

Identifying moths

What is a moth?

Butterflies and moths together form a group of insects called the Lepidoptera, meaning “scaly-winged”. The patterns and colours of their wings are made up of thousands of tiny scales, overlapping like tiles on a roof. (You should avoid touching their wings, because the scales may be accidentally dislodged as a powdery dust.) There are less than 70 species of butterfly found in the UK but over 2,500 types of moth. However, distinguishing between the two groups is not always as clear as you may think.

All butterflies fly during daylight and most moths fly at night, but some moths fly in the daytime and in fact there are more day-flying moths than butterflies. People assume that butterflies are more colourful than moths, but moths can be just as brightly coloured. This is especially true of day-flying moths, such as the Cinnabar, tiger moths and burnets, so they are very likely to be mistaken for butterflies. To add to the confusion, burnet moths have clubbed antennae like a butterfly's, although most moths' antennae are feathery or wiry without thickened ends.

Many people think moths are furrier than butterflies, but they vary and some moths are less hairy than some butterflies. The resting position is not a foolproof guide either. Although most butterflies rest with their wings closed upright over their backs, the Dingy Skipper butterfly folds its wings almost flat more like a moth, while a few moths hold their wings upright, like butterflies.



Shape, colour and pattern

Moths' resting postures actually vary greatly, and an important clue to identifying a species is the resting position of its wings and the resulting shape of the moth. For instance, some species hold all four wings in view, spread out at the sides of the body. Others slide the front wings back over the hind wings and the body, making a wide or narrow triangle shape. Some even rest with the hind wings protruding in front of the forewings (like the Lappet overleaf) and others have their wings creased or furled. Shape is the first thing to look at when trying to identify any moth, and sometimes the shape alone is immediately distinctive. For instance, most hawk-moths are recognisable by their characteristic shape, often likened to a jet fighter plane.

The colour and pattern of wings are very important for identifying species. Some moths have bright colours and bold patterns which make them easy to recognise. These may be using bright colours and loud patterns to advertise to predators that they taste nasty; in some cases they are only bluffing by mimicking distasteful species. Other moths, like the Eyed Hawk-moth (overleaf) appear drab at rest but are concealing bright hind wings, which they flash when disturbed to put off predators.

Many moths are camouflaged with subtle colours and patterns which blend into their background. Others have bold markings that break up their outline, so that a predator does not see an obvious moth shape. Still others are disguised as objects like dead leaves, twigs or bird droppings, or even as completely different animals. The bee hawk-moths and clearwing moths mimic bees, wasps and hornets, so you may not at first realise they are moths at all. A word of caution however: real hornets are sometimes attracted to lights and moth traps, so you should not immediately assume that what looks like a hornet is just a harmless moth!



Identification guides

As there are over 2,500 species of moth in the UK, you will need more detailed guidance to help you identify those that you find. The moths are divided into two groups, the larger (or macro-) moths and smaller (or micro-) moths. It is best to start with the larger moths, of which there are about 900, and it is these which the Moths Count project is concentrating on. They include the most spectacular and familiar moths, and there are guide books which cover them all (micro-moths are mostly, though not all, much smaller and no single book covers all of them). Good books for macro-moths include:

- **Concise Guide to the Moths of Great Britain and Ireland**

M.Townsend and P.Waring,
British Wildlife Publishing, 2007.
(Illustrations of moths in natural resting positions.)

- **Field Guide to the Moths of Great Britain and Ireland**

P.Waring and M.Townsend,
British Wildlife Publishing, 2003.
(Illustrations of moths in natural resting positions.)

- **The Colour Identification Guide to Moths of the British Isles**

B.Skinner, Viking, 1998.
(Photographs of moths with wings spread out to show the hind wings.)

If you find caterpillars, you could try rearing them to see what the adult moths look like, but there are also books for identifying caterpillars. Colour photographs of caterpillars can be found in:

- **The Colour Identification Guide to Caterpillars of the British Isles**

J.Porter, Viking, 1997.

Moth books also contain information about the moths' preferred habitats, the geographical areas they occur in, and the time of year they are around. This is very useful in helping to identify a species, so always check these details as well as the illustrations. It is possible for a moth to be found occasionally where or when it "should not" occur, and this may become more frequent with the effects of climate change, but generally the expected place and time will help to distinguish between species which otherwise look similar.



Eyed Hawk-moth M.Parsons



Photographs of moths are also available online at the Moths Count website www.mothscount.org, at the UK Moths website www.ukmoths.org.uk www.typesofmoths.com and at the websites of various local moth groups. If you have a digital camera, try taking a photograph of any difficult moth to refer to later, so that you can release the actual moth.

An excellent way to improve your identification skills is to look at moths with more experienced people, for example at local moth trapping evenings. Most moth enthusiasts will be happy to help you with identifications, remembering the help they received when starting out.

You need to be aware that within the same species individual moths can vary slightly in appearance. Also as moths age their colours tend to fade, the wings lose some scales so that both markings and colour can be less distinctive, and the wings may become more ragged at the edges. So even if you find many moths of the same species, when you are a beginner it is still worth taking time to examine them all in order to understand the degree of variation within a species. With experience you will become familiar with such differences.

You will find that the names can be just as interesting as the moths themselves. For example there are various types of quakers, footmen, daggers, darts, carpets, kittens and pugs. There are even moths called the Uncertain and the Confused!

Because there are so many different species, you may not be able to identify all the moths or caterpillars that you find, especially at first, but you can still enjoy their beauty, their fascinating appearances and their amazing variety.