



Beneficial Insects: Predators and Parasitoids

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We generally think of insects as pests, but the truth is that insects are only called pests if they cause harm to people and their property. There are some insects that are beneficial to the environment as well as harming humans, plants and animals. Interestingly, only a small fraction (about 3%) of all known insects is considered pests. The rest is good for the environment. In addition, these beneficial insects are very important in agriculture because they can assist in pollination and act as natural enemies to kill the population causing pest damage, destruction, and by following nature to protect crops, they can somehow reduce the environmental crisis. To reduce as much as possible the use of chemicals that nearly destroys our ecosystem. Together we have several errors that have helped us with in many ways:

As pollinators: These insects include bees, butterflies, bees, and moths. They help plants pollinate by dripping pollen from one plant to another and play an important role in pollination. With the help of these pollinators, farmers can increase their income, which can improve product quality and lead to a healthier and more productive environment.

As Livestock: Insects, flies and bedbugs are considered crop-damaging pests. Predators are larger than the insects or prey they kill. Finding farm animals that eat a variety of pests can help you control the pests that appear on your farm. They can kill hundreds of insects and their larvae in a day, so they are the most important part of pest control.

As Parasitoides: Parasitic insects, such as insects that lay bugs on other insects or their eggs, can help reduce the number of insects they infect.

Beneficial Insects in Agriculture

Whenever farmer observe insect in his field the first thought he get is insect might cause damage to his/her crop, because he is unaware of the beneficial insects that may act as predator or parasitoid and help him in managing his crop from damage causing insects in a natural way as these beneficial insects are the roots of the biological management. There is no While insects are thought to damage crops and eat crops in groups, they also protect our environment by helping pollinate them all depending on pollinators, preventing pest damage, and also helping to produce certain products such as lacquers. , silk, honey and the added value of farmers' incomes and their value in the modern economy are increasing.

About 95% of insects are harmless and can help us in many ways; for example, if we plant lots of plants around our large crops, it will attract some insects that cause us to destroy nature's important crops. enemy. We can use them to destroy and get rid of vermin in the sky. When it comes to small scale cultivation we can practice co-cropping which has two advantages, one is to attract few natural enemies and the other is to provide as-Ham for large crops and can affect the growth of plants. pests and also double the income of the farmers.

Difference between predator and parasitoid

S. No.	Predators	Parasitoides
1.	Free living insects that feed on their prey, they devour their prey completely.	These insect feeds on the body of other insect during the immature stage of their life cycle and adult is free- living insect.
2.	Large in size	Small in size
3.	Their life cycle is long	Their life cycle is short
4.	They feed on varied insects in a single day	They Complete their life cycle on one single insect
5.	Active throughout their life	They are sluggish type of insects
6.	Their body well developed	Their body is not well developed an sometimes has reduced organs
7.	They sometimes live in the same habitat of their prey	They tends to survive in all the favourable habitats of the host
8.	They attack ojn their prey in more casual manner	They attack in well planned manner
9.	They are developed with cryptic colourations and have destructive markings	No such characters found in them
10.	Some important predators are: dragonflies, ant lions, praying mantis and lacewings etc.	Some important parasitoides are: <i>Bracon</i> sp., <i>Apanteles</i> sp. And <i>Trichogramma</i> spp. etc

How to save

- bad behavior
- Enemy friendly natural animal variety
- Protection level in active wildlife

Some common beneficial insects in crop management

S. No.	Beneficial insects	Prey on
1.	Ladybrid beetle	Aphids, Whiteflies, Colorado potato beetle
2.	Minute pirate bug	Aphids, Thrips, Caterpillars
3.	Ground beetles	Sluges, Caterpillars, Colorado potato beetles and cutworms
4.	Braconid wasps	Caterpillars and Aphids
5.	Praying Mantis	Beetles, Caterpillars, Crickets, and Moths
6.	Hover fly	Aphids, Caterpillars
7.	Green Lacewing	Aphid, Leafhopper, Mealy bugs and Whitefly
8.	Aphid Midges	Aphids
9.	Tachinid Fly	Gypsy moth, Cutworms, Squash bugs
10.	Damsel bug	Aphids, Cabbage worms, Mites