

National Bee Unit

2018 Wales Annual Report

The 2018 Season



Animal &
Plant Health
Agency

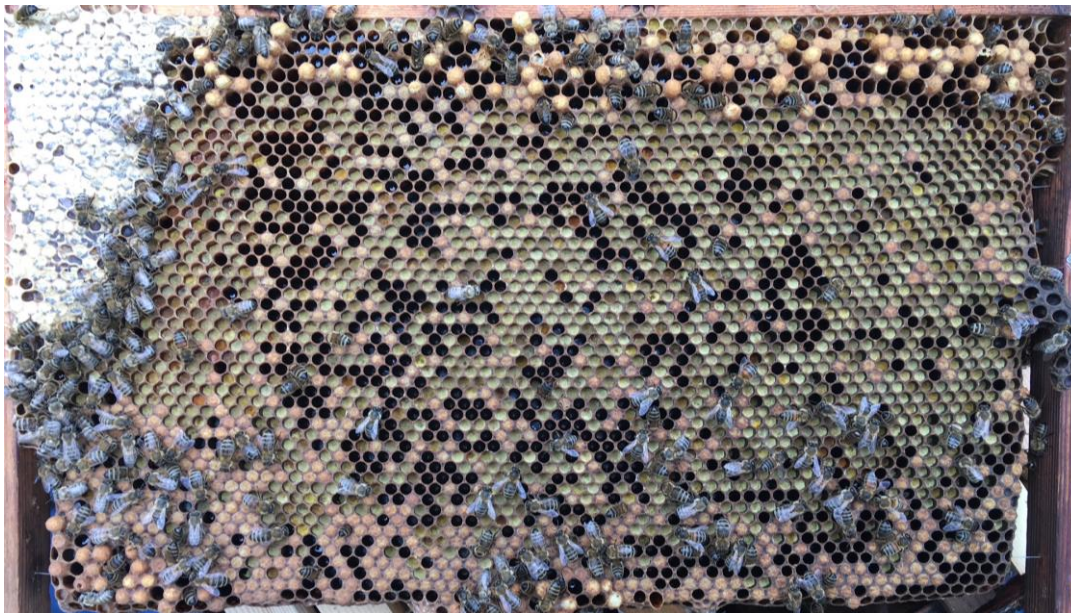
I was listening to the food programme on Radio 4 recently about UK wine being such a success story this year, thanks to an exceptionally warm season running into harvest time in October, and no late frosts. It's billed as the vintage of the century, I thought it could equally have been beekeepers extolling the virtues of a remarkable season! It's been a truly extraordinary year in Wales, so much so that the old timers, and I don't consider myself one yet, reckon it's beaten previous exceptional years hands down eg 2006 & 2013. In Carmarthenshire we've had production hives with 3, 4 & 5 full supers on and in Pembrokeshire 5, 6 & 7 full supers, something not experienced for a long time, and I've heard of similar experiences in other counties further East and North.

After a long cold spring, the nadir being storm Emma setting in on March 1st, added to by the 'Beast from the East', with spindrift snow driven by a biting cold east wind, we were bowled from survival of the fittest to a glorious May, which saw sycamore nectar and pollen piling into the hives like never before. The predominantly warm and dry weather over the next month meant forage coming in consistently, filling a super or two on strong stocks. There was a June gap in the first half of the month in some areas when the honey flow dropped off, but the nectar producing plants for the main flow, the bramble, clover, and soon rosebay willow herb, didn't disappoint and kicked in rapidly and early with continued warm sunshine in June.

Come 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. However it dropped off abruptly in the middle of July as the drought really kicked in and, despite some rainfall resuming, there has not been much excess honey coming in since then. The season was condensed into under three hugely productive months, both with fabulous honey and wax production and also with better queen mating than recent years.

The largely dry autumn has been kind apart from storms in both September and October, causing flooding in some areas. Those that took most of the honey off in the summer have had to feed to ensure the strength of hives going into winter as it's not been replaced to any degree.

Honey yield: *The average honey crop per hive recorded by the seasonal bee inspectors in Wales from their own areas in 2018 was 56lb, that's twice the figure of last year.*



Spring pollen in brood frame

The NBU in Wales - The team

This year, from the beginning of July, we welcomed Shane Jones as SBI for Powys. Shane, from Builth Wells, has a wealth of knowledge and experience in beekeeping and is a welcome addition to the team. He is a native Welsh speaker and will be known to many of you from events around the country.

From April 1st 2019 you can use the post code 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 francis.gellatly@apha.gov.uk , from March 2019 any emails sent to the 'gsi' version will not be received.

Regional Bee Inspector	Area	Contact
Frank Gellatly	Mid Carmarthenshire 01267 202732	07775 119480
Seasonal Bee Inspectors	Area	Contact
Jonathan Garratt	Anglesey, N Gwynedd & Conwy	07775 119479
Tony Davis	Flintshire, Denbighshire, Wrexham	07900 166018
Paul Aslin	South Gwynedd, North Powys,	07867 351605
Karen Smith	Ceredigion	07979 119374
Shane Jones	Powys	07827 552312
Chris Welton	N Pembrokeshire, SW Ceredigion	07900 166143
Maggie Gill	S Pembrokeshire, S Carmarthenshire	07979 119373
Ade Bowen	Swansea, Neath Port Talbot, Rhondda Cynon Taf, Merthyr Tydfil	07775 119489
Edmund Thomas	Cardiff, Vale of Glamorgan, Bridgend	07901 517813
Adam Parker	Monmouthshire, Newport, Torfaen, Blaenau Gwent	07990 138902

Beekeeper numbers

There are currently 3,444 beekeepers in Wales registered on the NBU's online database Beebase. Between them, they have 19,356 colonies in 4,769 apiaries – an average of 5.6 colonies per beekeeper and 4 colonies per apiary. Over the past 5 years, the number of new beekeepers registering on Beebase in Wales has fluctuated - in 2014 there were 331 new beekeeper registrations, rising to 347 in 2015 and dropping to 246 in 2016, 205 in 2017 and 216 in 2018.

If you keep bees please ensure you are registered on Beebase it is free, if your bees have been inspected by the NBU, you will be registered but it is not an automatic consequence of joining a local beekeeping association. 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.

Voluntary registration is very important 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, the NBU website (www.nationalbeeunit.com) in 'Bee Pests, Diseases and Maps'. The site also offers several pages of tips, advice and downloadable leaflets on disease control and bee husbandry.

Inspections

This year Wales' Seasonal Bee Inspectors visited a total of 697 beekeepers in 1109 apiaries and inspected 5003 colonies. This represents a 5% drop in beekeeper and colony numbers but a similar number of apiaries as in 2017. We also carried out 12 import inspections following up the importation of queens from other EU countries. One reason for the slight drop is that recruitment was delayed by a freeze in England so our one new recruit did not complete field training until August of this year. Another reason was the early start to the Asian Hornet work that we carried out helping our colleagues in England – see later in this report.

Disease and Pests

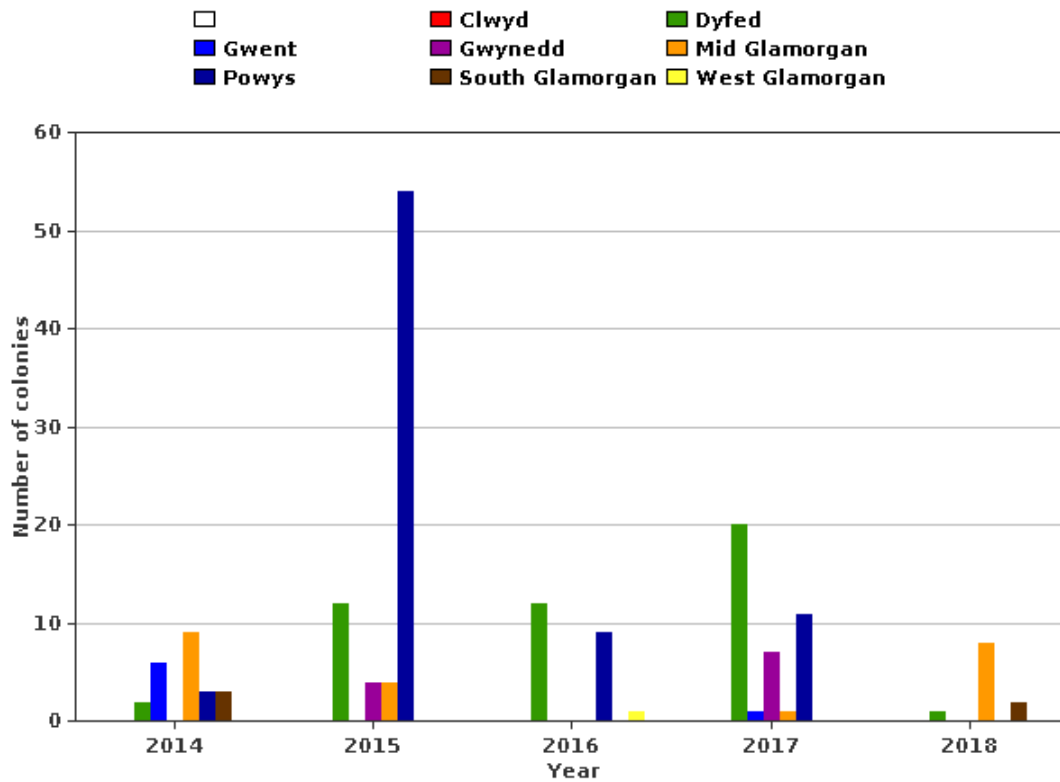
Notifiable diseases: European Foulbrood (EFB) and American Foulbrood (AFB)

This season, we found foulbrood in 11 apiaries, affecting 14 colonies. This is a decrease on 2017 levels when 34 apiaries were found with 65 diseased colonies. It represents a 68% fall in infected apiaries and a 78% fall in infected colonies.

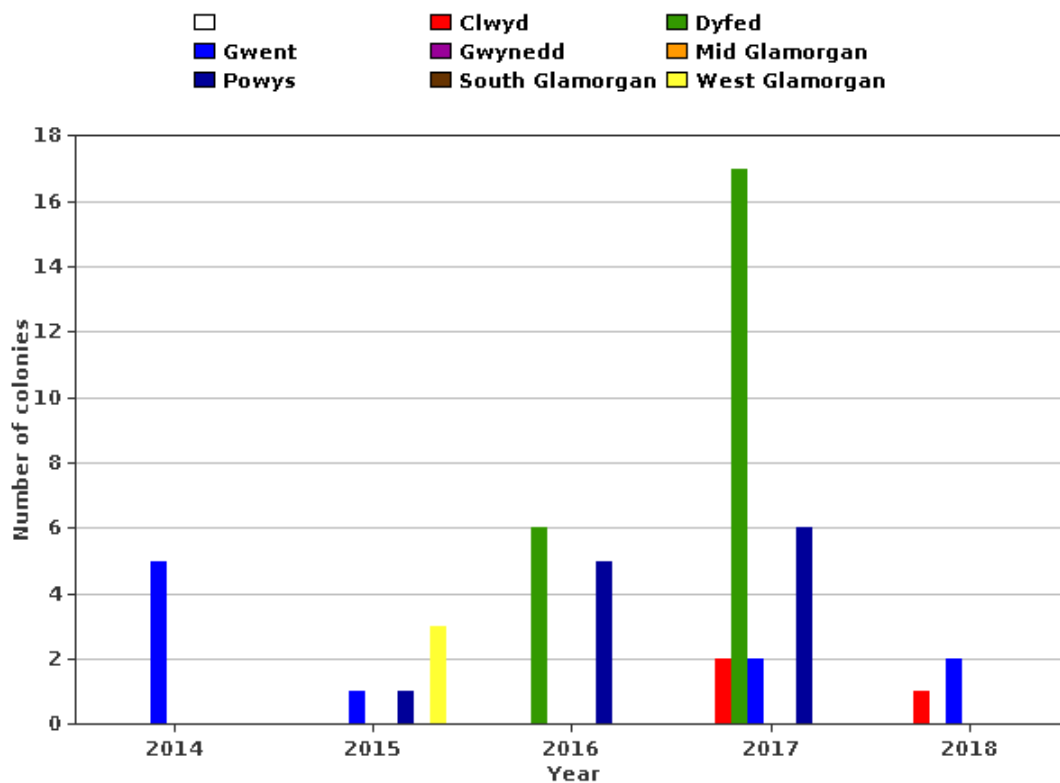
The fall in cases of disease is primarily attributable to the clearing up of a major disease outbreak in Mid Wales since 2015 with no new cases in the area this year. The extremely good season will have played a part as well. Beekeepers should not drop their guard, but can take some comfort from the fact that the likelihood of their bees

being affected by foulbrood remains low: 0.7% (5 in number) of beekeepers inspected were found to have EFB and 0.3% (2 in number) AFB.

Incidence of EFB in Wales 2014 – 2018 (per preserved county)



Incidence of AFB in Wales 2014 – 2018 (per preserved county)



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.

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, oxalic acid treatment is popular not only by dribbling but increasingly by vaporisation. Many associations have invested in applicators and associated PPE 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 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. Viral damage, which is associated with varroa as they are such good vectors for viruses, 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 441 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), Tropiclaelaps 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 in France, the importance of exotic pest surveillance work cannot be overstated.

We have 15 Sentinel Apiaries in Wales 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 Tropiclaelaps. 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. Thank you to those beekeepers who currently carry out this work, but also, 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, all was quiet following destruction of the nest on September 6th until after a week later when a few further hornets were caught in traps in the same area and suspicions were aroused that these were more than stragglers from the first nest. Within two days a second nest was located in woodland adjacent to the first and on 20th September 2018 it was also destroyed. 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. By 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 below 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 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 catch the hornet if possible and freeze it or knock it down with anything to hand! 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

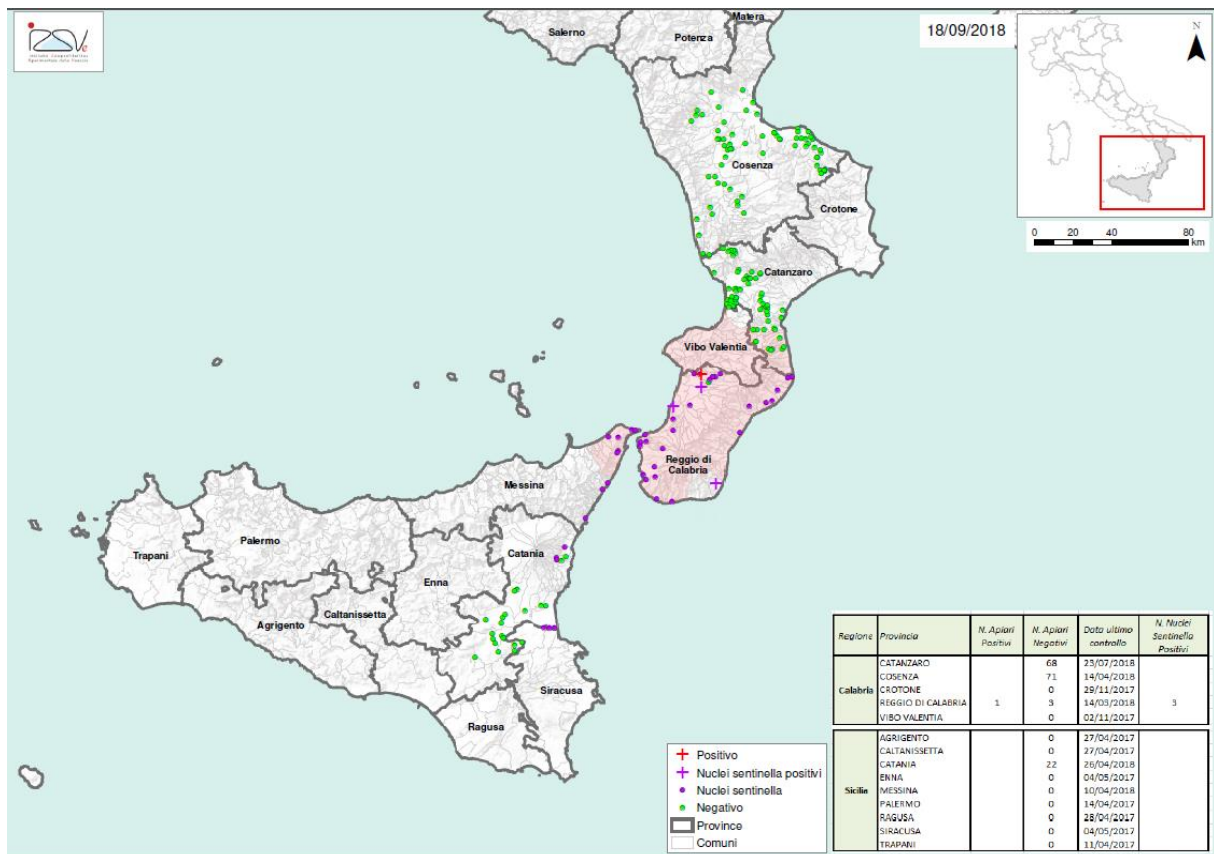
As of 26th. October 2018, four cases of infestation by *Aethina tumida* have been identified this year in the province of Reggio Calabria in the South of Italy, the province where it was originally found in 2014. Three sentinel apiaries were confirmed positive (purple crosses on maps below) two of which 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>

Welsh Government (WG) Action Plan for Pollinators



Red Mason Bee - *Osmia bicornis*

In 2018, the Action Plan for Pollinators (APP) in Wales was updated by members of the Pollinator Task Force, the overall aim of the APP remains - to slow and reverse the decline in pollinator

numbers. However a review to update the actions was needed to reflect the Bee Friendly initiative, the UK National Pollinator Monitoring Scheme, Bee Health policy which takes into account the risks from an Asian Hornet outbreak, the ongoing and new work by APP Task Force members and new requirements arising from the Well-being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016.

The work of the National Bee Unit contributes to the plan by helping to maintain a healthy managed bee population in Wales, while other contributors work to increase habitats and biodiversity for wild pollinators.

Beekeeper Training



Comb workshop - Aberystwyth

We ran five Bee Health events in June and July, three were hosted and publicised by local beekeeper associations and two by the WBKA at their 75th Anniversary Conference. They were open to members and non-members alike, and were attended by a wide range of beekeepers. The events were 'drop in' surgeries, allowing attendees to come and go at a time of their choosing, and to focus on the issues of greatest concern to them. We brought selected diseased combs, displayed under special licence, to give attendees first hand and, we hope the only, experience of brood disease.

We provided stalls of information covering a wider range of pests and diseases and relevant good beekeeping practice, from 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. Please be vigilant, check for brood disease and look out for Asian Hornets, if you don't look, you don't find. Many thanks also to the local association secretaries/training officers who helped us to manage the programme of bee health days across Wales, we'd like more attendees next year so please come along and see what diseased combs look like, how to avoid disease, varroa 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/>

Frank Gellatly

Regional Bee Inspector, Wales | Arolygydd Gwenyn Rhanbarthol, Cymru

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