

## Guidance Note on the use of Pheromone Lures for Recording Moths

### Background

Pheromone lures are now available for a range of moths which can be difficult to record using traditional methods (such as light-trapping, active searching etc.), for example the clearwing moths. The range of lures and their use is increasing and is likely to increase further in the future. These lures work through replicating the pheromones released by females to attract males for mating. They are normally available as impregnated small rubber bungs or vials and can be used in conjunction with a pheromone trap or just left on the ground or hung from a tree in a mesh bag. Some commercially available lures aim to reduce populations of certain so-called 'pest' species and come as sticky traps (i.e. they eventually kill the moths attracted).

Little is known about what, if any, impact these lures have on individual populations, although low density trapping is unlikely to harm populations of scarce and threatened species. This risk can be minimised by trapping during a fraction of the expected flight period (Larsson, 2016). However, there is potential for an adverse effect if used inappropriately through the disruption of mating by removing males from the population, albeit temporarily in many cases, or by luring them away from locations where females are present. Clearly, if a species is short-lived or present at low density, e.g. small colony size, then the potential for mating disruption and a negative impact on the population could be greater.

These lures can have a considerable benefit for conservation purposes, for example gaining a better understanding of individual species' distribution or identifying previously unknown sites for particularly scarce species. However, as their use is increasing there is a need to take into account ethical considerations and to ensure any impact on individual moths and their populations is kept to a minimum. The following points should be followed when using pheromone lures.

### Using Pheromone Lures

1. Obtain permission from the landowner/site manager to use a lure on site. If the site is a Site of Special Scientific Interest (SSSI) consent is likely to be required from the relevant agency, e.g. Natural England, Natural Resources Wales or Scottish Natural Heritage. You may need to explain what a pheromone lure is, why you are using one, and how they work.
2. If there is a possibility of attracting a species listed on Schedule 5 of the Wildlife & Countryside Act then seek advice from or obtain an appropriate licence from Natural England, otherwise there is the potential for breaking the law. Those species given full protection under Schedule 5 are listed at <http://www.legislation.gov.uk/ukpga/1981/69/schedule/5>
3. Carefully consider the placing of the lure, for example avoid nearby spiders' webs or potential predators in the immediate vicinity. Keep any trampling of vegetation to an absolute minimum as this could potentially damage habitat.
4. Individual lures should only be used for a short period; up to 30 minutes should be sufficient in suitable conditions for most lures. If using a lure for a nocturnal species do not leave a lure in place unattended overnight to be collected the following morning.
5. Avoid using individual species lures regularly at any one site in any one season. Once a species has been recorded at a given site do not repeat the use of that species' lure in that season at that site. If you are aware that a species has been attracted to a lure on more than one occasion at a given site in any year, including by another recorder, then avoid further use of a lure there until the following year. One exception to this could be if the site is extensive, in which case an option maybe to try an area of similar habitat well away from any previous sighting (consider consulting any site manager for advice). If in doubt, try a different site - this could also lead to new discoveries.
6. Currently most lures target day-flying species. If the lure is not being used in conjunction with a pheromone trap then do not leave the lure un-manned. If it is being used in conjunction with a trap then ensure this is not placed in direct sunlight and check the trap regularly, and at least every 15

minutes – this is particularly important on warmer/hot days. Ensure any caught moths are released responsibly and away from potential predators. If large numbers have been attracted to a lure, then ensure these are released in scattered, sheltered locations nearby and not at a single location.

7. If using a pheromone trap on hot days then place a moist sponge in the base of the trap. Avoid using too wet a sponge as that can potentially lead to pools of water in the trap.

8. If using a lure in conjunction with a light-trap then these may be used for a longer period. However, the light-trap should be checked on a very regular basis, i.e. at least every 30 minutes, to ensure that large numbers of the target species are not being caught. If large numbers are being attracted, then remove the lure immediately and place in a sealed container.

9. Once used ensure the lure is replaced into its sealed container so that it does not continue to attract new arrivals. Avoid handling the lure as this can result in you, or your clothes, becoming the attractant.

10. Do not use sticky traps. However, if you are aware of gardeners etc. who continue to use these traps then try to secure records of those species caught (species identification may require checking).

11. If you are considering posting any finds on Social Media then consider the implications carefully. This should not encourage others to visit the same site in any given year.

12. Finally, please ensure all records are forwarded to the relevant landowner/site manager as well as the appropriate county recorder (see <https://butterfly-conservation.org/moths/moth-recording/county-moth-recorders> for a list of county recorders). It should also be borne in mind that posting on Social Media does not constitute forwarding the record to any landowner/site manager or county recorder.

## Reference

Larsson, M.C. 2016. Pheromones and other semiochemicals for monitoring rare or endangered species. *Journal of Chemical Ecology*, **42**: 853-868.

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