

GENE FLOW :-

Gene flow, also called gene migration, the introduction of genetic material (by interbreeding) from one population of a species to another, thereby changing the composition of the gene pool of the receiving population. The introduction of new alleles through gene flow increases variability within the population and makes possible new combinations of traits. For instance, members of a population of particular species migrating to a new habitat could cause gene flow to occur when they mate with the members of a population already existing in the habitat. Thus, species that are highly mobile would have higher tendency of altering the allele frequency following gene flow.

There are certain factors that serve as barriers to gene flow;

1. Physical barriers
2. Geographical barriers
3. Geologic events

An example of a geographical barrier is the street separating the population of flowering plant species to opposite sides. If the pollen from the plant on one side is able to fertilize the plant on the other and eventually produce viable offspring, then, this species is able to recombine gene pools. In contrast, if the plant is unable to reach the population of plants of the same species on the other side because of this barrier, then, as a result there may be little gene flow between the two populations.

Sometimes, gene flow can also occur without migration. When people travel to another area and successfully mate with people in the population there, a transfer of genes occurs between the populations even though the traveller returns home. For example, when U.S. soldiers had children in South East Asia with Vietnamese women during the war there in the 1960's and early 1970's, they altered the gene pool frequencies of the Vietnamese population.

Although gene flow does not change allele frequencies for a species as a whole, it can alter allele frequencies in local populations. In the case of migration, the greater the difference in allele frequencies between the resident and the migrant individuals, and the larger the number of migrants, the greater the effect the migrants have in changing the genetic constitution of the resident population.

Genes may occasionally also flow between species. For instance, the segments of DNA may be transferred from one species to another by viruses as they invade the cells of plants or animals. This apparently rare form of gene flow has been documented for some species of insects, fish, reptiles, mammals and especially microorganisms but it has not been well documented for humans.