Instruction to make an Asian Hornet (AH) Monitoring Trap

This trap is 'a work in progress', but it has been proven to catch AH.

This trap will catch insects other than Asian hornets.
To limit by-catch, holes or slots of no more than 6mm in width can be made in the roof and side walls*.
These holes are not large enough for AH to escape through**.**

Also, to limit the number of insects that are killed, these traps need to be checked regularly, ideally once a day and the sponge used needs to fit snugly against the side walls.

Important information on hole size

Hole size (mm)	What will this hole let in or out?
6 or less	lets out wasps, but not AH
7.6	size needed to let AH in
8.4 or greater	will let European Hornet in

Health & Safety

- PVC glue gives off fumes – use in a well-ventilated room; allow odour to dissipate before use.
- gloves – glue and certain baits may cause skin irritation
- sharp knives and heated implements are used in the making
- personal liability and Insurance – check with your Association; get landowner's permission before putting out a trap; consider adding a label if the trap is being placed in a public area

Materials

- 1 x 16 oz clear slush puppy cup with lid, ideally with pre--cut cross for straw, but not with pre-cut round hole
- Yellow sponge (AH are said to be attracted to yellow);
- 24cm x 17cm thin black correx (2mm thick)
- 30cm galvanised garden wire (1.6mm thick); if the wire is too thick it is difficult to bend into shape
- 3cm length of electrical conduit (18mm wide); smooth cut ends with sand paper
- Floplast or similar PVC glue
- 6mm hole punch or drill bit which can be heated to melt a hole no bigger than 6mm

Optional

- waterproof tape tabs to keep a loose fitting lid in place
- a label (as shown) if put in a public area

Time to assemble one trap

When practised, a trap takes no more than 3 - 5 mins; a production line assembly is the most efficient way, with all parts pre-cut.

Assembly

Making the roof - needed to keep rain out

1. Fold 30cm of wire in half to make an elongated pin

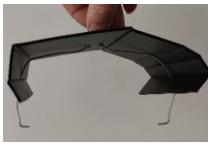
2. Push the wire through the centre of the correx roof, to give a rounded hanging hook on one side and two long lengths on the reverse

3. Bend each length of wire so it lies flat against the correx

4. Then, bend each end of the wire and push it through the correx

5. Use the wire to shape the roof as shown below

6. Finally bend the last 1cm of each wire end into a right angle



The entrance in the lid

7. Cut a 1cm square hole in the centre

8.Glue end of electrical conduit over the hole, so it is fixed under the lid and leave to dry

Sponge in trap

9.Using the base of the cup as a template, draw a circle on the sponge and cut out

10.If a thick sponge, section it to give a circle approx. 1.5cm thick; this will use less bait.

11. Push to the bottom of the trap, ensuring a very snug fit; this prevents insects getting caught between the sponge and the cup side.

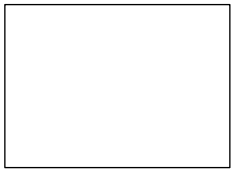
Attaching the roof to the cup

12. Melt a hole slightly bigger than the thickness of the wire 2 – 2.5cm down from the lip of the cup; make a second hole directly opposite.

13. Push end one wire in the roof through a hole and bend the end over, with pliers to secure

14. Replace the lid check there is a sufficiently big gap between the roof and the entrance for the AH to enter

15. If the lid is loose fitting, tape tabs maybe needed to secure the lid to the cup



16. To add escape holes for small by-catch, punch or melt holes no larger than 6mm in roof and side wall using either hole punch or heated drill bit.
    Two or more holes adjoining will create a slot.

Where to place the trap?

Careful placement of this trap is essential to maximise it's ability to catch AH.

By following these suggestions your will increase your chances.

1. Use the correct bait for the time of year (see section on baits)
2. Put sufficient in so that only the sponge is soaked in it; do not over fill or by-catch will drown. Do not let the bait dry out.
3. Hang the trap about 1.5m off the ground
4. Place in an open, sunny, warm, spot, but sheltered from strong winds.
5. If AH feeding on particular flowers place trap there; ie Spring: Cammellia, Azealia, trees which ooze sap; Autumn: Ivy or place where high numbers of other insects are found
6. Spray the correx roof with bait. This will help AH to find the trap.
7. Try to check trap on a daily basis, especially if you have not included escape holes in your design.
8. If placed on private land do this with the landowners permission; if accessible to the public consider adding an explanatory label. Check with your Association the position regarding personal liability and insurance cover.

Bait

The bait used depends on whether trapping for AH queens or workers

In early Spring and in Autumn Queens need energy rich foods – so foods high in sugar are more attractive Larvae need protein, and so when the nests are established and especially in the summer workers need food high in protein; Based on '23 Aug– mid Sept are peak times to catch workers.

Using the commercial liquid bait called Trappit or Sutera, increases your chances of trapping AH. This is particularly important when nest numbers are low, and so forager numbers will be low. Trappit is an all-round bait, which can be used at any time of the year.

Based on personal experience when Trappit is used, even in an apiary, AH will visit this in preference to predating honeybees. Trappit is expensive and Associations are advised to buy in bulk to get the best possible price.

Anecdotally, the Jersey recipe given below is said to be equally as good; without conducting trials I cannot vouch for this claim

Jersey AH bait recipe
2kg white refined sugar
1L water
50g of Bramble Jam
5g Brewer's yeast – this not added until just before use

Dissolve the sugar and in the water. Add and stir in jam
Just before adding liquid to the trap, add the yeast. If only a small amount of bait is used, scale down the quantity of yeast added by the same proportion. If too much yeast is added the liquid will froth.