



Genetic Mutation Due To Climate Change

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DESCRIPTION

Living organisms are adapted to a specific combination of environmental and climatic conditions that allow them to sustain on this earth. Due to rapid climate changes across the globe which badly impact the environmental condition and changes expected to continue in the decades to come these changes sometimes exceed the ability of many organisms to adapting that place or migrate to suitable habitat and this fundamental discrepancy increases the possibilities of extinction or local extirpation and this process leads to a genetic mutation cycle. And this genetic mutation plays an important role in hybridized species production. This entire cycle is known as assisted species migration. Genetic mutation and the migration process are generally used to protect any species and to lessen the potential perturbation of the ecosystem due to climate change. Genetic mutation is a process done between very closely related species. Every living organism and its entire populations are generally genetically acquired to the ancient local climate conditions where they originated. In consideration of local genetic differentiation of their populations' restoration activities are typically governed by different species or decrease the risk of maladaptation based on assumption and the local species are best for adaptation. In assisted species migration, when the migrated species start living with a closely related geographical species of that new area then they fertilized a new hybridized one. This assisted gene flow works to increase the presence of required inborn surrounding friendly genes in offspring. This gene relies on pre-existing genes within the species genome instead of the artificial one and the introduction of genetic code within the genome of the species. Sometimes assisted migration gives good results but most of the time its failed example Mammoth which is one of the extinct species. Approximately 5

million years ago they appeared in southern and eastern Africa. With the passage of time due to climate change, they start moving from their original geographical area and after a few years, their related species were found in Eurasia, then after that, they also shifted to America because the climate condition of Eurasia was not suitable for them in between these whole procedures their genome was edited thousands of time. The last species of this family was the woolly mammoth, Northern, or Siberian mammoth. They are leaving Russia's Wrangel Island in the Arctic Ocean (Siberia's coast) before extinct, about 4000 years ago. The genomic study of the last woolly mammoths revealed that they are goes through serious genetic disorders (deleterious mutations) due to inbreeding, which results in them were lost their smelling sense which was affected their food habit because they were generally preferred intense smelling flowers after this problem they were intake very small amount of food, male fertility decreased day by day which results in decrease their population of this species. Scientists believe that this species' genomic study can be solved the mystery of the extinction of illustrious Ice Age species. But assisted migration proved good for plants, fishes, and some varieties of bird species example lodge pole pine, western larch, hilsa herring, Cuttlefish, etc.

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