

Moths: An introduction



West Midlands OPAL information leaflet No. 3

Moths: diversity and beauty in your garden and down your street

Treat yourself to a back garden safari to remember. Moths are extremely common, widely distributed and often overlooked as many (but certainly not all) are nocturnal. Nonetheless, with a bit of experimentation and a few late nights you can enjoy a bewildering variety of creatures with a wealth of different forms.

Moths are part of the order Lepidoptera, which is the same group that butterflies belong to. In the UK there are somewhere in the region of 2500 species of moths, roughly split into two groups: macro and micro-moths. This small introduction will emphasise macro-moths, of which there are about 900 British species. These tend to be larger and much more varied and provide an easier introduction into the colourful world of 'mothing'.

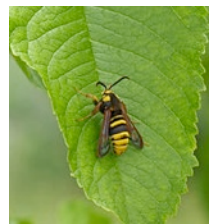
Why do it? Well, because moths are an interesting and diverse group of insects that, like our bees, are undergoing a decline in numbers. In fact, 62 moths have become extinct in the 20th Century and 81 species are listed as requiring conservation protection on the UK Red Data Book List (data: Butterfly Conservation). Getting involved in studying and recording them will help us to understand their current distribution and why numbers are falling.

But the real reason is they are fun to observe. No other group of invertebrate displays such a variety of differing forms. Some species are dramatic like the Hawkmoths (see title picture far left and right for the Elephant and Lime Hawkmoth). Others are brightly coloured (see Garden Tiger) and others brilliant camouflaged, such as the Buff Tip, which resembles a broken Birch twig.

Not all moths are night active, some are day fliers. This includes some of our most impressive species



such as the Clearwing moths that resemble Wasps and Bees and the familiar Burnets.



Like all Lepidoptera moths have a larval stage as a caterpillar. Even these display a fantastic range of interesting forms, resembling twigs, such as the Brimstone caterpillar illustrated to the left here.



You can look for species in the day time as you walk around or use trap in late evening to capture the nocturnal species.

A word on traps

The most basic trap you can use is as simple as a white bed sheet and a table lamp with a standard bulb and some egg boxes next to the lamp for the insects to rest on (obviously not in the rain!). Although not the most effective means of attracting moths it does work. There is a wide range of commercial traps available ranging from highly portable Johnson traps, such as the Safari to the Rolls Royce of traps, the Robinson trap. They differ radically in terms of their design and light sources. Robinson and Skinner traps are the most expensive to buy and have top mounted light sources that funnel the moths down into the trap from above. Johnson traps are considerably cheaper to buy and a lot more portable. After the choice of trap, what light source is the next important question. Mercury vapour (MV) bulbs tend to be the favoured light source as



Robinson trap

Skinner trap

Johnson D

Johnson Safari (on location)

they generate a lot of light and a wide infrared range (see Robinson and Skinner traps above). Cold (actinic) bulbs are also useful and attract a different suite of species (see Johnson traps above). Electrics can be run off 12-240v sources. If you use the mains then routing the charge through a RCD breaker is an essential safety measure (about £5 from B & Q).

Useful web links

The first place to look for information on moths is undoubtedly the UK Moths website (<http://ukmoths.org.uk/>) (be careful of hidden underscores in all these web addresses!). This is a brilliant site full of pictures and information for anyone who wants to get involved. Another good source of information is ATROPOS - a journal based focusing on moths, butterflies and dragonflies (see <http://www.atropos.info/>). Butterfly conservation, a national charity aimed at supporting conservation efforts for all Lepidoptera, is another great source (see <http://www.butterfly-conservation.org/text/5/moths.html>). Back garden moths is the last site worth a visit as it has a vast amount of information, data and ideas (<http://www.back-garden-moths.co.uk/>).

You can find information and buy traps at the following places: Johnson traps (<http://www.insectcage.net/mothtrap1.html>), bioquip (<http://www.bioquip.net/index.html>), Alana Ecology (<http://www.alanaecology.com/>). If you are feeling brave have a go at making one. This site has detailed information on making a Robinson trap (http://www.tcdigitalphotography.co.uk/diy_robinson_trap.htm) and the best supplier for electrics is Paul Curry (<http://www.pwbelg.clara.net/mercury/>).

Essential books

The best starter books are Paul Waring and Martin Townsend's 'Field (or Concise) Guide to the Moths of Britain' (macro moths only). Jim Porter's pictorial guide to the 'Caterpillars of the British Isles' is also worth purchasing. And finally, for a *tour de force* of moth natural history and ecology see Mike Majerus' New Naturalist book simply called 'Moths'. For information on moth declines navigate your browser to this URL (http://www.butterfly-conservation.org/text/39/the_state_of_britains_moths.html).