

National Bee Unit



Animal &
Plant Health
Agency

A Simple Monitoring Trap for the Asian Hornet

The Asian Hornet, *Vespa velutina*, is an aggressive predator of honey bees and other beneficial insects. It has extended its geographical range from Asia to mainland Europe following an accidental introduction to France, is now also present in Spain, Majorca Belgium, Portugal, Italy and Germany. Adult hornets are highly mobile; the rate of spread across France is approximately 100 km/year. There is now great concern that this exotic insect will reach the UK, either by hitching a ride on imported goods or simply by flying across the channel. This sheet explains how to make an Asian hornet trap. Hanging this simple device in your apiary will allow you to monitor for pest arrival and, if necessary, help to protect your colonies from attack. These are especially effective if used in spring.

Reports from France suggest that in areas where spring trapping has been used, subsequent numbers of Asian hornet nests are reduced by as much as 90% (2 or 3 nests in trapping areas versus >70 nests where no traps have been hung). All that is required is a couple of pop bottles, a bit of plastic coated garden wire and a 100mm square off-cut of epoxy coated wire *Varroa* floor mesh. Look for pop or fizzy water bottles which have ridged sides with the bottom section marginally wider than the middle. Make an incision with a sharp knife and cut each side of the lower ridge with scissors – this will give a sleeve effect with the middle of the bottle free to slide into the bottom part.

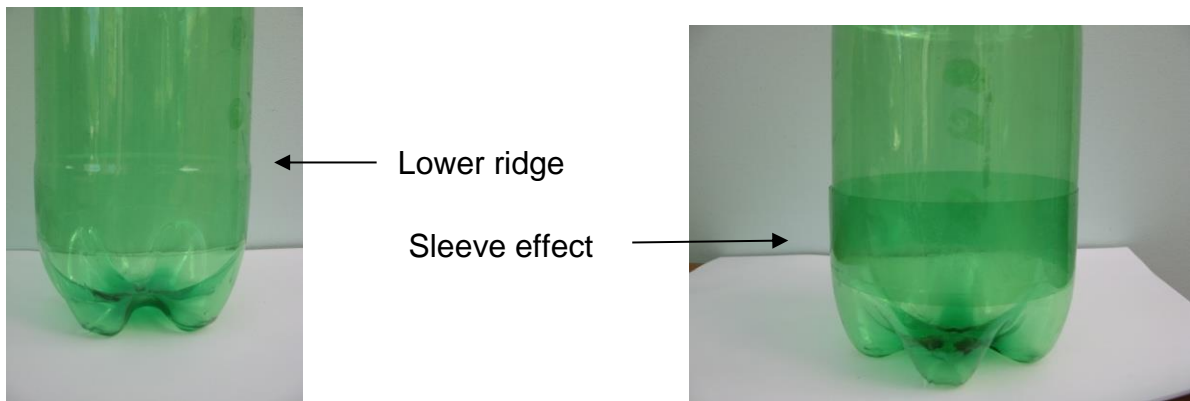
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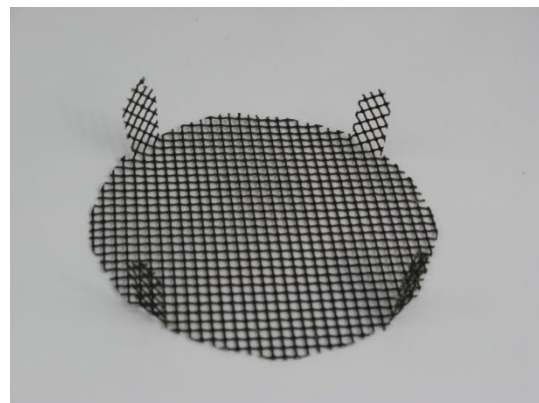
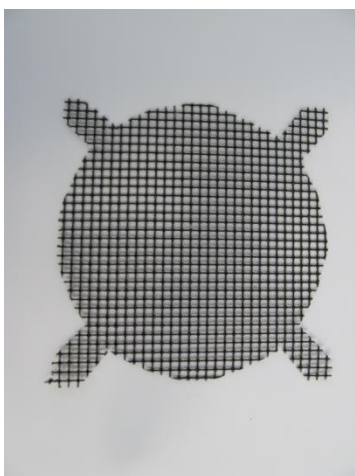
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Also cut around the neck of the bottle just above the bottom of the shoulder – this will make a funnel when inverted and can be fixed into place with a few staples. The cap of the bottle is drilled with 2 or 3 x 9 mm entrance holes.



Cut a circle of card which fits snugly inside the lower section of the bottle and place this over the square of mesh. Cut in from each side on the corners of the mesh to just inside the card circle to leave a 10 to 12 mm tab and then cut along the edge of the card as shown. Bend the tabs up so that the mesh fits inside the bottle bottom then fold over the top 5mm section to create a retaining clip to hold the mesh in place.



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With the middle section of the bottle held firmly onto the mesh tray make a hole at each side through the overlapping layers of plastic with a small hot nail. Push a 140mm length of garden wire right through – this will hold the two sections firmly in place. Now make two more opposite holes with a larger nail (a 4 inch nail will give holes about 5mm diameter). Gently separate the bottle sections and twist by about 1.5 cm and push the small heated nail back through the hole in the outer bottle section so that there is now a second retaining hole in the inner section. When the holding wire is in this position the two larger holes are off-set, closing the 5mm 'escape' holes (to prevent smaller insects using these as alternative entrance holes).



Escape open



Escape closed

Cut 3 x 150 mm lengths of garden wire and a rectangle of plastic from a second bottle side. Two of the wires are fed through holes punched or drilled in the curved sheet of plastic and then hooked through holes made in the top of the trap. The third length of wire is hooked through holes made in the top of the cover to make a hanger for the completed trap.

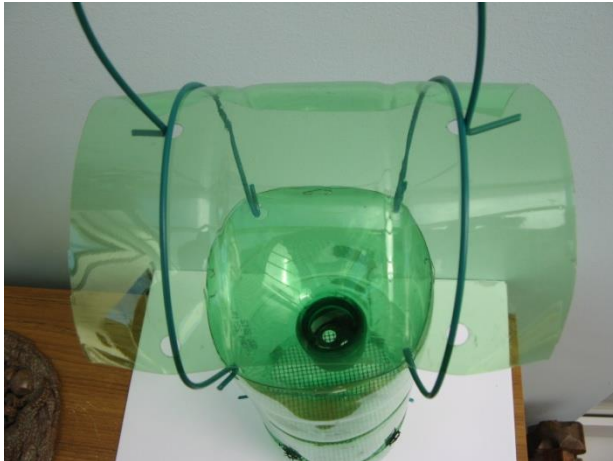
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What bait should I use?

At the end of hibernation emergent hornets have a raised energy requirement and show a preference for sweet foods. In early spring such food resources are comparatively rare in the environment, so this means that sweet baits are highly attractive for the first captures of Asian hornet queens. French beekeepers often use a mixture of beer and sugar for this purpose. Other effective baits include sweet mixtures of wine, sugar, cassis, and water. You can also buy proprietary brands of hornet (wasp) trap bait from many garden centres and DIY stores. At the height of the beekeeping season, when predatory worker hornets are seeking high protein foods, consider adding raw meat or fish to the bait mixture.

Where should I hang traps?

Traps can be hung in trees and on hive stands, in and around affected apiaries, at the height of a person.

When is the best time of year to use hanging traps?

This will vary from one region to another depending on local climate. The critical life stage to capture is hornet queens as they emerge from hibernation, which is likely to be in late February - March. **Spring trapping is a very effective means of reducing (>90%) the number of Asian hornet nests in an affected area.** However, adult hornets will be on the wing throughout the beekeeping season, so trapping will still have an effect on hornet numbers right into the autumn. If Asian hornets are ever found in your area, then in early spring you should place an array of traps near the nests of last season to try and catch emerging queens. All beekeepers should consider hanging traps in and around their apiaries in springtime, as well as during the season. In the autumn, it is a good idea to hang traps near favourable hibernation sites, such as wood piles, stones, tiles etc.

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

The Asian hornet is not easily confused with any other species. Superficially similar to our native European hornet (*Vespa crabro*), it has a characteristically brown or black velvety body with a dark abdomen and yellow tipped legs. Only the fourth abdominal segment is yellow. In spite of its fearsome reputation, the Asian hornet is smaller than *V. crabro*. For further guidance on identification, there is an ID sheet for the Asian hornet:

<http://www.nonnativespecies.org/alerts/index.cfm?id=4>

How do I report captures?

You need to alert the relevant authorities as soon as possible. It is important to note the location as accurately as possible as well as obtain a photograph to allow experts to confirm identification of the specimen. Please report the sighting immediately (sending a photograph if possible) to: alert_nonnative@ceh.ac.uk, the NBU office and your Regional Bee Inspector.

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