



# The London Beekeepers' Association

# LBKA News

## March, 2018

Welcome to the March Newsletter and hopefully the start of Spring! This newsletter is a bit thicker than usual, thanks to new contributor Holly's excellent writeup, photos and drawings from the microscopy course and Mark's additional piece on the Sustainability Beekeeping Convention that he attended and spoke at.. Thanks also our other regular contributors for producing the rest of the content.

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Thanks to this month's contributors: **Richard Glassborow, Eugene Fahy, Howard Nichols, Mark Patterson and Holly Warburton**. Thanks as usual to **Martin Hudson** for proof-reading it.

Would you like to join the esteemed list of contributors above? If so, please contact me.

Happy beekeeping.

Aidan Slingsby, Editor, [services@lbka.org.uk](mailto:services@lbka.org.uk)

## From our Chair

*Richard Glassborow*  
[chair@lbka.org.uk](mailto:chair@lbka.org.uk)

The photograph on the next page was taken in my home apiary in SW London on the 1st of March. I must confess, the infra red thermometer is a new toy and I am not confident of its accuracy – I haven't tested it outside the obvious range of boiling/freezing water (where it does agree with physics).

But I think we can confidently agree, it has been very cold and, at such times, beekeepers tend to worry about their bees (well, we probably worry about them all the time – like parents!). But honeybees have been around for 35 million years because they know what they are doing. They have seen cold before. If they were given to reflection they would probably not be moaning about the cold but more likely the poor housing conditions, the fact that all their winter supplies were stolen back in the summer and that there aren't as many flowers about as there used to be.

Meanwhile, we think we are very smart because we have slapped a lump of fondant on top of their home. Of course, that can be a smart thing to do but maybe there is room for improvement shall we say.

By the time of writing this column the temperature has returned to more seasonal expectation and I can confirm that these bees and the neighbouring two colonies, have survived. It is still too cold to open up and really



*Holly's lily pollen drawing (see page 9).*



Richard using his new infrared thermometer on his hive.

see where they are at but I suspect these have a quite advanced brood nest by now. Cluster contraction during the extremely low temperatures may have resulted in some cold brood but they will survive.

When I pointed the thermometer at the hive I wasn't really indulging in anything more than idle curiosity and I certainly was not conducting any kind of methodical investigation. But this photograph did prompt a conversation about the use of technology to carry out un-intrusive observation of what is going on inside hives. The technology certainly exists and the LBKA should perhaps consider acquiring some for one or more of our teaching apiaries for members interested in this kind of hands-on evidence-based beekeeping, in the same way that we have with the microscopes. Another topic for the next monthly meeting and pub social, or just email me at [chair@lbka.org.uk](mailto:chair@lbka.org.uk) if you have any comments or questions.

Talking of the monthly pub social, last month's, at the Keg and Kitchen in Pimlico, was our second. A smaller group than the first, perhaps because the weather was already pretty cold, but good company and conversation none the less. And quite apart from enjoying good company for its own sake, these meetings really do seem to be working, as hoped, by providing an opportunity for open, two-way communication within the association. They seem to provide the right conditions for ideas observations, and comments, formed and tentative, to emerge. I think that is healthy for the association and I do encourage members to give them a go. If there is something acting as a barrier – time,



The venue for our monthly meeting – the white door on the left.

location, whatever – please just let us know. If you are unsure because you don't know anyone – that's partly the point. These meetings are as much as anything an opportunity to meet new people – and it's not as if you don't know what to talk about!

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## Announcements

**This is our official place for announcements.** If you only read one section of the newsletter, it should be this one!

### March Monthly Meeting: Preparation for beekeeping year

Our next Monthly meeting will be on **Sunday 11th March at 11:00** where we'll be talking **all about Nosema**: what is it, how it functions, the two types, and how to deal with them. We will be at our usual venue of Fairley House Junior School, [220 Lambeth Rd, London SE1 7JY](#).

April's monthly meeting will be on **8th April**, and will be a hands-on practical session with microscopes for testing your bees for nosema. Bring along about 30 of your bees which have been humanely killed in a freezer overnight. Using microscopy, we will determine whether nosema spores are present in your bees.

### Monthly Tuesday Socials

Our next Tuesday Social will be on **Tuesday, 27th March** at **The Queen's Head** ([66 Acton St, London, WC1X 9NB](#)). We will try to book an area for us.

Monthly Tuesday Socials will be held in a different (food serving) pub each month. Any suggestions should be emailed to [admin@lbka.org.uk](mailto:admin@lbka.org.uk).

### Development Update

*Simon Saville*  
[development@lbka.org.uk](mailto:development@lbka.org.uk)

As mentioned in the February Newsletter, LBKA submitted comments on the Mayor's draft New London Plan as part of the consultation process.

In line with our objectives to promote a better London environment for bees (and Londoners), our comments were intended to make the final Plan as bee-friendly as possible. We also know that our participation raises the awareness of key stakeholders of the needs of bees and of the role that LBKA is seeking to play.

Our response reflected our recommendations to: (a) stop further habitat loss, (b) improve open spaces for wildlife, and (c) ensure that new developments provide bio-diverse habitat.

The draft Plan already has provision for protection of London's green spaces. Given that London needs to build some 66,000 new homes each year, we urged that this protection be strengthened, and also extended to include public and private gardens.

The Plan proposes to protect and expand London's urban forest, increasing tree cover by 10%. We urged that consideration be given to biodiversity, so that the trees planted are beneficial to pollinators and other wildlife. We see some Boroughs (Lambeth) planting London Plane trees for "heritage" reasons: these have virtually no biodiversity value as they produce neither nectar nor pollen. We also urged that consideration be given to hedgerows and green corridors, as these are very valuable to wildlife.

Given the development pressures in London, we believe it is important that there is a requirement for all new developments to achieve a net gain in biodiversity – the Plan only calls for "no net loss of biodiversity". We also stressed that brownfield land is often important for bees and other invertebrates.

Finally, we wanted to ensure that the contribution of green spaces – and the wildlife that it contains – to the health and well-being of residents is properly recognised and reflected in the Plan. What's good for bees is good for Londoners too! If any member would like more details of our comments, please contact Simon at [development@lbka.org.uk](mailto:development@lbka.org.uk).

## Start to sow your wild flower mixes

Now is the time to start sowing any wildflower seed mixtures you might have, for a good display of flowers for the rest of the year. We have some suggested suppliers on our [website](#).

## Spring Convention

BBKA's [Spring Convention](#) will be on **Friday 13th - Sunday 15th April** at [Harper Adams University](#), Newport, TF10 8NB. There will be over 20 lectures, over 50 workshops and a trade show. See their [website](#) for more details.

## BBKA's "Positive Thinking" Newsletter

BBKA's "Positive Thinking" Newsletter notes that the United Nations has declared that the annual **World Bee Day** will be on 20th May and is asking for ideas as to how to celebrate it.

It also announces **two shows** this year, one at Chatsworth on 6th-9th June and one at Blenheim Palace 2nd-5th August. They expect over 5000 people per show to visit the stall.

The **International Meeting of Young Beekeepers (IMYB)** will take place near Bordeaux on the 2nd-6th of July 2018. The BBKA team is trained and organised by Simon Cavill, with an open selection day at the BBKA HQ in Stoneleigh on Saturday 24th March from 10am. Candidates should be aged 12-16 years old on January 1st 2018 and be affiliated to a BBKA Association, but anyone over the age of 10 who might want to put themselves forward in future years should come. Attendees to the selection day will need to be accompanied by a parent or guardian and bring a packed lunch. Contact Simon Cavill on [simon.cavill@bbka.org.uk](mailto:simon.cavill@bbka.org.uk) for more information.

Finally, they suggest some text to write to our councillors to push more more forage creation.

*Dear Councillor XXXX*

*We write with some concern about the difficulties of the pollinating insects in our area and would like to ask the council to consider helping in this respect at the same time making savings on their own maintenance budgets.*

*Some councils at their own instigation have started to plant wild flower seeds in the central reservations on their roads, this serves two purposes, it provides nectar and pollen for all the pollinating insects but it also cuts down on the maintenance charges for their upkeep.*

*One Council who have taken this to heart is Coventry in the Midlands, where all the central reservations are a mass of colour throughout the summer months, there is no need for weeding or grass cutting and the areas do not look neglected or barren.*

*The flower heads are left to self-seed and they will produce new plants the following year with colour and support for pollinators for many years.*

## Annetta Pedretti

*Aidan Slingsby*  
[services@lbka.org.uk](mailto:services@lbka.org.uk)

We are sad to report the passing of Annetta Pedretti, whose funeral was last week in her native Switzerland.



Honey from Annetta's two apiaries.

She spent the majority of her life in her adopted home of London, maintaining somewhere between five and ten colonies split over two apiary sites in London over the past ten years.

Her beekeeping was done in her own unorthodox way inside self-made yurts (that recall traditional Swiss bee houses) and self-made hives (based on the Dartington design) adapted to her way of beekeeping. She was generous with her bees and knowledge, subscribing to the bartering – rather than monetary – technique of exchange.

She was not a member of LBKA (she was a member of Harrow beekeepers), but came along to some of our winter lectures last year and was a regular attendee at local beekeeping events. She will be sorely missed.

## Wax supplies wanted

Fiona is looking for beeswax. Members should contact her by email if they can help: [envelopdesigns@gmail.com](mailto:envelopdesigns@gmail.com).

## Citizen science Bee research project

One of the people Mark met at the conference he describes on page 13 is a student called Victoria from University of Plymouth who is doing some research on honey bees and she is really keen to get London Beekeepers involved in her research. A link to her project and details of how you can get involved are [here](#).

## Possible Central London apiary opportunity

We may have a Central London apiary opportunity. Part of the work would involve mentoring an existing group of keen mentees. It would be paid work. Please email [services@lbka.org.uk](mailto:services@lbka.org.uk) if you're interested.

## Apiary space in Harrow

Someone is offering their garden in Harrow as an apiary. It's roughly 80 feet long. Anyone interested should contact [services@lbka.org.uk](mailto:services@lbka.org.uk).

## And finally...

A reminder of Elliot's "build your own nuc box" workshop. E-mail [elliott.hodges@lbka.org.uk](mailto:elliott.hodges@lbka.org.uk) for further information.

## Old announcements from February

Check our [previous newsletters](#) or contact [services@lbka.org.uk](mailto:services@lbka.org.uk) for more details.

**BBKA swarm list:** Contact Aidan ([services@lbka.org.uk](mailto:services@lbka.org.uk)) if you'd like to be on BBKA's swarm list this year, confirming the postcode and phone number you'd like to be listed. These will be listed on a public page (currently "under construction"). This is an important public service that beekeepers can provide, but may result in many phone calls.

**LBKA Swarms WhatsApp group:** Internally, we coordinate swarm collection through a WhatsApp group. You should join this group if you're a swarm collector, want to learn to be a swarm collector or want a swarm. Contact Aidan on [services@lbka.org.uk](mailto:services@lbka.org.uk) or Vlad on [apiaries@lbka.org.uk](mailto:apiaries@lbka.org.uk).

## Old announcements from January

**Courses:** We have two courses types of course: **A Taste of the world of the Honey Bee** and our flagship **An Introduction to Beekeeping**. See <http://lbka.org.uk/courses.html> for more information.

**Apiary opportunity:** Large garden in Putney is being offered as an out-apiary. Please contact [elliott.hodges@lbka.org.uk](mailto:elliott.hodges@lbka.org.uk) if you're interested.

## Old announcements from December

**BBKA assessments** It is still not too late to contact Howard on [education@lbka.org.uk](mailto:education@lbka.org.uk) to register your interest in taking the **BBKA Basic** qualification. There is no obligation to actually take it, at this stage.

**Membership renewals** If you haven't rejoined and would like to, please renew your membership using the personal renewal link that you were sent by email. If you didn't get it (check your spam folder), email me at [services@lbka.org.uk](mailto:services@lbka.org.uk) and I'll resend it.

## Old announcements from November

**LBKA education offerings:** Please see [last month's newsletter](#) for our education offerings, which include: help for preparing for the BBKA Basic certificate and help for preparing for the BBKA General Husbandry certificate.

### Do you have any announcements?

If you've any announcements for the next issue of LBKA News, please send to Aidan at [services@lbka.org.uk](mailto:services@lbka.org.uk).

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## Out and About

As we are now a charity, we expect to be doing more outreach activities. Here, we summarise what LBKA members have been doing in this regard. Please let us know if you want to get involved in some of these activities on behalf of LBKA. We can give advice, let you know about opportunities, perhaps some training and may even be able lend you props.

We can only report things if we know about them, so please send your activities to [services@lbka.org.uk](mailto:services@lbka.org.uk).

### LBKA forage officer to talk at National Bee Unit conference in April

Mark has been invited to speak at the NBU's annual technical conference in York this April. The entire bee inspectorate will be in attendance alongside senior Bee unit and DEFRA officials and policy makers.

Mark will be presenting evidence on the state of London's ever growing Honey Bee population vs ever diminishing green space and floral resources which support them and other pollinators. The LBKA now has some very solid and credible data on bee population density, distribution and quality of London's habitats thanks to data shared with us under licence from Government agencies and Green Space Information for Greater London. Increasingly the LBKA is being recognised as the "go to" authority on the state of the capital's bees and the London environment they rely upon.

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## Last month's Monthly Meeting: Early Spring Management

What happened at our meeting last month.

*Eugene Fahy*  
LBKA member

On a chilly Sunday morning in early February, an encouraging number of members and some visitors gathered to hear Howard's presentation on Early Spring Management. We started with a discussion of when Spring actually begins, 1 March (meteorological), 20 March (astronomical) or, for Celtic traditionalists, 1 February (St Brigid's day). However, for beekeepers (and bees), Spring starts when winter plants break dormancy.

While the weather felt far from springlike, Howard told us that on at least one day within the next month, we would have temperatures of 14°C, warm enough for the first inspection of 2018. We then heard about the preparations we should be making now:

1. Have your equipment ready. Smoker cleaned and overhauled. Enough fuel for the whole season. Brood boxes cleaned and spare frames with foundation. Supers ready for the season – three per hive at a minimum. When you come to use the frames later in the season, dip the foundation in warm water or heat with a hairdryer to soften the wax.
2. Brief inspection of bees. Do this on a warm day of at least 14°C, when the bees are flying. Do NOT remove frames. Check the bees are alive and have sufficient sealed stores until the next inspection. More colonies die of starvation in March than at any other time. Remove mouse guards and insert entrance blocks. Leave blocks in place until the honey flow starts. Start your hive record cards for the year.
3. First full colony inspection. Temperature of at least 14°C. Check all frames and bees (sufficient stores, sufficient room, any signs of disease, any swarm preparations). Take a sample of bees to test for nosema. Transfer the colony to a new brood box and floor during this inspection ("Spring cleaning"). Mark any frames which need to be changed.
4. Complete comb change: why do it? Old black comb and comb with excess drone cells needs replacing. If there is a high varroa count or signs of deformed wing virus, changing comb removes most of the varroa and makes treatment more ef-

fective. If the colony is dwindling or shows signs of dysentery, it is good practice to get bees onto clean comb.

5. Getting bees onto clean comb. There are two main methods. **Shook swarm** is the most common method but it is severe. It is used by beekeepers as part of varroa control and by bee inspectors to deal with colonies affected by European foul brood. **Bailey Comb Change** is a gentler method which takes 21 days to complete and can be used as a method of nosema control.

As usual, there were a number of questions from the audience which elicited even more useful advice and highlighted the benefits of attending the monthly meetings – not least the tea and Aidan’s home made cake.

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## March in the Apiary

Where we should be with our colonies at this time of year.

*Howard Nichols*  
[education@lbka.org.uk](mailto:education@lbka.org.uk)

March is a time of increasing activity within the hive but it all depends upon the weather. For the beekeeper it is also a month of increasing anticipation. Assuming the weather improves then the colony at the end of March should be substantially different from the one at the beginning. March days can include warmer, sunny days, which encourage plants to flower early, and bees to forage. The weather can just as easily revert back to cold. The former causes the bees to produce more brood and the latter to retreat back to a cluster.

### Keep an eye on stores

The main job of the beekeeper is still to keep an eye on stores. Old “winter” bees are dying off and new bees are being born. Food reserves are decreasing but demand for food is substantially increasing. The bees will be using energy flying on warmer days but only bringing in pollen, not nectar. They also need to keep the brood at a higher temperature (about 35°C) which also uses more energy. Stores can quickly be depleted in March and early April. It is a statistical beekeeping fact that more colonies die of starvation in March than at any other month.

### First inspection

The first warm day from the start of March is an opportunity to have a quick look inside the hive. If so, then this will constitute the 1st inspection of the new season. The new colony card should be made up and inspec-

tion details recorded. Minimum temperature should be 10°C for a quick look but without taking out brood frames. If there is an exceptionally warm day with the temperature 14°C or more then a detailed colony inspection may be made. Otherwise, leave this until April. If an inspection is not possible, then observing the colony entrance can provide invaluable information. If the bees are bringing in pollen, purposefully entering and leaving (flying a beeline) then these are always good signs. If the bees are aimless, listless or without purpose on a warm day then, prima facie, all may not be well.

### Monitoring varroa mites

This is a good time to monitor the mite drop. Leave the inserts in for a week and count the mite drop. If > 2 mites per day then some action will be needed in Spring. If > 7 mites per day then action is immediately required. The National Bee Unit produces an excellent booklet “Managing Varroa” which is available for free download. There is also comprehensive information about varroa on the NBU website, including an [online varroa count calculator](#).

### Siting your bees

Those who were on the LBKA mentoring schemes last year and have not yet acquired bees (but will do so) should prepare the hive and site. If acquiring bees by means of the purchase of a nucleus from a supplier then the order should have been placed by now. Demand often exceeds supply.

### Formulate a beekeeping plan for the season

This need not be elaborate and may be such as improving swarm control, attempting a new manipulation, maximising honey production (ensuring there is the maximum number of flying bees in the colony when the honey flow starts), etc. The opportunities are endless.

### Death and renewal

Finally, on a sad note, if you find your bees are dead then it is imperative to close the entrance to prevent robbing. Make a note of what you observe then remove and destroy dead bees and frames. Sterilise the hive parts. It is important to try to find out why the bees have died. Winter and early spring colony losses seem to average 20% to 30% so you are not alone. It does not always mean it’s the beekeeper’s fault but it is essential to analyse and learn. Examples of reasons include, but are not limited to, the varroa mite (the number 1 offender), lack of stores, damp / inadequate hive ventilation, site situated in a frost pocket, failing queen or poorly mated queen. On a more optimistic note, the beekeeping season arrives in March. We have



*Female Hairy Footed Flower Bee on white deadnettle.*

several eventful months ahead. I sincerely hope that all of us have a productive season and achieve whatever aims and goals we aspire to with our bees!

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## Focus on Forage

Mark tells us what's in flower at this time of year.

*Mark Patterson*  
[forage@lbka.org.uk](mailto:forage@lbka.org.uk)

March is officially the first month of spring for us and we can expect reasonably warmer weather and the first of the season's flowering plants and their pollinators to be clearly visible. However after the bitterly cold weather, events have taken a step back.

Many early emerging plants like **crocus**, **snowdrops**, **Winter Aconite**, **winter flowering shrubs** and early spring **top fruit trees** have had their blooms irrevocably damaged by the prolonged cold snap or their blooms have been crushed under the weight of up to 10" of snow and ice. Many of the first pollinators which rely on these flowers, the queen **bumblebees** and **Hairy Footed Flower Bees** may also have suffered during the recent cold spell. In London temperatures reach several degrees below zero. In the South Downs where I spent the cold spell, the temperatures dropped to a low of -11°C.

Now that the horridly cold weather has passed us the season will progress and feel more spring-like.

Plants important to bees this month include **spring bulbs**, **snowdrops**, **crocus**, the first **anemones** may appear, the first **tulips** might poke up through the ground as will **Muscari** (grape Hyacinth) and in some sheltered places we may even see the emergence of the first **bluebells**. There are a number of bluebells



*Flowering currant (pink) and forsythia (yellow).*



*Muscari*



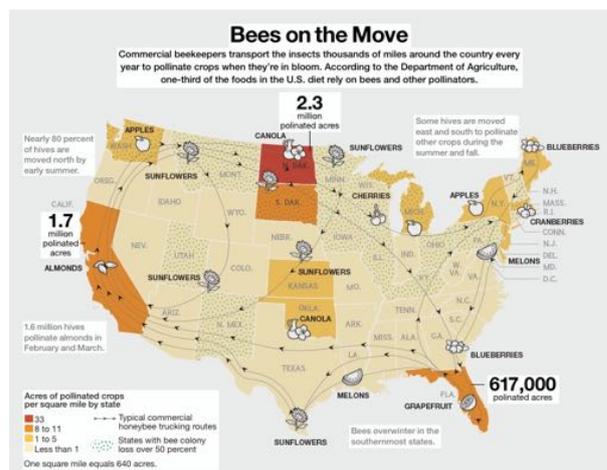
Wall flower "Bowles Mauve".

fund in the UK. The native **English bluebell** (non scripta/nutals) differs from the introduced and highly invasive **Spanish bluebells** (*Hyacinthoides Hispanica*) in having cream coloured pollen and deeply curved edges to its bells which always dangle from one side of the flower stalk. Their Spanish cousins have blue to green coloured pollen, are have less of a curved lip to the edge of the bells and usually hang all around the flower stalk. There are also many variations caused by intense hybridisation.

Other wild flowers important to bees at this time of year include **Bugle**, **Ground Ivy**, **primulas** like the **common cowslip** and **primrose**, **speedwell**, **honesty**, **forget-me-nots** and **Green Alkanet**. **Lamiums** or **dead nettles** are also particularly valuable to bumblebee queens and early emerging solitary bees since their closed flowers protect the rich nectar from being washed off by heavy spring rains whilst their nutritious pollen is essential for bees rearing offspring.

**Colt's Foot**, **Butterbur** and **Winter Heliotrope** will also be flowering – these too are attractive to bees. In gardens Wall Flowers both biennial bedding types and the longer lived perennial forms will continue to be of value for pollinators.

**Cherry trees**, **blackthorn** and garden shrubs including **sarcococca**, **viburnums**, **daphne**, **flowering currants** alongside **Cherry Laurels** will begin to bloom. Most of these flowers listed thus far provide mostly pollen only but on warm days. Cherry, Cherry Laurel, flowering currant and blackthorn will yield substantial volumes of nectar. A mature cherry tree can yield as much as



Source: *National Geographic*.

2 litres of nectar per day which equals a pound jar of honey. Cherry Laurel and other prunus species also have extra floral nectaries located at the base of their leaf. Usually there are 2 glands in Cherry and in Cherry Laurel there are usually 4 but some of the new hybrid Cherry Laurels contain between 6-9 extra floral nectar glands on the underside of the leaf straddling the central vein of the leaf. Honey bees are known to collect the sweet secretions from these glands at times when the plant is not in bloom.

Early varieties of **apple**, **plum**, **apricot** and **almonds** may also come into bloom.

If we get a good warm spell this month don't be surprised if your bees suddenly show signs they are running out of space. Beekeepers in warmer areas of the UK should resume regular inspections enabling them to anticipate their bee's needs and motives. It is not unheard of for London Beekeepers to yield a super of capped honey in late March nor is it unheard of for large primary swarms to emerge in late March. Last year my biggest colonies swarmed in the last week of March which I was not prepared for. I won't make the same mistake again!

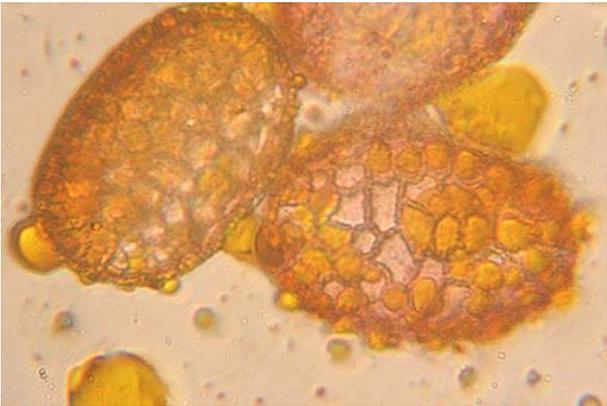
Right now on the other side of the Atlantic the annual migration of beekeepers and their bees to pollinate the vast Almond Groves of California's Central Valley will be in full swing.

90% of the world's Almonds are grown in California and Almonds are that state's single largest export. California grows over 810,000 acres of the crop in vast orchards in the Central Valley. Each year 81 Billion honey bees from 1.6 Million hives pollinate over 2.5 Trillion Almond blooms in what is the largest insect migration on the Planet. Beekeepers truck these bees in from all across the United States on 6000 lorries.

By Late March they will all have dispersed and spread out across North America to pollinate oilseed Rape, Apples, Plum, Apricot, Peach, Blue Berries, Cranberries and other crops.



*Pollen from my Beehive. I wonder if it might be honeysuckle and rape?*



*Lily Pollen*

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## Microscopy Workshop

Holly attended the LBKA microscopy workshop run by Richard and Howard and gives us an insight into the fascinating world of the miniature that microscopes reveal. She has some great photos and drawings!

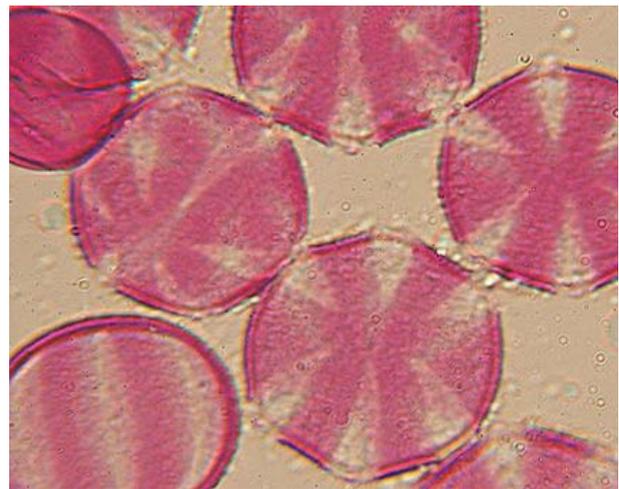
*Holly Warburton  
LBKA Member*

The first time I tried to go on LBKA's Microscopy course was in 2015. However, the course was full and the following two years' were scheduled at times when I was working out of London. This year I had the 'flu and nearly didn't make it but I am so pleased I did even though I arrived at the workshop without a voice, fourth time lucky! So I began the first workshop in silence, probably a good thing for Howard as my head was filled with so many questions!

I had actually first looked at pollen through the microscope at the LBKA meeting in February 2017 when Howard gave an introductory workshop, I was so moved by what I saw, it's such a fascinating and beautiful



*Lily Pollen With Safranin.*

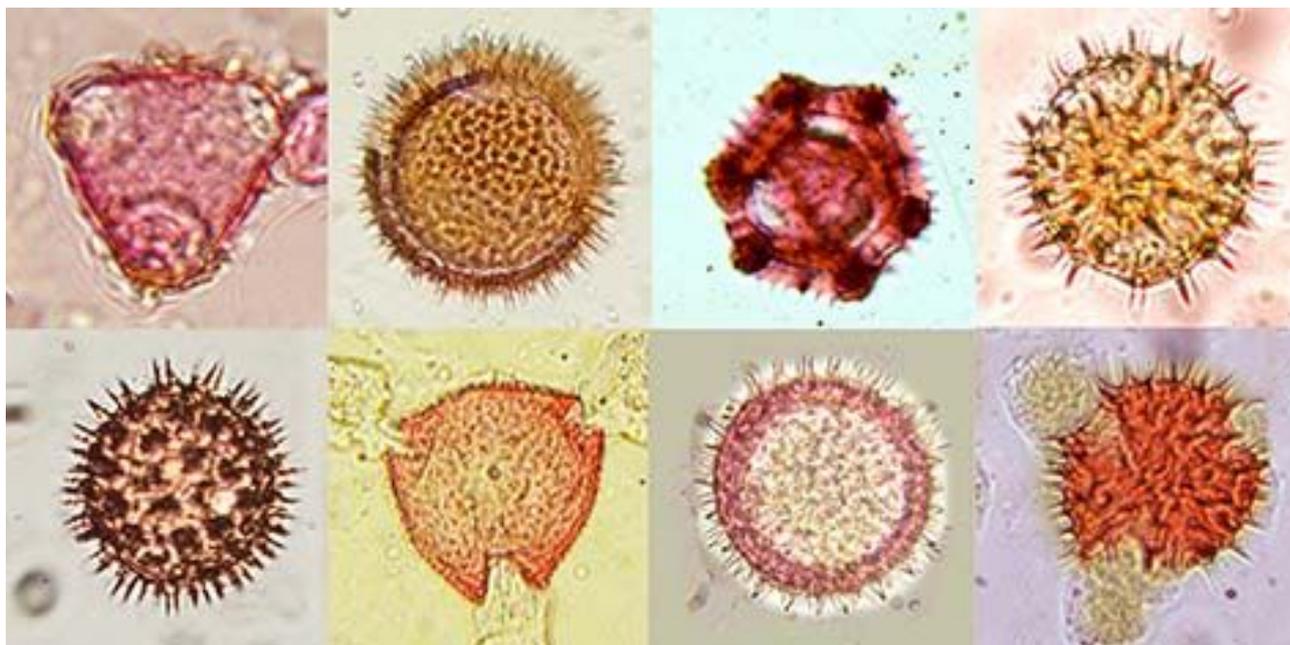


*Rosemary Pollen*

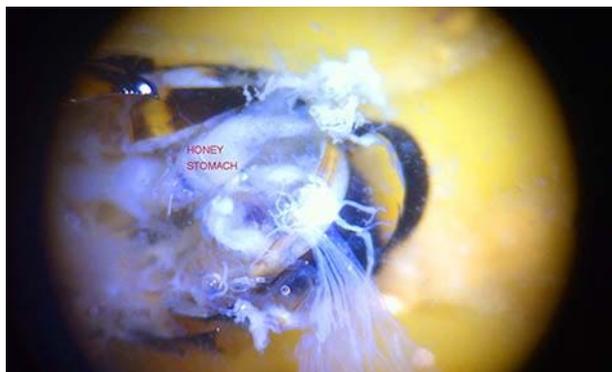
world. He and Richard taught the basics of preparing pollen to view under the microscope. I was so inspired that afterwards I started to make my own pollen slides at home. I have an old compound microscope with low quality lenses but I decided to give it a go and get a camera adapter. Here is one of the photographs of some pollen I collected from the bottom of my beehive in May 2017.

I found it difficult to identify the pollen grains but the [online reference](#) that Richard showed us at the meeting helped, as did Dorothy Hodges' drawings.

So I was very happy I could attend the LBKA course and discover more about the microscopic world of the honeybee and pollen.



*Pollen grains photographed through my microscope*



*Honey Stomach.*

## First evening

On the first evening Howard gave a brief talk about the structure of pollen grains. There are an amazing range of different patterns and forms on the surface of pollen grains. Each flowering species can have a unique pollen structure. The exine is the outer layer of the pollen grain and if kept in the right conditions can survive for thousands of years. Pollen grains have been found in Ancient Egyptian archaeological sites revealing much knowledge about the ancient world.

Most of the evening was practical work, we set up the compound microscopes focusing on a slide of varroa, which was interesting in itself. It was fantastic to use the LBKA compound microscope, with electric light source, so much easier to use than my old one with the adjustable mirror. I chose to begin by making a slide of Lily pollen. To view this under the microscope we first needed to prepare and stain the exine with a dye. We degreased our pollen samples with isopropyl alcohol and then applied fuchsin glycerine jelly. My sample didn't absorb the stain that well and Howard explained that Lily pollen was very oily so it didn't absorb the stain as

easily as some other pollen grains, even so I was able to see the structure of the lily pollen quite well. I could see the beaded network on the surface of the grain and just make out the furrow, a boat like indentation that runs along the surface of the exine, both of which are distinctive characteristics of Lily pollen. Afterwards I took my slide home and photographed it through my microscope, from an artistic point of view I prefer the golden pink colour of the pollen with less dye.

At home I then made another slide with pollen from a different pink Lily. I washed the pollen a few times with isopropyl and I stained it with Safranin, another red dye. This took much better.

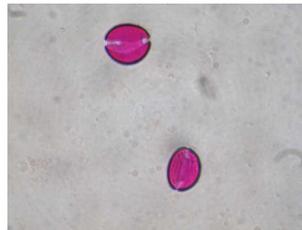
In the workshop I also made a slide of Rosemary pollen which is a much smaller grain and less oily so it absorbed the fuchsin pink Glycerine Jelly more easily. I then photographed this pollen slide through my microscope. I don't know the magnification of my eyepiece or the objective lenses, but they are lower than the microscopes we used at LBKA.

In the second half of the workshop we extracted pollen from honey, which I was excited to learn about as I am very keen to find out where my bees are foraging and what pollen is inside my honey! Howard explained that there are 2 ways of doing this. The first is to use a centrifuge and the other to extract pollen by sedimentation. This time we used the centrifuge and went through the process of dissolving a honey sample in water then putting it into test tubes in the centrifuge. We ran the centrifuge twice for a few minutes and then decanted water from the top of the tubes. The pollen had started to separate and fall to the bottom of the test tube. Taking a sample of the sediment we made a slide in the same way as before.

Unfortunately I could not see much on my honey pollen



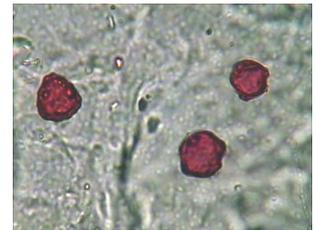
*Aesculus hippocastanum* (Horse chestnut)



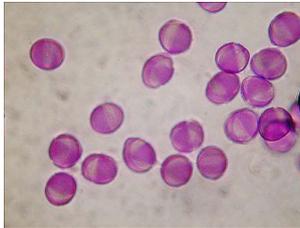
*Allium ampeloprasum* (Leek)



*Bellis perennis* (Daisy)



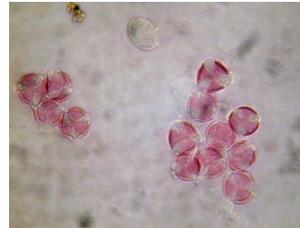
*Betula pendula* (Silver birch)



*Lamium album* (Deadnettle)



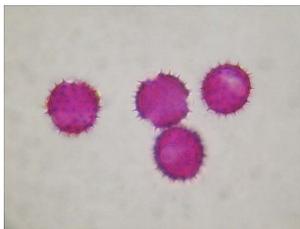
*Borago officinalis* (Borage)



*Brassica oleracea* (Broccoli)



*Brassica rapa* (Oil seed rape)



*Calendula officinalis* (Marigold)



*Calluna vulgaris* (Heather)



*Capsicum annuum* (Sweet pepper)



*Hyacinthus orientalis* (Hyacinth)



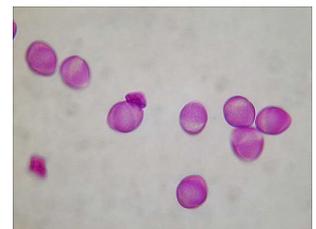
*Crataegus monogyna* (Hawthorn)



*Cucubita pepo* (Courgette)



*Cynara scolymus* (Globe artichoke)



*Digitalis purpurea* (Foxglove)



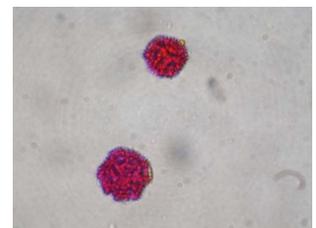
*Helianthus annuus* (Sunflower)



*Platanus hybrida* (Plane)



*Tilia x europaea* (Lime)



*Taraxacum officinale* (Dandelion)



*Ribes nigrum* (flowering currant)



*Quercus robur* (English oak)



*Galanthus elwesii* (Snowdrop)



*Hedera helix* (Ivy)



*Lonicera periclymerium* (Honeysuckle)



*Castanea sativa* (Sweet chestnut)

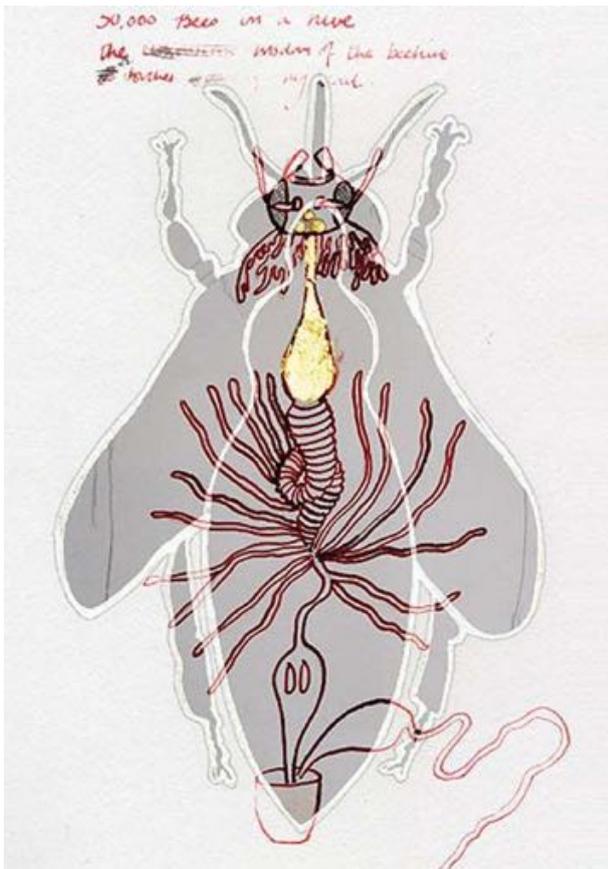


*Narcissus* (Daffodil)



*Papaver fauriei* (Poppy)

Pollen comes in all shapes and sizes. Pollen itself is colourless – the colours come from the various oils it contains. When preparing pollen for mounting on a slide, we wash away the oil and dye purple. These photographs are just a small selection from <http://www.saps.plantsci.cam.ac.uk/pollen/index.htm>. Well worth a browse.



*Drawing Of Honey Stomach.*

slide. We thought the honey solution might have needed to be in the centrifuge for longer. I am going to try the extraction method by sedimentation at home, which is a much slower process. I will let you know how I get on.... I gave nearly all of the honey I harvested this year back to my bees, as their stores were low. I kept a small pot for myself which I have eaten and gave 4 small pots to friends one of whom has some left so she is going to give me some back to test.

I have started to incorporate the microscopy into my artwork and made a study drawing of Lily Pollen (see front page).

## Second Evening

This was the first evening dissecting the honeybee starting with the abdomen. For this we used a dissecting microscope with lower magnification, as our honeybee specimen was much larger than the pollen. I hadn't done any bee dissection before and I was hoping to see the honey stomach, the heart and the ocelli eyes.

First we prepared the bees and cut off the wings and legs and then embedded the body in a petri dish of wax so the bee was kept still for the dissection. We then covered it with isopropyl alcohol, we cut around the abdomen and removed the dorsal surface. I was surprised how tough it was and difficult to make an incision through the top of the abdomen. My dissection



*Photo of ocelli eyes*

wasn't very neat but I was pleased to be able to see the honey stomach and the malpighian tubes (part of the excretory system).

I couldn't see the heart in my dissection but I learnt that it was long in 5 sections beneath the top of the abdomen...I have a few bees in my deep freeze which I was hoping to dissect but Howard said they would be too squidgy inside so I will collect some more bees and put them in isopropyl to preserve the body parts.

## Third Evening

The third workshop was devoted to dissecting the head of the honeybee. I had almost got my voice back by now! We prepared the bee for dissection as before removing wings, antenna and legs... then embedded it in beeswax. We made 3 incisions on the exoskeleton of the head and peeled off the outer casing. I could see the ocelli eyes very clearly! I also saw the hypopharyngeal glands, I didn't realise before that they produced the royal jelly and in younger workers these glands are more developed...I attempted to take some photos with my iPhone through the viewer of the dissecting microscope ... not very successful photos but you can see the ocelli eyes and blurry hypopharyngeal glands! The ocelli eyes are for orientation towards the sun. Steiner calls them the eyes of clairvoyance.

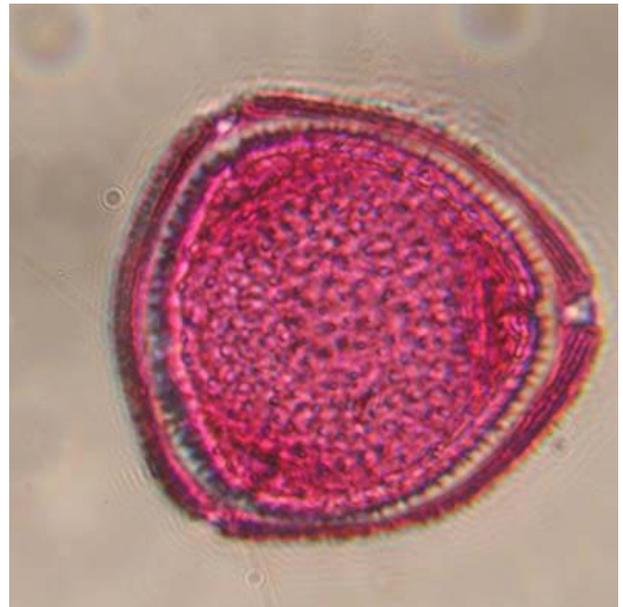
I was also fascinated to look at the bees' legs through the microscope and see the rakes and area of the pollen basket. So beautiful! My photo with iPhone is a bit blurry and out of focus and doesn't show how amazing it really was.

## Conclusion

I really enjoyed the workshop and I am keen to do more microscopy of pollen and the honey bee and incorporate it into my artwork. I am going to invest in a new microscope from Brunel microscopes. Also with Howard's recommendation I have joined the Quekett Microscopy club that is affiliated with the Natural History museum.



*My drawing of ocelli eyes*



*Honeysuckle pollen*

They haven't had a meeting since I joined but I have been able to view past lectures on line that included an interesting lecture by Celia F Davis in 2009. She talks about "The Honey Bee Inside Out", one of her books that Howard recommended at the workshop.

So I am very inspired! There are many more aspects of the honey bee, its life and pollen to explore under the microscope.

### It's a wonderful World

Thank you for the workshops and inspiration, Howard and Richard!

I've included some photos I took of pollen after the microscopy we did in February 2017's Monthly Meeting. I am looking forward to improving the quality of my photographs when I get my new microscope.



*Passion Flower Pollen*

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## Sustainable Beekeeping Convention at the Eden Project

On 17th and 18th February, Mark Attended the Bee Improvement and Bee Breeders Association conference at the Eden Project in Cornwall. The title of the event was "A Future without Imports" and was addressing the current trends of both amateur and commercial beekeepers alike relying on cheap imports of package bees

and queens from Europe and elsewhere in the world to support their beekeeping.

Mark Patterson  
[forage@lbka.org.uk](mailto:forage@lbka.org.uk)

To start the event DR Norman Carrick NDB, one of the country's – if not the world's most respected – beekeeping academics, gave a talk about the native black British Bee *Apis mellifera mellifera* and the need and importance of conserving our native bees genetics. Norman gave a very similar talk to the LBKA last winter which was very well received by those attending.

Norman provided evidence of Dark European Honey Bees being present in the British Isles since the last Ice age confirming they are indeed a native organism contrary to opinions from some organisations like the woodland Trust and Natural England/Scottish Natural Heritage.

Norman provided some up to date genetic studies which show that there are a number of thriving native honey bees still existing in the UK, particularly in Ireland and that even in areas which have historically received imports of bees from elsewhere in the world a high proportion of native bee genetics exists in the UK's mongrel bee population. This prevalence and persistence of the Black Bee genetics has arisen because the native bees are better adapted to the cool wet UK climate than foreign imports and thus survive better so if we simply stopped importing bees from around the world, in time most of our bees would revert back to something very similar to the native Black Bee.

Norman's talk was followed by research into the Black bee by Dr Mark Barnett and a talk on bee improvement by Jo Widecombe. Jo spelt out the various ways in which we could all improve our stocks of bees. What was reassuring for me personally was the message that we don't need to rush out and buy certified Black Bees to help the native Honey Bee and improve our own bee stocks. Instead if we all just use the best of the stocks of bees we have without further imports we as a community can breed and select for better bees which over time will become more like the native bee, reduce the chances of exotic pests and diseases entering the country and further stocks of foreign genetics polluting the Native Honey Bees gene pool. This has been my own way of thinking for the past several years and I now have some lovely bees which are not too feisty, make me a good honey crop, are healthy, don't swarm too much and are good at performing a perfect supercedure.

There was a lot of discussion during the event about the popular buckfast bee and there was considerable evidence produced which shows that what we call Buckfast bees today are actually nothing like the original Buckfast Bees bred by Brother Adam at Buckfast Abey. Many people are buying buckfast bees and what they

are getting are actually mongrels of questionable lineage and traits. Furthermore as a hybrid/Tribrid the grand Daughters of Buckfast Queens have a reputation for being horrible and aggressive to work with – this is something I have heard repeatedly from friends who have invested in what they believed were Buckfast Bees.

The event ended with a presentation for Roger Patterson<sup>1</sup>. Roger started by introducing himself as a highly opinionated beekeeper of considerable experience with a fearsome reputation for being loud, outspoken, controversial and confrontational on a number of beekeeping subjects. His talk as expected was full of controversial ideas, comments and his personal opinions that what most of us are doing wrong with our bees. In some areas I felt he overstepped the line as he went on to attack the professionalism and reputation of the National Bee Unit and its inspectors. Of course I couldn't let that go, so my own opinions were voiced which quickly shut down his comments. There were several London based Beekeepers in the audience who were equally upset by his comments who after his presentation came over to tell me that they agreed wholeheartedly with my comments. The chairman of BIBBA also approached me to apologise.

Roger ended his very emotional and animated talk with a rallying cry "are you with me" which caused some of his fans/followers to leap to their feet cheering. The scene reminded me of the scene from Braveheart where Mel Gibson screams "Freedom"! It was a bit bizarre to say the least.

On the Sunday delegates had the option of going on apiary visits to see hives at the Lost Gardens of Heligan and other famous garden estates or they could spend the day exploring the Eden Project and its impressive Bio domes. I chose to explore the domes since I had not yet seen them planted up. I visited the Eden Project once before in the autumn of 1998 (20 years ago). At the time the domes were still incomplete and had yet to be landscaped and planted.

The inside of the domes are breathtaking and well worth a visit if you ever get the opportunity.

<sup>1</sup>No relative of mine!

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## Facebook (In)digest(ion)

Some of the highlights from LBKA's [public facing Facebook page](#).

*Eugene Fahy*  
LBKA Member

Reading [some of the posts](#) on the Facebook page earlier in the month you could be forgiven for thinking, that in beekeeping terms, we were in the silly season. The first daft idea was brought to our attention by Vlad Zamfir; a company is marketing what look like hexagonal, modular observation hives intended to be fitted on your living room wall with the aim of 'saving the bees'.

Geordy Mark posted a link to a piece in the Architectural Digest entitled [3D printed flowers may help save the bee population](#). An Australian artist has created a design for artificial flowers, which mimic rapeseed. A series of tubes and motors pump out a "man-made version of nectar" to attract the bees. Pollen is trapped and deposited in the flower's artificial stamen. The article reads like Heath Robinson's answer to Pete Seeger's question "where have all the flowers gone".

On a more helpful note, there were a number of posts related to "the beast from the East". Richard Glassborow shared the Met Office warning about the cold weather and suggested we should check if our bees needed feeding before the snow and freezing temperatures arrived. Nicki Marani asked if she was right to [clear the snow from the landing boards](#). The overall consensus was that clearing was correct and Richard also suggested only having one full super above the brood box to avoid the bees having to heat too much of the void above the brood nest.

Angela Wood [shared a post from Brigit Strawbridge Howard](#), an article on gardening for bees which describes how a tiny (5m × 6m) garden in Shaftesbury, Dorset was turned into a wildlife haven. The article contains a fairly extensive list of plants which were chosen to provide continuous flowering throughout the seasons.

Geordy Mark posted [some pictures and described how to clean old frames](#) using a Burco boiler and then prepare them with fresh wax.

Finally, there were a number of requests for help or information. [Maddie Millington-Drake is doing undergraduate research on beekeeping in London](#) and would like to talk to beekeepers about their experiences.

Frankie Jane Crossley is producing a [student documentary about honey and pesticides](#) and wants to know

where to go for scientific honey testing and [Perdita Stratton is looking to buy some local beeswax](#).

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## Guest Blog

I'd like to feature a guest blog article from a member every month here. If you write a blog, I'd love to be able to reuse your content here (no extra effort for you!) Please let me know on [services@lbka.org.uk](mailto:services@lbka.org.uk).

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## Members' marketplace

This section is for members offering beekeeping items or services to members or requesting items. Items could include nucs, wax and honey. Email [services@lbka.org.uk](mailto:services@lbka.org.uk) to add something here.

*No marketplace items this month.*

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## Upcoming events

### Sunday 11th March: All about Nosema

11:00-13:00 at Fairley House Junior School, 220 Lambeth Rd, London SE1 7JY

All about Nosema. What is it, how it functions, the two types and how to deal with them. Meetings are for members only, but you're welcome to come as a guest to find out more about our association.

### Tuesday 27th March: Monthly Social

from 18:30 at The Queen's Head, 66 Acton St, London, WC1X 9NB

Our third Monthly Social will be in the The Queen's Head near Kings Cross. It serves food and drink. All welcome.

## Sunday 8th April: Microscopy and Nosema Testing

11:00-13:00 at Fairley House Junior School, 220 Lambeth Rd, London SE1 7JY

A hands-on practical session with microscopes for testing your bees for nosema. Bring along about 30 of your bees which have been humanely killed in a freezer overnight. Followed by the usual hot drinks, cake and chat. Meetings are for members only, but you're welcome to come as a guest to find out more about our association.

## Friday 13th - Sunday 15th April: Spring Convention

All weekend at Harper Adams University, Newport, TF10 8NB

The BBKA's annual Spring Convention with over 20 lectures, over 50 workshops and a trade show. See their website for more details.

## Committee

Please do not hesitate to get in touch with a member of the committee if you have any questions, requests, suggestions. We are:

- **Chair:** Richard Glassborow, [chair@lbka.org.uk](mailto:chair@lbka.org.uk)
- **Treasurer:** David Hankins, [treasurer@lbka.org.uk](mailto:treasurer@lbka.org.uk)
- **Secretary:** Natalie Cotton, [admin@lbka.org.uk](mailto:admin@lbka.org.uk)
- **Education:** Howard Nichols [education@lbka.org.uk](mailto:education@lbka.org.uk)
- **Membership:** Aidan Slingsby, [services@lbka.org.uk](mailto:services@lbka.org.uk)
- **Forage:** Mark Patterson, [forage@lbka.org.uk](mailto:forage@lbka.org.uk)
- **Events:** Emily Abbott, [events@lbka.org.uk](mailto:events@lbka.org.uk)
- **Resources:** Tristram Sutton, [resources@lbka.org.uk](mailto:resources@lbka.org.uk)
- **Apiaries:** Vlad Zamfir, [apiaries@lbka.org.uk](mailto:apiaries@lbka.org.uk)
- **Development:** Simon Saville, [development@lbka.org.uk](mailto:development@lbka.org.uk)
- **Mentoring:** Elliot Hodges, [mentoring@lbka.org.uk](mailto:mentoring@lbka.org.uk)

Our website is <http://www.lbka.org.uk/> and the pictures are in the same order as the names above.

