

ZOOLOGY B

Animal Diversity: Invertebrate & Chordate

Subjective & Objective

For B.Sc. (Two Years): Paper B

For B.S. (Four Years): Semester III & IV

Supplement with CD



Prof. Riaz-ul-Haq-Ramay

According to syllabus approved
by the Higher Education Commission (HEC) Islamabad
(Derived from Miller /Harley)

Applicable to all the Universities of Pakistan

Master Success **Text Book**

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ANIMAL DIVERSITY: INVERTEBRATE & CHORDATE
(Classification, phylogeny and organization)

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12896

B.S. (Four years): Semester III and IV

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Preface to Third Edition

Master success Zoology series has completed one successful round. The second editions of Zoology A, B and C have been consumed in the market. These books remain popular throughout the country. Second editions are now being marketed. I am personally obliged to all the learned teachers and students who liked these books. I am also thankful to those who gave me invaluable suggestions. Second editions includes following changes:

1. All the mistakes whether grammatical or technical have been removed.
2. Language is further adjusted to facilitate students.
3. Some new topics are added.
4. Some new diagrams are added and previous diagrams are improved.
5. A CD has been added. This CD can be obtained on demand.

I live in hope that these new changes will further improve this book. But change is a constant process. It was constant and it will remain constant. Your cooperation and suggestions will be handy in this process. So don't hesitate to call me, write me or e-mail me.

May, 2007

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**Master success
Zoology CD**
(For B.Sc, B.S, M.Sc.)



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B.S. III Semester (Animal Diversity 1): Chapters 1 to 9
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Chapter 1

Chapter of Miller
& Harley

7

INTRODUCTION

ANIMAL CLASSIFICATION, PHYLOGENY & ORGANIZATION

Syllabus Chapter 1/7: Introduction

1. Classification of organisms
2. Evolutionary Relationship and tree diagram
3. Pattern of Organism

CLASSIFICATION OF ORGANISM

The study of kinds and diversity of organisms and the evolutionary relationships among them is called **systematics** or **taxonomy**. The study of systematics gives the order (ترتيب) and relationships among the organisms. This relationship arises from evolutionary processes. These studies also give description of the new species. It organizes the animals into groups (taxa). This grouping is based on degree of evolutionary relatedness (مشابهت). Some biologists differentiate between systematics and taxonomy. They believe:

(a) **Taxonomy**: The original description of species is called taxonomy.

(b) **Systematics**: The arrangement of species into evolutionary groups is called systematics.

A Taxonomic Hierarchy (تنظيم)

There are two basis of taxonomic hierarchy:

(a) **Taxonomic hierarchy based on morphology**

Karl von Linne (Carolus Linnaeus) gave the modern classification system. It is still used today. He believed that different species could be grouped into same categories. This grouping is based on the similarities between them. The group of animal with similar characteristics forms a **taxon**. For example, housefly (*Musca domestica*) shows similarities with other flies. They have single pair of wing. Therefore, all the flies are placed in the same taxon. Moreover, the entire true flies also show similarities with bees, butter flies and beetles. Therefore, they are collectively called insects.

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