

Brighton & Lewes Beekeepers



A DIVISION OF THE SUSSEX BEEKEEPERS' ASSOCIATION

EDITORIAL

I plan to spot the queen in 2021. Can I have a badge?



I'm not a very experienced beekeeper, having only been at it for around five years—although I did think about it for about 45 years before starting so you'd think that should have advanced matters somewhat.

I say 'should', because when plans meet reality, reality always wins.

And so it has been for the last five seasons. My honey harvest has improved as I've got better at bee husbandry, with fewer colonies dying over the winter: last winter (2019-20) was the first time I lost no colonies but I suspect that won't last. See: reality wins again!

I'm also better at handling bees, more confident and less clumsy as a result: having a crowd of bees around my head, slightly miffed because I'm taking too long to rummage through their home, doesn't generate as much of an impulse to run away and therefore rush things quite so much as it did.

I've also been more successful at managing the varroa count, keeping wasps at bay, and being tidier around the hives.

But the one single element of beekeeping that I remain singularly rubbish at is spotting the queen.

On so many manipulations (as you no doubt know) does finding the queen rest, yet I've been unable to do any of them because I can never find HM except by the

most amazing strokes of luck. So Demaree, shook comb, Bailey, splits, you name it, I've not done any of them.

My plan, therefore, for the coming year, is to get better at finding the queen. I've got an app—yes, one does exist though I haven't had a chance to test it yet—which is said to use artificial intelligence to spot the queen on a frame full of bees. I've got determination. But above all, I'm keen to reduce the number of times that have to rush at zero moment's notice up to the apiary because the landowner texts me with the single word: 'SWARM!'.

Last year it was about five or six trips—I lose count. Fortunately he's a kind soul and loves bees.

Among other things, this means I have to be better prepared.

I need to have available at all times a brood box (just the one? I hear you cry) filled with empty frames to split or Demaree when (or preferably before) I stumble across those dratted queen cells.

Maybe I'll get a badge from Hilary, our B&L Secretary. You know, the one we're creating to give to kids watching our observation hive. It says: 'I saw the Queen'. I shall wear it with pride.

How are your plans going?

Can you contribute?

Do you have interesting photos or video links you'd like to share? Or an insight from your beekeeping that would could enhance the hobby for others? Do you have skills that could be useful to other members? Anything else you'd like to see in this newsletter? Ideas and contributions welcome: contact details on the back page.

Manek Dubash
Newsletter Editor

NEWSLETTER FEBRUARY 2021

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EVENTS

- AGM is this month
- Winter meetings are back!
- BBKA events (p12)
- See back page for details

NEXT MONTH

- Winter hints and tips
- Your contributions
- Photo Competition results
- Apiary reports
- Committee news
- Asian Hornet update
- News updates

ONLINE

brightonlewesbeekeepers.co.uk



QR link to our website

AGM: Brighton & Lewes Beekeepers

19:15 for 19:30, Wednesday 17 February 2021.

The AGM is perforce being held online this year to review the previous 12 months presented in the form of reports from committee members and officers, and to look ahead at what we want to achieve over the next year.

We look forward to seeing you there and then (we'll send you a Zoom link 24 hours beforehand).

Queen Management Essentials: Juliana Rangel *

20:00, Wednesday 3 February 2021.

Hosted by Ulster Beekeepers.

How to manage queens successfully including some of the common causes of queen problems. Juliana will show us how to determine whether a queen is aging appropriately and if her colony is doing well, or if she is failing and it is time to replace her with a new, more vigorous queen. Good detective work in the hive will increase our chances of managing productive, healthy colonies.



Swarm Control: Ged Marshall *

20:00, Thursday 11 February 2021.

Swarm control without the nine day checks... how to survive the summer without repeatedly inspecting the brood chambers and still get large yields.



Darwinian Beekeeping: Tom Seeley *

19:00, Saturday 13 February 2021.

Evolution by natural selection is foundational for understanding honey bees's biology, but has rarely been used to provide insights into beekeeping. Yet solutions to the problems of beekeeping may come most rapidly if we are as attuned to Darwin as Langstroth. An evolutionary perspective on beekeeping may lead to better understanding about bee maladies, and improve our beekeeping and the pleasure we get from our bees.



* BBKA-hosted: please see [BBKA calendar](#) for details

Bee Craft Research Lectures: Ayla Paul & Hamish Symington *

20:00, Monday 15 February 2021.

Geographic Origin & Authenticity of UK Honey Samples

Ayla will speak about her research on the origin and authenticity of UK honey samples. She will give insights of the various methods that she uses to develop an "Isoscape" for the UK. Can we determine the geographic origins?

Flower Power – The Science of Pollination

Hamish is a final-year PhD student in the Department of Plant Sciences at the University of Cambridge. In this talk he will explore how pollination works, how much of our food relies on insects, and how his and others' research aims to make flowers more efficient at being pollinated, thus helping to feed the projected 2050 global population of 10 billion people.

Recent developments on the use of accelerometers: Martin Bencsik *

19:30, Wed 17 February 2021.

We have pioneered the use of ultra-sensitive vibration sensors to monitor honey bee activity. We will show the tiny vibrations that we can measure, and their relevance to honey bee individuals.



Why are queens failing? Jeff Pettis *

20:00, Thurs 18 February 2021.

Jeff will cover some basic queen and colony biology, and discuss some of the many things that could be involved in why queens fail.



BIBBA webinars

The Bee Improvement and Bee Breeders' Association conducts a rolling series of webinars—a list of which is too long to reproduce here.

The 12 webinars BIBBA is hosting in February 2021 includes topics suited to absolute beginners as well the more experienced.

Speakers include:

- Roger Patterson
- Clare Desley and Martin Hann
- Jo Widdicombe
- Karl Colyer
- Lynfa Davies

Here's the full list: <https://bibba.com/webinars-four/>

Near-extinction of a wingless fly

Braula v. Varroa: a lost battle and a tale of meddling humans

Nineteen-ninety-two was a fateful and infamous year for both British beekeepers and the bee louse, *Varroa destructor*†. (Anderson & Trueman, 2000) had finally reached mainland Britain, turning up in an apiary in Devon from where it soon spread.

My brother-in-law, a now retired, long-serving bees' officer for the National Bee Unit, Fera, was with the team that went down to Devon to investigate. On his return, he called in with samples he'd taken and I was able to photograph some.

This was a time when tobacco smoke was the recommended method of getting the mites to drop - nothing else was known about how to deal with the pest.

We are all aware that the introduction of the *Varroa* mite has had a serious effect on the health and well-being of honey bees and their management, something the younger generation of beekeepers take for granted—they don't know what pre-*Varroa* beekeeping was like!

Prior to this pest's introduction, honey bees were routinely carrying a similar sized parasite, *Braula coeca* Nitzsch, a wingless fly regarded as a minor pest and quite commonly seen: the one below was on my bees in the 1980s.

However, now with the widespread use of acaricides and other *Varroa* treatment regimes, the prevalence of *B.*

coeca has crashed with only two accepted (Orkney & London) and two unconfirmed records (near Aberdeen & Greater London) on the [NBN Atlas](#); it is otherwise extinct in the UK and getting rarer elsewhere.

Varroa destructor is a mite, an arachnid, 1.0 to 1.5 mm long x 1.5 to 1.9 mm wide, the size of a sesame seed, with eight small legs and a short 'proboscis' at the front the body. All beekeepers are or should be well aware of and familiar with them.

Due to the control of the parasitic *Varroa* mite, *Braula* is now only found in honeybee populations that are free from *Varroa*, such as the population on the small island of Colonsay in Scotland.

Spotting *Braula coeca*

Adult *B. coeca* are about 1.6 mm long. These 'bee-lice' are unusual, being flattened, wingless and covered in spine-like hairs (similar adaptations occur with members of the Hippoboscidae, the louse flies or keds, that are obligate parasites of mammals and birds). In this family, the winged species can fly at least reasonably well, though others with vestigial or no wings are flightless and highly apomorphic.

Braula are reddish-brown in colour and easily mis-identified as *Varroa destructor* but now they are rare and if found should be reported.

As larvae they tunnel through the wax honeycomb, while the adults are found on the bodies of honeybees. There is some debate as to whether the bee louse causes damage to the honey bee.

They can sometimes be found where bees congregate such as flowers or salt licks, waiting to grab onto hosts from non-infested nests. *Braula* has an extensive global distribution, being documented in Africa, Asia, Europe, Australia (Tasmania), North America, and South America (Smith and Carron 1985). The species was probably brought into the US on imported honey bee queens, exact year unknown.

So, we continue to mess with the natural world, and at our peril. We introduced a parasite to a commercial species that had not evolved to co-exist with it, unlike its original host, *A. cerana*. Then we had to deal with the problem and throw chemicals at it, resulting in the near extinction of another species, small and inoffensive but no less important to the order of things.

There are many more instances where people have meddled with the natural world and caused chaos, death and destruction. When will we learn?

† From G Topolska, 2001. *Varroa destructor* (Anderson and Trueman, 2000);

(Continued on page 12)



B. coeca Nitzsch. Photo: Scientific American



Phoretic *V. destructor* on a bee's thorax. Photo: Gerald Legg

A honey bee's mandibles—closer than you've ever seen them



A honey bee's mandibles. This wonderful image was acquired with a now-vintage Nikon SMZ zoom stereo microscope fitted via a microscope adapter to an Olympus E30 camera body. It is a six-image stack using Photoshop 2020. Photo: Gerald Legg

Near-extinction of a wingless fly (cont.)

the change in classification within the genus *Varroa* (Oudemans, 1904). *Wiad Parazytol.* 2001;47(1):151-5

"*Varroa jacobsoni* Oud. was noted for the first time in 1904, in the nest of *Apis cerana*.

In *Apis mellifera* nests the first *Varroa* mites were probably found in Korea (1950), next in Japan (1958). In the following years they have spread all over the world. All the time they were regarded as *V. jacobsoni*.

Recently Anderson and Trueman have proved that *Varroa jacobsoni* is more than one species. They gave the new name *Varroa destructor* n. sp. to the group of six haplotypes. Mites, which became pests of *A. mellifera* worldwide, belong to *V. destructor*."

Gerald Legg (words and images, except where stated)



B&L Divisional Diary 2021

Virtual Meetings

All virtual meetings will be start at 19:15 for 19:30, and will be conducted using the Zoom video-conferencing service. Links will be sent out 24 hours before each meeting. Please join us!

17 February 2021

Annual General Meeting

Chair: Norman Dickinson

17 March 2021

Topic: TBC

Speaker: Celia Davis

Indoor winter meetings

There are no in-person events planned for the time being due to the Covid-19 pandemic.

Contribution deadlines

Please send all contributions for the newsletter, including photos, to the Editor (details on right). Maximum copy length: 700 words.

Copy deadline: 12th of the month preceding the month of publication. Email photos etc. for the website to Webmaster Gerald Legg (details on right).

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Disclaimer

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 by the Division.

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- Barcombe: Tony Birbeck

- Hove: Judith New

- Piddinghoe: Ian White

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National Honey Show Representative: Norman Dickinson

grassroots
grants

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

The co-operative membership 
Community Fund

February

February is a month for pondering and planning, plus the occasional check to see if the bees have enough to eat.

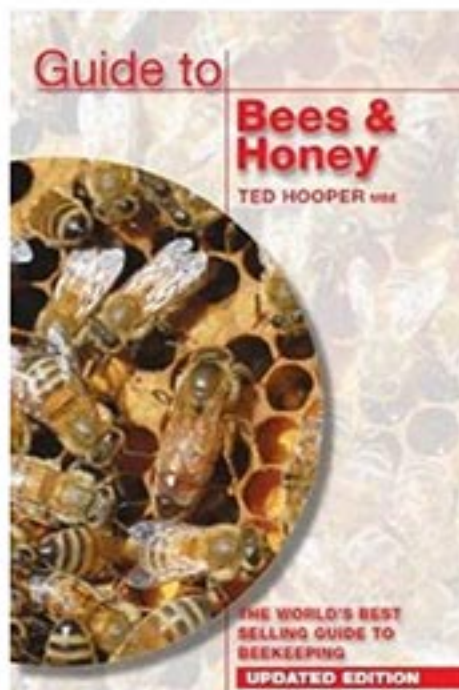
For the beginner

There's not a lot you can do until you get your bees, but this is the time to read up on how to look after them in the coming year. If you have not already go a book on beekeeping, get one. There's a number on the market aimed at all levels of reader.

Ted Hooper's *Bees & Honey* is a bit of a dense read but highly informative. Or on the less intense side is *Beekeeping for Dummies*; ignore the bit about Bears, or Clair & Adrian Waring's *Haynes Bee Manual*.

If you haven't made up your mind and don't want to buy a book just yet, you could also try borrowing from the Division's library. There's a list of titles on the website: contact Dominic, our librarian (details on the back page). The BBKA's website has a range of good leaflets.

When not reading, this is the time to think about where you are going to site your hive. But in general, allow at least 600mm all around you hive to allow some working space and to put things down.



Position it so it can be approached from the side or rear. Face the entrance into a hedge or fence so the bees have to fly above head height before orientating. Don't orient the entrance so the bees fly across a footpath; bees are very single-minded and fly in straight lines, so if anyone is in the way they will get a bee in the side of the head.

Make up your hive and frames. Save putting the foundation in until later in the year but remember to do it; as the Swarm Co-ordinator will be miffed if they ring you with a swarm and you're not ready.

Due to the pandemic it's unlikely that we'll be conducting any face-to-face introductory courses or training in the near future but—hopefully—by the spring we may be able to meet in singles or small groups at the Division's apiaries to offer help.

For the more experienced

There's all of the stuff above, but on top of that there are other things to occupy your time. First on the list is cleaning and repairing your equipment.

I'm sure like me you have a pile of kit that have been collected over the year that needs cleaning. All the wooden parts but especially the larger bits can be scraped and then blowtorched or steamed. Smaller items like frames can be boiled in washing soda and rinsed in clean water, or steamed. Scrape any polystyrene or plastic; I use a Stanley knife blade, then wash and rinse.

Invariably, after the cleaning there wax left over. Maybe like me you sold the last couple of bucketfuls of melted and slightly cleaned wax to Payne's last year. Or—as I've been promising myself for years—do I make candles? Then there are simple cosmetics (see any article by Dr Sara Robb) or the new craze for wax wraps (see advice on the BBKA web site).

Fine, still days are ideal to think of your bees. When was the last time you saw them, and do they have enough stores to see them through the rest of the winter? Lift the hive from the side or rear, does it still feel heavy? If not

have look under the crown board. Have they eaten all or most of the fondant you put on earlier? If they have put more on. If you're unsure, put some on anyway as, if they are hungry they will take it, if not they won't.

While you're there, check that all is right with the hive. Are the mouseguards, if you use them, clear of dead bees? If the entrance gets blocked it can stop the bees taking cleansing flights which in turn could lead to diarrhoea or worse. If you use an entrance block, try inverting this so the entrance space is at the top, so any build up of dead bees will be below the entrance. Are the hives weather tight? Is the mesh still in place to deter the Green Woodpecker? Can you still find the hive under all the undergrowth that has accumulated since the summer?

It's still not too late to treat for varroa using oxalic acid, either by trickling a solution between the seams of bees or using a vaporiser.

Planning ahead

This year, perfect your swarm management, and see Wally Shaw's article in January's BBKA magazine on the composition of the split hive. Plant some bee-friendly flowers. Usually most native annuals or perennials are good or if you want something a bit more exotic, try something from anywhere in the world that lies in the temperate region. American prairie flowers do well in England. Think about rearing your own queens this year.

Do you need to change the brood comb this year, if so, what method will you use, shook swarm or Bailey comb change?

All the answers to these, and many, many more questions can be found in a library, on our, or any of the other beekeeping web sites, Facebook, YouTube or by asking a friend or mentor.

And as ever, if you need help, contact anyone on the committee, contact details are on the back page.

The Veiled Beekeeper



Norman Dickinson
Acting chairman

Words from the Chair

By the time you read this, we will be well into voting ahead of the B&L AGM on the 17th February. This year we are performing using email for voting.

Please remember that all voting papers must be returned to the B&L Secretary (contact details on back page) no later than 11.59pm on Sunday 14 February 2021. I'll be sending a Zoom link to the meeting to all members in February, with a reminder on Tuesday 16 February.

With my Treasurer and Membership Secretary hats on, I can advise that, at the time of penning this report during the first week of January, we have had an excellent membership renewal response, especially as in normal years about 30% of our members would renew at the January, February and March winter meetings. So far we have had nearly 50% of all members renewing plus eight new members have joined B&L, so this is very encouraging.

The Sussex Beekeepers Association (SBKA) of which B&L Beekeepers is a

member division, is scheduled to hold its first Executive Committee Meeting on 25 January 2021 since the start of the pandemic.

The B&L Representatives on the Executive Committee are Ian White and myself, and I shall report back next month.

The SBKA is also scheduling its AGM as a Zoom meeting on Friday, 5 March 2021 @ 7.30pm; I will forward details to our members closer to the event. All are welcome.

If you haven't registered with BeeBase, you may not have seen the Starvations and Varroa Alert that was issued in December. Registering with BeeBase will ensure you don't miss future alerts. Please follow the link [Beebase - Beekeeping information resource for Beekeepers](#) to read the alert and for other useful information.

That's it for another month, stay safe and well, and please keep a lookout for the emails from me relating to the AGM in February.



Hilary Osman
Secretary

Your Committee at work

Our first meeting this year, and we hope we will all be able to meet up properly, but during our meeting, Boris went and put us in lockdown again!

Things hopefully will get better.

Some of you may have seen on Facebook our new design for the Brighton and Lewes apiary honey labels (left). Legally required information will be on the back label.

Since we agreed this design, I've seen a lot of black and gold labelling on other jars, TV etc, so I believe we are in vogue. We're now working on another label for children, so they can say they saw the queen in an observation hive when we go to fairs.

Look out for emails and paperwork about the AGM on 17 February at 7.30pm. You should get a questionnaire too: please fill this in and return to me, the email address on the back page.

We have also received many enquiries from newly signed up 'wanting to be beekeepers'. So we shall be holding Zoom sessions just for the very new beekeeper. What to buy, where to site a hive, what you need when you first start, what books etc.

Mentoring

Which leads me on to mentoring, one of our core purposes.

I know I have asked in the past but could you help a new beekeeper? Please get back to me to help the very new members. You don't have to be a grizzled expert: just two or three years' beekeeping gives you enough experience that's worth sharing. Even if you can only help over the phone that would be useful, so they can contact someone and not just a member of the committee.





Manek Dubash
Asian Hornet
Team Co-ordinator

Asian hornet latest

There's next to nothing to report this month in terms of news, as any *Vespa velutina* queens that have made it over to the this island from France of the Channel Islands will be deep into hibernation, those that have not already died from exposure as 99% of them do. They'll not be emerging until it warms up in the early to mid-spring, as they need five days at 12°C or more to become active.

The queen then emerges and looks for a sugary source of food, then chews up wood to make a wasp's typical, paper-constructed cellular nest, into which she lays her eggs.

Once it's full of larvae and emerging workers, she starts a secondary nest which can be anywhere, from hidden in a bush, semi-underground, or high up in a tree. This nest may house up to 6,000 individuals, a number that will keep increasing until the end of November.

One snippet: the National Bee Unit's SE regional report shows that, while there was

just one *V. velutina* incursion in 2020, the insect's lack of success may have been due in part to damp and variable temperatures between January and March, which would have left over-wintering queens vulnerable to fungal attack, as well as a reduction in traffic from France—see page 8 for more.

Until the spring, then, let's look forward to a successful season's beekeeping.



A male Asian hornet. Note the antennae and body, both are longer than those of a worker.

From our apiaries: Barcombe, Grassroots, Hove & Piddinghoe



Barcombe

First of all a very happy new year to everyone, let's hope this year sees us get back to some sort of normality and we can safely start to socialise again.

Reflecting on my bees in 2020, I have

to say I think we had a good year. My own apiary grew to 11 busy hives and three healthy nucs which are all wintering well. Most of them are descendants from some of my very

Left: First of the new hive stands at Barcombe—much more secure than the old one which literally fell apart when I pulled it away!

productive queens. The honey crop was good despite the drought we had when all the blackberry was in flower and if this year is at least the same as last year I'll 'bee' happy.

I took on Barcombe at the end of the summer, after helping Heather McNiven manage it for the last couple of years and have spent most of that time replacing sheds and hive stands, cutting hedges and generally getting the site safe and ready for the new season.

As reported last month, Barcombe is now at six colonies. Just before the New Year, I put in some inspection boards and after a few days the varroa drop was very low. However there were still mites on the board so I gave them all a vape again with the GasVap tool.

(Continued on page 5)

(Continued from page 4)

Two of the colonies had munched their way through their fourth takeaway tub of fondant so all six have now been restocked. Hopefully, that will last them through to March/April when I'll start to think about putting the pollen patties on—then.....all systems go!!

I now need the weather to dry up a bit: the problem with Barcombe is the ground outside the apiary is really only suitable for parking during the summer. Visiting the apiary at this time of year means parking the car some distance away and walking to the site—I keep reminding myself its only a few months until spring!

Tony Birbeck, Apiary Manager



Hove Apiary

Hove

Hove apiary started and finished 2020 with five hives of varying strengths. The apiary garden is large, our hostess allows free access by her neighbours and their children. This has meant that anyone unfamiliar with the habits of bees has to be protected from the inevitable. The hostess is happy to accommodate increases but in the interests of the neighbours and the local allotment users, four or five hives seems adequate.

The swarms taken from the apiary last season kept colony numbers to a manageable size and indicated that, with the use of mating nucs and splits this year, we could produce new colonies for our new beekeepers.

A contact form is now in the main storage shed for use in an emergency. A risk assessment for the site is being completed for the new season.

Hove apiary has been registered with the National Bee Unit so that any outbreaks of disease or starvation warning specific to that area are sent to me.

Planning ahead

Now the short winter days and long dark nights provide ample opportunity to think about the season just gone, and to begin to prepare for the season ahead. I plan to both improve colony health this year and increase honey production. So we first examined hive records to identify what worked and what didn't.

All the hives were treated with Apiguard in the summer and I calculated that mite drops were within normal range for the time of year. I treated the colonies again in October when the mite drop had risen and the average temperature indicated that Apibioxal (oxalic acid) sublimation would be appropriate. I calculated the daily drop a week after sublimation to be under five in all hives.

Winter work

Equipment has been cleaned, returned to storage, and inventoried so we can plan for the new season. Last season, our hostess gave us more storage space so all our equipment can be stored undercover.

New frames are ready for construction, while cleaned frames and foundation have been stored to keep them dry and the wax in good condition. There seems to be little evidence of wax moths or mice chewing at the equipment—so far. The Asian hornet trap should go into the apiary soon, so the appropriate equipment is being collected in readiness.



Delightful study of a honey bee

We checked the hives in December, and all have been strapped and insulated. We were given some insulation by Ken Isted which we cut to fit over the brood box, and an eke allows space for fondant to be placed directly onto the frames. When condensation has been found so far, the damp roof has been swapped for dry: so far so good. Next year an application of sugar cake might be put in the same space to feed the bees and to help absorb condensation.

I monitor the apiary about once a fortnight. The National Bee Unit warned of starvation early in December, thought to be due in part to the weather conditions. So I've given the colonies fondant when necessary, although despite this, unfortunately one colony has died out.

On the latest inspection, the four remaining hives are alive, they were clustered but not isolated from the fondant. One further colony seems weak, but due to the very cold weather conditions—the ambient temperature was around 5°C—the colonies were not opened up any more than necessary, just to check fondant levels and remove varroa trays which had been in the hives for the past two weeks. All hives appear to have a mite drop of between 0–5 so acceptable for this time of year and not necessary to use the bee sauna I have been building (not!).

There is a supply of pollen patties waiting to feed the colonies during times of need, initially at the beginning of spring and maybe during the June gap, these plans may change depending on the weather and particularly in the microclimate of Hove.

Let's hope 2021 is a better beekeeping year than last.

Jude New, Apiary Manager

Can you help the Division?

Brighton & Lewes Beekeepers is here to deliver the benefits of education and beekeeping comradeship, but we can't do it without you. We're looking for help in two key areas:

1. We need people to mentor new beekeepers. Remember how you needed help when you started? That's one of the key reasons we're here. So if

you can help with mentoring, please get in touch.

2. We need a swarm co-ordinator—the swarm phone holder—to ensure that those who need bees get them. It won't be long before the swarms start...

If you can help, please contact Chairman Norman Dickinson (contact details on [back page](#)).

Membership fees due

Just a quick reminder that membership of the Division runs from 1 January to 31 December, so annual membership fees are now due.

You should already have received a reminder and a membership form but if not, please contact Membership Secretary Norman Dickinson (contact details on [back page](#)).

Discounted supplies still available

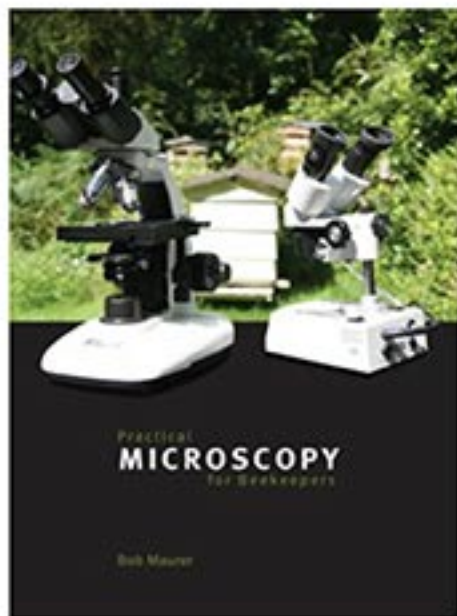
We have sourced more fondant (just a few left now) and some candipollen packs too to give your bees a good start for the early spring.

We are also looking into bulk purchases of frames, wax and glass jars.

Look out for the email with details, and please don't delay ordering. Contact Norman for details.

Apiary site available

We have been offered a site for hives between Scaynes Hill and Chailey. For further information please contact Hilary Osman on 07713532285.



Practical Microscopy for Beekeepers by Bob Maurer, now available in our library

Book of the month

Would you like to capture images like the wonderful photo on p12?

The newest of our library of books is Practical Microscopy for Beekeepers, which our chairman reported to be "an excellent read for those who intend to use a microscope for beekeeping".

Author Bob Maurer, Master Beekeeper, described it as: "An invaluable step-by-step overview of the microscopy tasks candidates may be required to perform or discuss in the British Beekeepers' Association assessments."

To borrow it, please contact B&L Librarian Dominic Zambito, whose contact details are on [the back page](#).

(I quite fancy taking up microscopy myself. Ed.)

News and updates from the B&L Facebook group



The B&L Facebook Group is now in full swing with regular postings—although there's always scope for more. So it's been encouraging how many people have joined—about one-third of the membership so far. Over the last month, diverse topics have included:

- Supplying health food shops with honey
 - Bee auction at the 2004 Annual Sussex Beekeepers' Bee Market held at Plumpton Agricultural College
 - Brood boxes for sale
 - Can you see a honeycomb pattern in your honey?
 - A common dandelion, an interpretation of what a bee and other insects see and we don't
- ... the list is long and interesting.

I don't doubt that as the beekeeping season kicks in, we'll also see a lot more posts relating to help and advice—there's usually someone there who can offer a friendly word.

So if you'd like to join the group—and about a third of our membership have already done so—please jump in! The water's warm and the atmosphere friendly.

To join, log into Facebook and search for B&L Beekeeping Division. Please note that we won't be admitting anyone whose name has not first been checked against the membership list.

Gov't licenses use of neonicotinoid insecticides



The Government has licensed the use of neonicotinoid seed treatments for sugar beet (pictured above), specifically thiomethoxam (Cruiser SB), a substance [shown in lab tests](#) to impact bee health.

The Government said that an application by the sugar industry for its use was an emergency authorisation.

The Government said the risks to bees were acceptable because bees do not forage on sugar beet, and that risks to bees foraging on flowers in and around the crop could be addressed by spraying herbicides to kill the flowers.

It pointed out that the licence may continue for two further years and that the farming press did not indicate any more dramatic effects on the beet crop

in 2020 when compared with a range of other crops suffering with an exceptionally difficult year from problematic weather conditions.

This follows the publication of DEFRA's Healthy bee Plan 2030, aimed at protecting and improving the health of honey bees in England and Wales. DEFRA said that partnership with organisations such as the BBKA was essential to address threats to honey bee health (*as reported in the December 2020 newsletter—Ed.*).

The BBKA said it was "extremely disappointed and concerned" at the decision.

It has been argued that this may be a Brexit-inspired step away from EU-wide bee protection regulations.

Beekeepers help honey bee foraging study

The countryside is a desert for honey bees compared to 1952, [a study has found](#) (yes, yet another one—Ed.).

Beekeepers and DNA detective work enabled researchers to pinpoint where honey bees forage. While honey bees mainly gathered pollen and nectar from white clover in the 1950s, today there is less of this plant about, so they feed instead on Himalayan balsam and oilseed rape.

"We've seen these major changes in the UK landscape and the honeybees have shown us that from their honey samples," Dr Natasha de Vere, head of conservation and research at the National Botanic Garden of Wales, said.

The researchers' finding resulted from analysis of hundreds of honey samples sent in by beekeepers around the country, following an appeal on BBC Gardeners' World.

These were analysed by barcoding of pollen and plant DNA in honey. They found that white clover—the favourite nectar source for honey bees in 1952—remains important but is used a lot less as the plant is becoming scarcer.

Instead, honey bees have switched to bramble, oilseed rape and Himalayan balsam.

Oilseed rape was first grown in the late 1960s, with a large increase in production in recent years. Himalayan balsam is an invasive plant, and has also increased in the landscape, especially along riversides and road verges. After foraging on it, honey bees are covered with a whitewash of pollen, looking like "ghost bees".

Research recommendations include:

- Providing more flower-filled hedgerows with bramble margins and grasslands rich in wildflowers.
- Changes to grasslands dominated by a small number of grass species, where there are few flowers to sustain pollinators. Providing white clover and other flowers in this habitat would improve nectar resources for honeybees and other pollinators.

The study is published in the journal *Communications Biology*.

FROM AROUND THE WEB

- [Do honey bees sleep \(right\)?](#)
- [The jab you'd rather not have](#)
- [How viruses, immunity, and overwintering survival of feral honey bees compare to managed colonies](#)
- [Effects of developmental exposure to pesticides in wax and pollen on honey bee \(*Apis mellifera*\) queen reproductive phenotypes](#)
- [Sustainable Use of Pesticides: Draft National Action Plan](#)



Varroa-related losses grow, says NBU report

Colony losses continued last year due to heavy varroa loads and reportable diseases, including EFB and AFB, according to the [National Bee Unit's \(NBU\) annual south-east regional report for 2020](#). The NBU, which is funded by DEFRA, urges beekeepers to continue to monitor for varroa and treat where necessary.

The report tells us what beekeepers in the south-east have been up to for the last year, and how their bees are faring. Much of the information is collected by the NBU's regional and seasonal inspectors, who conducted 891 apiary visits and 3,477 colonies.

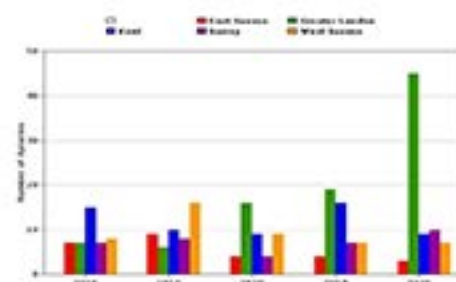
The inspectors collected samples, and attended a few apiaries where poisoning was suspected, although these were diagnosed in reality as chronic bee paralysis virus and the varroa-transmitted, parasitic mite syndrome.

EFB was on the rise this year, as it has been for the last three years (see chart below), with reported case numbers approaching 50, mainly in the London area. Beekeepers reported four cases of AFB too. Asian hornet numbers have been kept to a minimum, with just one small nest reported and destroyed.

Volunteers requested

There were no reports of small hive beetles (SHB). However, the NBU is asking volunteers to be sentinel apiaries for SHB. This simply involves taking biannual floor debris samples from your hives and submitting this to the NBU laboratory for examination.

Finally, there are reported to be 6,459 beekeepers and 8113 apiaries registered on Beebase in the region.



Bees are adapting to modern conditions: study



Bee specimens from the Natural History Museum in Bern, Switzerland, were sequenced to provide insight into the recent evolution of the Western honey bee.

Photo: Melanie Parejo. CC-BY via Genome Biology and Evolution.

A [new study](#) provides evidence that speculation by scientists that genetic diversity among honey bees may be partly responsible for declines in bee populations may be incorrect.

The study, led by Melanie Parejo, a researcher at the University of the Basque Country in Spain, involved the genomic sequencing of 22 bee specimens—some nearly 150 years old—from the Natural History Museum in Bern, Switzerland.

The study is the first to extract and sequence historic DNA, which is often highly fragmented. With this data, the researchers were able to reveal how changes in Swiss agricultural practices over the last 50 years had influenced honey bee evolution.

Parejo and her colleagues were surprised to observe higher genetic diversity in modern honey bees.

"It was quite the opposite of what we expected, and of the general narrative regarding honey bee diversity in the scientific literature, which points toward loss of genetic diversity as one of the many threats facing honey bees today," Parejo said.

To explain this, the authors suggest that the bee's unique mating system or long-distance mating flights may help maintain high levels of variation, while

bee imports may result in increased diversity.

High levels of diversity have been shown to be crucial for colony fitness as it's associated with lower pathogen loads and a better chance of survival due to adaptation to local conditions and pathogens.

The researchers also identified signatures of natural selection between historic and honey bee populations. In modern bees, they found evidence for selection in immune-related genes, which may reflect the recent emergence or increasing prevalence of parasites and pathogens. Other genes encoded nervous system proteins that are the targets of several widely used pesticides.

According to Parejo, these results "suggest that bees have had to adapt quickly to new challenges, particularly the increased use of chemicals in modern agriculture and beekeeping, and the arrival of new diseases and parasites. These adaptations have left traces in the genomes of honey bees, allowing us to observe a small step in evolution."

The study's results suggest that honey bees maintain sufficient adaptive potential to face future human-induced and environmental changes.

Study sheds light on causes of queen failure

A [joint US/Canadian study](#) has shed light on possible causes of queen failure. While conditions in North America are different, the study raises interesting questions.

Researchers at North Carolina State University and the University of British Columbia found that when sperm viability is low, the expression of a protein known to act against pathogens such as bacteria and viruses is high.

David Tarpy, University Faculty Scholar and professor at NC State University, said the study has important implications for beekeepers.

"Beekeepers have identified problem queens as a top management concern, but what's causing the problem is largely invisible. Queens go bad, and we don't know why," Tarpy said.

Lead author Alison McAfee said: "Queens have the potential to live for five years, but these days, half the time



queens [in managed honey bee colonies] are replaced within their first six months because they are failing. If a beekeeper is really lucky, a queen might live two years."

Failing queens had significantly fewer sperm than ones that were reproductively thriving, the researchers found. And a higher percentage of the sperm they did have were dead. And compared to reproductively healthy queen bees, the

failed queens were more likely to have higher levels of sacbrood and black queen cell viruses.

A significant protein linked to sperm viability was lysozyme, an immune system enzyme.

"There's a classical hypothesis in reproductive biology that you can't do everything well. The queens with the highest sperm viability had the lowest abundance of lysozyme, indicating that they weren't investing resources in this kind of immune response," McAfee said. "That supports this idea that there's a trade-off between the queens being able to fight off infections and being able to maintain their stored sperm."

Tarpy said the research could allow researchers to identify the cause of queen failure and find molecular tools that could "help identify bad queens before beekeepers use them."

Icing sugar dusting: the debate

Last month, we wrote that dusting bees with icing sugar was no longer B&L's recommended anti-varroa practice because it is likely to be ineffective against varroa mites feeding on the bees' bodies, and that it could contaminate the honey, making it sweeter. Amanda Millar, ex-president of B&L Beekeepers, responds. If you have a point of view on the matter, please get in touch.

Honey is largely composed of fructose and glucose and is much sweeter than sucrose, which is what icing sugar is composed of. So dusting with icing sugar could not possibly cause honey to be sweeter because of contamination with sucrose, if anything the reverse would be true.

Any difference in taste is likely due to the huge variation in flowers visited by the bees and which can change in the course of a few weeks resulting in different proportions of fructose (sweeter) and glucose (less soluble) in the nectar.

I am sure when you have uncapped a frame of honey before putting it in the extractor, you will have noticed colour differences on the same frame, reflecting different nectar sources.

Also, the point of icing sugar dusting, and if carried out correctly, should result in most of it passing through the colony; being collected on the insert. It



is best to avoid any treatment while honey supers are in place but to reduce mite levels before adding honey supers.

Even if dusting is not the best treatment method, it is an excellent method for monitoring the mite load, very rapidly and less destructively than alcohol wash. It is a good method for

treating small nucs, where it is difficult to achieve a safe dose of Apiguard or oxalic acid vaporisation.

In order to avoid contamination of next year's honey with sucrose, by far the best thing to do is only feed what they need, be it sugar syrup after the supers have been removed, or fondant. Most importantly, just before you expect the flow to start, check through for surplus stores, these are likely to be contaminated with syrup if you fed them in the autumn.

I check and make a note at the first inspection in March, and a couple of weeks later remove whole sealed frames to the deepfreeze for returning in the autumn, and replace them with foundation or drawn comb, before putting honey supers on, leaving only sufficient stores to last them until the flow starts in the spring.

Amanda Millar