



The London Beekeepers' Association

LBKA News

February, 2017

Welcome to this month's newsletter. Firstly, some great news. Howard has achieved Master Beekeeper, which is the highest BBKA beekeeping qualification! Well done Howard! This month, we also announce three upcoming Winter Lectures, the first of which is about a London-based forage creation programme. We have contributions the microscopy course (from Howard), neonicotinoids (from Simon Saville) and Apibioxal sublimation (Vlad and Emily Scott, in separate articles). We also have regular features from Richard, Howard Natalie, Eugene and Mark. Thanks Geoff for writing a great article about swarm collection and sorry for deciding to move it to next month's newsletter.

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Thanks to this month's contributors: **Natalie Cotton, Eugene Fahy, Richard Glassborow, Howard Nichols, Mark Patterson, Simon Saville, Emily Scott and Vlad Zamfir**. Thanks in particular to those who sent me material without me asking for it – this makes things a bit easier for me. Thanks to Martin Hudson for proof-reading this edition.

Please contact me if you would be willing to contribute to next month's newsletter.

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From our Chair

Richard Glassborow
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Forgive me if I start on a cautionary note but it is that time of year when the winter outcome for our bees is often determined. The days are getting longer but February is often still cold. Worse, the temperatures can fluctuate, encouraging the bees to fly one day, using up more supplies which cannot be replaced, and cluster the next. The remaining stores may be enough to see them through but they may not be in the right place when a sudden plummet in temperature forces the colony to cluster away from the bulk of the remaining honey.

Perhaps this is why honeybees have evolved over the millennia to collect excess honey when the going was good the previous summer. There should be so much there they are spoilt for choice. Nature doesn't usually bother with excess (it's expensive) but we have stolen most of it and the least we can do is check to see they have enough to eat at this particularly risky time.

At this point I do urge beekeepers to err on the side of caution back in July/August and not be greedy when



Bee on Mahonia. Photo: Mark Patterson.

harvesting honey. It has to be better that they are allowed to fend for themselves – they do 'know' better than us. For urban beekeepers, operating in high density carries additional responsibilities towards our neighbours. If you leave nothing for your bees it encourages them to go and rob from your neighbours' bees. You would not want that to happen to you, so please be responsible.

Even so, things can go wrong and, at it's crudest, emergency help can be a slab of fondant on top of the crown board, 'just in case'. Received wisdom says they won't eat it if they don't need it but this year I do have one colony, which I am pretty confident has plenty of in-hive stores, evenly distributed, which has started consuming fondant at a furious rate. Maybe they just like it! I can't even remember why I put fondant on in the first place but I am keen to find out more about what has been going on here when the weather allows me to carry out the first inspection.

But it is not difficult to be a little more precise with judging and providing emergency needs. When hefting the hive (with the heavy roof off) try to work out where the weight is: front, left, right, back? If you have the varroa board in, the debris will tell you where the bees are and where they are or have been uncapping, etc. If you think it necessary and the weather is warm enough when you are visiting, you might risk a quick turn of the crown board so that the side slot is where the bees are and put your emergency supplies there. At this time of year of course, Bakers Fondant will keep bees alive but as we move on there will be more brood and brood needs protein. Many areas of London are well supplied with plants that produce pollen in late winter and early spring (have a look at our monthly guide on the website: http://lbka.org.uk/flowers_month.html). But many areas of London are not well catered for pollinators, particularly at this time of year. This is one of the reasons the LBKA is turning its attention to forage, not just bees. Weather depending, if your bees still need supplementary feeding by the end of this month (or your strategy is to go for a quick, early build up) it is better to use a feed that includes pollen.

It is a horrible thing to find a starved colony and so much worse if you know you took honey from them in the summer or let them go into winter too small or underprovided. Keep checking, keep fingers crossed, and remember, we are approaching the time when most cases of starvation occur.

Announcements

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



The venue for February's monthly meeting – the white door on the left.

Next Monthly Meeting

The next monthly meeting will be back at the usual venue – **Fairley House Junior School** (220 Lambeth Rd, SE1 7JY) on **Sunday 12th February** at **11:00**. It will be a new topic – **pollen identification!** Bring some flowers with pollen in and Howard will show us how to mount it on slides. There will be existing slides of mounted pollen and pollen identification charts available.

Next month is our popular **swarm control** meeting on **Sunday 12th March**.

LBKA Winter lectures

We have three winter lectures lined up! All will be at **Roots and Shoots** (Walnut Tree Walk, Kennington, SE11 6DN) at 19:00. Refreshments will be served from 18:30.

Our first Winter Lecture will be on **15th February** by **Caroline Birchall** (Founder & CEO Bee Collective) about the **Making a B-Line for London** partnership initiative to increase the diversity and abundance of pollinators in London. The project will demonstrate simple changes we can make to the way we manage London's green spaces and provide tools and advice to increase the amount of habitat for pollinators. More details about the project are here: <http://www.gigl.org.uk/GiGLer/?p=2334>

Our second Winter Lecture will be on **1st March**, entitled **Hot and spicy – Bees in India** and will be given by **Martin Kunz** from the **Bees Abroad** charity (and an LBKA member) – whose relationship with bees is as short as his relationship with India is long – will talk about bees in India, and more importantly, how beekeeping (and honey collecting) 'works' to help fight poverty among people in rural India for whom £10 is too high a price for a simple hive.

Our third and final Winter Lecture will be on **15th March** by **Andrew Williams**, a Nurse Practitioner from Guy's Hospital. He will talk about **venom, stings, large local reactions, emergency treatment, immunotherapy** and where to obtain a referral to a specialist allergy service. We are pleased that Andrew will



Spring Convention

be offering his professional advice to us on this important topic.

All these are free public lectures open to all, so do spread the word! A £2 donation from non-LBKA members would be appreciated.

Howard is a Master Beekeeper

We are very pleased to announce that Howard is a Master Beekeeper, the highest of the BBKA qualifications!

Howard has been a beekeeper for many years, keeping his hives on allotments near his home in Norwood. He joined LBKA when we were a relatively small association. His incredible knowledge of both bees and beekeeping, coupled with his generosity to other beekeepers, meant that it wasn't long before he took on the role of Education Officer. He plans, researches, prepares the vast majority of talks at our monthly meetings. Whilst we drink coffee and eat biscuits afterwards Howard is still good humouredly answering questions and giving advice to beekeepers of all levels of experience. Howard is a guru amongst us and has a level-headed opinion that so many of our members value. He's a firm believer in education and encourages all of our members to learn as much as they can, either from study or mentoring.

On top of the monthly meetings, he leads a microscopy course in winter and tutors members through BBKA's exams. Every winter beginner beekeepers are taken under his wing as he runs revision sessions for the Bee Basic exam and, this year, the Module 1 theoretical paper. He also organises the Bee Basic Examiner, uses his own apiary for practical exams, calms nerves and steers our members through, helping to make what for many is their first exam in years an almost pleasant experience (certainly a memorable one!). Howard's success rate has been incredible, with 100% pass rates for several years. Last year was no exception with 15 out of 15 passing the exam and we, the LBKA committee, believe that London is a much better place for both residents and bees because of the army of London beekeepers that Howard has taught, and continues to educate through his articles in the LBKA newsletter, at meetings and informally with his mentees.

Congratulations Howard and thanks for all you do!

Mentoring Programme

Oscar Wilde once said: "The old believe everything; the middle aged suspect everything, the young know everything." If this quote is on your wavelength you are probably perfect for our mentoring program.

Would you like to be a mentor of LBKA members interested in becoming beekeepers? Were you once a mentee yourself and would now be happy to impart your knowledge to others?

We are looking for beekeepers with enough experience to help others, through hands on involvement, to work towards their bee basic qualification. Full support given.

If interested please contact Elliot (middle to old aged) mentoring@lbka.org.uk for further information.

Honey selling opportunity

We're planning to have a stall at the Royal Horticultural Society Early Spring Show on 14–15 February (<https://www.rhs.org.uk/shows-events/rhs-london-shows/rhs-early-spring-plant-fair>) and will be able to sell members' honey. Do you have any more honey to sell? If so, you can bring it along to February's monthly meeting and we'll try and sell it for you. If you'd like to help at the show, contact Mark on forage@lbka.org.uk.

Epping Forest Beekeepers' talk: Doing things differently.

Epping Forest Beekeepers have invited us to a talk at **Chingford Horticultural Hall** (Larkshall Road, E4) on **Thursday 16 February**. **Godfrey Munro** from Park Beekeeping will present an exploration of ways to keep bees which may not be found in books, and are the results of a long beekeeping career and the enquiring mind of an engineer. Godfrey will invite those beekeepers with traditional approaches to equipment to consider experimenting with modern methods and materials. This thought-provoking meeting will begin at 7.30pm for an 8pm start.

BBKA Spring Convention

The **BBKA Spring Convention** will be held on **7th–9th April** at **Harper Adams University** in Shropshire. The website (http://www.bbka.org.uk/news_and_events/spring_convention.php) is now live to book tickets and accommodation. BBKA have asked us to remind you to book seminars and workshops very soon as they sell out very quickly.

Old announcements from January

Check previous newsletters at <http://lbka.org.uk/newsletters.html> or contact services@lbka.org.uk for more details.

2017 BBKA Basic Assessment. LBKA encourages its members to take the BBKA basic assessment. If you've been managing bees for more than 12 months, we will help. Please confirm by email to Howard on education@lbka.org.uk for more details.

Want to be on the Swarm list? If you'd like to be added or to find out more, contact Natalie on admin@lbka.org.uk.

New committee roles: Tristram has now taken the role as resources officer (resources@lbka.org.uk), overseeing our equipment, their storage and maintenance. Elliot is now in charge of our mentoring programme (mentoring@lbka.org.uk). Vlad is now overseeing our apiaries (apiaries@lbka.org.uk).

Courses. Our full beekeeping courses are now full, but we still have spaces on our taster course – see <http://www.lbka.org.uk/courses.html>.

Seeds Are you able to sell any seeds? Perhaps you know of somewhere that would sell them? Talk to Mark on forage@lbka.org.uk if you'd like some seeds to try and sell.

NBU's 2016 Annual Reports are out and you can download them from <http://www.nationalbeeunit.com/index.cfm?pageid=168>.

Old announcements from December

New committee. As a result of the elections at the AGM, the committee remains with two new additions: **Natalie Cotton** and **Elliot Hodges**. Natalie is the new secretary. See the back page for the full list.

Upcoming monthly meetings. Our exciting programmes of monthly meetings have been announced for the coming year. See <http://lbka.org.uk/events.html>.

LBKA membership. Contact Aidan on services@lbka.org.uk for any membership queries. Members can log onto the **members' area** at http://lbka.org.uk/members_area.html.



The meeting was well-attended

Surrey Bee Day. The Surrey Beekeepers Association are organising **Surrey Bee Day** on **Saturday 18th February**. Tickets are £24 including lunch. For more details contact rickwoods@lbka.org.uk.

Do you have any announcements?

If you've any announcements for the next issue of LBKA News, please send them to Aidan at services@lbka.org.uk.

Last month's Monthly Meeting: Treating honey

What happened last month.

Natalie Cotton
admin@lbka.org.uk

The new year heralded a new topic for January's monthly meeting, with education officer Howard providing a detailed insight into treating honey, and a stimulating demonstration of how to make soft set honey using a warming cabinet!

First, some definitions: **granulated** honey is synonymous with **crystallised** honey, both of which will have been filtered and tipped straight into jars. **Soft set** honey has been heat treated to remove crystals. **Raw honey** refers to honey that hasn't been heat treated – it's a popular term in North America (and some LBKA members have observed it ups the retail value of their honey if added to the label!)

Howard explained that honey sets at 15 degrees centigrade – or maybe 14! If it's an activity related to bee-



Howard mixing the honeys with a hygienic food-preparation cap and an impressive-looking drill attachment.

keeping, it's never going to have one simple answer, but for honey temperatures Howard recommends Ted Hooper as the expert.

The crystal sizes in honey depend on the speed upon which they set, with faster setting honeys like oilseed rape and clover having fine crystals, and slow setters such as ivy having a coarse and gritty texture. The better strained your honey, the better the quality because tiny particles of debris will act as foci for crystallisation. Howard sieves his honey twice, once through two kitchen sieves and once through muslin. If you are left with solid, crystallised honey, then it can be rescued by warming. Howard demonstrated the process using his 'only beekeeping indulgence', a shop bought warming cabinet.

After two days of heating in the warming cabinet at 30 degrees centigrade, solid honey will have a porridge like consistency. A few hours at 52 degrees centigrade will return it back to runny honey. It can be made 'soft set' again by returning it to 30 degrees centigrade and blending it with a seeding honey with naturally fine crystals, such as clover. As always, guidance on how much seed honey is required varies, but is around 10 percent.

Mix the two honeys thoroughly. Howard uses an impressive looking drill attachment! Decant into unused honey jars, leave to settle for 24 hours, then set at 15 (or 14) degrees, and you have soft set honey.

A note of caution about the mess involved in prepping



Howard pouring the seeded honey into a jar.

honey. One LBKA member remains at a loss to explain how it ended up down the back of his curtains!

February in the Apiary

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

Howard Nichols
education@lbka.org.uk

February is a time of increasing activity for bees. Although cold, bleak and rainy on the outside, and, to all appearances, it appears to be very quiet on the inside, a lot is happening inside the cluster. The main job of the beekeeper is to keep an eye on stores. Bee colonies are more likely to die out in February / early spring due to starvation, not due to the cold.

The queen will now be laying at an increasing rate. The empty cells inside the cluster will have been prepared by the workers and eggs are now being laid. The temperature of a broodless cluster is maintained at 20°C but a cluster with brood requires a 35°C temperature. This also consumes more stores and it is this time of year that stores start to be depleted at a faster rate. Bees

have been more active than usual this winter which will have further depleted stores.

If feeding is necessary then fondant is probably still the best bet. If, on a warm day, the bees are flying and emergency stores are required then feeding liquid stores is a possibility. Bees carry and metabolise nectar at 50% concentration. 1 Kg of sugar dissolved in 1 litre of water will give this concentration and so involve the bees in the minimum amount of work. If stores are not required then it is better not to feed so not to cause any disturbance.

On a warm February/early March day the bees will fly for forage. Sources in February include snowdrops, crocus and early flowering hazel. The latter is a godsend when it flowers as it provides an abundance of pollen. If your bees have been foraging hazel then they will be coming back to the hive drenched in surplus bright yellow pollen. All these sources provide pollen only. Not nectar.

Dead bees about! Late February / early March is a challenging time for bees. The winter bees are old but now need to work at an increasing rate to feed larvae and young bees. Many of these older bees will be dying off and a disproportionate number will die in the hive. It is not unusual to find a large quantity of dead bees in front of the hive or behind the mouseguard. Just lift the mouseguard and brush out. This should not normally be cause for concern and does not mean that the colony is dying out. If you keep your hive on a concrete or stone floor then the quantity of dead bees may appear to be substantial. If kept on grass then there may well be just as many dead bees but they will appear to be a lot less.

Other jobs to do

Have an outline plan for the forthcoming season. Have a strategy to develop or improve a particular beekeeping skill.

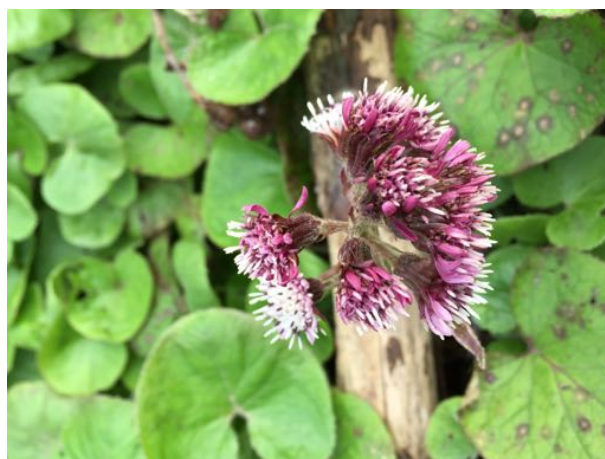
Equipment. Assemble frames and other spare equipment to ensure you have sufficient for the season. I find it a pleasure to be able to take and use a piece of equipment as it is needed but a chore to have to make it up first in an emergency.

Monthly meetings. Do not forget the LBKA monthly meetings and the mid-week winter lecture series.

Assessments. Decide to take the BBKA Basic Assessment this May and register with the LBKA to do this. Our BBKA Basic revision course will commence in March (dates not yet decided). The LBKA has a strong ethos in encouraging and assisting members to take this assessment and will do our best to help. You need to have been keeping bees for a minimum of 12 months at the time you take the assessment and also be a member of the BBKA.



Mahonia.



Winter Heliotrope

Focus on Forage

Mark's column is back after the winter break, telling us what's in flower at this time of year.

Mark Patterson
forage@lbka.org.uk

2017 has started off quite differently from last year's exceptionally warm January. Last year in the first week of January I participated in the Botanical Society of Britain and Ireland's annual New Year's plant hunt and found 76 species of plant in bloom during an 8 mile walk around East London. In contrast on the 3rd of January this year I found just 9!

January 2017 has seen a return of the more usual cold winter temperatures and from what I can tell so far the return towards more normal timings of the seasons and emergence of spring plants and animals. The re-

*Hellebore**Orientalis*

cent cold weather has meant that late season flowering plants ceased blooming before Christmas and have not persisted through winter as they did last year. Meanwhile spring flowers have remained dormant, and not yet begun to emerge.

Despite the weather being generally cold with some particularly harsh ground frosts, there have been occasional mild days when the bees will fly to cleanse their bowels and look for food. Despite the cold there are a select few flowers in bloom, of which they can take advantage.

Few native plants are yet in bloom but several exotics flourish in late winter through to early spring providing a bounty of forage for the few insects brave enough to venture out and take advantage of them.

Mahonia or Oregon Grape grows in our towns and cities in abundance and blooms throughout the winter providing nectar and pollen for bees. In southern towns and cities Buff Tailed Bumble Bees *Bombus terrestris* are increasingly continue to be active throughout the winter surviving largely on this plant. Around 75% of winter flower visitations by bees are to Mahonia. The variety 'winter's sun' is particularly attractive. Bees taking advantage of Mahonia blooms in winter have few other insects to compete with and can fair better

*Sweet box*

than some colonies active in summer. On the 12th December I discovered an active Buff Tailed nest in west London beneath a Pyracantha hedge. I've been monitoring it all winter and whenever there is a warm day the workers can be seen busily coming and going from a large stand of Mahonia shrubs across the street from the nest. The blooms will only last a few more weeks so hopefully an equally good source of forage will come into bloom nearby to ensure the colony has sufficient forage coming in to enable it to produce new queens and drones by spring when the nest dies off.

Viburnum shrubs include a number of deciduous and evergreen species which flower during the winter months. They are relatives of our native Guelder Rose *Viburnum opulus*. Some of the most popular Viburnums with our bees include the evergreen *Viburnum tinus* whose sweetly scented cream blooms flower from November through to March and *Viburnum bodnaatense* the pink flowers of which bloom from around Christmas to March.

Winter Heliotrope *Petasites fragrans* is a relative of our native Butterbur, but flowers much earlier. It's not a UK native and can be quite invasive when established in the wild but is a great garden plant for bees in late winter. The flowers are shaped like a toilet brush and pink in colour.

Several **Clematis** species are useful forage sources to bees in winter. *Clematis amandii* and *Clematis cirrhosa* both have creamy white flowers and bloom in winter. Honey and winter active bumble bees will visit them for pollen.

Hellebores include the familiar 'winter rose' with its large white blooms 'orientalis' and its many cultivated hybrids and the native Stinking Hellebore *helleborus foetidus*.

Winter Flowering Cherry *Prunus subhirtella* flower from late November to February producing pale pink flowers. I've very rarely seen any bees on the blooms but have often seen flies on them. In the absence of better forage like Mahonia bees will visit the flowers.

Sweet Box *Sarcococca confusa* is a short growing ever-green shrub which produces extremely fragrant blooms (reminiscent of hyacinths) from late winter into early spring. It's one of those plants that you almost always smell long before you see it.

Winter Heather produces tubular blooms in shades of white to pink throughout the winter. They are coming to the end of their flowering period now but still providing forage for bees brave enough to venture out.

Several **honeysuckles** flower during winter. Some are climbers, other are shrub forming. One of the best is *Lonicera fragrantissima*.

As we progress beyond February into March the usual array of spring blooms will begin to appear. Their arrival is not far off, already a few brave Daffodils, Snow Drops and Winter Aconite have made an appearance. They will be joined by **Crocus**, **Muscari**, **Sweet Violets**, **White Deadnettle** and **Pulmonaria**.

LBKA Microscopy

For the past couple of years, Howard and Richard have run microscopy courses to a small group of members on a first-come-first-served basis. This year is no exception and Howard has written up how this year went.

Howard Nichols
education@lbka.org.uk

The LBKA ran this course for the 3rd successive year this January. It was brought forward from its usual February date to January as we also have Module 1 revision sessions in February. As usual it was oversubscribed. Due to the limit on microscopes we have to limit the numbers to 8 members and on a first come / first served basis. It was organised by Howard Nichols and Richard Glassborow and held at Walworth Garden Farm on 3 consecutive Tuesday evenings.

An outline summary of the proceedings is set out below:



Evening 1

This was all about pollen. We commenced with a brief introduction to the structure and identification factors for pollen grains then the rest of the 2 hours was all practical work. Although deepest winter we did manage to have a selection of different flowers. We also had some samples of pre prepared pollen slides. Setting up the compound microscope with its 2 sets of optics was the first task and focussing was done at lower magnification and using slides with varroa mites on. This was also an opportunity to examine varroa mites close up, in particular, their sectorial mouthparts.

Now with the microscopes focussed we commenced to take samples of pollen from the flowers. Ripe pollen (dehisced) is easy to collect as it just falls from the anther. Unripe pollen is more tricky as it involves cutting into the anther to produce its release. The microscopic pollen grains were then cleaned and degreased with isopropyl alcohol, stained with fuschin stain and examined on slides under compound microscopes. Unfortunately we could not access the W.G.F. computer system to compare the actual grains with an on-line pollen identification chart as in previous years. This work will also be repeated in a more limited way at the forthcoming February monthly meeting.

During the course of the evening we also learnt how to



Mallow pollen grains. Photo: Howard Nichols

extract pollen from honey for analysis purpose by use of the LBKA centrifuge.

Evening 2

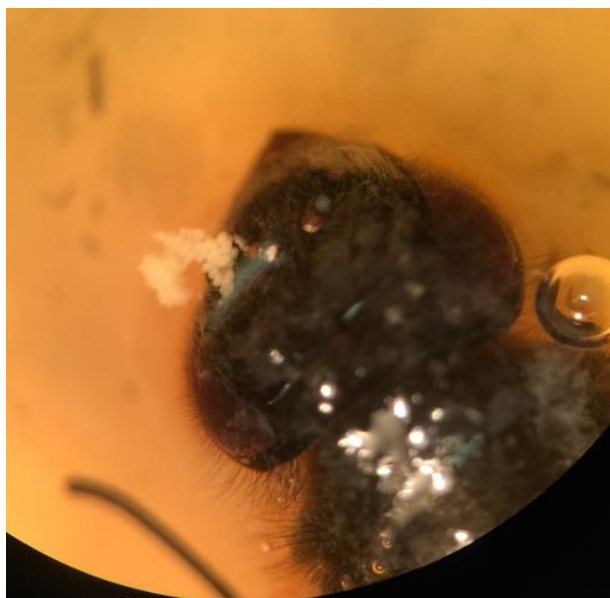
This was the first of 2 evenings devoted to the dissection of honey bees, this evening being an abdominal dissection. Each attendee first removed appendages of 2 or 3 bees and embedded them in wax for dissection. This is a particularly tricky task as, if embedded too deeply in the wax the dissection is impeded and, if embedded too high then it is unstable and cannot be dissected at all. It was at this point we had our one and only hitch, albeit a significant one. The bees were not fully dead and had to be placed back into the gassing jar to complete the process. I am not admitting anything but I was the person responsible for bringing the dead bees! In my defence I must say they cannot be killed too early. Neither can they be frozen as this will make them void for dissection. Whenever a living creature dies different processes of decomposition commence. The first stage is autolysis whereby the body's cells are destroyed by its own enzymes. This happens quite quickly and so the bees cannot be left too long



Fore and rear wings showing Hamuli. Preparation by Eugene Fahy. Photo by Cedar Luo.

before dissection commences. Everyone seemed to cope well with this unpleasant diversion.

With the bees embedded we flooded all the specimens with isopropyl alcohol and commenced dissection. Considering that course attendees have not previously done this it is surprising how many good abdominal dissections were produced. As student doctors will use a cadaver, then we, as beekeepers, used dead bees to



Head dissection showing the exposed hypopharyngeal gland. Dissection by Simon Saville, photo by Cedar Luo.

learn. To see these actual parts under a microscope in a specimen you have prepared and dissected yourself is far more instructive than viewing a picture in a text book.

Evening 3

The final evening was all about the thorax and head dissections. It was enhanced by also viewing the appendages (antennae, wings and legs). A sample of photos show some of the work.

To spend 3 winter evenings in the warmth of Walworth Garden teaching room, dissecting bees with other beekeepers is a most pleasant task. It is also a very interesting beekeeping activity in the middle of winter.

The toxic bouquet

Simon came across an interesting blog by Dave Goulson about neonicotinoids and bees, and decided to write an article about it. Thanks Simon!

Simon Saville
LBKA member

The controversy over the effect of pesticides on bees and other insects has been rumbling along for years. This is especially the case for neonicotinoids – or ‘neonics’ – which are sold under trade names including acetamiprid, clothianidin, imidacloprid, thiacloprid and thiamethoxam. Imidacloprid is the most widely used insecticide in the world; you will even find it in anti-flea treatments for domestic cats. These are powerful neu-

rotoxins, synthetic variants on nicotine, that are applied to wheat and oilseed rape seeds before sowing.

Neonics work systemically. As the plant grows, it absorbs the seed coating through its roots and the chemical spreads throughout the plant, protecting it from pests. But this also means that the toxins get into the pollen and nectar of flowering crops. This concern led to the EU banning the use of neonics on flowering crops from December 2013. However, in a pre-Brexit move, Liz Truss, then Secretary of State for the Environment, overturned this ban in central and eastern England in 2015.

In a recent blog Dave Goulson summarised the effects of neonics on bumblebees (<https://www.soilassociation.org/blogs/2016/the-toxic-bouquet-pesticides-in-farmland-wildflowers/>). Dave will be familiar to many as the author of “A sting in the tale”, a book that offers fascinating insights into the world of the bumblebee. He is a respected bee expert – Professor of Biology at the University of Sussex and founder of the Bumblebee Conservation Trust in 2006. So when it comes to bees, he knows what he’s talking about.

His research has shown that pollen and nectar collected by both honeybees and bumblebees contained all sorts of pesticides; a mixture of several neonicotinoids and a cocktail of fungicides. What was most disturbing was that the majority of these chemicals seemed to be coming from the wildflowers, not from the crop. For pollen collected by honeybees, 97% of the neonics being brought into the hives were from wildflowers, even during the flowering of the oilseed rape that had been neonic-treated. A lot of it was coming from hawthorn blossom.

It’s not known for sure how these chemicals get into wildflowers. But we know that about 95% of the neonics applied to the crop seed goes into the soil and soil water. Residues accumulate over time and leach into nearby streams. They are liable to be sucked up by flowers and hedgerow plants nearby.

Concentrations of neonics found in bumblebee nests are higher than level found to reduce nest growth and queen production, impair learning and navigation, and cause deaths. Other insects such as butterfly and moth caterpillars are also being poisoned, for if the chemicals are in the nectar and pollen then they are also in the leaves.

As Goulson says “it cannot be good for our wildlife to be chronically exposed to chemical cocktails, and in these circumstances it should not surprise us that our wildlife is disappearing at an alarming rate. What madness has led us to pollute our countryside with persistent, systemic neurotoxins?”

LBKA Apiaries: Api-bioaxal sublimation at Mudchute

Vlad recently took over overseeing LBKA's apiaries. He manages our Mudchute apiary and tells us about his experience with sublimated Api-bioaxal, a couple of months ago.

Vlad Zamfir
apaires@lbka.org.uk

Following Geoff's comprehensive presentation on how to safely treat bees with sublimated oxalic acid, I decided to take a stab at using this method for treating the hives at the Mudchute teaching apiary. Please see below a quick summary of the items I had with me in order to perform the treatment:

- Oxalic acid vaporiser – I used Vapmite, the cheapest one I could find
- 12V battery – used a lawn mower one but any would do
- Api-bioaxal (i.e. the oxalic acid)
- Disposable gloves – acids and skin are not always the best of friends
- Volatile organic acids gas mask – even if I was standing back from the hives, I did not want to risk inhaling the fumes due to a sudden change in wind direction
- Goggles
- Metal scourer – for cleaning the vaporiser
- Water – to cool down the vaporiser between hives
- Insulation material – rags and sponge to block any spaces where the oxalic acid might leak from the hive and slate/cardboard to place underneath the vaporiser so it does not burn a hole through the inspection board.

I won't go through the whole process of doing the sublimation treatment as this was outlined in the December 2016 newsletter. Instead, I will focus on my experience in applying the treatment and the adaptations I made to the process.

First of all, I followed LASI's recommendation to destroy all capped brood since oxalic acid does not penetrate capped cells (LASI oxalic acid sublimation treatment leaflet here: <https://www.sussex.ac.uk/webteam/gateway/file.php?name=pamphlet-sublimationtreatmentoxalicacid-a4-1page-2016.pdf&site=60>). I focused on checking the frames where the centre of the cluster was, avoiding disruption as much as I could. Weirdly enough, all 3 hives at Mudchute had significant number of capped brood cells present even though this procedure was done on



Sublimation set-up with battery, vaporiser and hive (hopefully sealed).



Smoke coming out on the right of the sublimator handle.

the 17th of December. After destroying the brood, the bees should be left alone for 1 day to clean out the dead pupae.

After waiting for the bees to do some cleaning, I put on all the protective gear, blocked the entrance and the inspection board gap with foam and poured the measured Api-bioxal into the oxalic acid vaporiser (it was not a windy day). I then placed the vaporiser directly on the inspection board which was made out of metal. This proved to be a silly thing to do as my battery drained completely and no sublimation occurred (I suspect I short-circuited the vaporiser). After recharging the battery and inserting a piece of cardboard underneath the vaporiser, the whole process worked perfectly.

As can be seen in the photo, there's a bit of smoke coming out from around the vaporiser handle which means that the sublimation is taking place. However, what if the hive is so well sealed that there's no space that the gas can escape through? How do you know if the vaporiser is working without taking it out? Simple: listen to the bees. They'll be buzzing pretty loudly. I suspect they do so as a reaction to the smoke from burning Api-bioxal additives (e.g. glucose).



Sun Hive, as used by some Natural Beekeepers.

Facebook (In)digest(ion)

Some of the highlights – and possibly lowlights – from LBKA's public facing Facebook page at <https://www.facebook.com/groups/2512721609/>

*Eugene Fahy
LBKA Member*

The Facebook month opened with a number of requests for experience. Corrine Edwards asked about the best way to protect an apiary against thieves. Responses ranged from the extreme and legally questionable suggestion of an armed guard to more practical and affordable solutions including good fencing, strong locks, a trail camera (£80 on Amazon), smart water (as used by the LBKA apiaries) and a feisty cockerel as recommended by Geordy Mark.

Following a notification to beekeepers by the NBU, Jon Monnick asked for views on mid-winter feeding of fondant. Angela Woods felt that mild weather means that flying bees expend more energy and so may need fondant. Geordy Mark said the notification was drawing attention to the fact that inspectors had noted many colonies low on stores. This is a prompt to beekeepers to check their bees, use their judgment and feed if necessary. Hannah Reeves asked how rooftop beekeepers get hives up and down from rooftops. Most responses

favoured a "belt and braces" approach of strapping the hive and wrapping them in netting. Geordy Mark also pointed out that hives must be accessible to an inspector and if it is too perilous, they can insist you bring the brood chamber to ground level for inspection. If foulbrood is detected, then, as incineration is not an option on a rooftop, the beekeeper would need a movement licence and have to pay for having the condemned materials hermetically sealed sent for disposal. These costs are not covered by the normal bee disease insurance.

Geordy Mark posted a link to a Guardian story saying that in the US, rusty patch bumblebees have been declared endangered. An important pollinator of commercial crops such as blueberries and cranberries, its decline is attributed to a mix of factors including disease, pesticides, climate change and habitat loss. <http://bit.ly/2j78041>

There was an enthusiastic response to Andrew Cote's request for links to illustrations of the various types of hive. Apart from the usual suspects, there were photos of Quadratic and Warré hives, an Albert Chubak Eco Bee Box and a Sun Hive which is used by some natural beekeepers. <https://www.facebook.com/groups/2512721609/permalink/10154134347771610/>

Karen Alton shared Francis Ratnieks' blogpost on the study of hygienic behaviour. This is where workers remove diseased larvae from cells thereby reducing the spread of diseases and pests within the colony. <http://www.lasiqueenbees.com/blog/hygienic-behaviour-a-brief-history>

A number of contributors posted links to videos, Binesh Sofi posted a youtube video of a mating flight and Geordy Mark shared a Bayer video (adding a hashtag #AlternativeFacts). This suggested that varroa is the greatest pest to the honey bee. The



Quadratic, Warré, Albert Chubak Eco Bee Box, Langstroth.

video also seemed to blame the decline of pollinators on climate change, bad farming practices and bee husbandry but was strangely silent on the effect of chemicals. <https://www.facebook.com/Bayer/videos/1481627555211289/>

Finally, Peter Charlton posted a link to a podcast by US beekeeper, Solomon Parker describing his fourteen year's experience of treatment free methods. <https://www.podbean.com/site/UserDownload/PB673026S9646>

Oxalic acid sublimation demo

Another guest post from Emily's excellent blog – <http://adventuresinbeeland.com/>.

Emily Scott
LBKA member

It was a beautifully sunny but chilly day yesterday for a demonstration by Tom of oxalic acid sublimation. Amazingly some of our bees were still flying even at temperatures of under 10°C (50°F). The snowdrop shoots haven't come on much further.

Inside our nuc the bees were still active but clustered more tightly than before. I smeared some extra fondant on top of a few of the frames. They have fondant left in the side feeder still, but I thought it would be nice for them to have some nearer the cluster.

In our bigger hive the ladies remain up in their fondant and pollen bags, but they have plenty of the sweet stuff left still. Nibble nibble.

A good number of us had gathered to see Tom demonstrate how oxalic acid sublimation (vaporisation) works. His sublimator cost around £35 (see Thorne's Vap-mite one) and the car battery charge around £35 too, so initial equipment costs are about £70. He did say this was a cheap sublimator and it's starting to fall apart, there is a more expensive version available for around £100 which would probably last longer. You will also need oxalic acid in the approved form of Api-Bioxal, which conveniently contains extra sugar that identifies it as Api-Bioxal and makes the sublimator tray extra-sticky.

As the apiary bees were already treated by the drizzle method before Christmas, this was only a demonstration on an empty hive. The hive had a glass crown board so we could see the effects of the gas in a confined space. We were all wearing masks, this is very important as the oxalic fumes are dangerous to humans.

Tom began by putting foam in at the entrance, this helps keep the fumes inside the hive. He left the sub-



Winter apiary



Nuc



Bees on fondant



Tom demonstrating oxalic acid



The equipment

liminator in for 3 mins 20 seconds attached to the battery to heat up the oxalic acid, then another 3 mins without the battery to cool down. You can then remove the sublimator and leave the hive sealed up with foam for 5-10 mins after that, before removing the foam (please read the official instructions before doing it yourself rather than relying on these timings, in case I am mis-remembering anything!).

As the oxalic acid vaporises, the vapour fills the hive, coating the bees and hive surfaces with a very thin layer of oxalic acid crystals. The bees cope well with these crystals, but they have a deadly effect on varroa mites.

The advantages of sublimation are:

- You don't need to open up the hive, which breaks propolis seals and can potentially disturb the bees.
- You can carry out repeated treatments, whereas the drizzle should only be carried out once annually.
- Research carried out by the University of Sussex Laboratory of Apiculture and Social Insects suggests that, compared to spraying or dribbling, sublimation has a higher varroa kill rate (see Integrated control of Varroa mites on the LASI website).



Oxalic acid sublimation

The disadvantages of sublimation are:

- The extra costs of the sublimator and battery equipment.
- Oxalic acid is toxic to humans, so you have to be very careful when handling it; including wearing gloves and a mask to avoid breathing in the fumes.
- The instructions on Thorne's website have some interesting details – they say the air temperature should not be below +4°C and the last cleansing flight should not date back more than four weeks. This is probably not something we need to worry about in London, but further north daytime temperatures might drop lower than 4°C. The LASI guidelines recommend applying oxalic at outside temperatures of 4-16°C.

Useful links:

- LASI guidelines on How to Apply Oxalic Acid Via Sublimation to Control Varroa: <http://bit.ly/2k41M6g>
- LASI video on How to Apply Oxalic Acid to Honey Bee Colonies via Sublimation: https://www.youtube.com/watch?v=aMYx_YT302o
- Bee Culture article on The Best Way To Kill Varroa With Oxalic Acid: <http://www.bee-culture.com/sublimation/>

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 to add something here.

Emily Abbott. I've got loads of 30lb buckets that I need to shift! Happy to donate them to anyone who could use them. They're all buckets that I bought honey for honey, so they're food grade, I've given them a quick rinse, and have got writing on them so I'm definitely recycling them, rather than offering brand new buckets! emilyabbott@virginmedia.com.

Mark Patterson: I'm running a rooftop beekeeping course on Saturday 20th May from my Putney apiary. Full details and booking are on my website: <http://www.apicultural.co.uk/courses>. geordymark@hotmail.com.

Upcoming events

Sunday 12th February: Monthly meeting: Pollen identification

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

A hands-on practical session with microscopes and camera on how to identify pollen. Bring some pollen! 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.

Wednesday 15th February: Winter Lecture: Making a B-Line for London

18:30 for a 19:00 start at Roots and Shoots, Walnut Tree Walk, Kennington, SE11 6DN

In the first of our Winter Lectures, Caroline Birchall (Founder & CEO Bee Collective) will talk about the "Making a B-Line for London" partnership initiative.

This will help increase the diversity and abundance of pollinators in London and will demonstrate simple changes we can make to the way we manage London's green spaces and provide tools and advice to increase the amount of habitat for pollinators. More details about the project are here: <http://www.gigl.org.uk/GiGLer/?p=2334>

This is a free public lecture open to all, so spread the word! A £2 donation from non-LBKA members would be appreciated.

Refreshments served from 18:30

Thursday 16th February: Doing things differently

19:30 for a 20:00 start at Chingford Horticultural Hall (Larkshall Road, E4)

Epping Forest Beekeepers have invited us to a talk by Godfrey Munro from Park Beekeeping, who will present an exploration of ways to keep bees which may not be found in books, and are the result of a long beekeeping career and the enquiring mind of an engineer. Godfrey will invite those beekeepers with traditional approaches to equipment to consider experimenting with modern methods and materials. This thought-provoking meeting will begin at 7.30pm for an 8pm start.

Wednesday 1st March: Winter Lecture: Hot and spicy - Bees in India

18:30 for a 19:00 start at Roots and Shoots, Walnut Tree Walk, Kennington, SE11 6DN

Martin Kunz from the Bees Abroad charity (and LBKA member), whose relationship with bees is as short as his relationship with India is long, will talk about bees in India, and more importantly, how beekeeping (and honey collecting) 'works' to help fight poverty among people in rural India for whom £10 is too high a price for a simple hive.

This is a free public lecture open to all, so spread the word! A £2 donation from non-LBKA members would be appreciated.

Refreshments served from 18:30

Sunday 12th March: Monthly meeting: Swarm control

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

An important topic for urban beekeepers - swarm control and swarm collection. 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.

Wednesday 15th March: Winter lecture: Venom allergies and what to do

18:30 for a 19:00 start at Roots and Shoots, Walnut Tree Walk, Kennington, SE11 6DN

Nurse Practitioner from Guy's Hospital - Andrew Williams - will talk about venom, stings, large local reactions, emergency treatment, immunotherapy and where to obtain a referral to a specialist allergy service. We are pleased that Andrew will be offering his professional advice to us on this important topic.

This is a free public lecture open to all, so spread the word! A £2 donation from non-LBKA members would be appreciated.

Refreshments served from 18:30

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
- **Treasurer:** David Hankins, treasurer@lbka.org.uk
- **Secretary:** Natalie Cotton, admin@lbka.org.uk
- **Education:** Howard Nichols education@lbka.org.uk
- **Membership:** Aidan Slingsby, services@lbka.org.uk
- **Forage:** Mark Patterson, forage@lbka.org.uk
- **Events:** Emily Abbott, events@lbka.org.uk
- **Resources:** Tristram Sutton, resources@lbka.org.uk
- **Apiaries:** Vlad Zamfir, apiaries@lbka.org.uk
- **Emma:** Emma Nye, emma.nye@lbka.org.uk
- **Mentoring:** Elliot Hodges, mentoring@lbka.org.uk

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

