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The Secret World of Moths

When the sun goes down and the birds go to sleep, a different kind of flyer wakes up. You might think they are just plain, brown butterflies, but moths are amazing insects with their own special secrets! There are over 160,000 different types of moths in the world—that is ten times more than the number of butterfly species! These busy insects work all night long to keep our environment healthy.

Butterflies or Moths?

Moths and butterflies are close cousins, but they have a few big differences that help them survive in their different worlds. Most butterflies fly during the day, while most moths are nocturnal. This means they are active at night and sleep during the day.



Butterfly antennae (left), moth antennae (right)

If you look closely at their bodies, moths are usually "furrier" than butterflies. They have tiny, hair-like scales that look like a cozy coat! These hairs help them stay warm during the chilly night air. Their antennae (the feelers on their heads) also look different. While a butterfly has thin antennae with little knobs on the end, a moth's antennae often look like tiny, soft feathers or combs.

Another difference is how they rest. When a butterfly sits on a flower, it usually folds its wings together above its back. A moth usually rests with its wings spread out flat or tucked down like a tent over its body.

Master Detectives of the Night

Moths don't use their eyes to find food the way we do. Instead, they use those feathery antennae to "smell" the air. These antennae are so sensitive they can "catch" the scent of a flower from miles away!



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Moths are very important pollinators. Just like butterflies, they fly from flower to flower to drink nectar with their long, straw-like tongues, called a proboscis. Some moths have a proboscis that is longer than their entire body! Because they move pollen around in the dark, they help "night-blooming" flowers grow seeds. Without moths, many flowers that only open at night would disappear.



The Art of Staying Hidden

Since many moths sleep during the day, they need to stay hidden from hungry birds and lizards. Most moths have wings with patterns that look just like tree bark, dead leaves, or gray stones. This is called camouflage. When a moth sits perfectly still on a tree trunk, it becomes almost invisible to anything trying to eat it.

However, some moths have a "trick" to stay safe. The Luna Moth is a bright, lime green color with long, twisting tails on its hind wings. Scientists found that these tails spin around while the moth flies. This "tricks" the sonar used by bats, making the bats miss when they try to catch the moth! Other moths, like the Io Moth, have giant spots on their bottom wings that look like huge, scary eyes. When a bird gets too close, the moth flashes its wings to startle the bird away.



Luna moth