

## How Do Insects Grow?

Many animals are born looking like their parents, only smaller. But most insects go through an amazing transformation at the beginning of their lives. This transformation is just one stage in an insect's life cycle.



Caterpillars look very different from the beautiful butterflies they will become.



Most pupae form a hard shell that surrounds their body. Inside the shell, the body of the pupa changes into the insect's adult form. When the adult is finished forming, it comes out of the pupa's shell and spreads its wings.

Many adult insects live only a short time. Their main job is to **reproduce** and start the cycle over again.

A caterpillar is protected inside a tough shell as it transforms into a butterfly.

### Larvae

After a certain number of days, insect **larvae** (young) hatch from the eggs. Insect larvae often look very different from adult insects. For example, caterpillars are the larvae of butterflies and moths. A caterpillar looks more like a worm than the beautiful butterfly it will become.

Larvae spend most of their time eating and growing. As the larvae grow bigger, they must molt (shed and regrow) their skin.

### From pupa to adult

When a larva has grown enough to become an adult, it goes through **metamorphosis** (*MEHT uh MAWR fuh sihs*). During this stage, the larva becomes a **pupa**.



When a butterfly is finished transforming, it leaves the shell and spreads its wings.

### Fun Fact

One reason why insects are so numerous is because they make so many eggs. Female termites produce 10,000 to 30,000 eggs a day!

## Why Are Some Insects and Spiders Endangered?

Many kinds of insects and spiders are **endangered**. In fact, some insects and spiders are becoming extinct (gone forever) before people have ever seen them. For this reason, it is impossible to know exactly how many insects and spiders are endangered. Scientists believe that we are losing as many as three kinds of insects every hour!



The weta is a New Zealand insect as big as a mouse. Several kinds of weta have become endangered.

### Why protect bugs?

Insects and spiders are important to the balance of nature. They provide food for huge numbers of animals. Without this food, many animals would starve.

Insects like bees and butterflies spread plant **pollen** when they collect nectar from flowers. Without these insects, many kinds of plants might become extinct. Then the animals that eat those plants might starve. If many kinds of insects and spiders become extinct, the balance of nature will become more fragile. This will threaten all living things.



If endangered insects like this Apollo butterfly die out, it will threaten the balance of nature.

### Threats to insects and spiders

The worst danger to insects and spiders is destruction of their **habitats**. When people cut down forests or drain marshes, they kill millions of insects and spiders.

Other insects may move into cleared areas, but lawns and crops support far fewer kinds of insects than wild forests and marshes.

Another major threat to insects and spiders is **pollution**. Pollution is human-made chemicals that harm nature. When farmers use chemicals to kill insect pests, they kill many other insects, too.

### Protecting insects and spiders

Around the world, people are trying to protect insects and spiders. By establishing parks and wildlife refuges (shelters), people protect wildlife habitats. Laws and treaties (agreements between countries) can also help protect endangered animals.

Simply speaking out can help. Let others know about threats to our natural world, and tell them it's important that all living things be protected.



Scientists study the ways human beings impact rare insects like this cave tarantula.