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Unit - IV

Types of Bird Migration :

Migration may be of following types:

1. Latitudinal Migration:

This migration is between areas of different latitudes from north to south and vice versa. This is the most common migration type with many birds that migrate from the Arctic to the tropics. The exact direction of migration is often determined by geographic features, however, such as mountain ranges, coastlines, and available habitats.

2. Longitudinal Migration :

Similar to latitudinal migration, this type of movement is a change between different longitudes from east to west or west to east. This is a common type of migration for many birds in Europe, where geographic features encourage birds to move longitudinally rather than latitudinally.

3. Altitudinal Migration:

Altitudinal or vertical migrations from high mountains in the summer to low valleys in the winter occur in many Indian and foreign

mountaineer birds. In India a number of species during summer migrate from planes to the slopes of Himalayas ascending thousands of feet above sea level and return to planes on the commencement of winter, e.g., common wood-cock.

Such altitudinal migration also occurs in the grebes and coots of Andes in Argentina, violet green swallows of Great Britain, and the willow ptarmigan of Siberia. The brown plumage of willow ptarmigan turns white in winter, and diet of insects shifted to buds and twigs of alders

4. Partial Migrations:

Many species, such as blue birds and many blue jays of Canada and northern United States and barn owls) migrate southwards to mingle with the sedentary populations of the southern states, are only partial migrants. In such cases, all the birds of a group of migratory birds do not leave the native land, visible throughout the year. Actually these are partial migrants, because the birds visible in winter are not the same as seen in summer. Song thrush, redbreast, titmouse, finch, etc., are partial migrants.

5. Erratic Migration:

The erratic, vagrant, irregular or wandering migration occurs in great blue heron, cuckoos, thrushes and warblers. In such birds, after breeding, the adults and the young may stray from their home to disperse in all directions over many or a few hundred miles in search of food and safety from enemies. Sometimes hurricanes take the sea

birds as far as 2000 miles away from home seas and there they die either due to exhaustion or due to unknown shores.

6. Seasonal Migration:

Some ornithologists of temperate countries have classified migratory birds according to seasons. Thus, in Britain, swifts, swallows, nightingales and cuckoos are summer visitors, because they arrive in spring from the south, remain there to breed and leave for the south in autumn.

Some birds, such as fieldfare, snow bunting and redwing, are winter visitors, as they arrive in autumn, chiefly from north, stay throughout the winter, and fly northwards again in spring. While some birds such as snipes and sandpipers are the birds of passage, seen for short time twice a year on their way to colder or warmer countries in spring and autumn.

Besides these kinds of avian migrations, following kinds of migrations can also be recognised in different birds:

(7)Diurnal Migration:

Some birds fly mainly by day, such as crows, swallows, robins, blackbirds, hawks, blue-birds, jays, cranes, loons, pelicans, geese, ducks, swans, and other shore birds. They may stop to forage in suitable places, but swallows and swifts capture their insect food in the air as they travel. These diurnal migratory birds often travel in flocks, which may be well-organised (ducks, geese and swans) or loose (swallows).

(8) Nocturnal Migration:

A vast majority of birds are nocturnal migrants. These include mostly small-sized birds, such as sparrows, warblers, thrushes, etc. These birds prefer to fly at night, under the protective cover of darkness, to escape their enemies. By flying at night, they arrive at the daybreak, take rest, procure food during daytime and then start again at the approach of night.

Routes of Migration:

The migratory birds usually follow definite lines of flight. The route followed by them may be the same while going and returning back or may be different.

The nocturnal small birds migrate with the general air flow. In spring it takes place from South to North along warm air currents, and in autumn from North to South with the cool wind of North. Change in their course occurs due to configuration of land, coastline, path of great rivers and intervening mountain ranges, etc.

Different migratory birds may follow the following routes during their migration:

(a) Sea Routes:

Marine birds follow sea routes. The land birds are known to cross as much as 400 miles of ocean in a stroke but if there are intermediate islands the distance covered may be more. Certain birds have been seen crossing the Atlantic Ocean between Azores and Portugal (900 miles) and the ocean between the continents of North America and Bermuda, etc.

(b) Coastal Routes:

The coastal routes afford migration for a large number of migrants. Certain important migratory coastal routes are- East Atlantic coastline. West Atlantic coastline, East Pacific coastline. West Pacific coastline. East Indies coastline and West Indies coastline.

(c) River-Valley Routes:

While migrating from planes to hills and from hills to planes, the migratory birds cross rivers and river-valleys falling in the way.

(d) Mountain Ranges:

Very rarely the birds cross mountain ranges.

The river valleys, mountain ranges and coastal routes provide good landmarks for the migrating birds, which enable the birds to recognise and remember the routes and entrances to the countries. Deviations in path sometimes occur due to configuration of land, coastline, course of great rivers or intervening mountain chains.

(e) Segregation during Migration:

Some birds such as kingfishers, swifts, and night-hawks travel in separate companies, but certain other birds such as swallows, vultures, blue birds, turkeys, etc., usually travel in mixed companies of several species due to similarity in their size, method of search of food, etc. In some avian species, the male and female individuals travel separately. Males arrive first to build the nests. The young birds usually accompany their mothers.

(f) Order of Migration:

During migration the birds follow a definite order which is strictly followed. Normally the adults migrate first and they are followed by young. It has been found that urge of migration occurs due to the maturity of gonads which instigate them to migrate towards their breeding grounds. Adult birds return to the same general and even detailed places at both ends of the journeys.

Young birds mostly do not learn from their elders, indeed may leave before them, flying off in a direction that is presumably genetically determined. Hence, the adults with ripe gonads start the migration. During the return flight the order becomes reversed—the young birds start first and follow the same path which their parents had followed while coming from that place. In adult precedence, there is always a definite sequence, the adult males take the lead, adult females next in order and the birds of the year follow them and in the end come the weak and wounded birds.

(g) Regularity of Migration:

Several species of migratory birds show a striking regularity, year after year, in their timings of arrival and departure. In spite of long distances travelled or vagaries of weather, they are often punctual within a day or two in their time of arrival. Further, most migratory birds come back to the same breeding place year after year.

