

The term zoology comes from the Greek , zoon,(animal) and logos (science) , and is a branch of biology, a science concerned with the study of the animal kingdom.

It studies diversity, structure, behavior and reproduction, development, origin, distribution and relationships of animals with their environment. It draws on different disciplines such as morphology, anatomy, histology, ecology, ethology, genetics, etc.

### 1. Basis of classification


Biological classification is the grouping of organisms according to relevant similarities.

In Carl Linnaeus' taxonomy, a kingdom (from the Latin "regnum", plural "regna") is taxonomy (which classifies biodiversity according to shared common traits), the highest level of classification of living beings. In more recent classifications, the kingdom is only the second level of classification, after the domain or empire (the highest taxonomic category).



**For example**, the red fox's biological name is *Vulpes vulpes*. *Vulpes* is both genera as well as a species name, but the upper and lower case differentiates them; or **another example** is a dolphin, its biological name is *Delphinus delphis*, where *Delphinus* is the genus name, and *Delphis* is the species name.

Taxonomy is broadly categorized into seven groups that classify all living organisms. An example of animal classification of a **wolf** is: —

<b>DOMAIN</b>	Eukarya	<p><b>EXAMPLE</b></p> <p><b>Animal kingdom hierarchy</b></p> 
<b>KINGDOM</b>	Animalia	
<b>PHYLUM</b>	Chordata	
<b>CLASS</b>	Mammalia	
<b>ORDER</b>	Carnivora	
<b>FAMILY</b>	Canidae	
<b>GENUS</b>	<i>Canis</i>	
<b>SPECIES</b>	<i>Canis lupus</i>	

Domain—Eukarya

Kingdom—Animalia

Phylum—Chordata

Class—Mammalia

Order—Carnivora

Family—Canidae

Genus—*Canis*

Species—*Canis lupus*.

## **Zoological nomenclature**

Zoological nomenclature is the set of rules for naming animal taxa (like species).

This zoological nomenclature is defined by the International Commission on Zoological Nomenclature.

The brackets around the author's name indicate that the taxon described by the author in question was originally described as part of a higher taxon, where it is no longer classified.

## **Binomial naming**

Since Linnaeus (1707-1775), species have always been designated by two Latin names for international understanding (binomial nomenclature).

- The first name is that of the genus, always beginning with a capital letter,
- the second, the species name, always begins with a lower-case letter.

## Phylogenetic evolution

Phylogeny is the study of the evolutionary history of species and the reconstruction of their kinship relationships.

Its aim is to understand the origin and structure of past and present biodiversity.

Phylogeny is thus fundamentally based on two dimensions: biological diversity and time.

Kinship relationships are described using phylogenetic trees. A phylogenetic tree is a graphical representation of a tree that can be interpreted in the same way as a genealogy.

