

A SYMBIOTIC RELATIONSHIP: BEES AND FLOWERS

Preeti Kaundil* and Susheel Kumar

Department of Entomology, Dr. Y. S. Parmar University of Horticulture and Forestry,
Nauni, India

*Corresponding author: Preeti Kaundil, Department of Entomology, Dr. Y. S. Parmar
University of Horticulture and Forestry, Nauni, Solan 173230, India.

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Bees and Flowers:

The relationship between bees and flowers is called **symbiosis**.

Symbiosis: A relationship between two organisms in which the organisms benefit from one another.



Role of the bee: Bees are believed to be among the earliest deliberate pollinators that coexisted with flowering plants 120 million years ago. Bees intentionally set out to pollinate the planet, in contrast to inadvertent pollinators like beetles and flies who managed to transmit pollen by chance from flower to flower.

Bees are in charge of using their small hairs to collect pollen from the flowers they land on, which they then transfer to the following blossom. Most plants have been able to reproduce for millions of years by dispersing pollen from blossom to flower.



Role of The Flower

Both the flower and the bee depend on pollen for the replication of life. A significant portion of a bee's food consists of pollen, and nectar, which is produced when water and a flower's sugar are combined, is also crucial for a bee's life. Bees depend on nectar as a food source because it gives them the energy they need to fly from plant to plant for cross-pollination.

Bees are essential to the cross-pollination of flowers' female plants. The extra pollen that bees consume through their pollen-collecting hairs is picked up by their bodies and discharged when they land. It is essential for the survival of that flower species for pollen to behave as the flower's seed.

Evolution of Bees

Since over 100 million years ago, bees have been used to pollinate crops. They have evolved to better assist one another because of their interdependence. For instance, bees have buzz pollination, which consists of flying muscles that produce a humming to knock pollen from the blooms so that it can be easily collected. Some bee species have even evolved a trait called floral constancy that allows them to specialise in identifying just one type of flower. Bees have improved their ability to collect pollen over time by developing pollen baskets



near their hind legs, which they use to transport pollen back to the bee colony using their pollen-collecting hair.

How Flowers Attract Bees

Flowers have attraction skills unlike any other. A flower's shape, size, timing, and reward (nectar or pollen) can influence which pollinators visit it more frequently or less frequently. Bees, for instance, are drawn to flowers that are in the ultraviolet colour spectrum rather than those that are red-hued because they can perceive UV light but not red light.

Flowers have even improved the efficiency of pollination by using colour changes to attract pollinators only when they are most required. A fragrant flower has the power to draw a bee over considerable distances because bees would prefer pollinating blooms that have a sweeter or mintier aroma.

Role of Humans

It's critical for people to comprehend how the survival of bees directly affects the health of our ecosystems. Bees fertilise our crops, which are grown for our food as well as the beautiful flowers we appreciate. Because of this, the human population has directly benefited from the evolution and increased efficiency of both bees and flowers over time. We would lose nearly two thirds of our food supply if flowers and bees did not have such a strong association.

