Introduction to Zoology

Lecture1

What is Biology?

- **Biology is a study of life in all its living things.**
- **Living things are called organisms.**
- **Biology includes the study of structure, function, growth, evolution, distribution, and taxonomy.**
- **Organisms include: plants, animals and microorganisms (virus and bacteria) including human.**

The term "Biology" is derived from: *Bios* = life and *Logos* = to study

What is Zoology?

Zoology: is the scientific study that deals with animals and animal life, including the study of structure, physiology, development and classification of animals.

The term "Zoology" derived from: *Zoon* = Animal and *Logos* = to study

- **Zoology is a branch of Biology which study the animal kingdom.**
- **Botany is also a branch of Biology which study plant kingdom.**
- **Zoologist is the scientist who study zoology.**

The study of zoology was done by the contribution of thousands of scientists around the world throughout centuries.

Why study Zoology?

- A better understanding of structure and physiology of our body. Why?
- Better understand how animals can adapt successfully to different environmental conditions.
- Zoology and Botany are important fields, which many disciplines rely on such as medicine, pharmacy, veterinary and nutrition.
- New surgical methods and new drugs applied to animals before being introduced to human.
- Help to understand how parasites infect us and how are distributed.
- Improve the quality of animals: eggs, milk, meat.
- Using animals (mice, rats and rabbits) in scientific experiments to understand how microbes behave and how to treat them.
- Understand the life cycle of many bad insects which caused problems to the crops and how to control them.

Branched of Zoology

Morphology: Study the outer shape of the animals.

Anatomy: Study of the structure of entire organisms and their parts.

Cytology: Study of structure and functions of cells.

Ecology: Study of the interaction of organisms with their environment.

Histology: Study of tissues.

Embryology: Study of the development of an animal from the fertilized egg to birth.

Physiology: Study of the function of organisms and their parts.

Genetics: Study of the mechanisms of transmission of traits from parents to offspring.

Molecular Biology: Study the subcellular details of structure and function.

Parasitology: Study of animals that live in or on other organisms at the expense of the host.