

24. Examples of evolution

Although mutations could be responsible for the generation of new DNA sequences, their role is very limited since mutation rates are very low and most mutations are harmful. What can be observed in real life is an incredible variety of body shapes and colors of the same species. For example, each person out of more than 7 billion people living on Earth is different, including identical twins. It is genetic variation which makes us all unique, whether in terms of hair color, eye color or even the shape of our bodies.

This variability is due to an immense pool of genes describing different traits in the population. The gene variability is caused by mutations, errors in copying DNA and sexual reproduction which results in a complete mix of the father's and mother's genes. The result is that animals and plants have a very effective genetic mechanism which helps them to adapt to the changing environment.

This mechanism has been used by evolutionists as a proof of evolution. But, in reality, this process shows the very limited power of evolution because it does not make completely new genes. It is not able to make new body parts. This process uses existing DNA sequences and shuffles them in such a way that the progeny will have different characteristics. As a result of natural selection, these characteristics will become established in the population.

Almost everyone is familiar with the most common examples of evolution which are a part of our education and shape our understanding of this theory. One of the most publicized examples is the change of color of a peppered moth. Initially, the moth was white with black spots and as a result of pollution during the industrial revolution it became black or much darker. Sewall Wright - a famous American geneticist described it as "the clearest case in which a conspicuous evolutionary process has actually been observed".

Before 1811 the black moth variety was extremely rare but by 1850 was well established and by 1895 dominated the field. The change of color in such a short period of time was not a result of mutations but originated from the selection of the existing genes. It is known that the black variety existed well before the industrial revolution but was uncommon because its camouflage did not protect it against predators. When dark camouflage was needed, the moth changed its color as a result of selecting a gene responsible for dark pigment. This gene spread as a result of natural selection, viz. dark color provided good protection against predators. This example does not prove that evolution could generate new body designs. It simply confirms the existence of a built in mechanism for rapid adjustment to the changing environment.

The existence of so many breeds of dogs is a good example of genetic variation in action. There are more than 350 breeds, some of them spectacularly different such as Chihuahuas and Great Danes. There are attempts to call this phenomenon "man-made evolution". Again,

this example has nothing to do with evolution because all these breeds belong to the same species. Breeders simply selected dogs with the required characteristics and rejected dogs with unwanted characteristics, performing 'natural selection'. This process was discovered by Mendel almost 150 years ago by breeding selected plants. Again, these breeds do not prove evolution because they do not generate completely new genes.

There are in school books and popular literature, more examples of evolution such as the giraffe's neck, horses, Darwin's finches, Australian cane toads, etc., but they do not prove evolution because the described changes are relatively small and could have resulted from selection of one or two existing genes.