

National Bee Unit

2018 Western Region Annual Report



Animal &
Plant Health
Agency

The 2018 Season

This season could very accurately be described as a tale of two halves! Winter went on and on, giving us a start to the season two or three weeks later than usual. Once over the disappointment of abnormal winter losses, mainly starvation, spring proved difficult, with colonies slow to build and not ready in numbers for any spring flow. Into the second half and we had a totally different story –



summer saw long periods of hot sunny weather and excellent nectar flows. Farming friends remind me that it was rubbish for their crops, too dry for grass or cereals, but there was bounty a-plenty out there for our bees. Late summer and early autumn were kind too, giving plenty of opportunity for late feeding.

Any of you who had planned to attend – and did not get to - the Beetradox event will remember the massive snowdrifts, with spindrift snow driven by a biting cold east wind, aptly named The Beast from the East. Once all that was over, and colonies were building, things did start to approach something you could describe as normality. There was a pronounced June gap early in June, but the nectar producing plants for the main flow, the bramble, clover, and lime, didn't disappoint. The oft heard beekeeping phrase 'every season is different' certainly applied this year, the blackberry seemed to yield over several weeks, whereas last year it was over in a very short time.

Into July some beekeepers had already taken a crop to release supers and others were wondering whether they'd have enough boxes to keep one step ahead of the honey flow, which just kept on coming. In accordance with tradition, it pretty much ended once August arrived and the main flows were condensed into two hugely productive months, with both with fabulous honey and wax production and also with better queen mating than recent years. I understand that those who had access to balsam and heather also did well this season.

The largely dry autumn was mild and the conditions were right for an excellent ivy crop which should tide the bees over until spring.



Spring pollen in brood frames

The NBU in Western Region

Our Tasks

As well as monitoring and managing cases of the two notifiable Foul Brood diseases, we check for the notifiable Exotic Pests, Small Hive Beetle and Tropilaelaps, and we monitor, investigate and follow-up reported sightings of Asian Hornet. We also carry out checks on imported bees and queens and manage the Sentinel Apiary programme, which, with the help of participating beekeepers, should give us early detection of exotic pest incursions. We have increased the priority of these latter activities, following the arrival of the Small Hive Beetle in southern Italy (covered later in the report). We also allocate time to beekeeper education, mostly focused on Healthy Bee days.

The team

At the beginning of April, we welcomed Benjamin Bowen as Seasonal Bee Inspector (SBI) for central and north Shropshire and west Staffordshire. Ben, from the Stafford area has been teaching beekeeping and running multiple hives and although he has no white beard, the breadth of his experience makes up for his lack of years! Towards the end of August, Jonathan Axe joined the team as SBI for Herefordshire and the Forest of Dean. Jonathan has been immersed in the activities of Dean Forest Beekeepers for a number of years and was recently appointed as their Chairman. He has been involved in all activities of Dean Forest BKA but particularly in their excellent Education/Teaching programme. Both Ben and Jonathan add a great deal to our team and they bring it up to full strength for the first time in several years.

From April 1st 2019 you will be able use the postcode search on the contacts page of BeeBase to check for your local SBI, but over the Winter period please direct all enquiries to me. SBIs can be contacted on the numbers below from the beginning of April until the end of September whilst the RBI is contactable year-round.

Please note my email address has changed to colin.pavey@apha.gov.uk and from March 2019 any emails sent to the 'gsi' version may not be received.

The areas covered by the Seasonal Inspectors are organised by 10km Ordnance Survey squares and do not always follow precise County areas. If you don't know who your SBI is, the safest way is to put your post code into Beebase (Contacts page) or to ring me. You may also call the National Bee Unit on 0300 3030094.

Regional Bee Inspector	Area	Contact
Colin Pavey	Located between Ross on Wye and Hereford – covers whole region	07775 119471 01989 740864
Seasonal Bee Inspectors	Broad Area	Contact
Benjamin Bowen	North & Central Shropshire, West Staffordshire	07557 178512
Noel Parker	West Midlands, South Shropshire, North Herefordshire	07900 404245
Colleen Reichling	Warwickshire, East Staffordshire, West Midlands,	07990 138898
David Bonner *	Coventry, Leamington Spa areas	07775 119434
Gordon Bull	Worcestershire and west of the Malverns	07867 351626
Elizabeth Gardner	Gloucestershire (exclu. F of Dean)	07867 351610
Jonathan Axe	Herefordshire and Forest of Dean	07867 151641
<p>*Dave Bonner is actually in the Eastern Region team but covers some of Warwickshire, Western Region</p>		

Beekeeper numbers

	Number of Beekeepers	Number of Apiaries*	Number of Colonies
Gloucestershire	833	1235	4944
Herefordshire	320	604	1631
Shropshire	579	769	2382
Staffordshire	388	565	2603
Warwickshire	528	817	2808
West Midlands	513	585	2230
Worcestershire	591	897	2867
Western England Totals	3752	5472	19465

*includes vacant, 'no bees at present' apiaries which may be active in future.

There are currently 3752 beekeepers in Western Region registered on the NBU's online database Beebase. Between them, they have 19,465 colonies in 5472 apiaries – an average of 5.2 colonies per beekeeper and 1.5 colonies per apiary.

Beebase is free service of voluntary registration and it is **completely confidential**. Your details will not be released or otherwise be shared with anyone else. We strongly encourage all beekeepers to register themselves and their apiaries. If your bees have been inspected by the NBU, you will be registered but it is **not** always an automatic consequence of joining a local Beekeeping Association. It is only by knowing where apiaries are located that we can complete thorough disease sweeps in the catchment area of confirmed disease. There are substantial benefits in registering, including: automatic alerts in the event of Foulbrood or Exotic Pests being found in the vicinity of your apiary; emails with timely advice on the basis of the inspectorate's findings during the season e.g. to feed if we are finding starving colonies mid-season; and a facility to maintain your own beekeeping and apiary records. In addition, we can come and check your bees and give advice in person if Foulbrood or Exotic Pests are found nearby.

Registration is critical and can be done online at www.nationalbeeunit.com or by calling our office on 0300 303 0094. This should be followed by periodic updating of Beebase records. To do so you will need a username and password and this can be obtained when registering or by calling the office.

The graphs and figures in this report are available on the public pages of Beebase, under 'Bee Pests, Diseases and Maps'. The site also offers several pages of tips, advice and downloadable leaflets on disease control and bee husbandry.

Inspections

	Beekeeper inspections	Apiaries inspected	Colonies inspected
2018	381	560	3247
2017	342	478	2914
	11.4% increase	17.1% increase	11.4% increase

The increase in Western Region inspection figures was largely due to the activities of our new recruit, Ben Bowen who, after training, was soon active in the field. On the negative side, we are impacted by the additional time exotic pest inspections take and by import checks - we carried out 17 import inspections following up the importation of bees and queens from other EU countries. Asian Hornet field work also has an impact on absolute colony inspection numbers.

Disease and Pests

Notifiable diseases: European Foulbrood (EFB) and American Foulbrood (AFB)

This season, we found Foulbrood in 33 apiaries, affecting 52 colonies. This is an increase on 2017 levels when 16 apiaries were found with 26 diseased colonies. Percentage wise, this is a big increase but the numbers are generally low and the long term trend is thankfully, downward. Regional trends are covered on page 6 of this report and can also be found on Beebase, using this link;

<http://www.nationalbeeunit.com/public/BeeDiseases/trendDiseaseChart.cfm>

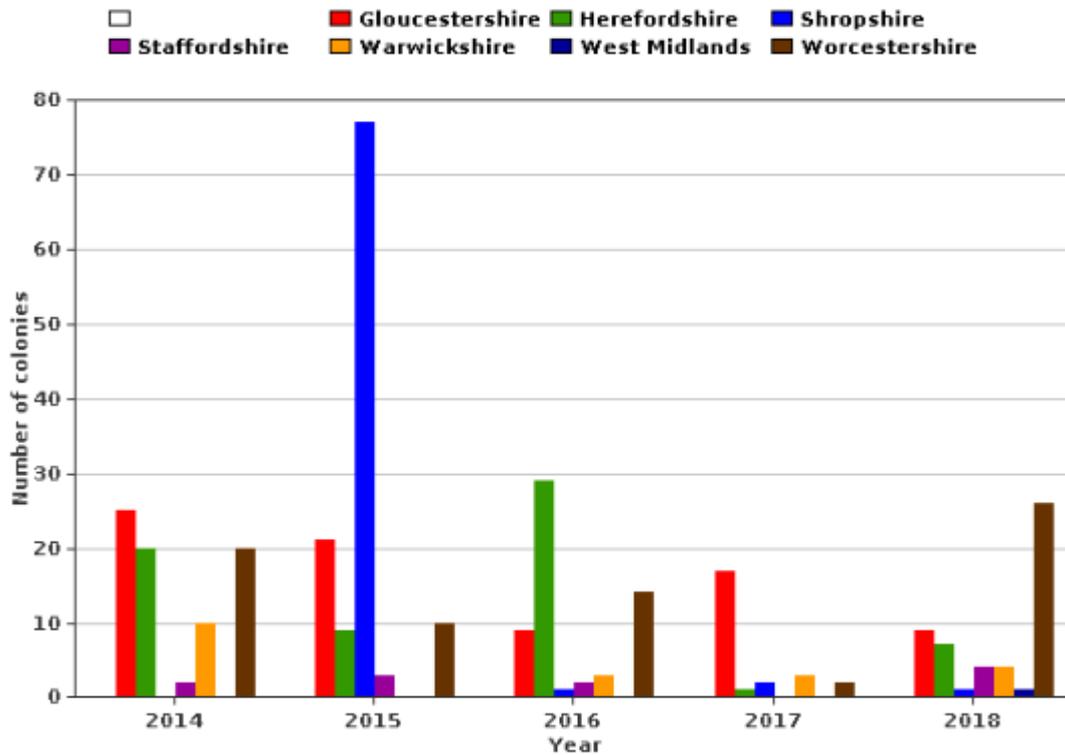
Once at the graphs, click on the Western Region square in the key to get the regional graph

There is no single reason for the increase in disease cases; you will see that more squares in Worcestershire have shown disease incidents this year than in the last few years. This in itself is not unusual and we make every effort to trace each disease case to a likely source. Our procedures dictate that follow-up visits will be made by our inspectors in the risk areas in following years, bringing the situation under control. This upswing, does show, however, that we need to be vigilant and beekeepers should not drop their guard in checking for disease. The bee's natural robbing characteristic and beekeepers' love of dividing and moving colonies mean that uncontrolled disease can 'take off' extremely rapidly. Beekeepers can take some comfort from the fact that in 2018, for England and Wales, the likelihood of their bees being affected by Foulbrood remains low: 1.1% of beekeepers inspected were found to have EFB and 0.1% AFB.

Further details and mapping can be found on the disease incidence pages of BeeBase at www.nationalbeeunit.com. It is recommended that these are checked regularly to see if there is any Foulbrood disease close by.

Incidence of EFB in Western Region 2014 – 2018

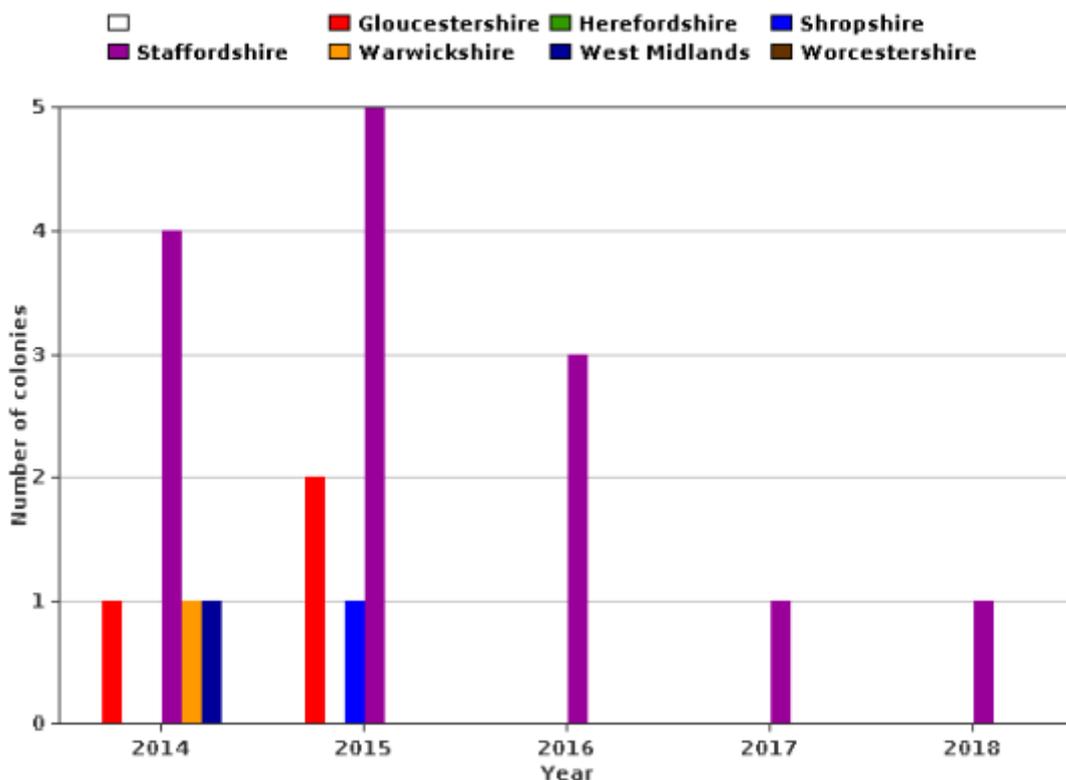
Regional trends of EFB - by county in Western England



Notes: 2015 saw a major outbreak in Shropshire which with decisive action and a concerted effort, was quickly brought under control.

Incidence of AFB in Western Region 2014 – 2018

Regional trends of AFB - by county in Western England



Notes: AFB in our region has fortunately been at very low levels for a number of years

Varroa

The core statutory role of the Bee Unit is the discovery and control of Foulbrood and Exotic Pests. But the major threat to honey bees – UK and worldwide – remains Varroa. This year again there have been additions to the Varroa treatments available in the UK. The list of those registered and approved for use by the Veterinary Medicines Directorate (VMD) is available on their web site <http://www.vmd.defra.gov.uk/ProductInformationDatabase/Default.aspx> together with the Summary of Product Characteristics giving full details of use. For the full list select 'Bees' on the drop down list of species in the product search link.

Oxybee Powder and Solution by DANY Bienenwohl is the most recent addition to become available in the UK, the active ingredient being oxalic acid dihydrate, an oxalic acid based treatment applied by the 'trickle' method. As well as the tried and tested thymol Varroa treatments such as Apiguard, Api-life Var and Thymovar, approved oxalic acid treatments are popular not only by dribbling but increasingly by vaporisation. Some associations have invested in applicators and associated PPE (Personal Protective Equipment – safety gear) to allow members to use oxalic acid sublimation at little cost for this effective treatment.

NBU advice, for strong, vigorous colonies, is to monitor and control Varroa appropriately using biotechnical methods and to use authorised products as directed. Varroa treatments should be targeted before colonies start to produce their 'winter' bees but monitoring of Varroa levels during the season will help determine whether an earlier treatment is required. Varroa have their own impact on the bees and they are highly effective vectors for viruses. Viral damage will seriously reduce the longevity of the adult bees and so impact on the foraging capability of colonies with a high Varroa infestation level in the summer period. Treated too late in the season, so that the Winter bees are affected by viruses or purely weakened by the mites feeding on them, is frequently the cause of colony mortality in the late Winter and early Spring.

Exotic pest surveillance (EPS)

We carried out 217 inspections specific to Exotic Pests this year, targeting a combination of identified risk points and random sites. EPS inspections check for Small Hive Beetle (SHB), Tropilaelaps mites and Asian Hornets (AH) as well as being a normal brood inspection looking for Foulbrood. The identified risk points are ports, airports, crude hive product importers, fruit and vegetable wholesale markets, larger queen importers and landfill sites associated with imported products. Given the continued presence of Small Hive Beetle in Italy this year and the incursion of the Asian Hornet from across the Channel from France, the importance of exotic pest surveillance work cannot be overstated.

We have 14 Sentinel Apiaries in Western Region in order to improve our capacity to combat the arrival of pests from abroad. Sentinel apiaries are set up in areas considered 'at risk' where a volunteer beekeeper agrees to monitor their colonies specifically for Exotic Pests. As well as visual inspection, floor debris from the designated hives is sampled twice a year and tested for Small Hive Beetle and Tropilaelaps. All equipment and paperwork is supplied to the beekeeper who collects samples as directed and sends them to the NBU laboratory for screening. SHB & AH

traps are provided and checked at normal colony inspections and noted on a log sheet. Thanks are given to those beekeepers who currently carry out this work. It is always useful for us to have a few reserve Sentinel apiaries, so please do get in touch if you would like to be involved in the future.

Asian Hornet (the 'yellow legged hornet')

There have been nine confirmed Asian Hornet sightings in England in 2018, beginning with an individual hornet found in a cauliflower by a householder in their kitchen in Bury, Lancashire, confirmed on 13th April. The cauliflower was grown in Lincolnshire but it is thought that it may have been stored with vegetables from France.

After a quiet summer, a beekeeper in Fowey on the coast in Cornwall found a dead Asian Hornet in a trap in his garden apiary. He contacted his local SBI and a positive ID was confirmed on 3rd September by which time the South-Western inspection team had already been mobilised. Following an NBU surveillance operation, a nest was found in dense brambles within a kilometre of the initial find and destroyed on Sept 6th.

Nearby in Liskeard, Cornwall a single drone was reported by a beekeeper caught in a trap. ID was confirmed 7th September 2018 but after prolonged surveillance, no further hornets were seen in the area. A single dead hornet was found in Hull, Yorkshire, confirmed on 9th September, but after an extensive search in the area, it was presumed to have been a single insect inadvertently brought over from France.

Meanwhile back in Fowey, Cornwall, monitoring continued following destruction of the nest on September 6th and a week later, a few further hornets were caught in traps in the same area. Suspicions were aroused that these were more than stragglers from the first nest and within two days a second nest was located in woodland adjacent to the first, nest destruction taking place on the 20th September. It should be emphasised that although close to the first nest, the terrain was extremely difficult to carry out surveillance and the second nest could only be seen in the tree from one viewing position at the bottom. Analysis shows that the two nests in Fowey were primary and secondary nests from the same queen and so the same colony.

Later in the month in New Alresford, Hampshire, a householder reported seeing Asian Hornets foraging in his garden. The local SBI was mobilised and positively identified them. Through experience and with careful observation he was able to get some lines of sight and located the nest within a few hours of arriving. It was low down in a bush adjacent to a house a short distance away and the nest was destroyed on 24th September 2018.

Following quickly on the heels of this finding, on the coast south of Beaulieu, also in Hampshire, a householder noticed hornets feeding on fallen apples in her garden and alerted a beekeeper friend who reported them. Within a few days again, on 26th September 2018, a nest was found and destroyed in woodland half a kilometre away.

In Guildford, Surrey, another dead hornet was discovered in a new Mini at a car dealership, but the source of the insect is unknown.

Finally in Dungeness, Kent, two Asian Hornets were found, both foraging on ivy, one in a garden and the other at the RSPB reserve nearby. After several days of extensive surveillance no further hornets were seen and the operation was wound down, with just a few traps being kept in the area. It is thought that these individuals may have been blown over from France. Both were identified as drones.

The process of finding Asian Hornet nests, after a positive identification is confirmed, conforms to a Standard Operating Procedure whereby a Forward Operating Base (FOB) is established at a suitable location in the area e.g. APHA offices or a fire station. The operation is closely monitored by the NBU and Defra policy with daily reports reaching right up to the cabinet office and Lord Gardiner. Bee inspectors are deployed with traps and bait stations around the area with the aim of establishing lines of sight of the hornets returning to their nest after foraging for food. This requires good observation, patience and tracking skills, but is rewarded when they can be plotted on a map with the lines converging on the nest location. Even when the nest location has been narrowed down considerably, if the area is densely wooded it can still be very difficult to locate it in a thick tree canopy. This year we have trialled infrared photography, drones and radio tracking to enhance our capabilities but success has prevailed with human lines of sight above all else.

Nests destroyed this year have been sent to FERA for analysis, the results of this work will be released in due course. We are again reminded that the Asian hornet (and other Exotic Pests) could arrive almost anywhere in the UK given the vast volume of traffic and goods arriving in the UK from across the channel and other countries where Exotic Pests are endemic. Further sightings of Asian hornets have been confirmed this year in the Channel Isles, in Jersey by the 4th October, 52 nests in various stages of development had been found and destroyed right through the season.



Asian Hornet Vespa velutina - Fowey

Since the destruction and removal of the nests in Cornwall and Hampshire, no further Asian hornets have been seen foraging in the areas or caught in traps. However, it is possible Asian hornets could reappear in the UK next spring and beekeepers, along with members of the public are urged to report any suspect sightings through the following routes:-

- The 'Asian Hornet Watch' app is available to download free from the Apple and Android app stores

- Members of the public can also report sightings by email to alertnonnative@ceh.ac.uk . Please provide a photo along with where you found it and a contact number to reply to.
- Reports can be sent via the online submission form on the Non-native Species Secretariat website, again with a photo.
- Details on the appearance of an Asian hornet can be found on the Bee Base guide or the NNSS Asian hornet ID sheet.

N.B. A dead insect is much better than a missed photo, so knock it down with anything to hand! If you succeed in catching a live insect, get it in a container and chill it so you can get a good photo. If you see them in your apiary, try and get lines of flight. Remember, our best defence against the Asian hornet is to quickly detect any arrivals and prevent them from establishing; monitoring traps are the best way to help aid detection. The traps can be home-made and there are links to a leaflet (and a YouTube video) describing how to make one on BeeBase, see <http://www.nationalbeeunit.com/index.cfm?pageid=208> Monitoring traps are advised in areas away from a confirmed outbreak, as regular inspection will allow other beneficial insects to be released unharmed.

The image gallery on BeeBase <http://www.nationalbeeunit.com/gallery/index.cfm> contains several pictures of the particular Asian hornet that we are concerned about and Small Hive Beetle as well as other pests and pathogens and general beekeeping topics. All images are subject to © Crown copyright but may be used free of charge in any format for non-commercial research, private study or internal circulation within your organisation. When reproducing images, please associate the phrase "Courtesy of the Animal and Plant Health Agency (APHA), Crown Copyright" alongside each image.

Small Hive Beetle



Aethina Tumida Adult and larval stages

Surveillance of *Aethina tumida* in Italy in 2018

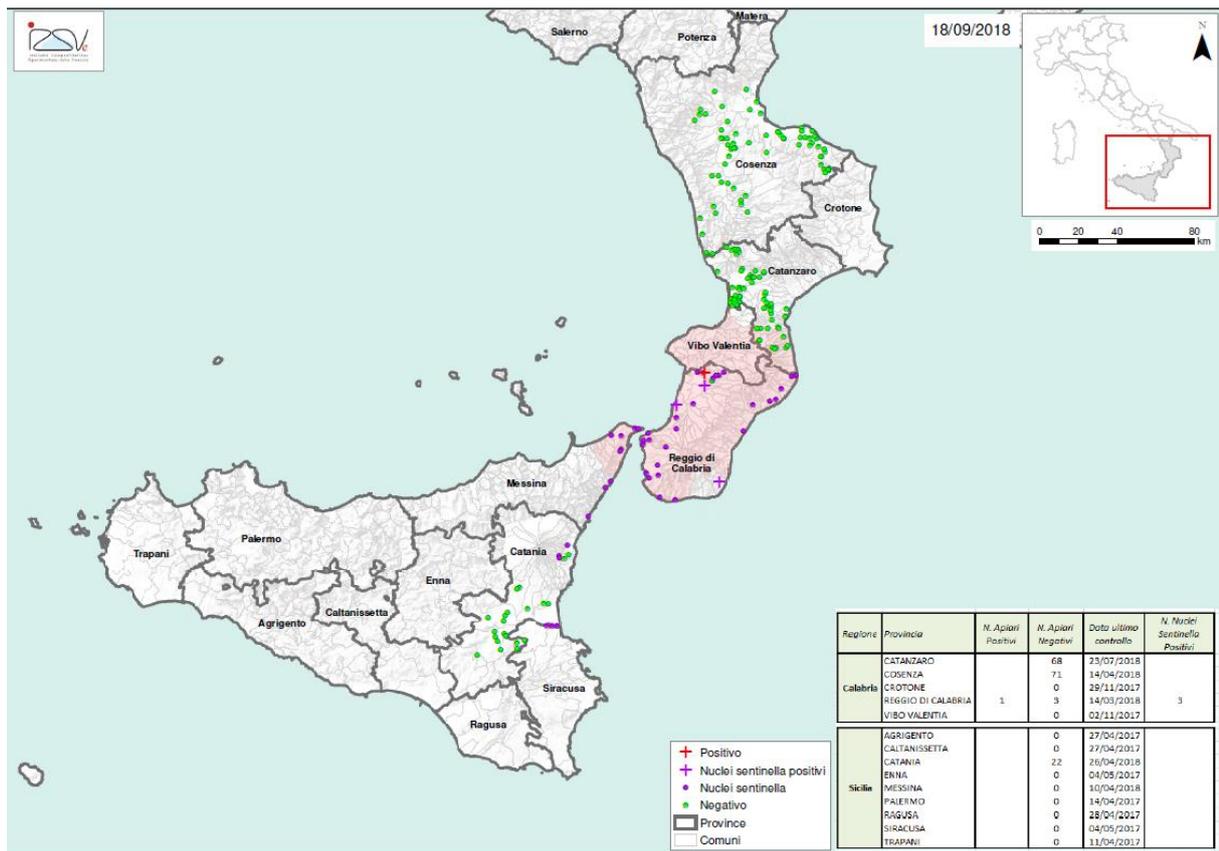
As of 26th. October 2018, four cases of infestation by *Aethina tumida* have been identified this year in the province of Reggio Calabria in the South of Italy, the province where it was originally found in 2014. Three sentinel apiaries were confirmed positive (purple crosses on maps below) two of which were situated in the protection zone of 30 km. The first one was confirmed on August 1st. in the municipality of Palmi where adults and a larva were detected. The second sentinel apiary was confirmed positive on August 7th. in the municipality of Brancaleone situated approximately 15 km away from the protection zone on the south-east coast of the province of Reggio Calabria. Adults of SHB were detected. The last sentinel apiary was confirmed positive in Rosarno on September 4th. This sentinel apiary was infested with adults and larvae. It was situated approximately 12 km away from the outbreak confirmed in Laureana Di Borello – see next paragraph.

A new outbreak, not in a sentinel apiary, was confirmed on August 2nd in the municipality of Laureana Di Borello (red cross on maps) in the protection zone of 30 km. SHB were in a swarm which was infested by adults and larvae. It has to be noted that not all the inspections scheduled in the rest of the Calabria region and in Sicily have yet been reported when this news was published.

The ‘clear’ status of Sicily remains unchanged, where no new cases have been discovered since 2014. No new outbreaks have been discovered in the province of Cosenza, situated in the North of Calabria since September 2016. The regular reappearance of cases in the infested zones since 2014 show that SHB remains present in these zones.

The surveillance plan implemented in 2018 follows the monitoring scheme put in place in the previous years. Surveillance is ongoing in SHB free areas such as Sicily and the rest of Italy to guarantee the free status of these areas. Changes were brought in to the monitoring scheme, notably a reduced number of apiaries to be inspected in the protection zone was implemented (corresponding to an expected prevalence of 10% with a confidence interval of 95% instead of an expected prevalence of 5% applied the previous years). This reduction, along with the establishment of sentinel apiaries situated in strategic locations (i.e. on the coast in front of Sicily, along the Ionian Coast, along the frontiers with Vibo Valentia and Catanzaro, in Vibo Valentia) suggest a gradual achievement of the objectives of the control of SHB spread and a containment of the infestation in the protection zone.

Note: the Commission Implementing decision (EU) 2017/370 of March 1st. 2017 removed Sicily from the list of areas subject to protective measures in relation to SHB in Italy and extended the period of application of certain protective measures until 31st. March 2019.



Imports 2018

Import or export of bees, (including queens, packages and colonies) is permitted only if accompanied by an Official European Union (EU) or Third Country health certificate issued by the competent authority where the bees originated. It is a **legal** requirement that you notify the **National Bee Unit** of imports of bees from outside the UK. You can do this by completing the [Importer Notification Form](#) and posting, faxing or emailing it to the NBU office. Alternatively, if self-registered, you can log in to the Beekeeper pages of BeeBase and click the 'Import Notifications' link from the left hand index. It is of course illegal to import bees, queens or any bee-related products from within the SHB exclusion zone around the affected areas in southern Italy. Further details can be found on the Imports/Exports pages of BeeBase at <http://www.nationalbeeunit.com/index.cfm?sectionid=47>. These pages will be updated with the 2019 requirements and procedures as soon as these are clear.

Beekeeper Training



We ran two Bee Health events, a number of Bee Safaris and apiary events over the season as well as supporting the BBKA Spring Convention which happens to be held in our region. For the Bee Health events, we bring selected diseased combs, displayed under special licence, to give attendees first hand and, we hope the only, experience of brood disease. Workshop/tutorials are provided, covering a wider range of pests/diseases and relevant good beekeeping practise, from

Adapting to Mediterranean weather conditions!

Varroa control to biosecurity and Exotic Pests. The practical and visual elements of the events, especially the chance to see and handle diseased comb 'in the flesh', is an opportunity much appreciated by participants. As well as beekeepers going away with a better understanding of biosecurity, hygiene, good husbandry and the importance of inspecting for disease, we enjoy being able to demonstrate the work that we do to a wider audience in an informative and accessible way.

Finally

I would like to thank the team of Seasonal Bee Inspectors for all their hard work in keeping our managed honey bee colonies healthy. Thanks are due also to you, the beekeepers, for co-operating with our Inspectors when they are requesting access to your colonies. Please be vigilant, check for brood disease and look out for Asian Hornets, if you don't look, you don't find! It's a good excuse to spend a bit more time in the apiary, just watching! Many thanks also to the local Association secretaries/training officers who helped us to manage the programme of Bee Health days across the region, we'd like more attendees next year so please come along and see what diseased combs look like, see how to control Varroa, how to avoid disease and spot those Exotic Pests. I'd like to wish you all a successful and trouble free season next year but, if the worst happens, please remember the NBU are here to help <http://www.nationalbeeunit.com/>

A handwritten signature in black ink that reads "Colin Pavey". The signature is written in a cursive style.

Colin Pavey
Regional Bee Inspector, Western England

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