

# Asian Hornet: The Sleepers Awake

By Andrew Durham, Individual BBKA Member

*The Asian hornet foundress queens will be awakening and starting to build their first nests of the season. You can do much to reduce the spread and impact of these Asian queens as Andrew Durham explains.*

By the time you read this article, Asian hornet foundress queens will be beginning to awaken from hibernation in the southern coast counties from Kent to Cornwall. Even though the NBU destroyed nests last year in Cornwall and Hampshire there were unresolved sightings that were sufficiently divorced from the destroyed nests to suggest either undiscovered nests and/or the arrival of foundress queens. However, it is the developments across the Channel that is the real problem!

Now is the time to find out what you need to do. First though, a reminder that my previous articles on Asian Hornet: A Defence Strategy (BBKA News August and September 2017) are available online at [https://archive.bbka.org.uk/news\\_and\\_events/bbka\\_new/bbka\\_news\\_back\\_issues](https://archive.bbka.org.uk/news_and_events/bbka_new/bbka_news_back_issues). Those articles still hold good and this next series of articles will bring you right up-to-date on the latest traps and defences.

## Developments across the Channel

When I wrote the article Asian Hornet: The Phoney War (BBKA News September 2018) we had seen a much slower development of the Asian hornet in Normandy and further up the Channel coast than had been the case further south. There was hope that the slower development in the northern departments was evidence that climatic conditions were not suiting the hornet. It was therefore reasonable to predict that it would take until at least 2019–2020 for the hornet to reach a critical mass in northern France at which point its arrival in numbers here in the UK would become a certainty rather than a likelihood. So, what exactly has happened across the Channel?

That the Asian hornet is established in France will not be news to you but the degree to which it is established varies greatly. The infestation of the hornet in SW France is now beyond the stage at which publicly-funded campaigns to control it make economic sense. The area is saturated, hornet numbers are self-limiting and beekeepers must now look to their own devices to protect their bees. They have had to learn how to do that and many have achieved a balance that enables their bees to survive.

Further north, departmental authorities, right along the western coast from Brittany to the Somme, have joined beekeepers in a fight to contain the hornet. The success of the Morbihan (Brittany) beekeepers in 2017, which saw a substantial reduction in hornet

nests, will have helped to reduce the impact in 2018 in that department, but nonetheless 2018 has seen an alarming increase in nests in all departments along the Channel coast. It has also seen a dramatic increase in instances of the public coming into contact with the hornet. The 2018 figures for Morbihan itself are yet to be released, but in the adjacent department of Ille et Villaine, which had been mirroring Morbihan in hornet control and nest numbers, they have reported an increase in nests from 3,000 for the whole of 2017 to over 5,665 nests (destroyed) by mid-November 2018, almost double the previous number of nests!

More worrying for us is that Normandy, which had been reporting much lower numbers than Brittany in recent years, has suddenly caught up, seeing a tripling of nests in 2018 alone. The department of Manche (west coast of Normandy) has already reported 4,565 nests as at 31 October 2018 and reports of incidents in which the public have been stung by the hornet have quadrupled to over 258. Last June the Department of the Somme had to introduce an emergency scheme in which the public can call a 24hour/ 7 days-a-week hotline to get nests destroyed free on both public and private property, using the fire brigade.

It is this increase along the Channel coast, combined with last autumn's warm weather and southerly winds that will have seen foundress queens crossing the Channel to join hornets that may already be here in the South and South-West. If they do not fly across, they will hitch a lift on the ferries and other cross-Channel boat traffic. We can expect to see far more nests this year than we have seen to date.

## Get out your monitoring traps

2019 is going to be a critical year. Dr Peter Kennedy's valuable work (Exeter University) in proving the viability of tracking hornets back to their nest using radio-tags, combined with the NBU's increasing capability to locate nests, will be wasted if we do not correctly identify the presence of hornets and notify the NBU in time. By 'we' I am referring to beekeepers because it is us who must rise to this challenge. You cannot rely on public empathy with the plight of our pollinators to maintain vigilance, especially a public that has been repeatedly assured that the hornet is not a danger to them. Unfortunately, as in France, apathy on the part of many beekeepers remains a significant problem that will cause many to lose their bees.

Monitoring traps need to go out this spring as soon as the temperature rises to around 12°C for five to six days. Designs are available on the NBU website and elsewhere. This summer I was inundated with wasps and hornets in my apiary (the latter actually predated one of my hives) and I made a discovery that has caused me to go back to the drawing board to redesign my own monitoring traps (see below).

I had been puzzled as to why the selective trap was so much less efficient than a standard non-selective 'piège artisanal' placed as a control nearby and with identical bait. I found that the placement of 5.5mm escape holes near the top of the trapping chamber, as recommended by the French, certainly allowed non-target species to escape, but it had the side-effect of attracting hornets to the escape holes and they seldom found the main entrance funnel at the top of the trap.

Furthermore, I had followed the design of some of the selective traps from France by placing the bait in a tin inside the trap. This worked well in winter to warm the bait and

increase the diffusion of its odour, but it did not work in 2018's summer heat, as the bait dried out too quickly. I also realised that the bait compartment needed to be much bigger; volume and surface area are also important factors. Following a tip from a French beekeeper, I also discovered that pressed apple juice (not juice from concentrate) worked really well as an alternative to the standard bait of beer, white wine and fruit syrup; the apple juice being much easier to buy and use.

### Hornets predated your bees?

If you live in the South or South-West and are unlucky enough to have hornets predated your bees this summer; here is a reminder of the initial steps to take:

- Single hives are more vulnerable than hives grouped together. The optimum is >5 hives in the apiary, but do not put them in a row unless you are deploying a 'harpe électrique' and I guess I am the only beekeeper in the country with one of those (more detail on those in a future article)!
- Can you relocate your hives to another apiary?

- Allow the grass to grow in front of the hive, because quite apart from hampering the hornet's hawking, the bees 'carpet' on the front of the hive alerts returning foragers to the presence of hornets and the grass gives them a place to hide until the hornets have moved away from the landing board.
- As soon as the drones are out, get that entrance closed down to 5mm. You have to have restricted the entrance before the hornets attempt to get into the hive in September.
- You have to give your bees some relief from the stress of predation and the only way to do that is to fit a museliere (muzzle) or bouclier (shield); more on those below.
- Put traps in the apiary to reduce the predation; again more on that in a future article.

### The museliere

Often attributed to a French beekeeper called Andre Lavingotte, the museliere (muzzle) is simply a wire cage fitted to the front of the hive. While some versions use a 6mm by 6mm square mesh on the basis that the bees can pass through but the hornet cannot, this is not the mesh to use – and that is now official. The French Union of Beekeepers recommends a 10mm by 10mm mesh and in this country that is more commonly a 12mm by 12mm mesh. Larger meshes also work well and some beekeepers prefer that.

You can read of one beekeeper's experience of using the museliere at <https://afrenchgarden.wordpress.com/search/under/muzzle/> on the site. Kourosh the beekeeper

## New Modified Monitoring Trap

A new modified monitoring trap was designed, with the following changes:

1. The trap is now a single chamber.
2. The 5.5mm escape holes are now located in the top funnel (i.e. on the inside) to concentrate the bait odour at the entrance to the trap.
3. The number of small holes in the base of the main chamber has been increased (see photo below).
4. The bait chamber is bigger and does not have holes in its base. In winter the bait should be placed in a can painted matt black to get solar heat gain, but in summer the can should be omitted.
5. A cap with 7mm holes may be used to restrict the entrance, but a trap is more efficient without the cap (stop monitoring by mid-May to reduce the catch of non-target species).



Above: Holes in bottom of main chamber



Above: The single-chamber trap with a can containing bait.



Photographs of hives fitted with various muselieres by kind permission of Kourosh – A French Garden – Wordpress.com

tried the 6mm by 6mm mesh before changing to the larger mesh and he describes the result very well. Incidentally, the site is a delight to read and the photography of bees, flowers and other wildlife is superb.

In the 'questions session' following my talks to local associations I am often asked about the principle behind a mesh that is big enough to allow a hornet through. The answer is simple; the hornets rarely enter a museliere until they get desperate in late September when other insect numbers are declining. By that time its job is largely done, the bees have their stores and if the entrance has been restricted they can at least survive in the hive, with your help. The alternative is stressed bees and that in France has often meant brood-less, queen-less, and starving colonies that may even abandon their hives.

*“The bottom line on muselieres: the bees like them and are less stressed, so go with what works.”*

### The bouclier

An alternative to the museliere, I came across the bouclier (shield) 'Stop-It' in 2018 and was so impressed that I contacted the beekeeper concerned, Frederique Ripet, to learn more about her device. She keeps bees near Agen in the Lot et Garonne; the heart of Asian hornet country, where the hornet arrived in 2004. Beekeepers in her part of the country have been abandoned by the State and so there is no collective campaign to help them. Frederique is concerned not to harm the delicate balance of the entomology in her area and points out that the shield is entirely passive.

The 'Stop-It' is a development of the museliere and I can see it has advantages over it. It features large flight holes all round and the bees quickly get used to shooting out in all directions on leaving



Photograph of a modified bouclier or shield, called 'Stop-it', by Frederique Ripet.

the hive, except downwards of course. I found that bees arriving will go straight for the entrance but initially most seemed to prefer to use the bottom sets of holes, behind the front shield, that Frederique informed me provides an additional safe hiding area from the hornet.

Frederique's 'Stop-It' is easily put together in a matter of a minute or so and one feature I particularly like, although not a deliberate design intention according to Frederique, is that the movement of the bees inside the opaque 'Stop-It' is hard to track. Frederique tells me that the hornets hawking outside take much longer to catch bees and so the stress moves from the bees to the hornet.



This photograph was taken especially for BBKA News by kind permission of Frederique Ripet.

### Information sources

You can read an independent review of this type of plastic shield on the website of Erick Le Bervet (<http://mielleriedesgraves.over-blog.com/tag/dispositifs%20anti%20frelon%20pour%20apiculture/>). Erick's website is a mine of information on devices and traps that he has tested in his own apiaries. He found that his colonies with the shield ended the season much stronger than others.

The Bouclier 'Stop-It' ([www.stop-it.fr](http://www.stop-it.fr)) is sold by two of France's leading beekeeping suppliers, [www.icko-apiculture.com](http://www.icko-apiculture.com) and [www.apidistribution.fr](http://www.apidistribution.fr). If you decide to go with the 'Stop-It' you might want to put together a bulk order to reduce the DPD carrier costs from Icko-Apiculture. I should add that I am not an agent for the 'Stop-It' and my sole aim here is to bring these devices to your attention.

In my next articles I will be looking at trapping in the apiary and I will be reviewing the Vita-Europe Apishield after two years of use, and I will be giving you more detail on the 'harpe électrique', which I used for the first time last summer.

*“2019 is going to be a critical year. Dr Peter Kennedy's valuable work ... in tracking hornets back to their nest using radio-tags, combined with the NBU's increasing capability to locate nests, will be wasted if we do not correctly identify the presence of hornets and notify the NBU in time.”*