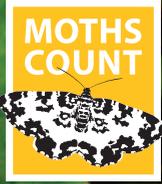




Butterfly
Conservation

Saving butterflies, moths and our environment



Garden Tiger

M. Parsons

All about Moths

Look further into
the world of moths
– you will be amazed

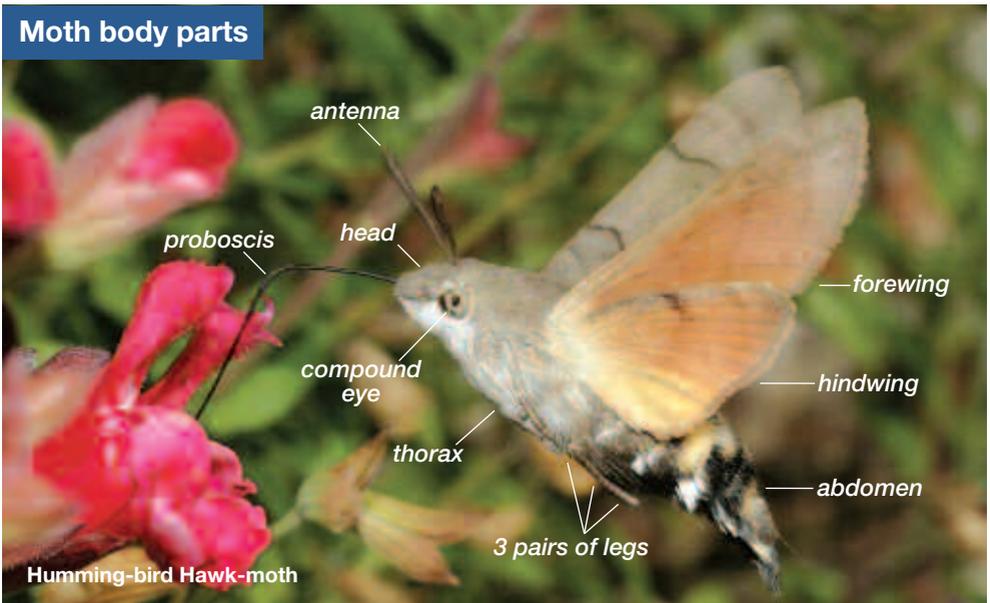


What are moths?

Moths and butterflies are part of the same group of insects called the Lepidoptera, meaning ‘scaly-winged’. The colours and patterns of their wings are made up of thousands of tiny scales, overlapping like tiles on a roof. (It’s best not to touch their wings because the scales will come off as a powdery dust.) Moths and butterflies are very similar. There are over 2,500 different types of moths and 58 different butterflies in the UK. Butterflies fly during the day but many moths are nocturnal, flying at night. However, some moths fly in the daytime.

Fact: There are many more types of moths found in the day than butterflies.

Moth body parts



Humming-bird Hawk-moth

Moths come in all shapes and sizes, and some don't even look like moths at all; the clearwing moths, for instance, look like wasps to stop predators from attacking them. Many moths have fantastic camouflage to help them hide from predators. The hook-tips, for example, look just like dry leaves. Others are brightly coloured like the tiger moths and hawk-moths.

Fact: Hawk-moths got their name because they fly very fast like birds of prey.

The life cycle

Moths and butterflies have four different stages of their lives.

1. EGG - Female moths and butterflies lay tiny eggs on plants their caterpillars like to feed on. Some caterpillars can eat a wide range of plants but most are fussy and only eat certain types. A female can lay hundreds of eggs.



2. CATERPILLAR (Larva) – The caterpillar eats its way out of the egg and starts feeding on plants. A caterpillar's job is to eat and grow, as this is the only stage in the life cycle where growth is possible. As it grows it sheds its skin several times and may also change in colour and pattern.

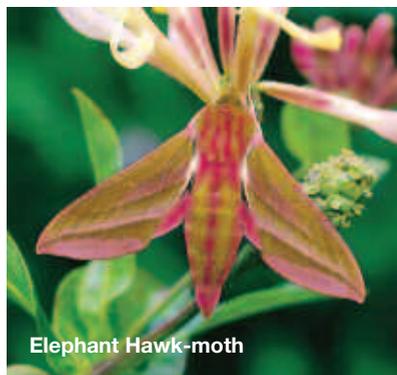


Fact: A few caterpillars are protected by hairs as a warning to other animals (and people) **DO NOT TOUCH!**

3. PUPA (Chrysalis) – The pupa looks a bit like a sleeping bag. It is a truly amazing stage of the life cycle. The outer case is hard and it stays still, but inside the caterpillar is changing its body into a moth or butterfly. The pupa may be attached to a leaf or twig or be buried underground. Sometimes there is a silk cocoon around the pupa to protect it.



4. ADULT (Moth or Butterfly) – The pupa finally splits open and the adult moth or butterfly crawls out into the world. Its wings spread out, dry and harden ready for flight. It is ready to find a mate and so the life cycle starts all over again. Most adult moths are short-lived, some for only a few days. Others survive for many months and some even hibernate over winter (like hedgehogs and tortoises).



Elephant Hawk-moth

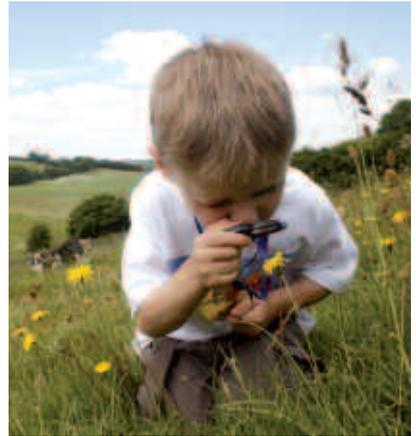
Activity: See the changing life cycle for yourself by rearing a caterpillar through to an adult. The Moths Count caterpillar leaflet has more information or you could go to the Learn pages of Butterfly Conservation's website to find out more.

Where moths live

Moths are found everywhere from the seaside to almost bare mountain tops, in fact wherever there are plants for caterpillars to eat. Each type needs particular conditions for survival and even small changes in their habitat (the type of environment where they normally live) can stop moths from living there.

Gardens are important for moths, especially in towns and cities. While most butterflies, birds and other wildlife just visit to look for food, our gardens provide a year-round home for many moths, throughout their life cycles. Most garden flowers that attract butterflies also attract moths, which come to feed on nectar (a sugary food source) both at night and by day. Some of their favourite flowers are buddleia, red valerian, heather, sallow and ivy. Moths are also important for gardens, pollinating flowers and providing food for many other animals.

Some moths are migrants, visiting Britain from other countries across the sea. They often travel great distances to get here. For example the Humming-bird Hawk-moth flies here from southern Europe or even Africa. Other moths have been brought here accidentally with fruit or garden plants. Nowadays people grow plants from all over the world in their gardens and the moths come too.



Crimson Speckled - a spectacular visitor from southern Europe

Activity: Hold your own torchlight safari of the flower beds on a warm summer evening, searching plants with a torch for an hour or two after it starts getting dark.

Moths are important

Many birds rely on moth caterpillars for food, especially for feeding their chicks. Night-flying moths are a vital food source for bats. Moths and caterpillars are also eaten by many other animals, including other insects, spiders, frogs, toads, lizards and small mammals (such as hedgehogs).

Fact: A family of Blue Tit chicks will eat about 15,000 moth caterpillars. That's 35 billion moth caterpillars eaten by baby Blue Tits every year in Britain.

Having so many predators has led to moths and their caterpillars evolving defences, especially camouflage. For example the Buff-tip moth is the colour and shape of a broken twig when it is resting during the day. Other moths use bright colours to put predators off, either by warning of poisons in their bodies, as in the tiger moths, or by startling them, as in the Eyed Hawk-moth.

Moths are also closely linked with plants. Moth caterpillars depend on plants for food. Different types of caterpillars eat different plants and even different parts of the plants.

A tree may have one set of caterpillars feeding on its leaves, another on its flowers, yet another on its fruit and a different set living underground and eating its roots. There are even moth caterpillars that live inside tree trunks and eat wood. But plants also benefit from moths. Like bumblebees, moths are important pollinators of flowers.



Buff-tip

Moths need our help

Moth numbers are falling and the survival of some species is threatened. Some moths that used to be found in most gardens every year are now seen only occasionally. One is the beautiful Garden Tiger, with its hairy 'woolly bear' caterpillar. For every 10 Garden Tigers here 40 years ago, there is only one today. Over 60 different types of moth became extinct (none are left here at all) in Britain during the 20th century. How many more will we lose in the 21st century?

Moths and butterflies are very important. They are indicators of the health of our towns and countryside. The drop in moth numbers has effects on the other wildlife that depend on them.

There are many reasons why moth numbers have fallen. Places where moths and other wildlife live have been destroyed by intensive farming, forestry and the spread of towns, cities and roads. Chemical sprays kill insects such as moths in gardens and in the countryside and pollution damages their environment. Climate change is also affecting moths. Some are benefiting and spreading northwards, but others are suffering from the warmer climate.

All these threats mean that even more action is needed to save moths, but the good news is that moths can recover quickly if we improve their environment.



Things to do

Discovering the moths in your garden is a fun hobby and can also help to save them. That's why Moths Count wants people of all ages, all over the country, to take an interest in the many types of moths around them. We can all be 'citizen scientists' helping to build a better understanding of wildlife and the environment.

1. Sugaring

Moths will come to artificial nectar called 'sugar'. With an adult, heat about 500ml of cola in a large pan and simmer for five minutes. Stir in a kilogram of dark brown sugar and a tin of black treacle. Simmer the mixture for two minutes and then allow it to cool before pouring it into a suitable container for carrying outside. Just before it starts to get dark use a brush to paint the mixture onto tree trunks or fence posts. Check the 'sugar' for moths with a torch during the first two hours of darkness.



2. Light

Everyone knows that moths are attracted to light. Try leaving an outside or porch light on after dark, and look for moths on lit walls and fences. Low-energy bulbs are better for the environment. A white sheet hanging up with a bright torch shining on it can also be effective. Some moths will settle on window panes if curtains are left open, or will come in to light through an open window – but remember to close it before you go to bed!



3. Light traps

The best way to see lots of moths is to use a moth trap. This is basically a box with a special lamp inside and something for the moths to hide away in. You can buy them or make your own. A brilliant way to see moths and moth traps in action is to go along to a public moth trapping event. Lots of wildlife organisations run these events, so there's sure to be one happening near you.

Further Information

You can find more information about moths and caterpillars on the Moths Count website at **www.mothscount.org** which also has links to other web sources.

Moths Count is a partnership of many organisations, individuals and businesses, led by Butterfly Conservation. Principal funders include the Heritage Lottery Fund, Butterfly Conservation, British Entomological and Natural History Society, City Bridge Trust, Countryside Council for Wales, Environment Agency, Natural England, Northern Ireland Environment Agency, Royal Entomological Society, RSPB and Scottish Natural Heritage. Many other organisations are involved, providing support and helping to host events.

Full details at **www.mothscount.org**

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