Brighton & Lewes Beekeepers Newsletter

Volume 8 – August 2020

Editor: Norman Dickinson

BRIGHTON AND LEWES DIVISION OF THE SUSSEX BEEKEEPERS ASSOCIATION

www.brightonlewesbeekeepers.co.uk

From your Editor

First of all I wish to apologise for the lateness of this issue of the newsletter. I wear several hats with different organisations and with no face-to-face meetings permitted at present I have been in several Zoom meetings, which are being held more frequently due to the convenience of Zoom and have been taking up a great deal of my time. I am also in the process of carrying out a major refurbishment of a Tandy TRS-80 Model 1 computer that I purchased in 1979 and that has not been operated for over 35 years, complete with all of complications that arise from vintage electronics. Any electronic engineers out there will know exactly what I am talking about.

Slowly but surely the various restrictions imposed as a result of the Coronavirus Pandemic are being lifted or made less onerous, but we all need to ensure that we obey the rules to keep the pandemic under some form of control. Your B&L Committee, whilst appreciating that we all need to keep safe have agreed that all meetings for summer and winter will remain cancelled for the rest of 2020. A review of the situation will be made towards the end of 2020, and based on Government guidance at the time, we will decide how we proceed in the future. In the meantime, there are a couple of options being discussed, including setting up a B&L Facebook Group, creating training videos for the members and possibly having a series of on-line meetings. As the Committee finalises the various arrangements, you will receive an email from our Membership Secretary advising what is available.

In my last editorial I mentioned that the National Honey Show was in discussion with Sandown Park over the possible cancellation of the Show on 22nd, 23rd and 24th October 2020. I can now advise that the Show has been cancelled for 2020. The National Executive are putting together a series of on-line workshops and lectures to be shown over the three days when the Show would have taken place. These will be pre-recorded videos available on YouTube and will be followed by live Q&A sessions Zoom. It has also been agreed by the Executive that members and non-members alike will be able participate in these workshops and lectures, with the hope that non-members may wish to join the National Honey Show for the 2021 Show. All of the latest information may be found on the National Honey Show website at www.honeyshow.co.uk

Those of you with bees will now be planning to take off your harvest, but I would urge you to leave some honey for the bees to consume over the winter as their honey is better for them that any amount of syrup that we may feed to them.

Making a beeline: wildflower paths across UK could save species

Andrew Whitehouse has been on the cliffs at Prawle Point, south Devon, searching on his hands and knees for a rare bee. He saw only one last year, and so far this summer there has been no sign of the six-banded nomad bee with its striking yellow markings.

Whitehouse fears it is on the brink of extinction because, as a parasitic bee, it depends on a host – the long-horned bee – in whose nest it lays its eggs, and the host is now also scarce.

"The long-horned bee is restricted to a few coastal clifftops where the wildflowers it feeds on are still growing. When it finds them it burrows into the cliffs to nest," he says.

In the UK, 97% of wildflower-rich land – seven million hectares – has been swept away by modern agricultural and out-of-town developments since the 1940s.

Now the conservation charity Whitehouse works for as countries manager, Buglife, hopes to help restore and create at least 150,000 hectares of wildflower

(Continued on page 6)

In this issue:

Forthcoming winter meetings:

- *See rear panel*

In next months edition:

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

Honey Bee Curriculum Vitae By Rachel Turner

Thank you to the Royal Entomological Society of London for permission to reproduce this.

Curriculum vitae

Worker Honey Bee *Apis mellifera*

Address: 2900th Cell, The Hive, The Orchard

Home pheromone: Queen mandibular pheromone

Work pheromone: 2-heptanone

Email: Apismelifera@beemail.com

Personal statement

Having served my queen and my hive for most of my life I am now looking to wind-down and assume the role of an undertaker bee until I am unable to serve my queen and leave the hive to retire in the orchard. I have worked hard for my queen and my sisters over the last 6 weeks, completing all tasks to a high standard staying focused on the job in hand, for the greater good of the colony.

Key Skills

- Hard Working
- Working well with a team or alone
- Communication skills
- Taking a great deal of pride in all jobs and tasks
- Selfless
- Family orientated

Employment History

Forager (Day 22 – present)

Achievements and Responsibilities:

- Carrying half my body weight of pollen in the scopa hairs and pollen baskets, otherwise known as corbiculae, on my hind legs whilst travelling up to 5 miles
- Collecting nectar from flowers using my long tongue, called a proboscis, and storing it in my honey stomach
- After collecting the nectar and processing it I either deposit it in the honey store or give it to a nurse
- Performing the Waggle Dance for my foraging team to communicate the location of resources
- Navigating using the sun, always returning to the hive safely
- Avoiding predatory species, such as spiders
- Being prepared to use my modified ovipositor which is barbed to sting enemies with venom if I feel myself or the colony's lives are being threatened (although I have never had to use it)
- Gathering water for the hive in my crop
- Gathering propolis, otherwise known as bee glue or bee penicillin, used for several purposes including sealing cracks in the hive

Guard & Ventilator (Day 18 – 21)

Achievements and responsibilities:

- Inspect all bees that enter the hive by their scent to check they belong to my colony, I do this by examining their front legs and antenna
- Being prepared to sting and remove any intruders
- Spreading a thin layer of water on the rims and tops of sealed brood cells for the water to evaporate and cool the hive
- Fanning my wings inside the nest to help ventilate and cool the nest

Hive builder & general handy bee work (Day 12 – 17)

Achievements and responsibilities:

- Producing wax flakes through the glands in my abdomen, then chewing them till they are pliable for building
- Building hexagonal wax cells
- Help the nectar to ripen into honey by aerating the nectar with my wings creating an airflow to allow water to evaporate from the nectar
- Storing food
- Maintaining cleanliness of the hive

Nurse (Day 3-11)

Achievements and responsibilities:

- Tend to the young brood by feeding them honey and pollen otherwise known as bee bread
- Feeding the brood Royal Jelly made up of water, protein, sugar, vitamins and minerals
- Feeding the general worker bees Royal Jelly for three days then bee bread until they pupate at 21 days
- Feeding queen bee larvae Royal Jelly until they pupate after 16 days
- Feeding male drone larvae Royal Jelly for 3 days then bee bread until they pupate at 24 days

Housekeeper (Day 1-2 straight after metamorphosis)

- Cleaning cells in preparation for eggs or food storage
- Maintaining the temperature of the brood at around 34-35 °C by vibrating my wing muscles

Education

Explosives Detection

- Held in a specially designed bee harness so I could stay still and focus
- Trained by a scientific officer to stick out my proboscis when I smelt explosives vapours, I did this to obtain a nectar reward
- After I had been trained, which took only several minutes, I travelled in a transportation box to various sites to detect explosives
- I had a camera that could zoom in on my proboscis to see if I was sticking it out
- After 4 days I was returned to the hive and my colony to continue serving for my queen

Hobbies & Interests

My main hobby is to perform, I enjoy dancing especially the Waggle Dance. My Waggle dance lets the other foraging bees know the direction and distance the best pollen carrying flowers are.

I am most interested in flowers especially yellow flowers, this of course depends on the time of year and availability of the flowers. My favourite spring flowers are dandelions, but they can be hard to come by.

To access QR codes, scan with smart phone camera.

Reference

- The Queen – Work pheromone: queen retinue pheromone
- More available on request

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Georgia Tech College of Computing. 2011. *The Waggle dance of the Honeybee.* [Online Video]. YouTube Available from: https://www.youtube.com/watch?v=bFDGPgXtK-U. [Accessed 18 December 2019].

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Morse, R. A. 1994. *The new complete guide to beekeeping.* New York: The Countryman Press.

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Amanda advises...

I was disappointed to see my nectar flow had practically stopped by 20th July from the much reduced activity (but I have lots of borage and marjoram flowering in the garden they are still using). When the flow ceases the bees can become grumpy. I was able to take probably half my surplus off in early July and up to now have been able to shake the bees off each frame I removed and even my angry colony accepted this but when the flow stops they can become frustrated, looking around for more and become defensive of what they have, so a Porter bee escape in a spare crownboard placed under the supers you wish to remove, may be necessary. Wasps too may be bothering them and robbing is easily triggered if supers are exposed for more than a few minutes so keep plenty of spare crown boards and cloths to cover them. You may wish to reduce the entrances, especially of small colonies and nucs to help them to repel potential robbers. By the time you read this I shall have most of my supers off, apart from those I shall leave with them for their winter stores. We now have a busy few weeks to prepare them for the winter.

Before removing the supers or putting Porter escapes under them, consider the bee population and whether they need some space for the bees to occupy when forced out of the supers. When the supers have been extracted return as soon as possible for the bees to lick clean. Put them back in the evening to minimise robbing brought on by the excitement this will cause and put them over an open crown board. This encourages them to take any remaining honey down rather than just storing it still in the supers. Try to put the supers back onto the colony they came off to avoid any risk of disease transfer. Whatever you do don't leave them out in the open to be licked clean, or it will result in a mad robbing spree attracting bees and wasps from far around, which could lead to the loss of small colonies and disease spread. I have already heard this week of someone's apiary became frantically active for just one day, clearly robbing something. Make sure there are no gaps when you put wet supers back

The same goes for when you put feeders on in September make sure no wasps or bees can get in from outside. In the US they use open feeding stations where any bees can feed, they don't seem to understand the risks, but look at the disease problems they have (bee and human!). With the lack of meetings because of Covid 19 there must be the temptation for beginners to look on forums without realising they are American sites or that there is so much unqualified rubbish on them. Please know that your committee and experienced members of your local Bee Division will be happy to advise if you have a query. Also check on the members section of BBKA and Information sheets on our local beekeepers' website.

It often happens that if the flow stops suddenly or towards the end of the flow, some of the honey in the frames is not fully capped. If none flies out when you shake the frame over the other frames then it is probably 'finished' of low moisture content and can be removed. Or you could extract half finished frames and keep that honey separated from the rest of your honey crop, eat it first or use for cooking or mead making, in case the higher moisture content encourages fermentation. A refractometer is a handy gadget to be sure your honey is below 19% moisture, and ideally below 18%.

Winter preparations start now that the supers are off. Varroa mite levels need to be checked by putting the insert under the mesh floor for 5-7 days. If there are a lot of wasps around they can go onto the insert and mess up the count so I put a piece of cloth or very fine mesh in the gap at the back to prevent them getting in. More than 2 mites a day and I would treat. The winter bees start being produced in August and it is vital that the mite levels are reduced ASAP, start treatment by mid Aug latest, if they need it. Actually, since using Oxalic Acid vapourisation I have rarely needed to do a treatment in August, waiting until my usual influx of mites in October and November from colonies nearby which have not been treated, start to collapse and their bug-ridden bees invade my nice clean colonies. This treatment seems to last me a full year.

Before putting on Apiguard or your chosen treatment, all supers must be off first, including those you intend to leave them with for winter stores; these can be returned after the treatment. You don't want your honey supers to be exposed to anything so strong smelling. Store empty supers in a bee- and mouse-proof place with a

board top and bottom labelled which colony they came off. They can be put in the freezer for a few days to kill wax moth. It is a good opportunity at this point when the colonies are probably now in their winter configuration to check several things. Firstly that you have removed the queen excluder which is no longer required. Secondly that the brood looks healthy with no sign of disease (and that you have a laying queen). You will probably find a reduction in the brood area now. Thirdly if the colony was a swarm, or the queen is old they might think about superseding her around now. If you see one or two queen cells leave them to get on with it. This will influence the type of varroa treatment you might use as Apiguard can upset the bees and the queen cell might be neglected, also if you have a virgin in there waiting to mate I would delay Apiguard. Finally, make sure they have enough stores to last the period of the treatment such as Apiguard as it often makes the bees grumpy and I rarely disturb them during the treatment. I like to leave at least 50% of their stores as honey in a super but if they have none in the remaining brood area then feed before treating. Be aware of the temperature; for Apiguard the limits of effectiveness are between 15 and 25°C. High temperatures can drive bees out of hive and put the queen off lay. If too hot I usually make a start with icing sugar. Formic acid is effective to 30° C, but comes with a risk of queen loss so I do not use it.

I hope all your bees are healthy and you had a reasonable surplus.

How Bees Avoid Bumping Into Nature's Obstacle Course by Cara Giaimo

For a human, a breeze-ruffled garden is a peaceful scene: Dandelion seeds float, leaves rustle and flowers bob their heads.

But if you're a bee, it's a minefield. For a small creature with delicate wings, airborne seeds, shifting leaves and lurching flowers are basically projectiles, trap doors and Godzilla-tipped skyscrapers.

It's a situation honeybees and other pollinators deal with daily as they gather nectar and pollen. But although researchers have looked into how bees navigate on blustery days, or through tight spaces, "no one has really pieced together how they move through moving obstacles in wind," said Nicholas Burnett, a postdoctoral researcher at the University of California, Davis.

In a study published this month in the Journal of Experimental Biology, Dr. Burnett and colleagues addressed this gap — and found that when the going is tough, honeybees appear to high-tail it and hope for the best.

For the study, the researchers built a bee obstacle course. They spaced four rods an inch and a half apart on an oscillating platform that could move them back and forth, like swaying stems. They then put the whole setup inside a flight tunnel, with a fan on either end.

Honeybee volunteers were recruited from around campus. The researchers had them fly through the course one at a time, in various conditions — in still air, against a headwind, and propelled by a tailwind, and with either stationary or moving obstacles — and filmed their efforts with a high-speed video camera. The bees were then sent home again, unfortunately without prizes.

When they went to the tape, the researchers found that the bees' flight strategy changed depending on the conditions they faced. When confronted with moving rods in still air, they flew more slowly than when they encountered stationary obstacles. "You might interpret that as them being more cautious, because there's this unexpected thing happening in front of them," Dr. Burnett said. (In nature, quivering vegetation on a still day might indicate the presence of a predator, or a lawn mower.)

But when the wind kicked up — in either direction — the honeybees would "actually speed up how fast they're flying" by about 50 percent when the rods were moving compared with when they were still, he said. When faced with complex airspace, the bees seemed to act "cautious in still air and courageous in wind," he said.

The study underscores that animals, including honeybees, are actually complex decision makers — "not one-trick ponies," said Glenna Clifton, an assistant professor at the University of Portland who studies insect locomotion and was not involved in the study. In addition to wind, "there are numerous other factors that likely also play a role" in their flight choices, including light level, time of day and food abundance.

As for what accounts for these differing strategies, Dr. Burnett hypothesizes that it might be the same force that makes us run through rainstorms: the need to "get through the obstacles as fast as possible," he said. This idea was underscored by further analysis, which focused on how successful bees managed to avoid collisions. In still air, slowing down was helpful. But in wind, speed didn't matter, and a wipeout-free transit was determined by how well the bees aimed themselves as they flew through the rods.

That honeybees are using a "grin-and-sprint-through-it strategy" is an intriguing hypothesis, Dr. Clifton said, adding that she would like to see further study focused on whether there was a moment when the bees decided to accelerate.

It also reminded her of human competitors on obstacle-course reality TV shows.

"If you watch those shows, there are interesting moments when someone who is being cautious and deliberate figuratively throws their arms up, hopes for the best, and just goes for it," she said. Sometimes that's the most effective strategy.

Full test with video is at https://www.nytimes.com/2020/06/26/science/bees-obstacles-collisions.html?surface=home-discovery-vi-prg&fellback=false&req_id=514841722&algo=identity&imp_id=193020&action=click&module=Science%20%20Technology&pgtype=Homepage

Thank you Manek for this contribution

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pathways with the launch on Monday of its B-lines network for England.

B-Lines are a strategically mapped network of existing and potential wildflower habitats that criss-cross the country. The 3km-wide corridors stretch from the coast to the countryside and towns and cities, covering in total some 48,000 sq km of England.

It is hoped the new corridors will help species such as the long-horned bee to thrive. Named after its extraordinarily long antennae, the bee was once common across the south of England, but arable farming and over-grazing by sheep and cattle has robbed it of food. "What's left is too small and too far apart, and needs to be joined together," says Whitehouse.

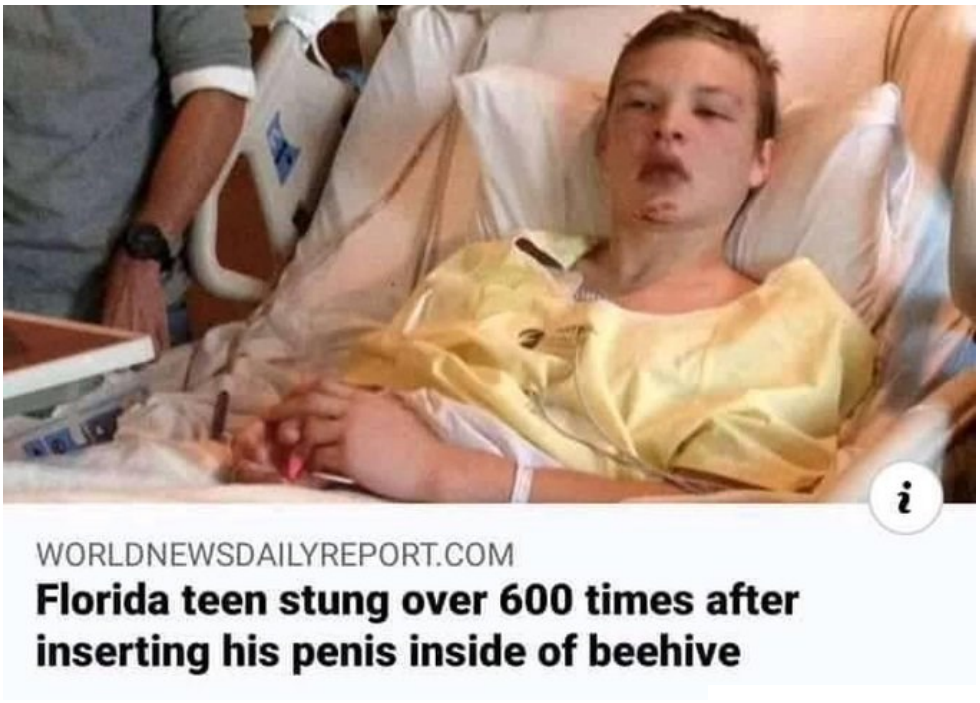
It has been predicted that 40-70% of insect species could become extinct if confined to tiny fragments of land.

Catherine Jones, pollinator officer and B-Lines lead at Buglife, says: "A complete England B-Lines network is a landmark step in our mission to reverse insect declines and lend a hand to our struggling pollinators." B-lines will cover the whole of the UK when maps for Scotland, Wales and Northern Ireland are completed later this year.

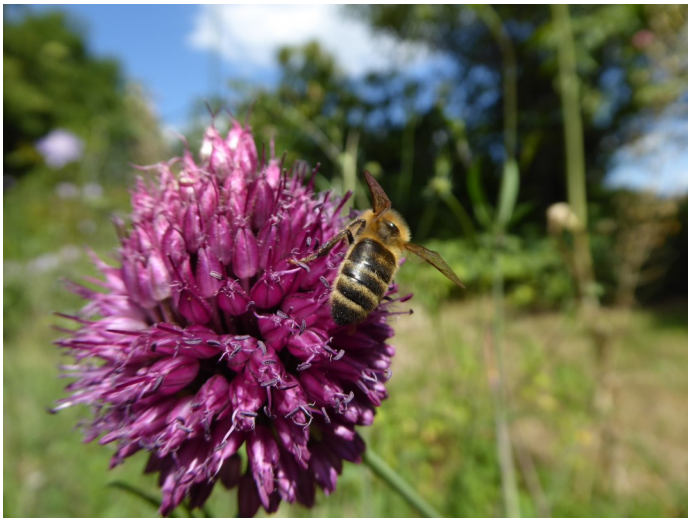
Since the charity began mapping B-Lines six years ago, with financial support from the Department for Environment, Food and Rural Affairs (Defra), it has worked with a range of partners, including local wildlife trusts and their volunteers, councils, highways agencies and landowners. Together, they have created over 450 hectares of wildflower pathways as stepping stones between fragmented sites, and with some success.

The full article can be found at https://www.theguardian.com/environment/2020/jul/12/making-a-beeline-wildflower-paths-across-uk-could-save-species?utm_term=RWRpdG9yaWFsX0d1YXJkaWFuVG9kYXlVS19XZWVrZGF5cy0yMDA3MTM%3D

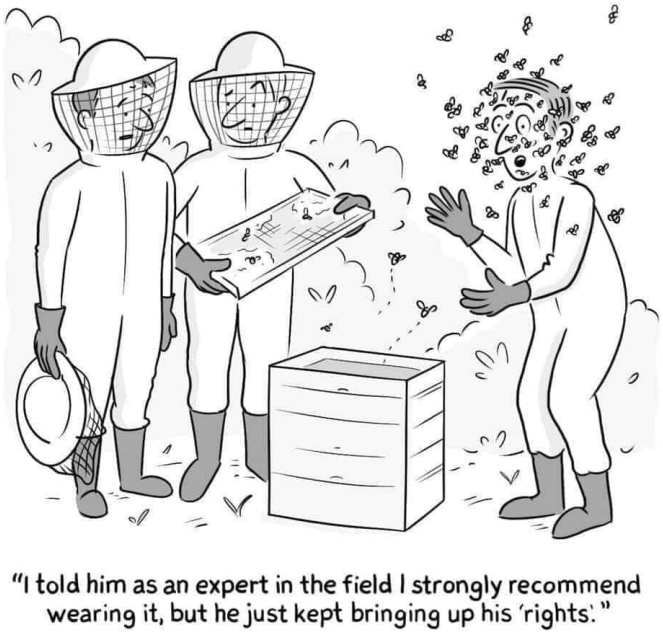
Photo Corner



Is this the idiot of the month? Everyone knows that bee stings can hurt!



Above: The drumstick allium, *Allium sphaerocephalon*, is very popular with honey and bumblebees and is in flower July/August. Submitted by Amanda Millar



Right: Honeybee on Rudbeckia, submitted by Tony Robinson

B&L Divisional Diary 2020

Indoor meetings:

Meetings are held on the 3rd 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.

Summer programme:

All currently cancelled until further notice.

Dates for your diary:

~~7th March: Sussex BKA AGM, Luxford Centre.~~

~~3rd, 4th & 5th April: SBKA Spring Convention.~~

~~25th April 2020: Bee Disease Day, Ringmer.~~

~~16th May: Sussex BKA Bee Market, Heathfield.~~

~~11th, 12th & 13th June: South of England Show.~~

The above events have now been cancelled due to the Coronavirus Covid-19 pandemic.

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National Honey Show Representative:
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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 webmaster, see panel above.

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QR Link to B&L Website

grassroots grants
Managed by the Community Development Foundation
Funded by the Office of the Third Sector

The co-operative membership
Community Fund