

3.5 Sugaring

Moth traps will attract the greatest variety of moths, but not all moths are equally attracted to light. Some can be observed using sugary bait instead. Moths come to “sugar” because they feed on nectar, sap and honeydew, all of which are unrefined sources of sugar (however, some moths do not feed as adults, and therefore will never be seen at sugar sources). The success of the technique is variable - warm humid nights with a light wind are best for sugaring (as they are for most forms of mowing), but the technique will also work on far from ideal nights, and not work on nights that seem good for no apparent reason.



Ingredients

454g Tin of Black Treacle
1Kg Brown Sugar (the darker the better)
500ml Brown Ale or Bitter (fizzy drink like cola will do as an alternative)
Paint brush.



Slowly heat the ale (or cola) in a large pan and simmer for five minutes. Stir in and dissolve the sugar, followed by the treacle and then simmer for two more minutes. Allow to cool before decanting into a container. A drop of rum stirred in just before use is recommended but not essential. Paint the mixture about eye level onto 10-20 tree trunks or fence posts just before dusk and check for moths by torch-light for the first two hours of darkness.

A variation of this technique is “**wine roping**”. This works on a similar principle to the above.



Ingredients

Bottle of cheap red wine
1kg sugar
1m lengths of thick cord or light rope made from absorbent material. (New rope should be boiled in water before use to remove noxious chemicals).
Heat the wine and stir in and dissolve the sugar. Allow to cool and soak the lengths of rope.

Drape the “wine ropes” over low branches, bushes or fences just before dusk and check for moths by torch-light for the first two hours of darkness.

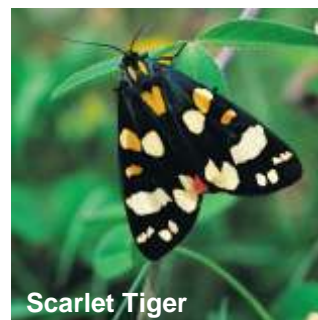
3.6 Natural attractants

Using natural attractants is the easiest method to employ and requires the least equipment and preparation, simply knowledge of the local area and the location of good nectar sources. The method involves searching suitable flowering plants for an hour or two after dusk with a torch. There are certain nectar sources that are widespread and productive; some of the most effective are listed below:

- Buddleia – a great nectar source for moths
- Sallow blossom
- Campions
- Rosebay Willowherb
- Aphid honeydew (the sticky stuff that coats leaves and cars under aphid-infested trees)
- Ragwort
- Brambles
- Ivy blossom

3.7 Daytime Searches for Adults

Daylight searching of relevant habitat is required for day-flying species such as Speckled Yellow, Burnets, Clearwings and many others. In addition, species that fly at dusk, especially many of the geometrids that are not effectively trapped at light will require searches with a net at dusk; this is known as “dusking”.



3.8 Nets - how to use them

Nets can be useful; however, many day-flying moths can also be identified using close-focus binoculars and stealth. If you do use a net it is important that you do not harm the moths, so the following procedures should be followed:

1. While you are surveying, always have your net in your hand ready to use.
2. **Only attempt to net moths that are free-flying.** If you try netting them when they are perched, or flying low to the ground, you could end up trapping them between the net and vegetation, causing them damage.

3. To net a moth, keep your eye on the flying insect whilst swinging the net sideways to catch it at the bottom of the net bag, and then **immediately twist your wrist** downwards so that the entrance of the net is blocked by the bag itself - otherwise your moth will fly straight out again!
4. Lower the net to the ground, and then gently manoeuvre a moth pot inside the net and over the insect, with the net acting as the “lid”, taking care not to touch the insect with the pot. Then, keeping the net tight over the top of the pot, ensure that the insect is well inside the pot before putting the pot’s lid in position. You can then take the pot out to identify the moth.
5. Don’t keep the moth longer than you have to - let it go once you have made your identification.

If you are new to using nets give yourself time to practice before you carry out serious surveying as it can take time to get the hang of it. The general rule of thumb is that if you aren’t looking like an idiot then you’re not doing it right!! When you use a net it is a good idea to explain to passers by what you are doing and why- people can be suspicious of nets and may assume you are causing harm rather than contributing to conservation through recording.

The following moths and butterflies are protected under Schedule 5 of the Wildlife and Countryside Act 1981 and netting these species without a licence is illegal:

Reddish Buff
Fiery Clearwing
Fisher's Estuarine Moth
Barberry Carpet
Black-veined Moth
Sussex Emerald
New Forest Burnet
High Brown Fritillary
Marsh Fritillary
Swallowtail
Large Blue
Heath Fritillary

Essex Emerald and Large Copper are also covered by this legislation, although they are now extinct in the UK.

3.9 Larval Searches

Larval searching is the best recording method for some species. It is also a method that confirms breeding at the site (adults may simply be travelling through). This can be done through using a beating tray (or even a turned-up umbrella!), which is held underneath a suitable branch of a tree or small shrub while the branch is given a sharp tap with a stick. Dislodged larvae fall onto the tray where they can be examined and identified.

Alternatively a sweep net can be used, although best not used on shrubs and trees! This is swept backwards and forwards through the top of the vegetation dislodging larvae, which can then be removed from the net and examined. Many larvae are only active by night, so sweeping and beating is often best undertaken at night.



Vapourer



Sycamore



Puss Moth

3.10 Pheromone Lures

Historically, for some species, moth recorders have used female moths to attract males of the same species. Females were put in nets which were hung from tree branches, within minutes, males would appear having detected the female pheromones. More recently, synthetic pheromones have been produced, particularly for clearwing moth species. Clearwing moths are day-flying species, they are not attracted to light and are difficult to observe and record. Our current understanding of the distribution of clearwing moths is poor; however, with the advent of pheromone lures this can only be improved.

How to use pheromone lures

Two types of lure are available, the rubber bung type which you should prick with a pin to release the impregnated pheromone. The other is the tube type pheromone; the lid should not be removed as the pheromone is released slowly through the plastic vial which is semi-permeable.

Hang your pheromone lure in a net bag (washing powder tablet bags are quite handy) and securely fasten them to a branch in the survey area. Lures should be hung at least 10 metres apart. Sit back and relax and wait several minutes for the fooled males to arrive! For the best results, set your pheromone lures between midday to early afternoon on warm sunny days when there is little or no wind. You should not have to wait long; generally males will be attracted to a lure within 5 minutes. If you have not attracted any moths within 10 minutes, move on to then next lure or sampling area.



Pheromone lure in situ



When not in use, pheromone lures should be stored separately, to avoid cross contamination, and sealed in airtight containers in the freezer. This prolongs the life of the lures; one moth recorder reported recently that he has used the same lures for 8 years using this storage method.

Which pheromone lures to use

Pheromone lures are available for 14 Clearwing species. Although most of the lures are species specific, the 'classic six' pheromones will attract all of the Clearwing species except for the Welsh Clearwing and the Hornet Clearwing.

Species	Flight Period	Larval Food-plant
Raspberry Clearwing	June to August	Raspberry
Hornet Moth	June & July	Poplar
Dusky Clearwing	June & July	Aspen and possibly Poplar
Currant Clearwing	June & July	Black Currant, Red Currant, Gooseberry
Yellow-legged Clearwing	June, July, August & September	Oak
White-barred Clearwing	June, July & August	Alder and Birch
Welsh Clearwing	June & July	Mature Birch
Sallow Clearwing	July	Willow
Orange-tailed Clearwing	June & July	Wayfaring Tree and Guelder Rose
Red-belted Clearwing	June & July	Fruit Trees
Red-tipped Clearwing	June, July & August	Willow
Large Red-belted Clearwing	May & June	Birch Trees and Stumps
Six-belted Clearwing	June, July & August	Bird's-foot Trefoil and Kidney Vetch
Thrift Clearwing	June & July	Thrift



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