



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ





شبكة المعلومات الجامعية



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكرو فيلم

جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون أية 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 %



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بعض الوثائق الأصلية تالفة



شبكة المعلومات الجامعية



بالرسالة صفحات
لم ترد بالأصل



BENHA BRANCH

ARTIFICIAL PROPAGATION AND EARLY REARING OF *CLARIAS GARIEPINUS* IN EGYPTIAN FISH PONDS.

A THESIS SUBMITTED TO THE UNIVERSITY OF
ZAGAZIG (BENHA BRANCH) FOR THE AWARD OF
THE DEGREE OF DOCTOR PHILOSOPHY IN
ZOOLOGY

BY

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DEPARTMENT OF ZOOLOGY
FACULTY OF SCIENCE
ZAGAZIG UNIVERSITY
(BENHA BRANCH)

1997

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A THESIS

Submitted for the award of the degree of Doctor of Philosophy (Ph. D.) in Zoology

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1997



DEDICATED TO

My father, with my gratitude;

My Mother;

My wife;

& My Sons.

" صفحة المشرفين "

إسم الباحث : جمال عبد الناصر محمد السيد

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CHAPTER I

**INTRODUCTION
AND
HISTORICAL REVIEW**

INTRODUCTION AND HISTORICAL REVIEW

Suitability of *Clarias gariepinus* for aquaculture :

The introduction of aquaculture into Africa essentially took place after the Second World War (Meschkat, 1967). Following the initial introduction of tilapia culture in Central Africa between 1946 and 1949, their production in ponds was undertaken almost all over the continent. In 1959/60 close to 300000 fish ponds were in operation in about 20 African countries (Meschkat, 1967). From that time the interest in aquaculture started to decline and the majority of ponds were abandoned (Huet, 1972). The fish farmers became discouraged when they harvested too many small tilapia from over-populated ponds. This over population was caused by the general method of stocking of mixed age groups. A reorientation was then proposed to differentiate between the production of marketable tilapia and that of the necessary fry (Lemanson and Bard, 1968). It was proposed to produce monosex hybrids to overcome this problem. Although numerous fry production stations were established (Meschkat, 1967), the necessary aquacultural infrastructure did not materialise the skills of the fish farmers. The management levels of the fry production stations and the liaison by fish culture extension services etc. did not meet the high standards required for successful tilapia culture (Miller, 1975 and Hepher & Pruginin, 1982).

The suitability of cultivating a number of species of family clariidae which *Clarias gariepinus* best met with, have the following requisites :