Newport Area Environment Group – Moth Trap Usage Guide

Enjoy the use of the NAEG moth trap. Please read the following notes carefully before use.

Please record what you discover on the West Wales Biodiversity Information Centre LERC Wales app which you can find here: https://www.wwbic.org.uk/wildlife-recording/lerc-wales-app/

1. Battery

You'll need the battery to be fully charged which can take up to three hours.

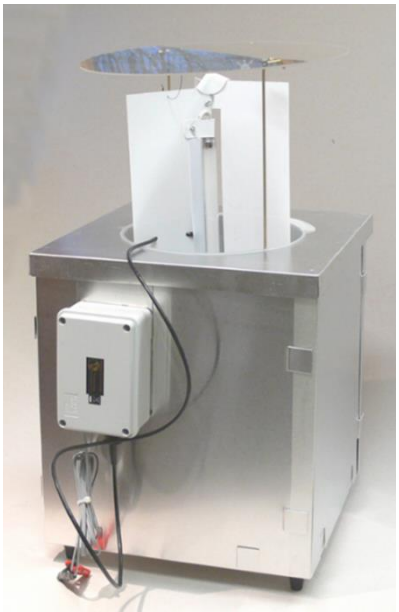
To charge the battery:

1. Remove the small plastic tabs from the battery terminals and put them somewhere safe because the battery must be returned and stored with them in place
2. Connect the charger to the battery terminals (**black** to **black**, **red** to **red**)
3. Ensure the charger is in the 12v charging position (white switch pressed down)
4. Plug the charger into a wall socket and switch on
5. When the LED charge level indicator shows Green/Max (far left) the battery is fully charged and you're ready to go
6. Switch off the charger at the mains and disconnect it from the mains and battery.

2. Moth Trap

To set up the Moth Trap:

1. Place the funnel at the bottom of the trap (this collects any rain water and drains it out of the bottom
2. Position the egg boxes randomly at the bottom (please return, or replace, the eggboxes when you return the moth trap.)
3. Hook the transformer (white box) on the side of the trap so that it and its wires are on the outside
4. Put the lid on
5. Put the light in the cone in the lid
6. Connect the lamp cables to the battery terminals (black to black and red to red) ***(remembering to keep those small plastic tabs on the battery in a safe place)***
7. Place the assembly where you are likely to attract moths (see below), making sure you have a plastic bag wrapped around the battery to keep it dry.
8. Placing a white sheet underneath can attract moths that do not enter the trap itself. However, be careful when approaching the trap – try not to step on them.



3. Health and safety

- Before use, check that wires are not damaged.

- Do not look at the light for any length of time – ultraviolet light can cause skin burns and eye inflammation if the outer envelope of the lamp is damaged in anyway. (If the lamp is damaged in any way remove and let NAEG know as soon as possible.)
- Note that light also attracts biting and stinging insects such as mosquitoes, midges, hornets, wasps and bees – be aware of what may be in the trap.

Please Note - Moths and their caterpillars are wild animals and, as such, should be treated with respect. Moth traps and other ways to find moths are humane and need not cause harm to moths if care is taken:

- Ensure that the moth trap is not left in full sun.
- Avoid touching moths' wings directly as you can easily damage them.
- Put moths in dry clear plastic or glass containers for close inspection - only put one moth in a container and check that it can move around freely. If moths are very active in containers, put them in a fridge or cool box for a short time to calm them.
- to dislodge moths into containers, give whatever they are resting on a sharp tap, or gently lift each moth from underneath onto a pencil.

Caution - the caterpillars, larval nests and pupal cocoons of a small number of moth species have hairs and spines that can cause severe irritation to human skin, eyes and respiratory systems (e.g. inducing asthma.) It is sensible not to handle any hairy or spiny caterpillars.

For more information see https://butterfly-conservation.org/moths/recording-moths/how-to-record-moths/welfare-health-and-safety

4. When?

- Switch the trap on about an hour before dusk, and off as soon as you get up the next morning, soon after dawn (depending on the time of year! If possible, aim for a 6am start in June and July. If left too late the moths will begin to get warm and flighty, making checking and identifying much more difficult.
- Warm, still nights with plenty of cloud cover are likely to produce the best catches. Strong winds, heavy rain and clear nights, particularly when there is a full moon, will be less productive. Nights with a steady drizzle, however, need not be avoided and can be surprisingly good for trapping, but be sure to use the perspex lid.
- If more than a little rain is forecast overnight, consider giving the trapping a miss that night.
- **Avoid trapping every night, especially in small gardens** – when trapping in a garden, it is important not to run your trap on consecutive nights, as this increases the chance of the same individuals being trapped on a repeated basis stop moths from going about their normal behaviours like feeding and mating. (In large gardens, this problem can be avoided if it is possible to release the moths at least 50m away from the trapping sight).

5. Where?

- The 6W actinic bulb is not very bright so place the trap, somewhere where the light will be seen. Note: Brighter lights may attract more moths but will be more disruptive to other night wildlife such as bats and might annoy your neighbours!
- Try along hedgerows, grassland/meadow edges, corners near shrubs or trees, by a garden pond.

- If possible, vary habitats over the time you have the trap – this will increase the species you observe as different moths prefer different habitats.
- Avoid artificial lights - a full moon or competition from artificial light will reduce catches.
- If you are keen to try the moth trap outside your own garden then please ask the landowner's permission. **Note that the NAEG kit is only for use in gardens and on private land unless otherwise agreed with NAEG**.

6. What did you trap?

- You'll need to be up early (soon after dawn, or about 6-6.30am in June/July) to see what's arrived overnight as the moths will start getting warm and 'flighty' and be off before you can identify them.
- Carefully and slowly pick each egg box out and inspect it for any moths – usually you can place the box of the sheet while you identify the moth but beware of moths on the underside.
- Put moths in dry clear plastic or glass containers for close inspection.
- Do not touch the moths with your hands - their wings are delicate and the oils on your hands can be damaging to them.
- Do take photos to record your catch – pictures of any moths you cannot identify can be sent to

What you find is likely to vary depending on the season and there's a book provided to help you identify them (See contents guide below, p5-6.)

Alternatively, try *CEH/Butterfly Conservation's 'What's Flying Tonight'* app - https://connect-apps.ceh.ac.uk/whats_flying_tonight/

Please record what you find on the West Wales Biodiversity Information Centre/LERC Wales app, which you can find here: https://www.wwbic.org.uk/wildlife-recording/lerc-wales-app/ or upload to the National Moth Recording Scheme website (https://butterfly-conservation.org/our-work/recording-and-monitoring/national-moth-recording-scheme)

This information will help to inform conservation efforts for moths and their habitats at both local and national levels.

7. Releasing the moths

- When you come to release your catch after identifying them, tap the moths gently into shrubs or tall plants to give them protection from birds. If possible, release them over a fairly wide area to reduce predation, and try to change your release site each time.
- If you prefer to release them in the evening, cover the trap and place it in a cool, shaded location during the day.

8. Good flowers to attract moths

Foodplants for moth caterpillars are many and varied and include many trees and grasses – some moths are generalists but many moth species only use one or two foodplants. A simple rule of thumb is to provide as wide a variety of plant families as possible, particularly native plants found locally.

In terms of garden flowers to attract adult moths, these are all favourites and are also loved by other insects: Jasmine (*Jasminum officinale*), honeysuckle (*Lonicera periclymenum*), evening primrose (*Oenothera biennis*), sweet rocket (*Hesperis matronalis*), nicotiana (*Nicotiana alata*), night-scented stock (*Matthiola bicornis*) and fuchsia.j

9. Some background

(From Butterfly Conservation https://butterfly-conservation.org/moths/why-moths-matter)

'Moths are declining in the UK. Studies have found the overall number of moths has decreased by 28% since 1968.

The situation is particularly bad in southern Britain, where moth numbers are down by 40%. Many individual species have declined dramatically in recent decades and over 60 became extinct in the 20th century. Sadly, among the species which have declined are many beautiful moths which were previously very common and frequently seen in our gardens.

These alarming decreases in moth populations are not just bad news for the moths themselves, but also have worrying implications for the rest of our wildlife. Moths and their caterpillars are important food items for many other species, including amphibians, small mammals, bats and many bird species. Moth caterpillars are especially important for feeding young chicks, including those of most familiar garden birds such as the Blue Tit and Great Tit, Robin, Wren and Blackbird. A serious decline in moth numbers could have disastrous knock-on effects for all these wildlife species. Already, research has indicated that a decrease in the abundance of bats over farmland is related to the decline in the moths that they depend on. Cuckoos may also have been affected. They specialise in eating hairy caterpillars, which most other birds avoid, and it has been suggested that the drop in our Cuckoo population may be linked to the decline in moth caterpillars like those of the Garden Tiger.

It is not clear what is causing the downward trend in our moth numbers. The reasons for the loss of moths are likely to be many and complex and may vary for different species. More research is needed to understand what is happening. However, the loss of habitats resulting from more intensive agriculture, commercial forestry, industry and urban development are likely to be major reasons.

Other things which may be causing problems for moths include changes in the way we manage our gardens, pesticides, herbicides and light pollution. Climate change is also affecting moths. Whatever the causes, the decrease in moth numbers is a warning to us that all is not well with our environment.

Although many people overlook them, moths are numerous and widespread, with over 2,500 species in Britain living in a wide range of habitats. They are a major part of our biodiversity and play vital roles in the ecosystem, affecting many other types of wildlife.

Both adult moths and their caterpillars are food for a wide variety of wildlife, including other insects, spiders, frogs, toads, lizards, shrews, hedgehogs, bats and birds. Night-flying adult moths form a major part of the diet of bats. Many birds eat both adult moths and their caterpillars, but the caterpillars are especially important for feeding the young. Some of Britain's favourite garden birds rely on caterpillars to rear their nestlings, with our blue tit chicks alone needing an estimated 35 billion a year!

Moths also play a vital role in telling us about the health of our environment, like the canary in the coalmine. Since they are so widespread and found in so many different habitats, and are so sensitive to changes, moths are particularly useful as indicator species. Monitoring their numbers and ranges can give us vital clues to changes in our own environment, such as the effects of new farming practices, pesticides, air pollution and climate change.'

A Gateway Guide to British Moths - Contents Summary

(**Note** – As a rough guide, the moths in the book are broadly in order of flight season i.e. higher page number the later in the year. Read p17-21 to get most from the book)

Blood Vein

Brimstone

Heart & Dart

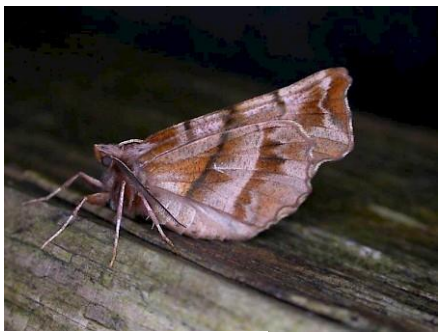
Double Square-spot

Angle Shades

Pale-shouldered Brocade

Buff Tip

Burnished Brass



Early Thorn

By colour/characteristics (e.g. tented or raised wings – *examples above*)

Specific families (I have listed these families separately as it is *relatively* easy to identify to family level - *examples clockwise from top*)

Dark Marbled Carpet

Silver-ground Carpet