological Sciences Department,
Faculty of Education, Ain Shams University.

Dr. Khaled Ahmed Mahmoud Gomaa
Lecturer of Experimental Zoology,
Biological and Geological Sciences Department,
Faculty of Education, Ain Shams University.

Head of Biological and Geological Sciences Department

Prof. Dr. Mohamed A. Shahin

ACKNOWLEDGMENT

First of all, I wish to offer my deep thanks to **ALLAH** for the support in every step and enabled me to overcome all the problems that faced me throughout the work.

I would like to express my deepest gratitude and my heartfelt thanks to ***Prof. Dr.*** **Ibrahim Gomaa Ibrahim** professor of Comparative Anatomy, Zoology Department, Faculty of Science, Al-Azhar University, for suggesting the point and supervising the whole work. Sincere thanks are also for his continuous guidance and critical reviewing of this manuscript. I am grateful to him for his excellent direction in the completion of this work.

It pleases me to offer special thanks to ***Dr.*** **Mohammed Ibrahim Rady**, assistant professor of cytology and histochemistry, Zoology Department, Faculty of Science, Al-Azhar University and ***Dr.*** **Khaled Ahmed Gomaa** lecturer of Experimental Zoology, Biological and Geological Sciences Department, Faculty of Education, Ain Shams University, for their continuous encouragement and advice during the stages of this work. Sincere thanks are also due to them for their guidance and constructive critical reading of this manuscript.

I find a due payment of homage to soul of ***Dr.*** **Fatma Gezmaty Bahgat** I began this work with her and guided by her vast knowledge and experience.

Abstract

The present investigation deals with a comparative study of the skull in addition to the anatomy, histology and histochemistry of the tongue, alimentary canal, liver and pancreas of three different classes of vertebrate animals that live in Egypt. The investigated animals are; the changeable agama, *Agama mutabilis* (Reptilia), the little owl, *Athene noctua* (Aves) and the naked-rumped tomb bat, *Taphozous nudiventris* (Mammalia). The skull of the adult *Agama mutabilis* is completely ossified, broad and triangular in shape, with short snout and the sutures are well distinct. The skull of the owl, *Athene noctua*, is nearly triangular in shape, rounded posteriorly and tapered anteriorly and the sutures between its component bones are faintly apparent. The skull of the adult *Taphozous nudiventrris* is a bony case composed of separate bones, which jointed together with distinct sutures. The tongue of *A. mutabilis* is a strong muscular movable organ, which consists of two layers; the mucosa and submucosa. The papillae are of two types; fungiform and filiform papillae. The tongue of *A. noctua* is forked at the base and is gradually narrowed anteriorly. It is composed of mucosa, submucosa and muscularis. No lingual papillae are observed on the dorsal surface of the tongue, only little taste corpuscles are scattered in the epithelium lining the surface of the tongue. The tongue of *T. nudiventris* is pink in colour, triangular in shape and is composed of three layers; mucosa, submucosa and muscularis. The papillae are filiform, fungiform and circumvallate papillae. Lingual glands of the tongue can be divided into two types; serous and mucous glands. The oesophagus of the animals under study is a long elastic tube consisting of four distinct layers; serosa, muscularis, submucosa, and mucosa. The stomach of *A. mutabilis* is relatively wide elongated and curved tube. The wall the stomach of *A. noctua* is much thicker than that of the oesophagus. The stomach in *T. nudiventris* is a small sac divided into cardiac, and pyloric