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Topic - MIGRATION IN BIRDS

For

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BIRD MIGRATION

1. Definition of Bird Migration

2. Types of Bird Migration

3. Causes

4. Guiding Mechanisms

5. Disadvantages.

1. Definition of Bird Migration:

The word **"migration"** has come from the Latin word migrara which means going from one place to another. Many birds have the inherent quality to move from one place to another to obtain the advantages of the favourable condition. In birds, migration means two-way journeys—onward journey from the 'home' to the 'new' places and back journey from the 'new' places to the 'home'.

Definition:

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 environmental conditions at all times"**

2. Types of Bird Migration:

Migration may be:

(i) Latitudinal, (ii) Longitudinal, (iii) Altitudinal or Vertical, (iv) Partial, (v) Total, (vi) Vagrant or Irregular, (vii) Seasonal, (viii) Diurnal and ix) Nocturnal

(i) Latitudinal migration:

The latitudinal migration usually means the movement from north to south, and vice versa. Most birds live in the land masses of the northern temperate and subarctic zones

where they get facilities for nesting and feeding during summer. They move towards south during winter.

It covers a distance of 1300 km. Penguins migrate by swimming and cover a considerable distance of few hundred miles. **Sterna paradisaea (Arctic tern)** breeds in the northern temperate region and migrates to the Antarctic zone along the Atlantic. It was observed that Sterna covers a distance of 22 500 km during migration

(ii) 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.

(iii) Altitudinal migration:

The altitudinal migration occurs in mountainous regions. Many birds inhabiting the mountain peaks migrate to low lands during winter. Golden plover (Pluvialis) starts from Arctic tundra and goes up to the plains of Argentina covering a distance of 11 250 km.

(iv) Partial migration:

All the members of a group of birds do not take part in migration. Only several members of a group take part in migration. Blue Jays of Canada.

(v) Total migration:

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

(vi) 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 may be the example of vagrant or irregular migration.

(vii) Daily migration:

Some birds make daily journey from their nests by the influence of environmental factors such as temperature, light, and humidity also. Examples are crows, herons and starlings.

(viii) 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:

(i) Diurnal migration:

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

(ii) Nocturnal birds:

Some small-sized birds of passerine groups like sparrows, warblers, etc. migrate in darkness, called nocturnal birds.

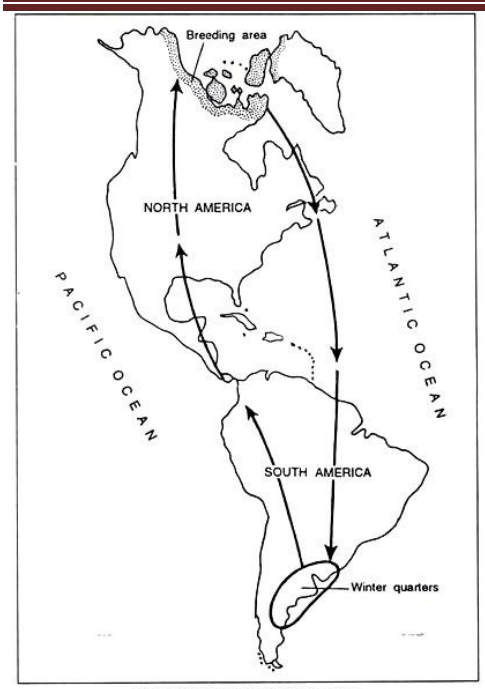

Fig. 9.54 : Migration routes of the Gold .n Plover.

3. Causes of Migration: The following factors may be related to the problems of migration:

i. Instinct and Gonadal changes:

ii. Scarcity of food and day length:

Other factors, viz., scarcity of food, shortening of daylight and increase of cold are believed to stimulate migration. Migration in birds depends upon two important factors— stimulus and guidance.

4. Guiding Mechanisms in Bird Navigation:

For more than a century the celestial navigations of birds have fascinated the ornithologists.

There are many theories regarding the phenomenon of migration in birds.

a. Earth's magnetic field—as the guiding factor:

b. Sun—the guiding agent in diurnal migration:

c. Stars—the guiding agent in nocturnal migration:

d. The 'compass' and the 'internal clock' in bird migration:

5. Disadvantages of Bird Migration:

i. Many youngs are not, able to reach the destination because they die during the course of the continuous and tiresome journey.

ii. Sudden changes in the climate such as storms and hurricanes, strong current of wind, fog are the causes for the death of a sizeable number of migrants.

iii. Sometimes man-made high tours and light houses cause the death of migratory birds.

iv. Man themselves are responsible for the death of the migrants. They shoot at these poor birds just for their own leisure and amusement.

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