



## Gard'Apis Instructions

### Zero-bycatch: How to use the RED and ORANGE nozzles

Each Gard'Apis kit comes with red and orange coloured nozzles that fit to the cones. These are designed to all but eliminate bycatch. In the Spring and the Autumn use the Red nozzles.



In Spring the Queens are out foraging to feed their first nests. In the Autumn new Queens are loading up with Carbohydrates before they hibernate until the Spring. Every Queen killed kills an entire nest and so it is particularly important to have the traps out for when the Queens are flying. Queens are larger than their workers and so the nozzle are calibrated at 8mm to allow them in. However, European hornet queens are also out and the nozzle is small enough so that they won't enter. All other insects that might be attracted to the trap (including bees) are either small enough to easily escape through the mesh body of the trap or are too large to get through the nozzle.

The Asian Hornet Queens do not leave the nest again until their first brood of workers emerge. The workers are very slightly smaller than their queens and this is why we can switch to the Orange nozzle which is calibrated to 7mm. Switch to the orange nozzle 6-8 weeks after the first Queens are sighted. These nozzles allow the Asian Hornet Workers to enter the trap but not the European Hornet workers that also appear around this time.

Our experience has been virtually zero bycatch. In the unlikely event there is a bycatch place the trap in a freezer until all the insects stop moving. Open the trap and remove the bycatch (a spoon works well) and put the insect to be saved outside to recover. Return the trap complete with Asian hornets back to the freezer for an hour or two to humanely kill the remaining occupants. The trap can then be reset and baited. Save a 2-3 Asian Hornets and leave them in the trap to recover. Live Asian Hornets are the best bait of all!

## Guide on Baits for Traps

### 1 Understanding liquid baits

- a. Liquid baits are commonly used in kill traps designed to drown attracted insects. They effectively target pests but have a significant downside. Any insect lured, whether beneficial or not, will die.
- b. Asian hornets have a range limit of about 700 meters from their nests. Once the local hornet population is suppressed the kill traps will continue to kill all other insect species. This indiscriminate action could potentially suppress certain local insect population, eventually making the traps more harmful to the ecosystem than the hornets themselves.



### 2. An Improved Approach to Liquid Bait

- a. The Gard'Apis trap is designed to accept small pots of liquid bait with wicks. The baited wicks attract many insects but none will drown. Importantly the baits will feed the Asian Hornets who generally live in the traps for up to 3 days and will attract more of their fellows. Without access to water and food the Asian Hornets will die within a day an important and useful lure will be lost.

A We recommend using a sponge in the lower bait pot conjunction with liquid bait. This approach has two primary benefits:

- The sponge absorbs the liquid, enhancing the surface area available of evaporation.
- The sponge also ensures the bait remains contained, preventing wastage.

### 3. Commercial Liquid Baits and Homemade Recipes

- a. A Commercial liquid baits effectively attract hornets, but some might lure a broader spectrum of insects, like butterflies. This can lead to unintended consequences.
- b. Baits with alcohol content can maintain their aroma for a period, though it fades due to evaporation
- c. Experiment! There are numerous DIY recipes available online. These mixtures especially when paired with a sponge can be used standalone or mixed



with other lures for enhanced efficacy.

#### 4 The Effectiveness of Honeycomb

Honeycomb is a top-tier bait. The scent of wax and honey, reminiscent of beehives is irresistible to Asian Hornets.

Interestingly, hornets do not typically prey on the bees near Gard'Apis traps. Possibly the lack of a single obvious entry or exit (as in a hive) does not mark it as a hunting zone for them. Instead, they crawl over trap until they find their way in, and their ensuing distress when trapped becomes a powerful attractant for other hornets. While it effectively lures hornets it also draws bees that may recover parts of the bait.

#### 5. Emptying and resetting the trap

A. Capturing the first hornet sets off a chain reaction, pulling in more from the vicinity. The suggested procedure is:

a. Handle the trap carefully and, preferably, after dusk. We recommend wearing protective clothing, including heavy gloves and wrapping the trap securely in cloth such as a towel. Asian hornets do not fly at night and therefore the trap will not attract more once darkness falls.

b. Place the trap in a freezer for about 2-4 minutes or until hornet movement ceases. This will also stun bycatch.

c. Save any Bycatch. A spoon works well.

d. Transfer all but 2-3 hornets into a bag and return it to the freezer for 20 minutes or more for humane extermination.

e. Reseal and redeploy the trap. The retained hornets upon revival continue to lure their counterparts.

f. An added twist is to place an empty trap, baited of not, alongside and in contact with a trap containing Asian Hornets. Hornets arriving on the scene will crawl about both traps and some will end up inside the empty trap, effectively baiting it! Separate the traps and continue to catch Asian Hornets.

