

Two guinea fow birds with striking blue and black vertical stripes on their bodies and wings. They have grey heads with a prominent red eye and a small crest. They are standing in a field of dry, golden-brown grass and green shrubs. The background is softly blurred, emphasizing the birds.

Birds of a Feather

RESEARCHER: Titus Imboma

TOPIC: Birds of a feather

THEME: Birds

DEPARTMENT: Ornithology



African Crowned Eagle
Source: NMK - Ornithology

Lesson Objectives

1. The learner shall be able to identify a bird.
2. The learner shall describe parts of a bird.
3. The learner shall appreciate the importance of birds in the ecosystem.
4. The learner shall explore best bird conservation practices.

Learning resources

1. Text
2. Video
3. Photo

Definition of Ornithology

Ornithology is the study of birds. This study includes their behaviour, environment, how their bodies work and how the birds have changed over a period of time.

The word ornithology is derived from two Greek words, ornis, meaning birds and logos, meaning study. A scientist who studies birds is known as an **Ornithologist**.

Birds: Definition and characteristics

Birds are warm blooded, egg-laying living organisms whose limbs are modified to form wings for flying and claws for grasping. They have hollow and fewer bones compared to other animals.

The bodies of birds are covered with feathers and they have a beak.

Birds make nests and live on trees and rocks.

Parts of a bird

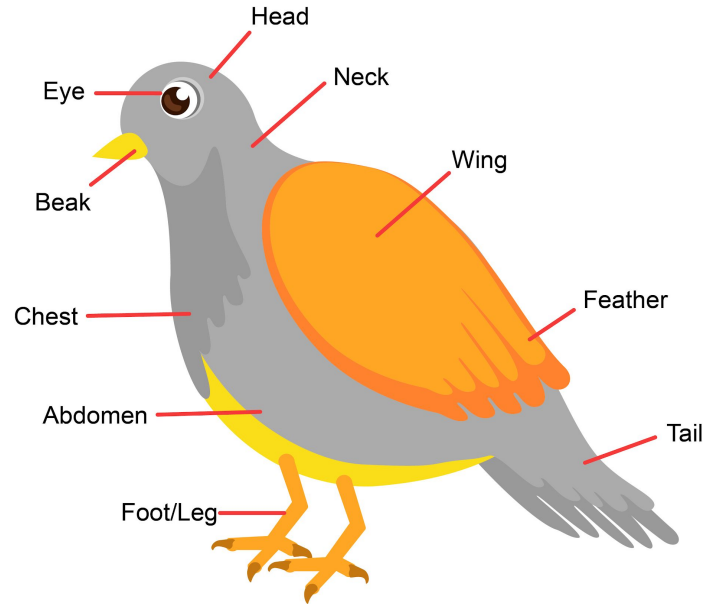
The external parts of a bird include:

Beak: This is the extended part of the bone jaw in front of a bird's mouth used for eating, killing prey, probing for food, carrying items and as weapons. There are different types of beaks including long, short, hooked, stout and straight.

Chest: The chest, also called the breast, is the upright part of the bird's body between the throat and the abdomen. A bird's chest may be differently coloured or marked with stripes, streaks or spots.

Abdomen: The abdomen or belly of a bird extends from the bottom of the chest to the undertail. The colours and markings on the abdomen may vary from the chest and flanks.

Wings: These are modified front legs. They help the birds fly. Birds move their wings using muscles in the chest.



Labelled bird
Source: NMK - Ornithology

Feathers: Birds use their feathers to fly, camouflage, keep warm, as well as giving them shape. There are two basic types of feathers: flight feathers and down feathers.

Foot: The leg and foot of a bird varies depending on its species. The foot helps the bird to land, climb and hold something. Birds' feet are made up of harder skins than the other parts of the body, to help them scratch for food.

Legs: Birds use their legs for walking, perching, paddling, scratching, holding food, killing, carrying prey, and as weapons for defence against their enemies.

Tail: The tail helps the bird to change direction as it flies. It functions like the tail of an aeroplane.

Anus: This is the extra opening near the tail through which the bird releases its waste.

Bird Species and their Habitats

Birds are found on every continent of the world. Kenya has over 1,100 bird species which live in all habitats including forests, wetlands, savannahs, deserts and even human settlements.

The different climatic conditions in Kenya enhance diverse habitats. This contributes to an increased variety in bird species.

Maasai Mara and Amboseli national parks for example, have common birds such as Lilac breasted rollers, Secretary bird, Marabou storks, Kingfishers, Falcons and Martial eagles.

The Great Rift Valley lakes such as Lake Nakuru, Naivasha and Bogoria host a good number of water-birds including Flamingos, Pelicans, Yellow-billed stork, Fish eagles and Grey crowned crane. Examples include;

The Grey crowned crane *Balearica regulorum* are commonly found in freshwater, marshes, open wet fields and sometimes open agricultural fields. It is an endangered species due to loss of habitat and poaching of their eggs. Both the males and females build nests and take care of the young.

The Lesser and Greater Flamingos *Phoeniconaias minor*. Lesser flamingos prefer Saline water from saline lakes within the Kenyan Rift Valley including Lake Bogoria, Elementaita, Nakuru and Lake Magadi. They considered Near Threatened because of the current decline in population.



The Grey Crowned Crane Balearica regulorum
Source: NMK - Ornithology



Lesser and Greater Flamingos Phoeniconaias minor
Source: NMK - Ornithology

Birds such as Vulturine guineafowl *Acryllium vulturinum* are commonly found in dry savannah habitat such as Laikipia and Samburu National Reserve. This is unlike the African crowned eagle *Stephanoaetus coronatus* that are found in forest habitat. Its powerful beak is used for tearing flesh from prey together with its powerful claws which it uses to kill large prey like monkeys in the forest. The African crowned eagle is a species that is near threatened due to loss of forest habitat.

As birds of prey or raptors, they are birds that feed on flesh, simply meat eaters. Raptors include eagles, buzzards, hawks, kestrels and vultures.



Vulturine guineafowl *Acryllium vulturinum*
Source: iStock



African crowned eagle *Stephanoaetus coronatus*
Source: iStock

Birds and the ecosystem

Birds play an important role in the ecosystem:

- Vultures help to clean the environment and control some diseases like anthrax. by feeding on dead animals. For example the Hooded vulture *Necrosyrtes monachus* who clear carcasses on the Mara River after lions feed on wildebeest. The smallest vulture that is associated with human activities especially around slaughter houses and hospitals in urban centres around Kakamega and Bungoma.



Hooded Vulture *Necrosyrtes monachus*
Source: iStock

- Sunbirds pollinate both wild and agricultural crops. For example the Collared sunbird *Hedydipna collaris* among other pollinators. As they move from one flower to the other while feeding on nectar, they help in pollination of the flowers as they transport pollen from one plant to the other.



Golden winged sunbird *Drepanorhynchus reichenowi*
Source: NMK – Birds of East Africa Gallery

- Barbets and seedeaters help in seed and fruit dispersal. Seed-eaters help to disperse seed over a larger area, for example the yellow-mantled widowbird *Euplectes macroura*.
- Flamingoes are among birds that attract tourism that earn income for the country.
- Domesticated birds such as chicken, turkey, ducks, and geese provide meat and eggs for food.



Male yellow-mantled widowbird *Euplectes macroura*
Source: iStock

Birds and citizen science

There are several ways in which the public can help in conservation of birds:

- Bird watching, ringing, monitoring and data collection are some of activities citizens can take part in. Submitting data from such events can help in decision making, management and conservation of birds and their habitats.
- Reporting incidences of poisoning of birds and illegal hunting to the National Museums of Kenya or the Kenya Wildlife Service.
- Preventing bird collisions with your windows: Window collisions cause bird deaths when birds fly into the glass due to reflection from the windows.
- Protecting birds from pets. Keep your cat or dog indoors. Straying cats or dogs may disturb or kill birds.



*Citizen scientists taking part in data collection.
Source: NMK - Ornithology*

Birds and citizen science

- Restoring and avoiding destruction of natural habitat in your community. Birds need a place to live in and many bird habitats are disappearing.
- Avoid using chemicals. Birds may accidentally eat pesticide and herbicide pellets or prey that has been poisoned. This can kill or poison a bird.

Birds and Innovation

People have looked up to birds for years and they have inspired various innovations. For example, aeroplanes have wings and streamlined shape just like birds.

The principle behind flying in aeroplanes is inspired by the well-evolved (advanced) birds and bats.

Drones are designed to have the same ability to move as quickly as hummingbirds.

Jets fly in V-formation similar to most migrating birds.