

perfectionism is trying to imagine himself ideally and thus avoid bias in a controversial culture.

Talented students from minority groups tend to have unusual sensitivity to the expectations of others, and this sensitivity can cause a lot of suffering. Loneliness felt by gifted persons is a direct consequence of a deviation from the dominant cultural group. Such gifted students will demonstrate the tune-up behavior to disguise their intelligence and avoid conflicts with representatives of the dominant culture by rejecting their talent. Such a refusal, in the end, greatly impedes their success and achievements.

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TOPICAL ISSUES OF NATURAL AND TECHNICAL SCIENCES

I. BIOLOGICAL SCIENCES

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THE ISSUE OF MUTULISM

Introduction. The issues of air warming and water pollution, destroying of species-rich forests, species extinction, soils damaging and many others are crucial nowadays and must be solved by modern society. A lot of ecological problems are being considered and discussed by ecologists and biologists.

The objective of this paper is to consider the term “mutualism”, mutualistic relations and their role in ecology.

Results of research. The term “mutualism” was introduced by Pierre-Joseph van Beneden in 1876. Mutualism is the way two organisms of different species exist in a relationship in which each individual benefits from the activity of the other. Similar interactions within a species are known as co-operation.

It must be stressed that mutualistic interactions are vital for terrestrial ecosystem function as more than 48% of land plants rely on mycorrhizal relationships with fungi to provide them with inorganic compounds and trace elements. In addition, mutualism is thought to have driven the evolution of much of the biological diversity we see, such as flower forms (important for pollination mutualisms) and co-evolution between groups of species. However, mutualism has historically received less attention than other interactions such as predation and parasitism [1].

There are two main types of mutualistic relationships: service-resource relationships and service-service relationships.

Service-resource relationships can be seen in zoochory which is the dispersal of the seeds of plants by animals. This is similar to pollination in that the plant produces food resources (for example, fleshy fruit, overabundance of seeds) for animals that disperse the seeds (service)

Phagophiles feed (resource) on ectoparasites, thereby providing anti-pest service, as in cleaning symbiosis. *Elacatinus* and *Gobiosoma*, genus of gobies, also feed on ectoparasites of their clients while cleaning them. For example - the red-billed oxpecker eats ticks on the impala's coat, in a cleaning symbiosis.

Pollination in which nectar or pollen (food resources) are traded for pollen dispersal (a service) or ant protection of aphids, where the aphids trade sugar-rich honeydew (a by-product of their mode of feeding on plant sap) in return for defense against predators such as ladybugs. For example, Hummingbird hawkmoth drinking from *Dianthus* [2: 306–312].

Speaking about strict service-service interactions, it is necessary to stress that they are very rare, for reasons that are far from clear [3: 411–435]. One example is the relationship between sea anemones and anemone fish in the family Pomacentridae: the anemones provide the fish with protection from predators (which cannot tolerate the stings of the anemone's tentacles) and the fish defend the anemones against butterflyfish (family Chaetodontidae), which eat anemones [4: 43-51].

In some of these relationships, the cost of the ant's protection can be quite expensive. *Cordia* sp. trees in the Amazonian rainforest have a kind of partnership with *Allomerus* sp. ants, which make their nests in modified leaves. To increase the amount of living space available, the ants will destroy the tree's flower buds. The flowers die and leaves develop instead, providing the ants with more dwellings. Another type of *Allomerus* sp. ant lives with the *Hirtella* sp. tree in the same forests, but in this relationship the tree has turned the tables on the ants. When the tree is ready to produce flowers, the ant abodes on certain branches begin to wither and

shrink, forcing the occupants to flee, leaving the tree's flowers to develop free from ant attack [1].

Considering humans in mutualistic relationships, it should be noted that a certain kind of bacteria lives in the intestines of humans and many other animals. The human cannot digest all of the food that it eats. The bacteria eat the food that the human cannot digest and partially digest it, allowing the human to finish the job. The bacteria benefit by getting food, and the human benefits by being able to digest the food it eats [5]. Some relationships between humans and domesticated animals and plants are to different degrees mutualistic. For example, agricultural varieties of maize(corn) provide food for humans and are unable to reproduce without human intervention because the leafy sheath does not fall open, and the seedhead (the "corn on the cob") does not shatter to scatter the seeds naturally [6]. A population of bottlenose dolphins in Laguna, Brazil coordinates, via body language, with local net-using fishermen in order for both to catch schools of mullet [7].

Conclusion. Thus, mutualism plays a huge and key role in nature and life of different creatures and needs further development.

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