

(ZOO 305)

جــامـعــة الملك سعود King Saud University





- Course title: Modern Animal Taxonomy
- Credit hours: 2 (1+1)
- Teacher name: Dr Rewaida Abdel-Hakim
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25% absence from both lectures and labs (approximately 10 hrs.), student will be deprived from the course.

## **Evaluation and Assessment**

	Activities	%
1	First midterm exam	15%
2	Second midterm exam	15%
3	Practical	30%
4	Final Examination	40%
	Total	100%



### First mid- term exam : Sunday 2/2/1439H

Second mid-term exam : Sunday 8/3/1439H

**Time** : (9 – 10)



Basic concepts of theoretical approaches and methods of comparative biology, taxonomy and phylogenetic relevant to higher classification and species from a viewpoint of phylogenetic systematic.

- 1- General principles of animal taxonomy
- 2- History of taxonomy
- 3- The objectives of taxonomy and the task of the taxonomist
- 4- The contribution of taxonomy to biology
- 5- Theories of taxonomy
- 6- Species and subspecies categories
- 7- The hierarchy of categories and the higher taxa
- 8- Animal population and their diversity
- 9- Dynamic of reproductive isolation
- 10- Taxonomic characters
- 11- Procedures of classifications
- 12- Individual variation
- 13- Keys (Definition, Types of keys)
- 14 Principles of zoological nomenclature





**Eighth Edition** 

Theory and Practice of Animal Taxonomy and Biodiversity

#### V.C. Kapoor





# LECTURE (1)

#### **Principles of Animal Taxonomy**

## **Principles of Taxonomy**

It is an interesting tool, need to understand concept and meaning between Taxonomy, Systematic and International code of nomenclature.





It is the science of grouping biodiversity into species, describing the species, and classifying this diversity into higher-level taxa that reflect evolutionary history.

(1) It introduces the main concepts and goals of taxonomy and systematics.

(2) It teaches the qualitative and quantitative techniques that are today used to describe/identify species and higher-level taxa based on the analysis of morphological and DNA sequence evidence.

#### **Taxonomy**

#### (Taxis= arranged, nomos= law)

It includes a range of different areas from description and naming of new taxa (nomenclature), classification and construction of identification system for particular groups of organisms.

#### Systematic (Systema= A whole made of several parts)

It includes traditional taxonomy with the addition of theoretical and practical aspects of evolution, genetics and speciation.

Classification Or Determination Nomenclature Faunistics

A part from

## Definitions

**Classification:** arrangement of animals into groups having common characteristics that express evolutionary relationships

**Identification or Determination:** identifying animals by the recognition of certain characters

**Nomenclature:** naming of organisms according to the International Code of Zoological Nomenclature (ICZN)

**Faunistics:** inventory of the native or naturalized animals of an area; called a fauna

# Why is a system of classification needed?

a. Organize species into groups and discuss them.b. Identify new organisms.c. Show relationships between organisms.



## **Primary goals of Animal systematics**

1- Identify and describe all animals of world.

2- Develop a uniform, practical, and stable system of naming animals that can be used by both animal taxonomists and others needing to communicate about animals

International Code of Zoological Nomenclature (ICZN) provides rules for naming and classification that is uniform and stable

3- Form groups that reflect their evolutionary relationships

