



The London Beekeepers' Association

LBKA News

December, 2018

In this final edition of the year, Geoff reports on his oxalic acid treatment marathon (p9), Simon reports on the Mead tour (p5) and there are reports of the last monthly meeting (p6) and the last committee meeting (p4). We also have Richard and Howard's regular features and have reprinted two of Mark's from last year, on pages 8 and 12.

Thanks to the 193 people who have rejoined LBKA and let me know if you need help rejoining. We hope you have a good Christmas and we look forward to seeing you in the New Year.

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A big thank you to this month's contributors: **Richard Glassborow, Elliot Hodges, Geoff Hood, Jeni Lea, Howard Nichols, Mark Patterson, Simon Saville.** 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

From our Chair

Richard Glassborow
chair@lbka.org.uk

... and suddenly it is December! It is not the busiest month in the beekeeper's calendar but, in my experience, this is the month in which I know I should be getting ahead but invariably find myself falling behind. There's just no sense of urgency. But that is the whole point of planning ahead: having the luxury to seize time now and prepare for what we know is definitely going to happen, probably going to happen, and possibly could happen, consider the options accordingly and prepare – even if only our minds. Everything is so much more difficult when time is not available (e.g. try ordering frame parts in a warm March! You can order them and pay for them but you will probably wait weeks for delivery because every beekeeper is doing the same thing).

But seriously, there is something I would like to share now with the London beekeepers' hive mind (all London beekeepers, not just LBKA members) while it is unseasonal and we have time to consider options: in fact two things which I believe are related – foulbrood disease and swarming (prevention and collection).



Winter cherry. Photo: Mark Patterson

I think everyone is aware by now that 2018 saw unprecedented levels of both EFB and AFB in some parts of London. With such levels we have to consider the possibility and the risk that these outbreaks were not fully identified or contained. We won't know until the spring but clearly there is a risk further outbreaks will be found. How do we, as an Association, respond? Discuss. Firstly, do we wait or do we consider options now and have strategies in place? I recommend the latter.

Foulbrood is highly infectious which is why it is notifiable. Because our bees fly free they are all vulnerable. Finding your bees have foulbrood does not mean you are a bad beekeeper but there are things we can all do to help reduce the level to which disease can establish and hence spread. So what can we do to help each other?

One strategy I propose is to improve our chances of early detection. Early detection helps contain the disease from spreading and in the case of EFB it can allow options for treatment rather than destruction. So the first thing is to look and the next is to know what we are looking at. Anyone unsure, seek help. This has always been on the LBKA agenda but maybe we now have to raise our game. We can look at bringing our Bee Health Day forward in the year but we also need to improve our ability to recognise the symptoms in the field.

Sharing experience and expertise is something our members are pretty good at but it requires an open, no-blame culture too so that there are no barriers to anyone voicing concern or uncertainty or seeking help. And, since disease is borderless, it makes sense to share this response with our neighbouring BKAs. Could this go as far as "show and tell" when disease is found? Biosecurity would be paramount of course and there would likely be a movement order already imposed once detection is confirmed. But it's a thought. I would welcome some feedback at chair@lbka.org.uk.

The reason I have linked EFB to swarming and swarm collection should be apparent. If diseased colonies swarm, the disease spreads. Swarms in disease alert areas need to be collected or they go feral, establishing a difficult or impossible to manage reservoir of disease. But when they are collected they should be quarantined before joining healthy apiaries. Quarantining swarms has always been recognised as best practice but the LBKA has found it is difficult in London to provide official sites. One quarantine apiary does not really do it because of the scale and geography of the city, the traffic conditions, and congestion charges, etc. And specialised quarantine apiaries need to be managed. We have just never been able to resource the right theoretical answer.

For the last two years we have managed swarm collection and distribution via our WhatsApp Swarm group. This has been phenomenally successful, providing as it does a spontaneous communication platform for swarm



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

collectors, members who want swarms and members who want to learn how to collect swarms. It is an elegant solution. But surely high levels of foulbrood will change the dynamics for collectors and receivers: who is going to be prepared or able to receive a swarm from a known disease hotspot? One or two maybe but on the scale of a swarmy season? And if nobody wants these swarms, what do the collectors do?

One possible solution might be to recruit members of the non-beekeeping public who are prepared to host one or two nucs in a corner of a garden or other odd but accessible space, convenient for each of our swarm collectors. Not a swarm apiary but a network of small holding points. Oh! and an army of volunteer keepers to help look after them until they are passed fit.

The implications of any of these strategies need thinking through carefully if we are to avoid unintended consequences and would take time to put in place. But that is why I suggest it is better to start that process now rather than wait until you have a swarm in the back of your car.

In the meantime, I hope to see you all at the Christmas Quiz. If you can't make it, have a good Christmas and see you in the New Year – no doubt all brandishing your new frames.

Announcements

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

December Monthly Meeting

It's almost Christmas, so this month's meeting will be Christmas themed. We had to postpone the meeting by a week (due to unavailability of the venue), so our annual Christmas Quiz will be this coming **Sunday 16th December**, at **11:00**, at the usual venue of Fairley House Junior School (220 Lambeth Rd, London, SE1 7JY). Jon Harris (former Treasurer) has run the Christ-

mas quiz for us a number of times and will be the Quizmaster this month too. As usual, there will be hot drinks, cake and chat. If you wanted to bring some festive food to a monthly meeting, this would be a good week to do it!

Next month's meeting will be on **13th January** and will be on the subject of **pests, diseases and brood conditions**. The meeting will cover a large cross section of brood diseases and disorders which will be supplemented by slides and general information about the identification of each situation. Given the prevalence of brood disease in this last year, this will be an important meeting to attend.

Monthly Tuesday Social: Natalie's pub pick

There will be no December pub social this month. The next Monthly Pub Social will be on **Tuesday 29th January** – venue to be determined.

Welcome to Martin Hudson joining the Committee

The Committee have co-opted Martin Hudson and welcome him as part of the Committee. Martin will be well-known to many of you as one of the regulars at monthly meetings and monthly socials (and of course newsletter proof-reader!) He will do the job that Emily did last year, overseeing LBKA's external events and recruiting volunteers to help run them. He will be in touch in this respect. Those that have helped in the past or have expressed a desire to help will be on Martin's list and Martin will be in touch. You can contact Martin on events@lbka.org.uk.

LBKA's education offerings

Some members have registered their interest for the LBKA microscopy course, Module 3 learning group and the 2019 Basic Assessment. Emails acknowledging their interest have been sent to all those registered. If you have registered an interest, but have not received an acknowledgement, please e-mail Howard on education@lbka.org.uk, so that he can ensure you are on his list.

Old announcements from November

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

New Committee: there is a new committee.

Membership renewals: If you haven't renewed, please do so with your personalised renewal link. If you don't have your renewal link, please ask services@lbka.org.uk to resend it.

Thanks for your support this year and we hope that you wish to continue being a member of our association.

Register your hives: Please [update your records](#) by 31st December to help the National Bee Unit get a sense of the health of the UK's honey bees.

Old announcements from October

Foul Brood: A very bad year for foul brood in London. See September's newsletter for important information and tips.

LBKA courses and tuition: Howard provided details of (a) a microscopy course for members to learn about the pollen grain structure and anatomy of the honey bee; (b) instruction sessions for those looking to do the BBKA Basic Assessment; and (c) instruction sessions for those looking to do BBKA Module 3 in March 2019. See September's newsletter and email education@lbka.org.uk for more information.

LBKA Bee Banter: Join this WhatsApp group for general bee chat for LBKA members. Join from the [membership area of the LBKA website](#) or email us so that we add you.

Trees for Cities: Help lead bee-themed ecology workshops for schools or community groups, either on a voluntary or paid basis. Contact Jess Massucco, Community, Education and Volunteer Manager at jess@treesforcities.org or call 020 7820 4412.

Offer of apiary in W6: Benita Cruickshank in W6 (Hammersmith/Ravenscourt Park) has a domestic garden in which she would like to offer space for a hive. Contact forage@lbka.org.uk if interested.

Old announcements from September

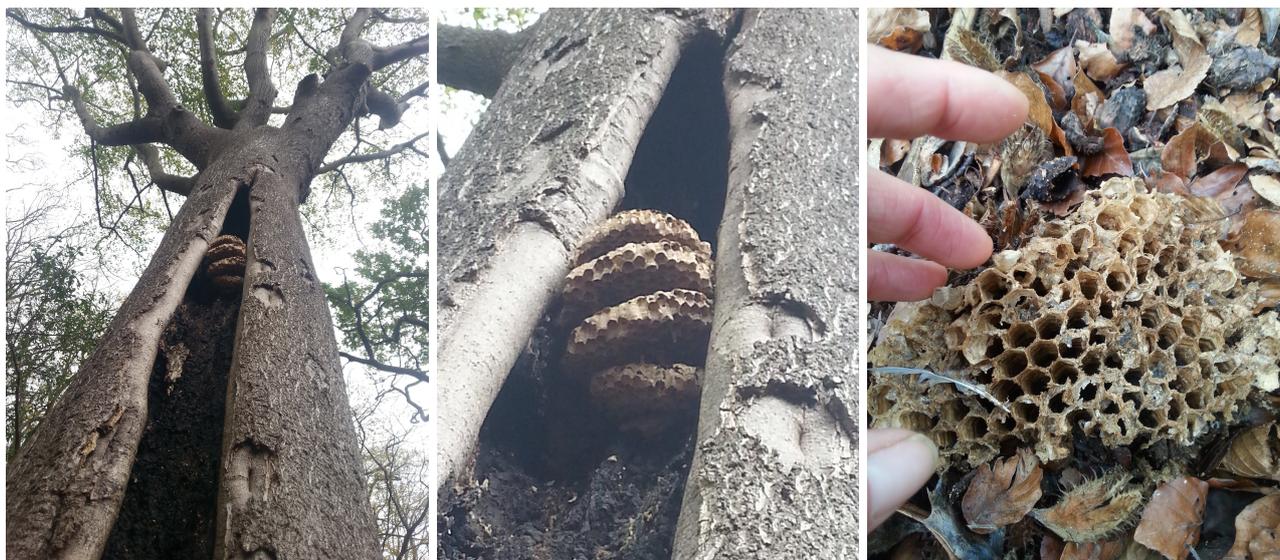
Geoff to represent LBKA: Geoff Hood has kindly agreed to represent LBKA at the National Honey Show and NBU's South-east Regional Forum.

LBKA forum: Don't forget to ask for access to the [LBKA-Forum Facebook group](#) if you're a member.

Honey in NW3?: Deana runs the shop "Artichoke" in 36 Heath street, London, NW3 6TE. She'd like to stock local honey. If you're interested in supplying her, contact services@lbka.org.uk.

Paid one-to-one teaching opportunity: A novice LBKA member with one hive is looking for some one-to-one teaching and guidance in Battersea for the remainder of the season. If interested, please contact her on camilla.ween@gmail.com.

Hives in SW7 need a new beekeeper. Cynthia Oakes is looking for a beekeeper to manage her 4 hives in central London (SW7) as her current beekeeper is moving



Spotted by Jeni. An Abandoned nest in Epping Forest, with large paper cells. Perhaps a hornet's nest?

away next month. If interested, contact Cynthia directly on email@cjoakes.net.

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.

December's Committee meeting

This new section will keep you up to date with what the committee discuss at our monthly committee meetings (and what keeps us awake at night). Let us know if you can help or have any suggestions that might help.

Aidan Slingsby
services@lbka.org.uk

There were still some **roles** to be allocated from the last committee meeting. Since Vlad left the Committee, we have no **Apiaries Manager**. Richard has offered to act as Apiaries Manager in the interim. Martin offered to help coordinate our **Schools Programme**.

We are trying to book the usual venue for this year's **beekeeping courses**, with a preference for the first two weekends after Easter. Although last year's 'Taster' courses were not well attended, we decided it was important to cater for those who do not (yet) want to keep bees. We decided to only hold one (30 people) and hold it later in the year (July).

The Committee agreed to spend LBKA funds on the equipment needed to apply oxalic acid by **sublimation**. This will include two sublimators, batteries, chargers and the correct type of masks (for organic acids). These will be used in LBKA apiaries and apiary managers will be trained to use them. Since vapourised oxalic acid is dangerous, this equipment will not be lent to members unless (perhaps) they have the required training. Elliot will advise on safety considerations.

Richard and David have been working on **fixing action points for the year** by committee meeting. These are based on our past activities noted in the Trustees' Report, the annual trustee cycle and a briefing paper that Richard put together. The aim is to help us – and future committees – be more organised and efficient.

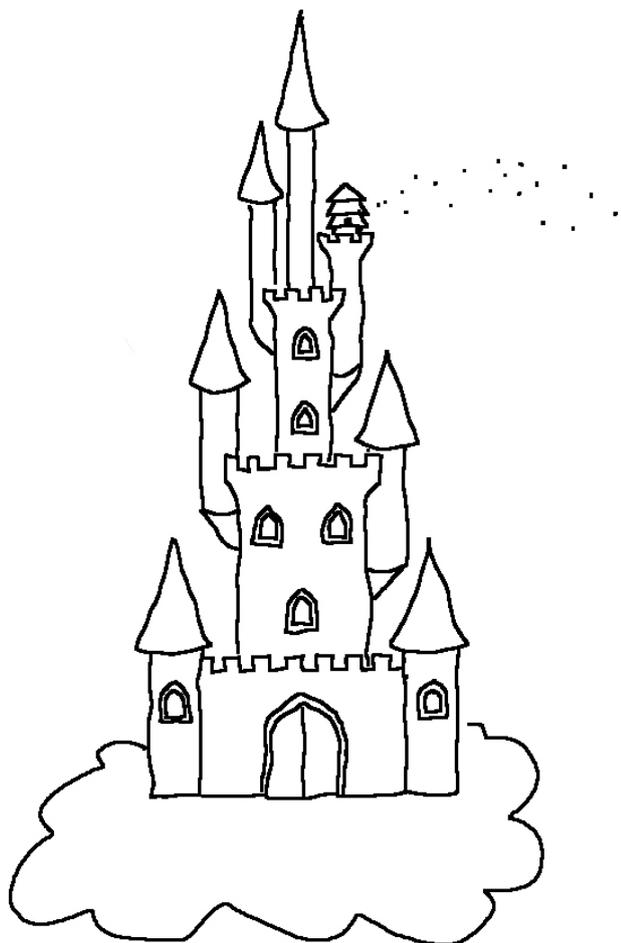
We currently use our website hosting provider for LBKA email, a Google Calendar to organise events and Drop-box to store, manage and share files. Simon and Natalie have been investigating **GSuite**, Google's commercial offering that they offer to charities for free. It is hoped that this will overcome some of the current restrictions we have. There's still some investigation to do, but the Committee agreed to this change, if feasible.

Grand Apiary Designs

What would your ideal apiary look like? Tell us!

Elliot Hodges
elliot.hodges@lbka.org.uk

If you were building an apiary from scratch, and could



What would your ideal apiary look like?

have any design you wanted, how would your dream apiary be constructed? What features would you include? Running water and electricity, a comfy bench, a sufficiently large storage cupboard for all 'bee kit', a vandal-proof perimeter?

Write to us and let us know.

Personally, I like being able to see the bees from my kitchen window and having a paved area under and immediately in front of the hives. This means I do not have to get dressed up in my bee suit if I fancy looking at the bees for a while.

The paved slabs mean that the hives rest on something level and sound. The hives do not rock and supers stack nicely. The solid, flat surface shows up what the bees remove from the hive. The bees normally do a good job of removing their detritus from the apiary themselves but sometimes, when the colonies are busy, fewer bees are removed. You can also quickly compare hives within the apiary to see if one is producing more dead bees than another. Yes, you have to sweep up the dead bees to make the area tidy, but this is a small price to pay for a glimpse of how the colonies are performing.

Now I think about it, I might apply for planning permission to install a hanging hammock chair thingy in the apiary...

Please e-mail elliott.hodges@lbka.org.uk. Responses will

GOSNELLS OF LONDON

Gosnell's Mead.

be summarised in a future edition of LBKA News for the benefit of all dreamers, apiculturists and Kevin McCloud fans.

Gosnell's Mead Tour

Simon reports back from the free Gosnell's Mead Tour that we organised.

Simon Saville
development@lbka.org.uk

On Saturday 1st December, a dozen keen beekeepers from the LBKA visited the Peckham site of Gosnell's Mead. We were shown around by Tom Gosnell, the founder, and treated to a tasting of some of their products.

Making mead sounds very simple – you just need honey, water, yeast, heat, and time. Actually, you need a lot of skill and patience as well. Tom and his team have been honing their skills commercially for four years. His skill and enthusiasm shine through as he tells us how the mead is made. Their signature mead is a modern take on the traditional product. It's made with Spanish Orange Blossom honey, blended with water and then fermented through to 5.5% abv. About 250 kg of honey is used per 1,000 litre batch. Tom describes the mead as "light, crisp and refreshing", which is spot on. Most of us visitors were sceptical about mead, having had dodgy experiences in the past – strong and sickly sweet concoctions. This was indeed a refreshing change, served chilled. They also make a vintage mead, using 100% London honeys, sourced from hives in Woodberry Wetlands N16 and Lea Bridge Road E10. This is brewed to 12.5% abv, what Tom calls "more celebratory".

The site is small, but you can visit the new tap room and taste – or buy – their products. They offer a Saturday afternoon brewery tour and a brewery course. Details on the [website](#).

Last month's Monthly Meeting:

What happened at our meeting last month.

Aidan Slingsby
services@lbka.org.uk

November's monthly meeting was a meeting of two (excellent) halves. Vlad Zamfir led the first half of the meeting, presenting the results of the research he carried out (for this meeting), on how bees regulate the temperature of their colony, how they do it in Winter and how insulation might help. Geoff Hood then explained how and why he has insulated his hives over the last few years.

Thermoregulation of the colony

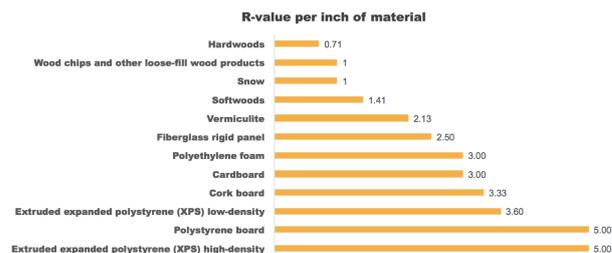
Vlad explained how the colony thermoregulates itself during winter. Bees need to keep their thoracic temperature above 10°C, otherwise they cannot move and will die via a 'chill coma'. Also, certain metabolic processes only occur within a certain temperature range above 10°C.

If bees relied on their metabolic processes alone, they would be able to keep the temperature at around 10°C for a short time. Their furry bodies are good at keeping the heat in. However, they vibrate their flight muscles to generate heat, which can push their thoracic temperature to around 43°C. If they ingest anything cold (e.g. water) their body temperature will drop.

When temperatures drop below 18°C, they start to cluster. This enables them to keep the colony warm more efficiently as the ratio of number of bees to cluster surface area is high. Honey is the fuel for heating the cluster; besides energy, metabolising honey produces CO² and water. The cluster will move around the hive as a unit, towards honey stores (almost always upwards or slightly sideways, nearly never down). If cleansing flights need to take place, the cluster may temporarily extend towards the entrance. Empty combs conduct less heat than combs filled with honey, so the core of the cluster prefers to occupy empty cells while the edge of the cluster (top/sides) will be in contact with honey. The bees will determine how much heat (and water vapour) should be removed from the cluster. Consuming 1kg of honey will produce 0.68kg of water.

At below 14°C, the cluster forms a distinct structure, with the 'core' surrounded by the 'mantle'. The Mantle (outer shell) is the coldest layer, with an edge temperature of around 8°C. This rises to 13°C for the bees just inside the mantle. Here, the bees are tightly packed with their abdomens pointing outwards, heads inwards, and thorax hairs interlaced. This layer can contract

SOME INSULTATING MATERIALS



Vlad's graph comparing the insulating qualities of different materials.

or expand, regulating how much water & heat escape. At -10°C, the layer reaches its maximum contraction. The Core doesn't change in size, no matter the temperature outside. Its minimum temperature is around 20°C when there's no brood. Its maximum temperature is 35°C when there's brood. Bees circulate throughout the cluster on a 24 hour cycle, but not at night. The relative humidity in the core is 50-85%.

Propolis and water both play a role. Propolis repels water, is used to coat the interior surface of the cavity and is used to seal cracks, and reduce the entrance, for some subspecies of honey bees. Water is needed for climate control in the hive, hydration and diluting honey (honey bees can only metabolise 50% sugar solutions). Brood food can be 90%+ water.

If the hive is warm but the crown board is cold, condensation will form on the underside and cold water will rain onto the cluster. If it's frosty outside, this condensation may be very cold. If there is insulation on the crown board but not the side, the condensation will be on the vertical walls of the hive, so won't rain down on the colony.

If there is ventilation below the crown board, warm air will be lost and the resulting chimney effect may cool the hive and make honey consumption go up by about 12%.

How to insulate

After Vlad's talk, Geoff introduced the topic of insulation, its history and how he does it.

It turns out that before the Second World War, beekeepers routinely insulated their hives, by putting old blankets, sacking or straw under the roof of their hives. In addition, most hives were double-walled (like the WBC) with a single entrance at the bottom and no ventilation at the top. This mimics the natural location in a tree with a thick wall and roof with no top ventilation.

So why is the advice in most beekeeping books that one shouldn't insulate and should vent the top of the hive?

Geoff thinks that this can be traced back to rationing, where beekeepers had to preserve resources, particularly



Geoff showing us how to insulate our hives.

as beekeeping was widely promoted by the Government due to sugar shortages. Single-walled hives with no insulation saved resources. The problem wasn't the cold, but the condensation that results in cold water raining down on the bees in the colony due to condensation from poor insulation.

The Rothamsted Bee unit (predecessor of the NBU) was asked to find a way of keeping bees alive without using valuable wood, cloth or wool insulation. They found that colonies in uninsulated hives could survive with a small amount of top ventilation. The recommendation was to crack the propolised crown board in early winter and to place pennies or matchsticks under the crownboard.

Since then, this beekeeping practice remains the orthodoxy.

Geoff explained that ventilation was only promoted as a way of increasing the chances of uninsulated hives surviving. Now we have the resources to insulate hives, he thinks we should be doing that.

He recommends:

- Placing insulation (e.g. Kingspan, polystyrene or wool) in the roof just above the crownboard.
- Ensuring there is no ventilation below the crown board as warm air will escape and will draw in cold air due to the chimney effect (the roof should be ventilated).
- Reducing the entrance block
- Using an open mesh floor, with varroa board out, and the back of floor sealed up
- In exposed places, an empty super can be placed under the floor to create still air

He then talked about the importance of not bending ones back. He suggested that everyone should have taller hive stands, so that when your arm is by your side, your knuckles are level with the top of the brood box. The empty super under the floor helps in this respect.

Many thanks to Vlad and Geoff for their preparation and insights. This meeting may lead to quite a few people rethinking their winter hive setup.

December in the Apiary

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

Howard Nichols
education@lbka.org.uk

December is a quiet time for beekeepers but an eye must still be kept on the apiary. Most items detailed in the November newsletter still apply but are not repeated here.

Varroa treatment

Varroa treatment with Api-Bioxal (Oxalic Acid) is the main task. Oxalic acid only deals with mites on the adult bees and so must be applied when the colony is broodless or virtually broodless. The acid cannot penetrate brood cappings. Late December or early January is the usual time for treatment. I treat late December as it is usually cold at that time. Also, research shows that if treatment is left to mid January or beyond then the rate of colony build up going into early Spring is unduly set back. Although it is referred to as a "soft varroacide" this is a little misleading. It is a strong chemical and manufacturer's instructions should always be followed. Misapplication can be harmful to the bees and / or beekeeper. Please carefully dispose of unused contents after use. Finally, we should treat all colonies in the apiary at the same time.

Woodpecker damage

Woodpeckers may be a problem. It is the green woodpecker – *Picus viridis* – which is the main culprit. As the ground becomes harder due to the cold they find it more difficult to dig for insects and can turn their attention to a beehive. There are at least 3 options available to the beekeeper if the woodpecker becomes a pest.

- Surround the hive with chicken wire, making sure that the bird cannot get a grip on the wood of the hive through the wire. Usual option.
- Cover the hive with a large bin liner, polythene bag or sacking but ensuring the bees can come and go. This may interfere with colony ventilation.
- Keep the hive in the type of cage that fruit growers use on allotments, ensuring the holes in the netting are sufficient for the bees to easily pass through. This is a rather excessive approach but the apiary surround is occasionally altered this way.

Check mouseguards

Check behind the mouseguards for a build up of dead bees, etc.

Water supply

Ensure there is a water supply close to the colony. Bees become immobilised and die when the body temperature falls below 7°C. They will make quick flights at outside temperatures below 7°C for toilet purposes or to bring in water. They do this by warming their bodies up beforehand then making a dash for it and returning to the hive before they cool down. This is a hazardous occupation for a bee and the nearer the water supply the better.

Moving the colony

If it is essential to move the colony less than 3 miles then winter is the preferred time. It is better to do this when the weather is forecast to remain cold for at least a week.

Education

Winter is a good time to read your bee books and to attend our monthly meetings. Winter reading is a useful beekeeping bridge between seasons. If you've not already done so, take out an annual subscription for Bee Craft monthly magazine. It is available in both digital and hard copy forms. The latter subscription is delivered to your door and also includes the digital copy anyway.

Keep an eye on the apiary

Check that nothing is amiss, roofs in situ, etc.

Review the year

What have I got right? What mistakes have I made? How will I approach my beekeeping next spring in the light of this review?

Keep in touch

Finally, keep in touch with other LBKA members. We continue our monthly meetings on the 2nd Sunday of each month and all are welcome. We now have monthly social meetings which are held in a different pub each month around the London area and details are on our website. You can also join our Facebook page. This is moderated with a light touch only so please do remember to be respectful to all other users. We post and share our failures as well as successes. Many members find this both a useful beekeeping resource and social outlet.

Focus on Forage

Mark tells us what's in flower at this time of year. This article is reprinted from last year

Mark Patterson
forage@lbka.org.uk

As we enter December the vast majority of the UK's bees are well tucked away for winter. The majority of our bees are solitary and most of these bees die in late summer leaving behind their offspring entombed deep inside underground burrows or imprisoned inside hollow plant stems or decaying wood. These bees will either overwinter as a pupa, pre-pupa or as a fully mature bee but they will not vacate their birth site until spring with the advent of warmer weather.

Bumblebee colonies die out in autumn and only the queens survive winter by hibernating. In autumn the queens feast on pollen and nectar to fatten up for their long sleep.

In the south of the UK, particularly in towns and cities some of these Bumblebees may remain active all year round. The Buff Tailed Bumblebee is our most winter hardy bee, they are large and furry, can regulate their own body temperature and regularly fly on cold days when other bees are nowhere to be seen. They will even fly in snow.

In southern towns and cities Buff Tailed Bumblebees are increasingly starting to found new colonies in late autumn rather than going into hibernation.

Being this active in winter is a risky business for them though as a Bumblebee's metabolism is very high. In his 1979 book, 'Bumblebee Economics', Bernd Heinrich states that a Bumblebee's metabolism is so high that they are never more than 40 minutes away from starvation. Professor Dave Coulson compares a Bumblebee's metabolism to a human's if they were the same size, the bee would burn the calories contained inside a Mars bar just standing still whilst the man would have to run about a mile. Bumblebees are therefore only active in winter because it is profitable for them to be so.

The abundance of exotic winter flowering shrubs in urban areas and lack of competition from other pollinators means these bees can thrive during the winter months. **Mahonia** is particularly important to winter active Bumblebees, 75% of flower visitations by bees in winter are to this plant alone. There are numerous varieties of Mahonia but my favourite is 'Winter Sun' which is popular with the bees. Other plants visited by bees at this time of year include **Hellebores**, **winter flowering Prunus**, **Viburnums** (particularly *Viburnum tinus*), **winter heliotrope**, **cyclamen** and **Winter Flowering Honeysuckle** (*Lonicera × purpusii*). As winter pro-



Mahonia.

gresses into January and February, **snowdrops**, **Winter Aconite**, **hazel** and **sarcococca** will also flower.

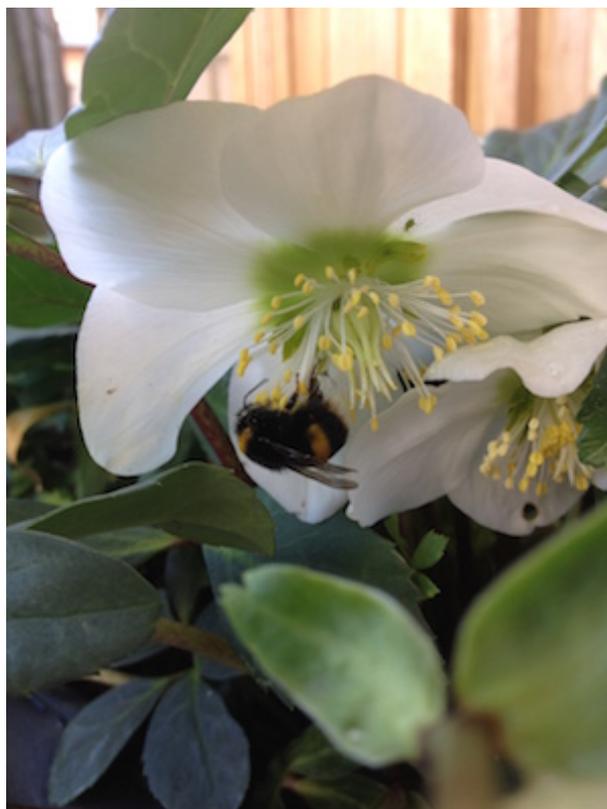
Our honey bees are now clustering in the centre of their hives, shivering to keep warm and surviving off their stores of honey they laid down during summer. On mild days when temperatures exceed 10° Celsius honey bees may venture outside briefly to 'cleanse' their bowels and partake in a little foraging. In cool temperatures they won't venture far from their hives but they will collect pollen from flowers they encounter.

Most winter flowering plants produce pollen only. Few plants are capable of producing soluble sugars and secreting nectar in cold weather and for the most part nectar would go to waste since there are not many bees around to take advantage of it. Mahonia and Viburnum tinus are 2 of the exceptions and winter active pollinators will collect nectar from them.

Not flowering right now but looking good at this time of year (and of use to bees at other times of the year) are shrubs and trees sporting red berries. These include **Holly**, **Pyracantha** ('Firethorn'), **Skimmia japonica**, **Gelder Rose** and **Cotoneaster**.

Winter is the best time to buy and plant trees and shrubs. Many are available 'bare root' and are cheaper than pot grown specimens. Planting them now gives them time to settle in the ground and for early root development and expansion prior to spring when they produce fresh greenery. Fruit trees are excellent forage for bees, plus you gain the added benefit of fresh fruit come late summer and autumn.

When buying trees and shrubs for your garden, try where possible to buy UK propagated and grown plants – the majority of trees and shrubs sold in the UK are imported from Italy, Spain and the Netherlands, many of which are re-potted and or grown on here before being sold as 'UK grown' plants. This is perfectly legal but deceitful to consumers who have no idea of the carbon food print of their plants or their true origins. There is currently a great deal of concern sweeping through Europe because of a number of extremely damaging plant



Hellebore.

disease outbreaks in France, Spain and Italy. More on that in my [recent blog](#).

It's not too late to plant spring bulbs. **Anemones**, **Muscari**, **tulip**, **alliums** and **camassia** will all still put on a fantastic display of spring blooms if planted now and at this time of year many garden centres are reducing prices on spring bulb packets as it nears the end of their planting season.

A Day in the Countryside for the Chairman

Our Chair Richard did some fieldwork to find out how the Barnet beekeepers do their Oxalic Acid treatment. He was hosted by Geoff Hood.

Geoff Hood
LBKA member

On the first Saturday of December the LBKA Chairman Richard Glassborow visited Geoff Hood's, Wilfred Wood's and Steve Leveridge's hives in Mill Hill Village (NW7) and London Colney, Hertfordshire. Richard



Geoff in his FFP3 mask that only lasts 40 minutes.



Sublimator charged with 2.3g of Apibioxal.



Counting the natural varroa drop before we treat.

wanted to see how we do our winter varroa treatment with Oxalic Acid (Apibioxal) using a VarroX sublimator. We intended to treat 20 hives so we all arrived promptly at ten o'clock at Geoff's Mill Hill Village Apiary. The weather was awful with light drizzle and low cloud, However we decided to go ahead with sublimation because you do not open the beehives to apply the treatment. It was only the Beekeepers who were going to get cold and wet and not the bees.

We choose early December to sublimate as LASI of the University of Sussex in their Bee Health Research program have advised that honey bee colonies are more likely to be brood-less in November or December rather than after the New Year.

The first hive we inspected had unfortunately died, so was sealed up. It was a colony that, after Varroa treatment in early august, had decided to supersede their queen. The new queen had apparently not mated well, and the colony had collapsed. The colony next to this dead hive had the highest varroa load, we suspect the workers from the dead colony had migrated to that colony and taken their colony's varroa with them.

The first thing to do is put on correct protective equipment. You will also need vinyl/rubber gloves and your face mask. The second thing when sublimateing is to block the entrance of the hive to be treated with a rag or foam because even on a rainy cold day those thumps, rattles, knocks and talking can bring out the bees even in the rain.



Richard connects the 12v battery.

For a full day's work the face mask should be an A2P3. You need to change the filters after 72 hours use or after a year. Geoff broke his face mask trying to replace the filters, so had to use FFP3 masks which only give 40 minutes' protection, so had to replace his face FFP3 mask three times during the morning.

The sublimation method we used was to place the varrox sublimator on top of the varroa monitor board, under the open mesh floor. However most of the varroa monitor boards are made from correx plastic, so you need to place a thin sheet of plywood on the varroa board to protect it from the heat of the sublimator (250°C). The instructions on the Apibioxal packet should be followed. These instruct you to charge the varrox sublimator with 2.3g of Apibioxal. You need to wear your vinyl gloves and face mask while charging, because inhaling oxalic powder can damage your lungs and the powder can burn your skin.

In an apiary, especially in the wind and rain it would be difficult to weigh on small digital scales 2.3g of the fine white Apibioxal powder and an alternative method is needed. (You might also look a bit suspicious weighing white powder in blue vinyl gloves.) Helpfully the varrox sublimator comes with a small measuring spoon that holds 1g of powder. The sublimator is therefore charged with two and a third spoonfuls of Apibioxal to give the required 2.3g of Apibioxal. If you lose the little spoon, then a cooks measuring spoon that measures a quarter of a teaspoon is a good substitute.

Once the varrox is charged with apibioxal, it is placed under the open mesh floor. Towels or old cloths are



Steve and Wilf wait whilst the treatment works.



A plywood board is used to stop the plastic correx inspection board from melting.



If you're careful, it can be used on double broods polythene hives.



Hive with insulation skirt and the back of the hive blocked with foam.

used to seal the varroa monitor board so that the gases cannot escape through the gaps. The varroa is then connected to a 12v Battery for three and a half minutes. If only doing one or two hives then this can be just a 45 AH standard car battery. But for the number of hives we were doing (more than 20), we needed a 65 AH Deep Cycle leisure battery because even a large car battery cannot provide a constant current over a long period of time. We timed the sublimation and disconnected the battery, removing the varroa 5 minutes later, but keeping the hive sealed for at least a further ten minutes. The varroa was then cooled in a bucket of water, cleaned and dried thoroughly with a cloth, otherwise the apiboxal splutters as the damp varroa produces steam. Sometimes it is necessary to re plug a hole if the white oxalic gaseous sublimate escapes. It is this white gaseous cloud of crystals that is the most dangerous element while sublimating. The hives are opened once all have been sublimated and rechecked that they are open before leaving the apiary.

You might have thought that four people doing the sublimation is rather too many. However, it allowed us to speed up the work, because we could split into two teams, using two varroa sublimators and one battery. One team could set up a hive and varroa whilst the other was working on another hive.

Having done the Mill Hill Apiaries, we drove via the M25 to our London Colney Apiary in Hertfordshire. This apiary has fields of Oil Seed Rape, just metres from the hives. At last, the rain and drizzle stopped, and we completed our morning task of treating twenty colonies. We were all slightly damp and tired. Then came the hardest part of the day because we were forced to go into the nearest pub to recover. We sat by the pub's roaring coal fire while having our freshly prepared homestyle lunch and forced to drink a small beverage. Richard left us after lunch to travel all the way across London to his home. We then did a further half dozen colonies in an orchard near Radlett before calling it a day, just as the sun came out. We woke up early the next day to do another 10 hives.

The Bees that make Christmas

As Christmas approaches and people across the world busy themselves with buying presents, and preparing for the all-important Christmas day feast, let's take a look at some of the bees which make it all possible. This is reprinted from last year.

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The Christmas Wreath

Christmas wreaths predate Christmas and Christianity by several thousand years. Originally ancient Britons and other northern Europeans would have made loose hanging wreaths (basically just a bundle of greenery tied at the top and hung from the walls of their home) as a means to ward off winter spirits. It is only later with the rise of the Christian churches that wreaths adopted a circular shape mirroring the crown of Christ. Our ancestors believed that evergreen plants were magical because unlike other plants they didn't die back and shed their leaves in winter. Additionally many evergreen plants like **holly** produce long lasting berries which were a symbol of life and fertility. Plants like **ivy** whose berries persist long into winter as well as being evergreen climb and entwine representing matrimony and togetherness. Strongly scented sprigs of conifer would have hidden the foul odours of winter (no fridges back then, so perishable foods would not last long even when dried and salted and would produce a pungent smell)

Key items used in wreaths include holly (*Ilex aquifolium*) which is pollinated by honeybees as well as *Andrena* mining bees whose short tongues are well equipped to manipulate the strongly scented but visually insignificant flowers. Ivy flowers are pollinated by a wide variety of insects and are a valued autumn forage source, but it has its own special pollinator, the Ivy Mining Bee (*Colletes hederæ*) which only collects pollen from ivy and times its emergence to the opening of the ivy flowers.

Christmas candles

Candles bring warmth and festivity to the home at Christmas. It's not just the wax used to make candles which comes from bees, Christmas candles are often scented with festive spices such as **vanilla**, **frankincense** and **myrrh**. Vanilla comes from the pod of a tropical climbing orchid and is pollinated by stingless Meliponini bees whilst frankincense and myrrh are both derived from the resin of exotic trees native to the horn

of Africa. These trees are insect pollinated and visited by bees.

Turkey

You may be surprised to learn that turkeys need the assistance of bees to even exist. Turkeys in the wild are omnivores feeding on a variety of seeds, fruits and invertebrates which exist in a natural food web reliant on bees and other insect pollinators to assist plants at the base of the food chains.

Domestic turkeys live on large farms and are fed on a ration of poultry pellets made up predominantly of **maize**, **wheat** and other **cereals**. These pellet foods also contain significant quantities of soya and or field peas as a source of protein. These are both legumes highly reliant on *Megachile* and *Osmia* bees for pollination. In addition free range turkeys will graze and forage on fields of flowering crops and among orchard fruit trees where they can peck at fallen apples. These crops are heavily reliant on honeybees, *Andrena* and *Osmia* bees for pollination.

The Stuffing

No turkey would be complete without stuffing.

Stuffing typically contains **onions**, **herbs** and **spices** all pollinated by bees.

The Onion Yellow Faced Bee (*Hylaeus punctulatus*) collects its pollen exclusively from onions. Still common in parts of continental Europe this species is sadly thought to now be extinct in the UK. London appeared to be the species' last stronghold in the UK prior to its extinction and the last specimen was seen foraging on cultivated onions in a Chelsea garden in 1827. In the US a small mining bee called *Andrena prunorum* is one of the most efficient pollinators of commercially farmed onions.

Roast Carrot and Parsnips

As root crops, these vegetables don't require pollination for us to enjoy the vegetable itself but pollination by bees is required for the seed growers to produce seed each year to provide to the growers. Parsnips are pollinated by many small solitary bees from *Andrena*, *Colletes*, *Hylaeus*, *Nomada* and *Lassioglossum* species. Hoverflies and pollinating beetles also play a significant role in pollinating these vegetables. Larger pollinators like honeybees and bumblebees are poor pollinators of these crops. Carrots such as parsnip are visited by a variety of small solitary bees but also have their own special pollinator: the Carrot Mining Bee (*Andrena nitidiuscula*) which is solely reliant on carrot for pollen to feed its offspring.



The Roast Potato

The humble **spud** has been a winter staple in the UK since the late 1600s when the Spanish brought it to Europe from the Andes. It is the world's fourth most eaten foodstuff. Potatoes roasted in goose fat have become a Christmas tradition. The part of the plant we eat is the tuberous root and not a pollinated fruit as with other Solanum crops but bees are necessary to breed new varieties of potato. Potatoes belong to the Solanum family and have flowers bearing cylindrical pollen-holding apparatus which very few bees can access. In order for the flowers to shed their pollen they must be sonically vibrated at a specific frequency. Bumblebees and a select few solitary bees have evolved the ability to do just this by revving their flight muscle to vibrate their bodies.

In the Americas, solitary *Anthophorula* and *Exomalopsis* bees work alongside native bumblebees to pollinate wild Potato whilst elsewhere in the world commercially-reared Buff Tailed bumblebees are used to pollinate breeder plants.

Cherries

Cherries are an important ingredient in the traditional Christmas pudding and pollinated by a variety of bees including Andrena Mining bees, bumblebees and Mason Bees. The Red Mason Bee (*Osmia rufra*) is particularly important in the pollination of UK cherries. Honeybees are often used commercially to pollinate cherries but are not very efficient at pollinating early flowering varieties

which often bloom when the temperatures are too cool for honeybees to venture far from their hives.

Christmas nut mix

Brazil nuts are pollinated by colourful Orchid Bees of the *Euglossini* genus. The females of these bees pollinate a variety of tropical plants as they collect pollen to feed their offspring. The males pollinate orchid flowers which they visit to collect scented secretions which they use to attract the females, hence their common name Orchid Bees. Only Euglossini and larger Carpenter bees of the *Xylocopa* species can access the flowers of Brazil nut trees as a robust body is needed to force entry into the tightly lipped flowers.

Almonds are pollinated by honeybees, bumblebees and Osmia Bees such as *Osmia cornuta*. Almonds are the single biggest export of the US state of California which grows over 90% of the world's crop, around 810,000 acres in vast orchards in the Central Valley. Each year 81 billion honeybees 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 from all across the United States on 6000 lorries.

Apples and Oranges

Ancient Britons gave sacrifices of apples and oranges around the time of the winter solstice. The ripe fruit were the colour of the sun and a symbol of the return

of spring and warmer weather which brought relief to the cold northern winters. It is traditional to hang dried apple and orange slices in the home around Christmas and they are used in mulled wine. Whilst honeybees are used to pollinate commercial apples by far the most efficient pollinator of apple trees is the Orchard Mason Bee (*Osmia lignaria*) which is so much more efficient at pollinating Apples that just 300 female bees can perform the pollination role of 90,000 honeybees.

Oranges are pollinated by a variety of bees and commercially are reliant largely on honey bees and bumblebees. Whilst some varieties of citrus are self-fertile and capable of pollinating themselves without bees, fruit set and yields are greatly improved by the presence of bees.

Christmas Sprouts

Leafy vegetables in the cabbage family which include Collard Greens, cauliflower, sprouts and broccoli feature heavily in Christmas feasts and are pollinated by a variety of insects including bees, beetles, hoverflies and lepidoptera. Though the parts of the plant we eat are not reliant on pollination, bees are required to produce seed from which the crop is grown. In the UK farmers often rely on managed honeybees for pollination but there are a number of solitary bees which are also efficient pollinators. Recent research suggests that wild bees and not honeybees are actually our most important pollinators of these crops.

Roast Chestnuts

The smell of chestnuts roasting on an open fire is a sure sign that winter and Christmas have arrived. Chestnuts can be boiled or roasted and are often used in stuffing mixtures. Many British bees visit the flowers which communicate to the bees by means of a visual colour change to the petals to inform the bees when the individual blooms have been pollinated and the nectar exhausted.

Cranberry

No turkey dinner is complete without cranberry sauce. Several species of wild bee are commercially important in the production of cranberries which are mostly grown in the northern USA and Canada. This fruit requires 'buzz pollination' which only a select few bees are capable of achieving. Among them The Rusty Patch Bumblebee (*Bombus agrorum*) and the solitary bee (*Megachile addenda*) but it is the Cranberry Melitta bee (*Melitta americana*) which is most important in the production of commercial Cranberries. The Cranberry Melitta feeds its offspring exclusively on cranberry pollen and is often the most numerous wild bee on large cranberry farms. Unlike the honeybees which are shipped in to pollinate cranberry fields these bees are flower-faithful and therefore are far more efficient at pollinating the cranberries. The honey bee is incapable of buzz polli-

nation and inefficient at pollinating cranberries. When introduced to fields to pollinate cranberries the crop must be saturated with hives to make up for the inefficient pollination which can then push out the more efficient wild bees.

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 run Hive & Keeper Ltd a company that sells single apiary/harvest honeys from small scale beekeepers around the country. Jars are labelled with the honey's main flavour, the name of the beekeeper and where the apiary is. Hive & Keeper currently works with about 30 keepers and your honey would be enjoyed by people across the country. Let me know if you have honey you want to sell, but don't want to jar and sell it yourself. We buy 30lb buckets (a minimum of 3). Check out <http://www.hiveandkeeper.com/> or email emily@hiveandkeeper.com.

Kyle Moreland: I am also looking to contact other beekeepers in Streatham Hill (SW2); to lend a hand with hives, swarms, etc. I am available during the day as I am retired and have a pickup truck which can be useful for moving hives. I have 2 empty hives that I am looking to fill in Spring 2019. Please contact me on kyle@marmionroad.plus.com.

Upcoming events

Sunday 16th December: Monthly Meeting: Christmas Quiz

11:00-13:00 at Fairley House Junior School, 218 Lambeth Rd, Lambeth, London, SE1 7JY

Our annual Christmas quiz will be run by QuizMaster Jon Harris. 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.

Sunday 13th January: Monthly Meeting: Pests, diseases and brood conditions

11:00-13:00 at Fairley House Junior School, 218 Lambeth Rd, Lambeth, London, SE1 7JY

The meeting will cover a large cross section of brood diseases and disorders which will be supplemented by slides and general information about the identification of each situation. Given the prevalence of brood disease in this last year, this will be an important meeting to attend. 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.

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
- **Resources:** Tristram Sutton, resources@lbka.org.uk
- **Development:** Simon Saville, development@lbka.org.uk
- **Mentoring:** Elliot Hodges, mentor@lbka.org.uk
- **Events:** Martin Hudson, events@lbka.org.uk

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

