GDB

BT-101 Ecology, Biodiversity & Evolution I



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Words Limit: Not Given

Solution:

Survival of the Fittest:

Yes I am fully agreed with the concept of '' survival of the fittest'' in which Darwin truly meant that the organisms most adaptable to their ever-changing environment would live longer than less adaptable organisms. Furthermore, these highly adaptable species will also have more opportunities to reproduce and distribute their genetic information across many generations compared to less adaptable species. The suite of environmental changes to which every organism must adapt is endless. Examples include climate change, habitat loss, air pollution, and fewer available prey. According to Darwin, some species had a suite of characteristics that made them more likely to survive environmental changes. It is these individuals who have a greater opportunity to pass their successful traits on to offspring.

Examples:

Galapagos Finches: There is variation among species, and there are circumstances when specific hereditary characteristics benefit the organism more. This means that one variant of the species will have a better chance of survival in a particular scenario. The Galapagos finches have large beaks that are suitable for drought conditions and small beaks that are suitable for rainy conditions. Hence, the climatic conditions will be the deciding factor for which species will survive in the habitat.

People with Sickle cell anemia are the most fit to survive in an environment where malaria is very common. People with no damaged genes for making red blood cells are vulnerable to malaria. The protozoa that causes malaria hides inside of the red blood cells where the immune system can not attack it. People with one damaged gene for sickle cell anemia have damaged red blood cells that can open up allowing the immune system access to attack the malaria protozoa. These people will survive a malaria infection so they are more fit than people with undamaged genes.

The blind fish of Death Valley are the most fit to survive in an environment of total darkness found in the underground rivers and lakes of Death Valley the blind fish have lost genes needed to make eye tissues. Not having a vulnerable outer eye is an advantage. Normal fish would run into rocks causing bleeding in the damaged eye and possible death. The blind fish can run into rocks without damage to the eye tissue because the outer vulnerable eye tissue is no longer there. The blind fish are most fit to live in the environment of total darkness.

In conclusion according to the Darwin's theory the survival of the fittest is hundred percent correct that elaborate that organism with capability to survive in changing environmental conditions like food resources, habitat loss, climate change, competition environments etc. can survive and reproduce successfully thus can continue the generations. The organism that is less adapted to environment unable to get all resources required for survival and thus can not continue generation and eventually be eliminated.

Regards

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