



Birmingham & Black Country
Biodiversity Action Plan

GMS moth tips 1



What you need to get started in garden moth trapping

Introduction

This leaflet, covering the choice of field guides and moth traps, is the first in a series for use by Garden Moth Scheme (GMS) recorders and other British and Irish moth enthusiasts. Future GMS Moth Tips guides will focus on the identification of moth families and species. It is simple to get started with garden moth-trapping – you just need a moth field guide, a moth trap and a few pots to put moths into. If you buy these from suppliers you can get started for well under £200, and if you make your own moth-trap it can cost a lot less!

Which field guide do you need?

1. *Field Guide to the Moths of Great Britain and Ireland*, **Waring, Townsend and Lewington** Second Edition 2009, British Wildlife Publishing (around £26 – softback). An excellent book for beginners because it shows moths in their natural colours and in their normal resting positions. The text uses simple language so is very good for beginners, and there are many tips about how to separate species that are easily confused. There is a colour-coding system for different groups of moths.
2. *Concise Guide to the Moths of Great Britain and Ireland*, **Waring, Townsend and Lewington** 2007, British Wildlife Publishing (around £13 – softback). This illustrates the same species as the full field guide, but at a lower price. As a trade-off some of the text is sacrificed or abbreviated. GMS advice for beginners is to spend the extra money to buy the full version of the guide. However some recorders find it handy to use while moth trapping because of its small size and waterproof plastic pages.

3. *Colour Identification Guide to Moths of the British Isles*, **Skinner and Wilson**, 3rd edition 2009, Apollo Books (around £48 – hardback). This is also an excellent field guide, showing photographs of moths pinned out in museum trays. Because of this it shows hindwing patterns and can be better for seeing the fine detail on certain moth wings (e.g. Waves). However, moths are not shown in their natural resting positions, and this can be confusing for beginners. In addition, the colours of pinned specimens sometimes fades, which makes them appear different from live specimens. The guide assumes a certain level of knowledge and therefore does not always provide tips for separating similar-looking species.



Five of the best field guides

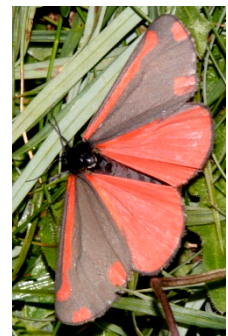
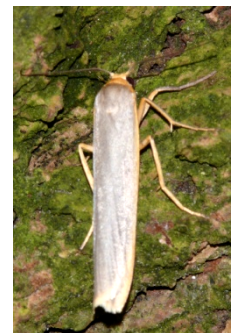
4. *British Moths and Butterflies: a Photographic Guide*, **Manley**, 2008 A & C Black (around £25 – softback). This field guide is less expensive than field guides 1 and 3. It also illustrates butterflies and a selection of micro-moths and caterpillars. Photographs are of moths in their resting positions, but sometimes it is difficult to see the most important details from the photographs used. The text is also brief and is therefore of little use for separating similar species.
5. *British Pyralid Moths: a Guide to their Identification*, **Goater, Senior and Dyke**, 1986 Harley Books (around £30 – hardback). A single comprehensive field guide to all micro-moths is probably not possible as there are over 1500 species to consider. However, this is an excellent guide to the 200+ pyralid moth species, which are probably the largest and easiest group to cover. The text is excellent at separating similar species. However, the illustrations are of 'pinned-out' museum specimens and are sometimes too small to pick out fine detail.

Summary As a first step it may be best to buy book 1 as your main field guide and should you become interested in pyralids buy book 5. As you get more experienced it is useful to have a second reference book to check the identification of that 'problem moth'. At this stage then it may be worth buying book 3 or/and book 4 for that important second opinion.

Which websites help with moth identification?

The web is great for checking the identification (ID) of a moth. Useful pages include:

- www.ukmoths.org.uk The favourite site of most moth trappers. It is not an identification guide, but shows photographs of most species of British moth with some useful additional text. It is therefore very useful for confirming your ID.
- www.gardenmoths.org.uk The main website of the GMS, which can in particular help you ID the species in the GMS survey. Click the Information tab, select Identifying Moths from the dropdown menu and then select the number of the moth species that you are interested in. This takes you to the appropriate page on the ukmoths website.
- www.mothsireland.com Very much like the ukmoths site, but for the Irish fauna. It has good distribution maps and photographs, although some still need to be added.
- www.ukleps.co.uk Is another good resource for moth ID. It does not cover as many species as the ukmoths site, but will often show more colour forms of the same species where relevant.
- Various county-based websites, such as www.hantsmoths.org.uk are often very useful ID resources with photographs and ID guides – try the county site nearest to you.
- All GMS participants are welcome to join the GMS Chat Room by contacting John Bryan (john.bryan15@yahoo.com) or Dave Grundy (dgcountryside@btinternet.com) to get an invitation. Members will happily help you identify moths from your trap and other ID guides are available here.
- www.ispot.org.uk A webpage where photographs of all species, including moths, can be uploaded for ID help from a large online community of naturalists.



Which moth pots to choose?

Not every moth can be identified in the trap and some may need to be transferred to a pot for more careful study. You should have a range of different sized pots for different sized moths and they should be made of plastic or glass. Plastic can scratch more easily and is more difficult to clean, whereas glass can break into dangerous shards.

Which moth trap should you choose?

The range of options available when buying or building a moth trap can seem bewildering to the beginner. The advantages and disadvantages of the five most popular types of trap regularly used in gardens are summarised in the following table:

Trap type	Wattage	Price	Moth catch	Does not disturb neighbours	Not affected by rain
Robinson	125 W MV	*	*****	**	***
Skinner	125 W MV	***	*****	**	***
Skinner	60 W Actinic	***	***	****	*****
Skinner	15 W Actinic	****	**	****	*****
Heath	6 W Actinic	****	*	****	*****

* = poorest rating; ***** = best rating; W = the bulb wattage; MV = mercury vapour

A more detailed assessment of the advantages and disadvantages of these, and some of the many other trap options is given on the following page.



Robinson 125W MV trap



Skinner 125W MV trap



Skinner 15W Actinic trap



Heath 6W Actinic trap

MV and blended bulb traps

- The 125W MV Robinson trap is probably the most effective at catching and retaining moths.
- The Skinner 125W MV catches nearly as many moths as the Robinson, but only costs half as much.
- A Skinner 80W MV is available and catches slightly less than the 125W MV.
- 160W blended bulbs can be used with Skinner and Robinson traps and these have the advantage of not needing a heavy choke box attached. They catch about the equivalent of a 80W MV trap. The main disadvantage of blended bulbs is that they get very hot and are therefore more likely to shatter if they are exposed to rain.



Actinic traps

- The Skinner 60W Actinic typically catches 40% less than an equivalent 125W MV trap. It does not catch moths as well near street lights, and because the light is dimmer it is harder to check your catch at night. One advantage is that the light is not so bright that it will upset the neighbours. In addition, the bulb does not get hot, so does not need a rain guard.
- The Skinner 15W Actinic is very similar to the 60W Actinic, but typically catches 20% less. This is a good cheap trap for beginners to use. Actinic bulbs also come in different wattages such as 40W and 30W, which catch less than a 60W and more than a 15W.
- Robinson versions of most of these traps are available (e.g. 60W Actinic) and catch approximately 10% more than the Skinner version.
- The Heath 6W Actinic is a cheap trap, but typically catches 50% of a 15W Actinic. It does not catch enough moths to be ideal for garden use.

Johnson and other traps

- Johnson traps are very lightweight as they are constructed from netting. They are therefore very good for taking on holiday. However they do not stand up well to rain so are not ideal for a long-term garden trap.
- Other trap types are available with new bulb types and combinations. These may be at least as effective as the current MV traps, but this is, as yet, unclear.

Safety when using moth traps

- Always ensure MV and blended bulb traps have a rain guard. MV bulbs get quite hot and can crack if cooled by heavy rain. The outer bulb coating in a MV or blended bulb prevents ultra violet (UV) radiation from escaping, so should **never** be used if cracked. UV radiation can burn skin, cause eye inflammation, and if prolonged, skin ageing, skin cancer and eye damage.
- Always ensure there are no bare wires on your moth trap and that junctions between cables are waterproof. Waterproof junction covers are available from good DIY shops.
- Moth traps should always be used with an earth leakage circuit breaker (sometimes also called an RCD); fuses or overcurrent circuit breakers will not provide the same level of protection against electric shock.
- All home-made moth traps should be checked by a qualified electrician.
- A very small amount of mercury is used in MV bulbs and current advice from the Health Protection Agency is that a broken bulb is extremely unlikely to cause health problems. However the following precautions should be taken if a bulb is broken:
 - Use sticky tape to pick up small residual pieces of glass and powder
 - This should be sealed inside two plastic bags
- Although present in extremely small amounts, mercury is still a registered hazardous material and cannot be put into household waste, visit the Chemical Services Disposal Finder website (www.chem-away.org.uk) to find the nearest place where it can be safely disposed.

Moth tip Often, chilling moths briefly (10-20 minutes) in a fridge will keep a moth still for closer inspection or photography, and will not harm the moth.



Further moth trapping information

Buying the cheapest trap on the market can often be a false economy. Such traps will usually be constructed from poorer materials, will have no base board, no rain guard and the electrics may not be properly waterproofed. Home made versions of the various traps are usually the best cheap alternative. Designs can be found on various websites such as Atropos (www.atropos.info). Moth traps and pots can be bought from any good entomological supplier such as Anglian Lepidopterist Supplies (www.anglesps.com), Watkins & Doncaster (www.watdon.co.uk), and Focus Optics (www.focusoptics.eu).