

BHARAT SHIKSHAN SANSTHA'S
Shri Chhatrapati Shivaji College ,
Omerga.

A
PRESENTATION
ON

MIGRATION IN BIRDS

REPRESENTED
BY

DR. SAWANT P. L.
(Assistant prof.)
Dept. of Zoology

OUTLINES

- Definition of Bird Migration
- Migration Facts
- Migration flyways
- Why Do Birds Migrate?
- Types of Bird Migration
- Disadvantage of Bird Migration

Definition of Bird Migration

- The word “**migration**” has come from the Latin word migrar which means going from one place to another.
- According to L.Thomson(1926),bird migration may be described as “**changes of habitat periodically recurring and alternating in direction, which tend to secure optimum environment conditions at all times**”.

- The Arctic tern has the longest migration of any bird in the world. These black -capped ,red-billed birds can fly more than 49,700 miles in a year, making a round trip between their breeding grounds in the Arctic and the Antarctic, where they spend their winters.
- The lucky bird gets to see two summers a year ! And over its lifespan of more than 30 years, the flights can add up the equivalent of three trips to the moon and back.
- Speaking of long distance, the northern wheatear travels up to 9,000 miles each way between the Arctic and Africa, giving it one of the largest ranges of any songbird. What makes this an amazing feat is the tiny bird weighs less than an ounce ,on average.

- The award for fastest bird goes to the great snipe: It flies around 4,200 miles at speeds of up to 60mph.
- The bar-tailed godwit can fly for nearly 7000 miles without stopping, making it the bird with the longest recorded non-stop flight.
- Even birds that don't fly migrate. emus, the large Australian birds, often travel for miles on foot to find food, and many populations of penguins migrate by swimming.

Migration Flyways

- The major wintering areas for North American migrating birds are the southern United States and Central America.
- Four major flyways south: the Atlantic flyway , the Mississippi flyway, the flyway ,the central flyway, and the Pacific flyway.



Why Do Birds Migrate ?



Why Do Birds Migrate ?

- The reasons are complex and not fully understood. But a simple explanation is food and a safe place to breed.
- Birds which breed in the summer in the extreme north such as the summer in the Arctic benefit from an abundance of food as plants and insect life flourish in the long daylight hours; and because few large permanent predators can survive the harsh winter.
- Many birds that breed in the Arctic simply lay their eggs on the ground. Being able to fly, they can avoid the harsh winter conditions, and be the first to arrive to enjoy the summer benefits.

Why Do Birds Migrate ?

- ❖ Behavior is inherited.
- ❖ however, birds will not migrate in the absence of certain physiological environment cues.
- ❖ In the late summer, the decrease in sunlight stimulates a migrating bird's pituitary gland to produce the hormone prolactin and its adrenal gland to produce the hormone corticosterone.
- ❖ These hormones, in turn, cause the birds to accumulate large amounts of fat just under the skin, providing them with enough energy for the long migratory flights.

Types Of Bird Migration

➤ Migration may be :

1. Latitudinal
2. Longitudinal
3. Altitudinal or Vertical
4. Partial
5. Total
6. Vagrant or Irregular
7. Seasonal
8. Diurnal
9. Nocturnal

Latitudinal migration

- The latitudinal migration usually means the means the movement from north to south and vice versa.
- Cuckoo breeds in India and spends the summer at south-east Africa and thus covers a distance of about 7250km.
- Some tropical birds migrate during rainy season to the outer tropics to breed and return to the central tropics in dry season.
- Puffinus (great shearwater) breeds on small islands and migrates as far as Greenland in may and returns few months.

Latitudinal migration

- Penguins migrate by swimming and cover a considerable distance of few hundred



Longitudinal migration

- The longitudinal migration occurs when the birds migrate from east to west and vice versa. Starlings (*Sturnus vulgaris*), a resident of east Europe and west Asia migrate towards the Atlantic coast. California gulls, a resident and breed in Utah, migrate westward to winter in the Pacific coast.



Altitude migration

- The altitude migration occurs in mountainous regions.
- Many birds inhabiting the mountain peaks migrate to low lands during winters.
- Golden plover (*pluvialis*) starts from Arctic tundra and goes up to the plains of Argentina covering a distance of



Partial Migration

- Only Several members of a group take part in migration .
- Coots and spoon bills (platalea) of our country may be example of partial migration



Total migration

- When all the members of a species take part in the migration, it is called total migration.

Vagrant or irregular migration

- When Some of the birds disperse to a short or long distance for safety and food, it is called vagrant or irregular migration.
- Herons ,black stork (*Ciconia nigra*),Glossy ibis (*Plegadis falcinellus*),spotted eagle (*Aquila clanga*) and bee eater (m



Daily migration

- Some birds make daily journey from their nests by the influence of environmental factors such as temperature, light, and humidity also .

Example: House sparrow and starlings.



Seasonal migration

- Some birds migrates at different seasons of the year for food or breeding , called **seasonal migration**. e.g., cuckoos, swifts, swallows etc.
- They migrate from the south to the north during summer. These birds are called **summer visitors**.
- Again there are some birds like snow bunting, red wing, shore lark, grey plover etc.
- Which migrate from north to south during winter. They are called **winter visitors**.

Nocturnal and Diurnal Flight

1. Diurnal migration

- Many larger birds like crows, robins, swallows, hawks, jays, blue birds, pelicans, cranes, geese, etc.
- Migrate during daytime for food .

Nocturnal migration

- Some small-sized birds of passerine groups like sparrows, warblers, etc .
- Migrate in darkness, called nocturnal birds.
- The darkness of the night gives them protection from their enemies.

Disadvantage of bird migration

1. Many young birds are not able to reach the destination because they die during the course of the continuous and tiresome journey.
2. Sudden changes in the climate such as storms and hurricanes, strong currents of wind, fog are the causes for the death of migratory birds.
3. Sometimes man-made high towers and light houses cause the death of migratory birds.
4. Man himself is responsible for the death of the migrants. They shoot at these poor birds just for their own leisure and amusement.

THANK YOU