



## National Bee Unit

### Asian Hornet Monitoring

The Asian Hornet (*Vespa velutina*), is an aggressive predator of beneficial insects including honeybees. It has extended its geographical range from Asia to mainland Europe following an accidental introduction into France. It is now also present in Spain, Majorca, Portugal, Italy, Belgium, Germany, and Switzerland. Adult hornets are highly mobile, the rate of spread across France was approximately 60-100 km/year. In September 2016 Asian hornet was confirmed for the first time in the UK, but it is still not clear whether it is established or not. It is vital that beekeepers monitor for the presence of the hornet in their area. This sheet explains how to make an Asian hornet monitoring device. Hanging traps in apiaries will also trap native insects including the European hornet (*Vespa crabro*) so they will need regular monitoring (preferably daily) to minimise bycatch (the unnecessary killing of beneficial insects).

### Three simple monitor designs



Honey Jar with wick



Commercial trap



Plastic inverted bottle

All the designs will need daily monitoring. Report suspect sightings using the Asian Hornet Watch [iPhone](#) or [Android](#) app, or by filling out an [online report form](#).

## 1. Honey jar with wick

### You will need:

- Honey jar (or any plastic jar) with lid
- Wick
- Drill
- Attractant

### To make:

1. Remove lid, make a hole in lid for wick and push wick through.
2. Part fill jar with attractant.
3. Replace lid.



## 2. Commercial trap with bait cloth

### You will need:

- Commercial Trap
- Absorbent cloth
- Scissors
- Attractant

### To make:

1. Cut absorbent cloth to size.
2. Place absorbent cloth at the bottom of the trap.
3. Pour attractant to soak cloth.
4. Assemble the monitoring trap.



### To use:

1. Hang your monitor near to bees, or where you have observed insects.
2. Remember to check and release daily.
3. Add more attractant to saturate the cloth when needed.

Alternatively, instead of a cloth a small tube filled with bait with a wick in the lid, like a small bait station can be used.

### 3. Plastic inverted bottle

#### You will need:

- 2 x 2 litre plastic bottles
- Duct tape
- Elastic bands
- Absorbent cloth
- Hole punch
- Stapler
- Scissors/craft knife
- String
- Attractant



#### To make:

1. Cut one plastic bottle into three parts (top, middle, base).
2. Place absorbent cloth in base and pour attractant to soak cloth.
3. Push middle section over the base and use elastic bands to secure.
4. Invert the cut top section and push into middle section, stapling round rim to secure.
5. To create roof cut out middle section of second bottle, flatten and cover with duct tape.
6. Use scissors to cut out two plastic strips from second bottle, approx. 5cm long, and 2cm wide - these will attach the roof to the trap.
7. Staple strips either side of roof and use a hole punch to make holes for string.
8. Use hole punch to make holes either side of trap and use string to tie roof to trap.
9. Use string to run under the crease of roof with loop above to hang trap up.



#### To use:

1. Hang your monitor near to bees, or where you have observed insects.
2. Remember to check and release daily.
3. Add more attractant to saturate the cloth when needed.

**Note:** This trap is meant for monitoring in areas where the Asian hornet is not yet established. It has a wide entrance to give increased opportunity for the Asian hornet to enter the trap and the roof is to minimise the chance of hornets escaping back through the entrance. This makes the trap less selective and needs to be checked regularly (preferably daily) and native insects released. If a suspect Asian hornet is captured, report the sighting and enclose the whole trap in a sealed plastic bag and place in a freezer for 12 hours before removing the insect.



## Where and when to monitor?

The Asian hornet is highly mobile and could arrive anywhere in the UK. Monitoring is especially important if you live close to a 'risk point' such as a ferry terminal or port. Please monitor when you suspect you have seen an Asian hornet or have received an alert from the NBU or BBKA warning of a nearby incursion. Asian hornet queens emerge in early spring and adult Asian hornets forage throughout the beekeeping season, so monitoring should continue from spring to autumn.

## What bait should I use?

Sweet baits are highly attractive to capture foraging Asian hornet queens in early spring. This is because queens emerging from hibernation have a raised energy requirement and show a preference for sweet foods. There are many variations of effective sugar baits, these include mixes of sugar and various types of dark beer or alcohol and even fruit juice baits for example apple juice. French beekeepers advise mixtures of dark beer, 25ml of strawberry dessert sauce and 25ml of orange liqueur are effective. Commercial baits are also effective. Past incursions of Asian Hornet in England have been discovered feeding on windfall and ripe fruit which can also be used as bait.

During the summer at the height of the beekeeping season, predatory worker hornets seek high protein foods to feed the larvae. To make a protein bait, raw meat or fish with water can be used. The National Bee Unit use a protein bait of mashed fish e.g., prawns or trout, diluted to 25% in. Be aware, if you choose to use a protein bait it will need changing after 3 days due to decay and an unpleasant aroma.

Proprietary brands of hornet (wasp) trap bait from many garden centres, DIY stores and beekeeping suppliers can also be used, some of which have a tested and proven efficacy to attract Asian hornets.

## Where should I monitor for insects?

Monitoring stations are best placed in sunny areas, in trees, on hive stands, in and around affected apiaries, at the height of a person. Avoid deep shade where hornets are unlikely to forage.

## How do I empty monitor traps?

**Release all other live insects** to preserve as many non-target species as possible. Traps should be visited and emptied regularly; ideally daily. It is very important that damage to native hornets, wasps and any other insects is minimised

Please take care when releasing insects. Native hornets and wasps can sting and Asian hornet has a venomous sting which can cause a severe reaction and, sadly, some deaths have been recorded in Asia and Europe. The insects are not naturally aggressive but can be defensive when trapped.

If you think you have caught an Asian Hornet in an adapted or off the shelf design you can place the whole trap, unopened, into a freezer bag that you can seal tightly. Place the bag containing the trap into a freezer for 12 hours before opening, to avoid both being stung or losing your suspect specimen.

## How do I know if I have caught an Asian hornet?

Thousands of people each year misidentify native insect species to be Asian hornet. It is smaller and darker than our native European hornet (*Vespa crabro*). Only the fourth abdominal segment of an Asian Hornet is yellow. For further guidance on identification please see the [Asian hornet identification sheet](#).

## How do I report captures?

Alert the relevant authorities of your suspect sighting as soon as possible using the 'Asian Hornet Watch' [iPhone](#) or [Android](#) app or by filling out an [online report form](#).

It is important to note the location as accurately as possible as well as obtain a photograph if possible, to allow experts to confirm identification of your sighting.