

Role of Insect in Pollination

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ABSTRACT

This article will provide you the knowledge about the role of insects in pollination and their contribution to agricultural systems and natural ecosystems. Moreover, it will also explore the relationship between flowering plants and insects. It delves into the procedure employed by many species of insects such as beetles, bees, and butterflies in the pollen transfer. Special emphasis on the important role of insects in pollination, fruit and seed production, and reproduction of flowering plants is given.

Introduction:

Insect pollination plays an important role in agricultural productivity and maintaining a good ecosystem. Insects like beetles, bees, and butterflies transfer pollen from one flower to another facilitating fertilization for fruit and seed production. About 80% of pollination depends on animal-enhancing yield, genetic diversity, and quality (3).

The pollination

Pollination is the process in which pollens are transferred from the male anther of a flower to the stigma of a female. Pollination is a way to create offspring in plants. Plants use flowers to make seeds and seeds carry genetic information to produce a new plant. Seeds are produced when pollens are transferred between the same species of flowers (4).

Pollinators

Pollinators are animals, birds, and insects that play a vector role in transferring pollens from one flower to another. Flowers are dependent on vectors to move pollens. These vectors include water, wind, bats, insects, butterflies, and other animals. We call these animals and plants pollinators (3).

Role of insect in pollination

Insects such as wasps, honeybees, butterflies, and beetles often collect or eat pollens as protein sources and nutritional characteristics. They are usually sipping nectar from the flowers and pollen grains and are attached to their body. When the same insect visits another flower, pollens can fall onto the stigma of another flower. As a result, there is successful reproduction of flowers (1, 2). Flowering plants also attract pollinators through color, scent, and shape. In this way, both plants and insects benefit from each other.

Pollinator decline

Pollinator decline is a decrease in several insect and animal pollinators in an ecosystem of the world. In Europe and North America, multiple evidence of a reduction in pollinators exist. Studies in South America, China, and Japan suggest that a decline is occurring around the globe. In Europe and America, there was a 25% and 59% decline in honey bee colonies between 1985-2005 and 1948-2005, respectively (5, 6).

Why pollinators are declining

Several possible reasons for pollinators' decline are exposure to pathogens, climate change, pesticides, destruction of their habitat, and parasites. Light pollution and air pollution are the major reasons for the decline in flying insects. The pollutants such as nitrate radicals, hydroxyl, and ozone bind with volatile molecules of the scent of flower die to which scent molecules travel less distance (7).

How to save the pollinators

The best way to attract bees, flies, and other pollinators is to grow native plants in the yards. Pesticides kill the pollinators so avoid pesticides. It is advised to plant flowers for bees. Don't clear dead stems out of your garden. Provide habitat for the flourishing of pollinators like honeybees. Avoid unnecessary use of light and water to avoid pollution (7).

Conclusion

In short, pollinators play a vital role in food production, biodiversity, and reproduction of plant species. They maintain ecological balance and food availability around the globe. Measures should be taken to preserve the population of pollinators.

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