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

Cairo University
Faculty of Veterinary Medicine
Department of Animal Hygiene and Management

COMPARATIVE STUDIES ON BEHAVIOURAL PATTERNS, PRODUCTIVE AND REPRODUCTIVE PERFORMANCE OF SOME FRESH WATER FISHES

Thesis presented
By

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(B. V. Sc. 2003)

For the degree of
M.V.Sc.
(Animal Behaviour and Management)

Under the supervision
Of

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2006

Cairo University
Faculty of Veterinary Medicine
Department of Animal Hygiene and Management

Approval Sheet

This is to approve that the dissertation presented by

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To

Cairo University

Entitled

COMPARATIVE STUDIES ON BEHAVIOURAL PATTERNS, PRODUCTIVE AND REPRODUCTIVE PERFORMANCE OF SOME FRESH WATER FISHES

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بِسْمِ اللهِ الرَّحْمنِ الرَّحِيم

﴿وَهُوَ الَّذِي سَخَّرَ الْبَحْرَ لِتَأْكُلُواْ مِنْهُ لَحْماً طَرِيّاً وَتَسْتَخْرِجُواْ مِنْهُ حِلْيَةً تَلْبَسُونَهَا وَتَرَى الْفُلْكَ مَوَاخِرَ فِيهِ وَلِتَبْتَغُواْ مِن فَضْلِهِ وَلَعَلَّكُمْ تَشْكُرُونَ﴾ [سورة النحل آية: ١٤]

صدق الله العظيم

ACKNOWLEDGEMENT

In the name of Allah Most Gracious, Most Merciful. I wish to express my deepest thanks and gratitude to **Prof. Dr.Essam M. Abdel- Gawad** Professor of Animal Behaviour and Management, Faculty of Veterinary Medicine, Cairo University for his supervision, kind encouragement, valuable guidance and continuous interest which are responsible for the completion of this work.

My sincere thanks to **Prof.Dr. Rabie H. Fayed**, professor of Animal Behaviour and Management, faculty of Veterinary Medicine, Cairo University for his supervision, indispensable support, sincere cooperation, worthful advices and generous help throughout the work.

I wish also to express my appreciation to **Prof. Dr.Mohammed Y.Matoock** Professor of Animal Behaviour and Management, Faculty of Veterinary Medicine, Cairo University for his great help in the statistical analysis of the data.

I would also like to thank all my colleagues in the department of Animal Hygiene and Management (Anima Behaviour and Management) for their help and cooperation.

Contents

INTRODUCTION

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The fish are the oldest surviving vertebrates. Started their lives in fresh water about 430 million years ago, later they adapted to ocean water. The true bony fish constitute the largest group of vertebrates on earth; about 20,000 species are known to exist today **(Scheurmann, 2000)**.

Raising fish for ornamental purposes follows the development of aquaculture for food purposes. Additional species of fish were kept not only for their food quality, but because of unusual characteristics such as size, shape, and most importantly color, the growing interest in aquarium fishes has resulted in steady increase in aquarium fish trade globally **(Axelrod and Schultz, 1995)**.

Ornamental fish production is an important component of the aquaculture industry in several nations **(Tlusty, 2002)**. They accounts for 7% of the U.S.A. industry of aquaculture production. Most of the aquaculture production of ornamental fish focuses on freshwater species. Approximately 90% of freshwater ornamental fish are captivity bred **(Dawes, 1998)**.

The total ornamental fish industry valued at approximately 15 billion dollars, also the ornamental fish industry supports some developing countries(e.g. Amazon countries and Brazil) as 60% of exports come from such areas **(Bartley, 2000)**.

Aquarium fish play an important role in the amusement of many people. One of the most pleasurable sights in a home, Doctor's, Dentist's office or even in restaurant is an attractive aquarium filled with colorful exotic fishes. Which provide unique and esthetic viewing pleasure **(Friese, 1983)**.

Egyptians and Romans, showed obvious interest in the decorative value of the fishes. Wall paintings from ancient Egypt, dating back to about 1,400 B.C., Shows the use of cichlids in decorative garden ponds, and several literary sources tell of fishes being kept as precious pets by the Romans as long as 2000 years ago **(Fossa, 2004)**.

Several species of fishes are now standard laboratory animals in many biological and medical research institutions. The sensitivity of fishes to chemicals in their environment has led to their use as assay animals in both toxicological and endocrinological work **(Gordon, 1967)**.

From ornamental fresh water fish species the most common five species were selected as subject of this study, three of them are live bearers (Guppy, Molly, and Swordtail)one Anabantid (Gourami), and one cold water cyprinids (fantail gold fish).

This study aimed to:

1- Establish the ethogram of some fresh water ornamental fish species.

2- Study the productive performance of some species of ornamental fish.

REVIEW OF LITERATURE