

Update on University of Exeter's Asian hornet project

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I formally started working on the Asian hornet project on 1st May 2017. We had successfully applied to Defra for funding to explore what off-the-shelf technologies could be used to help track Asian hornets, e.g. when seen hawking outside honeybee hives, back to their nest with the aim of improving on the efficiency with which these otherwise hidden nests – often within dense foliage in the tree canopy - could be found quickly. We were keen to at least get a pilot project running this field season but knew that obtaining funds at short notice (applications for most research funds typically can take a year to be realised) would limit funds available and consequently the project was costed to the absolute minimum feasible in this instance. Thankfully, SWCJCC and various south-west beekeeping associations dug deep into their pockets and raised just short of a further £2000 to allow us to better link with other researchers studying Asian hornets across Europe, buy additional tags to track hornets and potentially extend our fieldwork.

As no Asian hornet nests are currently known on the British mainland, our fieldwork will be based in France and we certainly have no intention of importing Asian hornets to the UK (whether under licence or otherwise). To start with, we will focus fieldwork in or around Bordeaux – close to where Asian hornets were accidentally imported in (or before) 2004. I have already been over there to discuss plans and logistics with French researchers. All have been most helpful and supportive to this project. At INRA Bordeaux they have been studying the behaviour of Asian hornets at their nest by relocating nests to more easily accessible location (a roofed shed) – a facility that will make catching hornets to tag them with tracking devices and subsequently re-catching them a lot easier.

Photos: A caged primary nest fed & watered to allow it to build to a point where workers are allowed access to the outside and can be tracked on their flights.



To date, we have bought both radar and radio-telemetry equipment that we think offer the most promise to track Asian hornets. Each have their own advantages and disadvantages: the radar tags are very light and therefore should be easily carried by the hornets but their range of detection is more limited; the radio-telemetry tags have a better range but can weigh as much as 50-80% of a worker's body weight (realistically these tags are only likely to work on the larger workers).

I was also able to attend a COLOSS Velutina Task Force workshop that brought together 21 researchers studying Asian hornets from across Europe and also South Korea (where Asian hornets are also invasive and arrived in 2003). The workshop was a real opportunity for researchers to swap knowledge and experiences in surveying for the hornets ever increasing spread, understanding its biology to identify weaknesses, and to develop strategies to manage, control or eradicate this damaging predator. Aside from a broad range of talks & presentations, the workshop also included a field trip led by the Majorcan hosts of this workshop to a recently infested area. Asian hornets were first discovered in Majorca (175 km from the Spanish mainland) at the end of 2015 and are beginning to spread despite heroic efforts by a small team to control them in the very challenging mountainous terrain of north-west Majorca.

Photos: COLOSS Velutina Task Force workshop delegates and Majorcan terrain where the first Asian hornet nest was found in Majorca in January 2016.



At the moment I am within the final stages of preparing for fieldwork in France. This trip will focus on best means of attaching the tags to Asian hornets in a manner that least affects their behaviour and return flight, and will begin to explore factors (environmental, physical, interference) that limit the detection range of the equipment when attached to hornets. Further trips will explore the potential to find unknown nests.

Thank you again for your generous support for this project.

Pete Kennedy
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