

# Brighton & Lewes Beekeepers

## Newsletter



Volume 10 – October 2019

Editor: Norman Dickinson

BRIGHTON AND LEWES DIVISION OF THE SUSSEX BEEKEEPERS ASSOCIATION

[www.brightonlewesbeekeepers.co.uk](http://www.brightonlewesbeekeepers.co.uk)

### First Winter Meeting held on 18th September

The first meeting of the winter season was a talk by David Rudland entitled "Snap Shot of Bee Diseases"

David gave a brief summary of his bee experience and was a seasonal bee inspector for 9 years. His wife Celia is a qualified teacher although no longer teaching in schools. Together they run 200-250 hives and carry out a number of educational courses associated with beekeeping.

David started by stating that the biggest problem we face is Varroa with 18 months being the average time a colony will survive if varroa is not treated. The first question posed was "how do we know that we have a problem", the simple answer being that we need to know what healthy brood looks

like in order to determine if we have a problem. A number of slides showing the result of bad brood were shown with an explanation of the probable cause and the best course of action to take. David also stated that most viral infections were as a result of poor varroa control making the bees more susceptible to the viral infection.

It was explained that the two "foul broods" EFB and AFB are both classified as notifiable diseases and MUST be reported to the bee inspector if it is suspected that it is present. EFB is not always terminal and the bee inspector will advise what action is required. AFB is always terminal and the hive complete with bees and any honey extracted must be destroyed. It is for this

reason, amongst others why you should not feed honey to a colony unless produced by that one. NEVER feed commercially sourced honey as this has been known to contain AFB spores.

David advised registering ones apiaries on BeeBase, a Government Animal & Plant Health Agency. The main benefit is that should there be an outbreak of foul brood within a 5Km radius of your apiary, then you will receive a notification. Other benefits also include the ability to download various information publications and see a map of your location and surrounding apiary sites. Members can sign-up at <https://secure.fera.defra.gov.uk/beebase/public/register.cfm>

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### Wasps: If you can't love them, at least admire them

By Jonathan Amos Science correspondent BBC News 15 September 2019

Want to know the best way to kill a cockroach?

Well, first inject some powerful neurotoxins directly into its brain. This will make the bug compliant; it won't try to fly away and will bend to your will.

Second, slice off one of its antennae and drink the goo that comes out. For snack purposes, you understand.

And then lead it off to

your lair by the stump, like a dog on a leash. You're going to bury this zombie in a hole in the ground.

But just before you close up the tomb, lay an egg on the bug. Your progeny can have the joy of eating it alive.

Dr Gavin Broad relishes these stories about how wasps will parasitise other critters. He's the principal curator in

charge of [insect collections at London's Natural History Museum](#), which means he's got plenty of material to work with.

[The 'zombie fungus' and the climbing dead](#)

[Locations mapped of key UK wasp species](#)

He has drawer after drawer of wasps, gathered from all

(Continued on page 5)

#### Forthcoming winter meetings:

- October 2019: A year Beekeeping My Way with Mike Cullen

#### In next months edition:

- Amanda Advises
- Asian Hornet Action Team
- Contributions from our members

## Asian Hornet Action Team Report by Manek Dubash

Autumn was the time of year predicted by scientists and the government's experts to be the most likely time to find active Asian hornets, and so it has proved.

### News update

The latest news is that an Asian hornet sighting was confirmed south west of Ashford in Kent on 9 September 2019. That's not far away and, as far as I am aware, no nest has yet been found and destroyed.

This follows an earlier confirmed sighting in the Tamworth area of Staffordshire on 2 September 2019, where a nest was subsequently located and destroyed. Earlier in the year a single hornet was confirmed in New Milton, Hampshire. In each case the hornets were spotted and reported by a member of the public.

Since 2016, there have been a total of 16 confirmed sightings of the Asian hornet in England and seven nests have been destroyed.

### Role of the public

The key issue here is that members of the public have been the first to spot the insect (*Vespa velutina*), so it crucial that we as beekeepers help with identification. To that end, I have a batch of identification cards to give out, which you are welcome to pick up at the next meeting. You can also use the Asian hornet App, available on both Apple and Android, to help with identification.

Photos are central to such identification but if that's not possible, some guidelines are that Asian hornets:

- have a dark brown or black velvety body
- have a yellow or orange band on fourth segment of abdomen
- have yellow tipped legs
- are smaller than the native European hornet
- are not active at night

I'd suggest you make it known among your friends and acquaintances that you have this information, as I've been contacted by a number of people asking for help with identification; fortunately, none of the insects I've been asked about were *V. velutina*.

Finally, here's an update from an ex B&L member in France:

"We have a friend whose son is a fireman, but part-time treats Asian hornet nests. In the last three months he has dealt with 47 nests in and around Fecamp [on the northern French coast between Dieppe and Le Havre]. Quite frightening news and amazing how quickly they have spread. Be prepared in the UK as you'll be next."

*Whilst on holiday in Jersey in August and visiting Jersey Zoo, I was (un)fortunate to see an Asian Hornet as it landed on a plant close by but was unable to get the camera on it before it flew off. I hope that is the last time I shall see a live Asian Hornet. Ed*

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## A couple of interesting items from Gerald Legg

### Spider venom used to kill pests but not bees

Leo Benedictus NewScientist 14 September 2019

A bite from a funnel web spider delivers neurotoxins that can kill an adult human in hours, or a child in minutes. Yet they might be our friends in the fight against the small hive beetle, a dangerous new threat to bees.

In southern Africa, where it originates, the small hive beetle (*Aethina tumida*) is a minor pest. African honeybees defend their nests so aggressively that the invader rarely gets a foothold. Outside Africa, however, nest of European honeybees (*Apis mellifera*) are often devastated by the beetle and its larvae, which devour the honey, pollen and brood, destroy the combs and sometimes introduce diseases. Some pesticides can kill the beetles, but they would

harm the bees as well. Now Elaine Fitches and her colleagues at the University of Durham, H, and Fera Science, a firm co-owned by the UK Department for Environment, Food and Rural Affairs, think funnel-web spiders may provides the weapon we need to stop the beetles. Spider venom contains a cocktail of ingredients, and one of the funnel-web's Hv1a is fatal to most insects, including small hive beetle, but seems to have no effect on bees or humans. The trouble is that Hv1a needs to be injected. If beetles swallow the toxin, it degrades in their gut and has little effect. So Fitches and her team have bound Hv1a to a molecule found in the spring-flowering common snowdrop (*Galanthus nivalis*), which effectively carries it through the gut barrier. In the lab, the team fed this 'fusion protein' in a sugar solution to beetles and their larvae. After two

days, the larvae started "writhing". Within a week, all the larvae and adults were dead. The team also placed beetle eggs on a piece of honeycomb containing bee brood, which was then sprayed with the engineered compound. The honeycomb and bees survived virtually untouched, but most of the new beetle larvae died. "I was absolutely chuffed to bits with these results," Fitches says.

### Honey can tell us all about lead pollution.

NewScientist 31 August 2020

Bees pick up pollution as they fly around and some of it ends up in their honey, although it is still safe to eat. Kate Smith at the University of British Columbia in Canada found that analysing honey is as good a way to check lead levels as using soil or air samples. It could be used to monitor remote areas.

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## Apiary Site available

An apiary site in a garden in New England Road, Brighton has been offered. Details from Hilary on 07713532285

## Amanda advises...

As I write this on 22<sup>nd</sup> September the long spell of dry warm weather has broken and we had our first much needed rain last night. We can expect temperatures to return to normal from early October (so says the forecast) so I hope everyone has completed their bee jobs for this time of year. This includes all varroa treatment and feeding. As I have now removed my feeders I can put insulation on. As soon as it cools down and the bees less active, you can put mouse guards on, but I recommend removing the entrance block before fitting to reduce the risk of the holes becoming blocked by dead bees. Netting against Woodpeckers can go on later in October along with straps in case of wind blowing the hives over. Queen excluders should most definitely be in the shed by now. My inspections have ceased.

I shall continue to monitor for mites. The usual post-treatment increase in mite levels from nearby dying colonies started early in September round me and I have been dusting to keep on top of it. My new, smaller colonies have not had much of a problem but the established colonies more likely to go robbing; slightly more so. However, a few sessions of dusting and the drop is reducing thankfully, however I must continue to be vigilant as last year mine seemed to continue to rob out these failing colonies well into October. With the deteriorating weather though it will be more difficult to do my treatments at 4 or 5 day intervals and I will have to take whatever dry

opportunities present themselves.

I was able to complete my feeding early this year (for reasons given last month) but because it has been warm, my plants have continued to flower, bees have been very busy, and continued to produce a lot of brood, from a check of one and the quantity of pollen going in (orange ragwort, pale water balsam and an intermediate yellow I have not identified). So I should not have been surprised to find on the last dusting that two nucs have increased in size in September. One went from 8 seams to 12, and another from 5 seams to 9 seams. This may have implications on their stores which I calculated on the basis of their size at the last full inspection late August. It is complicated though; increased size and more brood (because of warmth and feeding) will have increased their food requirement; however, the warm weather and prolonged flowering may reduce their requirement and they may even have met part of their daily needs. However, I have seen more bees than usual round my leaky outside tap so I assume they are now consuming stores. I shall not disturb the frames again to check and they feel very heavy at the moment so I shall just heft them (lift either side of hive to assess the weight) on a regular basis. If we have a mild winter again, their needs will not be huge but the forecast 'Beast from the East' in Jan/Feb (which I shall believe when I see it) may increase their needs. The ivy buds are abundant at the moment although I have not yet seen any in flower; this

will be visited by bees and other pollinators (and Asian Hornet queens!) during



October when weather permits and produces good quality nectar.

Other jobs I must do include treating the last of the drawn empty supers with acetic acid before storing them for winter and stripping a few more old frames from wax to keep the risk of wax moth down and then the tedious task of scraping the frames before boiling them up. A much more pleasant task is the bee garden improvement. Now we have had some rain to soften the soil I can plant some more bulbs e.g. allium, crocus, grape hyacinth and other seed saved from the spring and summer, and just before the rain came I cut part of my wild flower meadow where there is just rank grass so I can rake it and scrape it prior to planting more knapweed and sowing scabious seeds and yellow rattle seed which needs winter vernalisation to germinate and will weaken the grass. The rest of the meadow still has scabious flowering and much visited by bees so that will wait its haircut a bit longer. I had to cut it by hand shears to avoid harming the toads and slow-worms which we have found in there. The sedum is in its prime and the asters just starting so there is still much for bees to visit.

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## 'One kind of bee lives in snail shells': a passion for pollinators - in pictures

The UK has lost a third of its natural habitats in the last 50 years. At a bee and pollination festival in Bristol, visitors celebrated public spaces and gardens as increasingly valuable for bees

Photographs by Alex Turner

Lionel Reuben has sent this fascinating series of pictures which can be found [at this link](#)

# Animal testing: Turkish beekeeper finds thieving bears prefer premium honey

Ibrahim Sedef discovers to his cost that they don't just settle for the bear necessities

A beekeeper in Turkey who was harassed by a particularly persistent group of bears has discovered a profound truth: the animals have very expensive tastes when it comes to honey.

Ibrahim Sedef, an engineer from Trabzon, north-east of Ankara on the Turkey's Black Sea coast, struggled to keep his bee hives out of the hands of local bears, despite building storage houses and metal cages.

Over three years he estimates he may have lost more than \$10,000 worth of honey.

Food decoys, including apples, failed to divert the intruders.

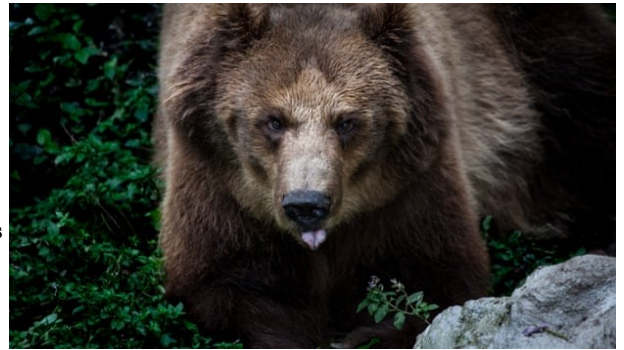
So he decided to set up recording equipment to track the bears and inadvertently embarked on animal testing of a different kind.

Sedef set up four bowls; three contained different types of honey –

flower, chestnut and Anzer – and one had cherry jam. He wanted to see which one the bears preferred. The footage revealed they had very expensive taste. Their favourite, Anzer honey, is believed to be the most expensive honey in the world. It is produced from the nectar of 90 flowers that grow only in the mountains of the Anzer plateau. In

addition to being delicious to bears, some believe Anzer honey has healing qualities for a long list of ailments, including stomach pains, hair loss and wound treatment. It can sell for as much as \$300 (£250) a kilogram.

Despite his losses, Ibrahim Sedef is



The bears were found to have a taste for the very expensive Anzer honey. Photograph: Anadolu Agency/

philosophical about his hungry visitors. "Despite all this, when I see the footage, I forget all the harm they have done to me, and love them," he said.

Brown bears are the largest carnivores in Turkey and mainly live near the Black Sea and Eastern Anatolian regions.

## Male honeybees inject queens with blinding toxins during sex

They say love is blind, but if you're a queen honeybee it could mean true loss of sight.

New research finds male honeybees inject toxins during sex that cause temporary blindness. All sexual activity occurs during a brief early period in a honeybee's life, during which males die and queens can live for many years without ever mating again.

UC Riverside's Boris Baer, a professor of entomology, said males develop vision-impairing toxins to maximize the one fleeting opportunity they may ever get to father offspring.

"The male bees want to ensure their genes are among those that get passed on by discouraging the queen from mating with additional males," said Baer, senior author of the study that discovered these blinding findings published today in the journal *eLife*. "She can't fly if she can't see properly."

The toxins identified by the team are proteins contained in male bees' seminal fluid, which is a substance that helps maintain sperm. Earlier work by Baer's team also discovered honeybee seminal fluid toxins that kill the sperm of rivals. All honeybees make these proteins, though some may make more of it than others.

Baer first became interested in

bees' seminal fluid years ago as a doctoral student. During early projects, he noticed that if bumblebee queens were injected only with the fluid and not the sperm during insemination, the queens stopped mating and became increasingly aggressive toward males. He wanted to understand why.

Roughly 10 years ago, Baer and his international team began analysing which proteins could be found in honeybees' fluids. "We found at least 300 of these 'James Bonds,' little secret agents with specific missions," he said.

The team was not entirely surprised to find a protein that attacks the sperm of other males, as this behaviour can be found in other insects. But they were surprised to find the protein that impacts genes responsible for vision in the queen's brains. To test whether the protein had this effect, Baer's team presented inseminated queens with a flickering light, and measured her response to it via tiny electrodes in her brain. The vision and corresponding flight-impairing effects kick in within hours, but Baer notes that it is likely reversible in the long term because queens do tend to fly

successfully later in life when they establish new colonies.

Studying the seminal fluid proteins required an interdisciplinary team of entomologists, biologists, biochemists, and more to identify them and examine their effects on the queens.

This team included Baer's wife and co-author, Barbara Baer-Imhoof, a UC Riverside pollination specialist. As part of this project, Baer-Imhoof conducted experiments in which she installed tiny tags on queen bees' backs read by scanners at the hive entrances.

"The tags were similar to those at the self-checkout counter in grocery stores," Baer-Imhoof said. The experiment showed queens had difficulties finding their way back to their colonies if they had been inseminated.

A molecular understanding of honeybee mating habits could eventually be used to improve breeding programs and help insects that pollinate many of the foods we eat.

"More than a third of what we eat depends on bee pollination, and we've taken bees' services for granted for a very long time," Baer said.

"However, bees have experienced massive die-offs in the last two decades. Anything we can do to help improve their numbers will benefit humans, too."



(Continued from page 1)

corners of the globe. Ok, I can already hear you saying, "I hate wasps even if they kill roaches". But spend just a few minutes with Gavin and I promise you your views will evolve.

You'll marvel at their skill and in quite a few cases you'll be stunned (not stung) by their beauty.

That destroyer of cockroaches, for example - *Ampulex compressa* - has an extraordinary iridescent exoskeleton. You can see why they sometimes call it the jewel wasp.

"But every wasp is glorious," says Gavin, as he urges you to move beyond the PR spin that's got us to prefer beetles and bees instead ("Bees are just furry wasps that turned vegetarian").

Wasps have their role in Nature and it's not to pester humans in the autumn. Ignore those "yellow jackets" getting drunk on cider in September orchards; they'll soon be gone.

No, wasps have very useful functions, one of which is to keep other insects in check. Every insect you can think of probably has some wasp that will attack it. If that wasn't the case, we'd almost certainly be using more pesticides than we already do on our farms.

It's the parasitoid wasps that do this work for us and their methods - like those of *Ampulex compressa* - are often ingenious.

I'm fascinated by a splendid European wasp - *Rhyssa persuasoria* (sabre wasp). In part, I think, because I can't ever recall actually seeing one in the wild. They frequent British forests.

It has a remarkable ovipositor. That's the multi-function "hypodermic needle" at the end of the abdomen, and, in this instance, it doubles the length of the wasp to about 8cm.

The *Rhyssa* hunts the larvae of

sawflies hiding under the bark of trees. When it senses one, it uses the ovipositor to drill through the wood fibres, to sting the grub and then lay an egg on it. Again, the wasp doesn't immediately kill its target; it uses venom merely to immobilise its prey.

"The key to success for parasitoid wasps is keeping your meat fresh," says Gavin.

He calls me into the next room, a cavernous opening full of those floor-to-ceiling museum cabinets that move on wheels. Gavin knows exactly which drawer he's after.

We don't really do "big" in the UK, so as you might expect there are even more impressive versions of *Rhyssa* from elsewhere in the world. Meet the aptly named *Megarhyssa*.

Species in this group have ovipositors that can reach 15cm in length. They store them in a bag. *Megarhyssa* will spend a couple of hours drilling through wood to get to its victim.

That's a lot of energy to expend, especially if you miss your target, or, as occasionally happens, another wasp comes along with a slightly narrower ovipositor and uses the exact same drill hole to replace the egg you've just laid. Hello to the group of wasps called *Pseudoryhssa*.

Nature works like that sometimes. Species will use every trick in the book to survive and thrive. Constant warfare.

Gavin closes the drawer. There's even a wasp that will lay its egg inside the larva of another wasp that's already inside a caterpillar, he tells me. That sounds a bit like an entomologist's Christmas dinner: a duck inside a turkey, inside a goose.

So, what's the biggest wasp? Probably one of the tarantula hawks like *Pepsis*. When Gavin gives talks to schoolchildren, this is always their favourite.

You know the routine by now: the wasp lands on the spider, stings it to a standstill, and then positions an egg where the hatched grub can burrow its way inside. What's so impressive is that the larva will make sure it doesn't consume too early those organs that keep the tarantula alive.

And the smallest wasp? Well, that would be the fairyfly wasps. Creatures like *Kikiki* and *Tinkerbella*. Gavin is holding a card with some imperceptible dots on it. These wasps are about 0.2mm in length. Absolutely tiny - you need a microscope to see them.

They're so small in fact, they're probably at the very limits of what's possible in terms of miniaturised flight. And yet fly they do, to find and parasitise the eggs of other species and single-celled organisms.

My hour with Gavin is almost up but he won't let me go until he's shown me some of the most impressive nests in the NHM's collection.

"Wasps probably gave us the idea for paper," he says. They chew up wood and build the most exquisite papier-mâché structures.

Even your classic autumn annoyance, *Vespula vulgaris*, is an accomplished architect. The paper envelope that surrounds its comb nest will have intricate swirls and waves. The more diverse the wood sources, the more unusual the patterns.

The NHM collection even has a 1940s wasp nest made partially from wool. The wasps had recycled a nearby scarf.

Gavin's passion for his subjects is obvious and immense. So what does he say when people tell him they hate wasps. "I just cry." He laughs. "Why don't people already love wasps? They're the lions of the insect world."

[See copyrighted pictures here. Ed](#)

## Photo Corner



*Amanda sent in these two photos*

*Left. honey bees and solitary bee on Sedum.*

*Below. Bumblebee queen Bombus terrestris on Sedum*



Two sent in by Tony Robinson

Above left. Wax moth on comb

Right. Killing wax moth and larvae by putting comb in freezer, but don't tell his wife! Oops too late!



## B&L Divisional Diary 2019 / 2020

### Indoor meetings:

Meetings are held on the 3<sup>rd</sup> Wednesday of the month, October to March at Cliffe church hall, Lewes, unless otherwise stated. Members are invited at 7.00pm to assist with setting out chairs etc. ready for a 7.15pm start. Non-members are always welcome.

### Winter programme:

~~18th September: Bee Disease with David Rudland.~~

16th October: A Year Beekeeping My Way with Mike Cullen.

20th November: Hive to Honey Jar with Christine Stevens.

15th January 2020: Spring Preparation with Christine Stevens. (TBC)

19th February: AGM + Honey & Mead Show + Mini-Auction.

18th March: Swarming—Prevention and Control with Amanda Millar.

### Dates for your diary:

~~15th September: Westdean Fair~~

24th to 26th October: National Honey Show, Sandown Park Racecourse, Esher, Surrey.

2nd November: SBKA Annual Convention in Uckfield.

25th April 2020: Bee Disease Day, Ringmer

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SBKA County Representative:  
Bob Curtis

National Honey Show Representative:  
Norman Dickinson

The Brighton and Lewes Division of the SBKA cannot accept any responsibility for loss, injury or damage sustained by persons in consequence of their participation in activities arranged.

## Contributions to your newsletter

Contributions for the newsletter, including photos can be sent, preferably by email, to the editor. Please refer to panel above for details. Please limit to a maximum of 900 words. Copy to be sent no later than the 12th of the month preceding the month of publication. Photos etc. for the website should be emailed to our Gerald Legg

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QR Link to B&L Website



The co-operative membership  
Community Fund

