

# **Chapter Eighteen**

## **Basic Ecology**

### **Introduction:**

In ecology, we study the relationship that living things have with their environment. Living things refer to plants and animals.

### **Characteristics of living things:**

- These characteristics are:

#### **(1) Movement:**

- Living things move from place to place.

#### **(2) Respiration:**

- They breathe.

#### **(3) Nutrition (Feeding):**

- They take in food.

#### **(4) Growth:**

- They grow or increase in size.

#### **(5) Excretion:**

- They excrete or remove waste from their bodies.

#### **(6) Reproduction:**

- They are able to reproduce their young ones.

### **Differences between plants and animals:**

- These differences are:

(1) Plants can prepare their own food, but animals cannot prepare their own food.

(2) Chlorophyll can be found in plants but cannot be found in animals.

(3) Animals stop growing at certain age, but plants do not stop growing.

(4) Animals have excretory organs but plants do not.

## **Basic classification of animals:**

- Animals can be divided into two main groups, and these are vertebrates and invertebrates.
- While vertebrates are animals with backbones, those without backbones are called invertebrates.
- Vertebrates and invertebrates can again be divided into other groups, and some of these groups are:

### **(1) Reptiles:**

- Examples are lizard, snake and turtle.
- They live on land and have scales on their bodies.
- They lay eggs.

### **(2) Amphibians:**

- Examples are frog and crocodile.
- They live in water and on land.
- They lay eggs and have scales on their bodies.

### **(3) Mammals:**

- Examples are horse, man, bat, dog, monkey and sheep.
- They breathe using lungs and their bodies are covered with fur or hair.
- They give birth to their young ones.

## **Ecological terms:**

**(1) Environment:** This refers to the surroundings of living organisms.

**(2) Population:** This refers to a particular kind of plants or animals, living in a particular area.

- For example, all the dogs living in Accra form the dog population of Accra.
- Also, all the monkeys living in Lagos form the monkey population of Lagos.

**(3) Community:** This refers to all the different kinds of plants and animals, living within an area.

**(4) Habitat:** This refers to a place where living organisms can live and reproduce. There are two main types of habitats and these are:

- (i) Terrestrial habitat.
- (ii) Aquatic habitat.

Terrestrial habitat refers to land and aquatic habitat refers to water bodies such as lakes and rivers. There are two main types of aquatic habitats and these are:

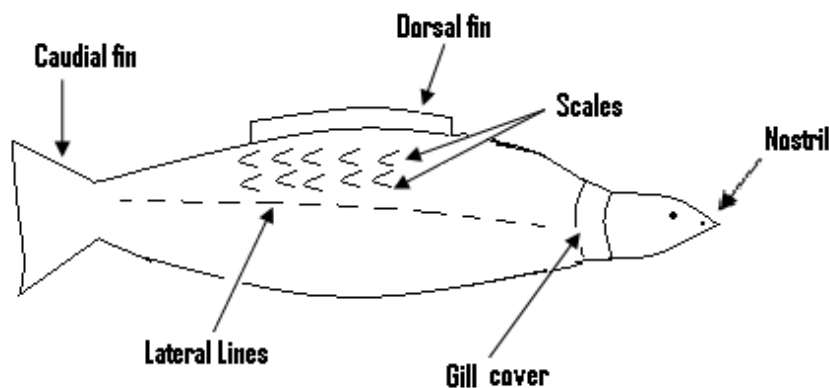
- (a) Fresh water habitats such as lakes, ponds and rivers.
- (b) Marine habitat, which refers to the sea.

**Salinity:** This refers to the amount of salt within a water body.

**Adaptation:**

- This refers to the special features which living organisms have, which enable them to live in their habitat.

**How an aquatic creature such as a fish adapts to its environment:**

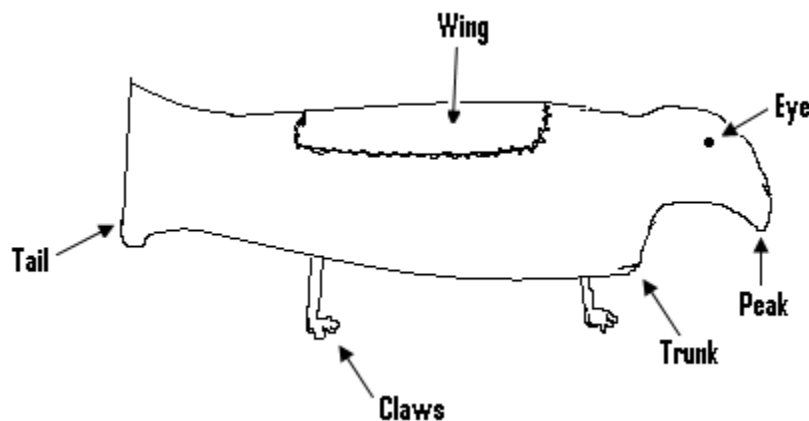


An aquatic creature such as the fish adapts to its environment in the following manner:

- It has gills which enable it to breathe in water.

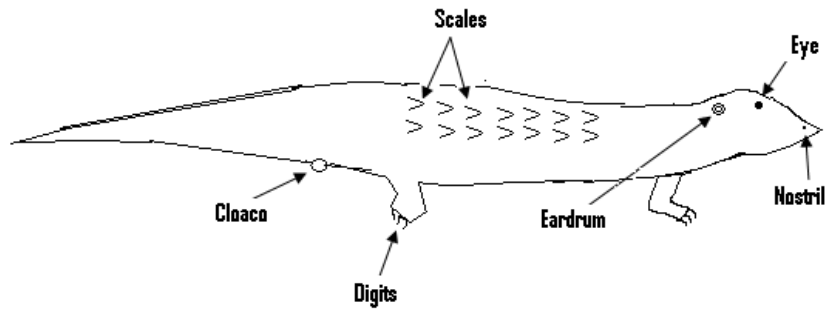
- Its body is covered with scales which protect it.
- It has a streamlined or a boat shaped body, which enables it to move easily in water.

### **How an aeboral creature adapts to its environment:**



- An aeboral creature is one which spends a great deal of time in the air, or on trees e.g the bird.
- The bird adapts to its environment in the following manner:
- It has wings which are used for flying.
- Its bones are hollow (i.e. has space filled with air), which gives it a light weight.
- It has a streamline body which makes flying in the air easy.

### **How a terrestrial creature adapts to its environment:**



- A terrestrial creature is one which lives on land, and the lizard adapts to its environment in the following manner:
- The scales on its body protect it.
- It has lungs which are used for breathing.
- It has a sticky tongue, used for the trapping of insects for food.