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Evolution: Theories, Types and Examples

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Abstract

Harmony is a two-way evolutionary change involving two or more species. Trend is the result of the interaction between them. The various interactions that exist between biology - competition, exploitation and reciprocity - lead to significant results in evolution and diversity in relation to questions. Some examples of evolutionary systems involve the relationship between parasites and their hosts, plants and herbivores that feed on them, or the antagonisms that occur between predators and their prey. Covariance is thought to be responsible for a number of different phenomena, of which we today appreciate the variety created by the interaction between species. In practice, proving that dialogue is a matter of harmony is not an easy task. Although the interaction between the two species is seemingly perfect, it is not reliable evidence of coevolveary process. One approach is to use phylogenetic studies to test whether there is a single pattern of such diversity. In many cases, when the phylogenies of two species coexist, it is assumed that there is harmony between the two lineages.

Key Words: Evolution, Theories, Types, Examples

Introduction:

Types of interactions

Before exploring matters related to evolution, it is important to mention the nature of the interaction between species, as they have significant evolutionary consequences.

Competition

Types can compete, and this interaction has a negative impact on the development and reproduction of those involved. When competition is between people of the same type, when individuals belong to different types, competition can be a struggle.

In the environment, the "competitive exclusion principle" is used. This hypothesis suggests that individuals competing for the same resources cannot compete in a stable manner if other environmental factors remain constant. In other words, the two species do not occupy the same space.

In this kind of interaction, one caste always ends up leaving the other. Or they are divided into some parts of the niche. For example, if two species of birds have eaten on the same food and are in the same comfort zone, they can take the peaks of their activity at different times of the day to continue living together.

Exploitation

The second type of interaction between species is exploitation. Here species X promotes the development of a type Y, but it inhibits the development of Y X. Common examples include the interaction between hunter and prey, parasites with hosts, and herbaceous plants.

In the case of herbs, there is a constant evolution of detoxification mechanisms in the face of secondary plant-produced metabolites. Similarly, the plant prepares to remove toxins more efficiently.

The same is true of hunter-gatherer conversations, where predators permanently improve their ability to escape and hunters increase their ability to attack.

Reciprocity

There is an advantage in the latter type of relationship, or a positive relationship for both species that is involved in the interaction. Then there is the matter of "mutual exploitation" between species.

For example, the difference between insects and their pollen translates into benefits: Insects (or any other pollen) benefit from plant nutrients, while plants spread their germs. Are Harmonious relations are another well-known example of reciprocity.

Definition of harmony

Mutual evolution occurs when the second evolution of two or more species is affected. Strictly speaking, coexistence refers to the mutual influence between species. It must be distinguished from any other event in the name of the evolution of continuity, for there is usually confusion between the two phenomena.

Sequential evolution occurs when one generation influences the evolution of another, but not around each other.

The term was first used by researchers Ehrlich and Raven in 1964.

Erhlick and Raven's work on the interaction between Lepdoptera and plants influenced the ongoing investigation of "evolution". However, the term became distorted and lost its meaning over time.

However, the first person to make a study of the harmony between the two species was Charles Darwin, when it was found that the origin of the species (1859) mentioned the relationship between flowers and bees, although he Didn't use the word "covasion" to describe the trend.

Definition of jenzin

Thus, in the 60's and 70's, there was no definite definition of it, until in 1980 Jenzin published a note which succeeded in rectifying the situation.

The researcher defines the term covariance as follows: "A characteristic of individuals in a population that changes in response to another characteristic of individuals in another population, and then the changes that occur in the first population." I have an evolutionary reaction in other populations ." ے

Although this definition is very accurate and was intended to clarify the possible ambiguity of the universal phenomenon, it is not practical for biology, as it is difficult to prove.

Similarly, simple co-adaptation does not mean a conciliatory process. In other words, observing the interaction between the two species is not solid evidence to ensure that we are experiencing a harmonious event.

Conditions of harmony

There are two requirements for a covolutionary phenomenon to occur. One is the trait, since the evolution of each trait or trait in a species is due to the selective pressure exerted by the traits of the other species in that system.

The second condition is correlation - the letters must be drawn together (to avoid confusion with sequential evolution).

Theories and hypotheses

There are some theories about evolutionary phenomena. They include geographical mosaics and fictitious concepts of the red queen.

Geographical music hypothesis

This hypothesis was proposed by Thomson in 1994, and he understands the dynamic manifestations of harmony that can occur in different populations. In other words, each geographical area or region presents its own local adaptation.

The process of migration of individuals plays a key role, as the local phenotypes of the population, both internally and externally, are combined in different situations.

These two phenomena - local adaptation and migration - are the forces responsible for geographical mosaic. The result of this incident is likely to be the search for different populations in different harmonized states, as each person adapts to its own pace over time.

Due to the existence of geographical mosaics, trends of covolutionary studies have been carried out in different regions but contradictory to each other with the same species or in some cases, contradictions can be explained.

The Red Queen fiction

The Red Queen speculation was proposed by Leah Van Wallen in 1973. Inspired by researcher Lewis Carroll's book Alice Through the Mirror. In this part of the story, the author tells how the characters can move fast and still stay in the same place.

Van Whelan formulated his theory based on the constant possibility of extinction through biology. That is, they are not capable of "improving" over time, and the possibility of extinction is always the same.

For example, hunters and hunters experience a constant arms race. If the hunter somehow improves his ability to attack, the prey must improve accordingly - if it does not, they may become extinct.

The same thing applies with parasites in their hosts or in herbs and plants. This constant improvement of the two species involved is known as the Red Queen hypothesis.

Specific harmony

The term "covasion" includes three basic types. The simplest form is called "specific evolution," where two species are formed in response to the other,

and vice versa. For example, one victim and one victim. This kind of interaction gives rise to a race of evolutionary weapons, which may result in differences in certain traits or even harmonization between species.

These particular models, which include some of the species, are best suited to show the existence of evolution. If selective pressure has been strong enough, we should expect apparent adaptation and reciprocal adaptation between species.

Scatter covolution

The second type is called "diffuse evolution", and it occurs when there are multiple interactions and the effects of each species are not independent. For example, host resistance to two different types of parasites may be related to genetic variation.

This matter is very much in nature. However, it is more difficult to study than specific evolution, as the existence of multiple species makes experimental design more difficult.

Escape and radiation

After all, we have the issue of "escape and radiation", where a species develops a form of defense against the enemy, which, if successful, can spread and disseminate the lineage, because of the pressure of enemy species. do not have. So strong

For example, when a plant species produces a special chemical compound that is very successful, it may be free to use different herbs. Therefore, plant breeds can be varied.

Examples

The combined evolutionary process is considered to be the source of planet Earth's biodiversity. This has been one of the most important events in the evolution of biology.

We will then explain the most common examples of coincidences between different races and then we will talk about more specific issues at the species level.

Origin of Organelles in Ukraine

The most important event in the evolution of life was the innovation of the Ukrainian cell. They are characterized by being a real nucleus compressed by the plasma membrane and presenting the components or organelles of the sub-cells.

There is ample evidence that the origin of these cells is supported by a combination of symbolic biology that gave rise to the existing mitochondria. This idea is called endosibiotic theory.

The same thing applies with etymology. According to the endosibiotic theory, chloroplasts are triggered by a symmetry between a bacterium and another large organism that encloses a small circle.

Both organelles - mitochondria and chloroplasts -It has certain characteristics that are reminiscent of bacteria, such as the type of genetic material, circular DNA, and their size.

The origin of the digestive system

The digestive system of many animals is a complete ecosystem inhabited by a wide variety of microbial plants.

In many cases, these microorganisms play an important role in the digestion of food, aids in the digestion of nutrients, and in some cases, they can synthesize nutrients for the host.

The harmonious relationship between the baby bird and the magpie.

There is a very special tendency in birds, which is related to laying eggs in other people's nests. This covalent system is made up of crawls (claiming glands) and its host species, the magpie (Pika Pika).

Eggs are not saved by accident. In contrast, calves choose the magic pair that invests the most in parental care. That way, the new person will get better care from their adoptive parents.

How do you do that The use of gestures related to the sexual choice of the host, such as large nests.

In response, the magicians reduced the size of these nests to about 33% in areas where young people live. Similarly, they have an active defense of nest care.

This survivor also has the potential to destroy Magpie's eggs in favor of raising her chicks. In response, the magpies increased the number of eggs per nest to increase their effectiveness.

The most important adaptation has been to identify the parasite to get the egg out of the nest. Although parasitic birds have developed eggs similar to magpies.

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