# Integrated Pest Management: Monitoring and Trapping for Insects

## Why monitor?

Buildings have their own resident insect populations. The aim of a monitoring programme is to establish **baseline data for insect occurrence**. Changes to pest populations from expected baseline levels are a key factor in determining whether remedial action is needed.

Traps are tools to supplement visual inspection and the information is used to target preventive and remedial action. Traps can also be used to check an existing infestation and to check the effectiveness of control treatments.

A monitoring programme provides an indication of any insects present, to assess the extent and level of **risk posed to collections** by pest species. It is the foundation of an IPM strategy and provides early warning of the presence of infestation, greatly improving the chances of preventing damage to collections.

## **Trap selection**

The type of trap selected will influence the species and data collected. A combination of trap types will be required to obtain representative data for the total pest population. Traps are useful tools for monitoring insect populations in collections and buildings, but they are not an eradication method.

#### **Blunder traps**

Non-specific sticky traps, called blunder traps, are non-toxic and should be used for insects such as silverfish, booklice, ground beetles, carpet beetles and other crawling insects. They can also give a useful indication of the number of crawling insects which are invading a room or building. Sticky traps should be used in all areas that contain collection items. They are more effective placed on the floor around the room perimeter rather than on shelves or in cases. They should also be placed near building entry points, such as fireplaces and doorways and emergency exits. They will catch all types of insects, not just pests. Although they are less effective, plastic floor traps with sticky inserts can be used in areas which are damp or where traps are vulnerable.



**Pheromone traps** which contain a synthetic attractant lure for male clothes moth, *Tineola bisselliella*, are very effective if an infestation is suspected. The flight activity of the males is stimulated by the pheromone and traps provide effective early warning of infestation. When temperatures are high enough to promote flight, up to 20 times as many moths may be caught on traps suspended about 2m from the floor. When temperatures are below 18°C, the males are reluctant to fly, and the pheromone traps can be placed on the floor.



Clothes moth pheromone trap with an attractant lure. © DBP Entomology. 2023.

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# Using traps as part of a wider IPM Strategy

Monitoring will assist in building a picture of the **insect pest populations** and establish whether the infestation is living in the collection or the building structure. Data collected over a period of years will inform the wider IPM strategy and will enable targeted action to be taken only where it is needed.

The effort in establishing and implementing a trapping programme should not be underestimated. Any trapping programme must match the priorities of the collection,



building and available resources. See Factsheet AC8 Risk Zones and Factsheet AC3 Key references and sources of information for Integrated Pest Management (IPM) and Pest Identification.

# Key principles of insect trapping in museums and historic houses

- Survey the site and prepare a plan to decide where to place traps.
- Place sticky traps in a regular grid pattern with all traps date-labelled and their position marked on the plan.
- Place traps in all areas where there are vulnerable collections.
- Place traps on floors in corners and near walls, not in the middle of open areas or on shelves.
- Check traps at regular intervals. A suggested frequency of trap check is four times a year in March, June, September and December.
- Identify and record insects caught on traps. Record whether carpet beetles caught are larvae or adults.
- Use traps to supplement regular visual inspection of vulnerable objects and the information can be used to target preventative and remedial measures.
- The more traps that are used, the greater the chance of finding insects but the workload should not be underestimated, and trapping programmes should be designed to be manageable.
- Traps with pheromone lures will catch far more moths than unbaited traps. They can be checked once a month and are valuable for accurate monitoring and early warning in sensitive collections.
- Large numbers of non-pest insects may be caught on traps near outside doors. If so, the traps should be replaced more frequently, or the trapped insects will become food for pests.
- Over a period of time, a record of catch will build up a picture of the distribution of insects. Additional traps should be placed in areas where pests need to be more accurately pinpointed.

\*\*\*Sticky traps must not be used in the UK in areas where bats are present\*\*\*



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