



# The London Beekeepers' Association

# LBKA News

## Nov/Dec, 2023

Join us on Sunday for our Annual Quiz where there will be a special and unique prize up for grabs. Please also bring along honey for our honey tasting. Upcoming dates for your diary are **Saturday 13th January** for our Asian Hornet queen trap workshop and 24th January for our Winter Lecture: Bait Hives by David Evans. [book your ticket here](#).

We were awarded second prize for Association Newsletter at the National Honey Show! Congratulations also to Adam for his winning entries at the show. And to Adam (again) and Lucie for passing BBKA modules! LBKA is strong support of education and training. Please read Howard's roundup of LBKA's education offerings this year (p6) and how you can join in next year.

Read Howard's advice on what to do in the apiary and remember that we have lots of excellent and topics videos of past talks and meetings on the [website](#). Also see our article on thermoregulation of the hive with advice on insulating (p7), news from our AGM, our sustainability position (p4) with input from many of you and how bees make Christmas (p9).

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Thank you to this month's contributors: Sharon Basse, Howard Nichols, Mark Patterson and Luke Whyatt. Would you like to join these esteemed contributors? If so, contact me. Please help make the newsletter better by providing content – photos, articles, reflections, advice, recipes. . .

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

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## Announcements

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

### December's Monthly Meeting

This month's Monthly Meeting meeting will be our annual **Christmas quiz, social and honey tasting** on **Sunday 10th December** at The Foundry (17 Oval Way, London, SE11 5RR) at 11:00. As in previous years, Elliot is commissioning a **unique piece of art** on our behalf to offer as a prize. We will also have festive social with food and drink and **honey tasting!** So - if you can - please bring along some of your honey for tasting. The variety of honey across London is always wondrous.

There will be no Pub Social this month but we will resume them in January 2024.

January's Monthly Meetings will be replaced by Asian Hornet workshops on **Saturday 13th January** (and the Sunday if there's enough demand). Please sign up on Eventbrite (see your email).

### New trustees

Thanks to those who attended our AGM.

As a result of our AGM and first committee meeting, the LBKA trustees and committee for this year will be the same as last year, with the welcome addition of Sharon Basse who will be coordinating LBKA's Asian Hornet response. The Trustees and commit-



One of the "Christmas at Kew" illuminations. Photo: Luke Whyatt.

tee comprise Richard Glassborow (Chair), Simon Saville (Secretary), David Hankins (Treasurer), Aidan Slingsby (Membership), Howard Nichols (Education), Tristram Sutton (Apiaries), Will Fry (Resources), Elliot Hodges (Mentoring), Annie McGeoch (Events), Stuart Kennon and Sharon Bassey (Asian Hornet).

## Congratulations to Lucie and Adam on passing Modules

Congratulations to Lucie Chaumeton for passing Modules 6 and 8 and obtaining an Advanced Theory Certificate (just missed out on an overall distinction by 1%).

Congratulations also to Adam Armstrong for passing Module 3 on pests, disease and poisoning.

## Congratulations to us and Adam at the National Honey Show

Our newsletter won second place in the "Newsletter" category at the National Honey Show. Thanks to Howard for entering it and for photographing the evidence!

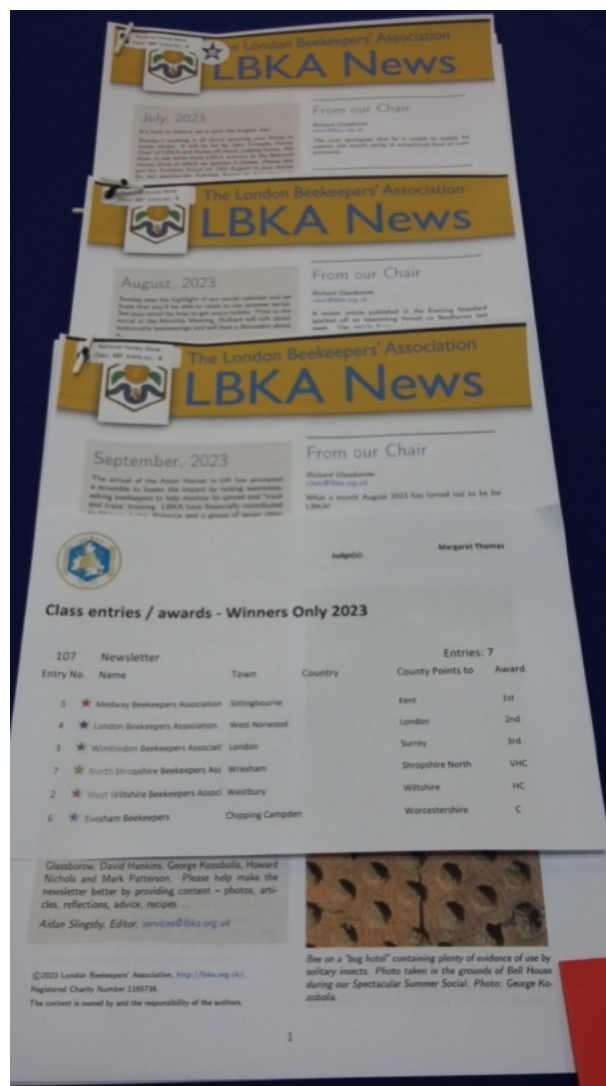
Adam Armstrong won four prizes at the National Honey Show: for "Honey Beer 2 Bottles" (first place), "Two Jars Light Honey" (first place), "Two Jars Medium Honey" (second place), "One Jar Honey" (second place) and "Sweet Mead, one bottle" (second place).

## Winter Lecture: Bait Hives by David Evans

We will have one winter lecture this year on 24th January. [Sign up here](#) and pass onto anyone interest, but please don't post widely on public websites.

Annie has organised "Bait Hives" by David Evans which covers theoretical and practical aspects of swarms and bait hives. Starting with a brief overview of honey bee colony reproduction, he will cover the role of scout bees in identifying a new nest site, the process of swarming, bivouacking and then relocation to the chosen location. After a brief digression into capturing swarms, he will then discuss setting up bait hives, the choice of box, its location and contents. This covers both scientific studies and how these findings can best be applied to practical beekeeping. Discussion of the contents of the bait hive necessitates another digression into using foundationless frames, which offer particular benefits for bait hives. The talk closes with a discussion of what you can expect to observe when scout bees find and favour your bait hive, and the things you need to do having attracted a swarm. These include moving it somewhere else and managing the Varroa that also arrive with the swarm.

David Evans is Emeritus Professor of Virology in the School of Biology, University of St. Andrews. His research interests included the replication and evolution of human and animal viruses, and the biology and control of both Deformed wing virus (DWV) and Chronic



Our newsletter won second prize in the Newsletter category at the National Honey Show. Thanks to Howard for entering it and for photographing the evidence!

bee paralysis virus (CBPV) of honey bees. He has kept bees for many years and writes a well respected blog every Friday.

## See "members' area" for members' goodies

LBKA members can log in via the members' area on the website and see videos of past talks and meetings including seasonal oxalic acid treatments and such-like.

## Consider joining Cambridge, Somerset and Kent Beekeeping Associations

It may seem strange for us to suggest you join other associations, but Annie is an associate member of [Cambridge](#), [Somerset](#) and [Kent](#) BKAs. She enjoys the excellent talks and other activities they put on and thinks their £7 membership fee is great value.

## LBKA book lending library

We now have a library and librarian! Thank you to Mary Walwyn for volunteering to catalogue, look after and lend beekeeping books to members. More details are in the members' area of the website at <https://lbka.org.uk/library>.

## Do you have any announcements?

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

# November's Committee meeting

Here, we keep you up to date with what the committee discusses 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](mailto:services@lbka.org.uk)


We had two committee meetings in November – one for the outgoing committee and one of the incoming committee. The incoming committee meeting was soon after the AGM and we started planning for the coming year.

We welcomed our new Trustee Sharon Basse and opted Stuart Kennon as a trustee. Simon reminded all trustees to familiarise themselves with the obligations and responsibilities of trustees, specifically the LBKA constitution and guidance from the Charity Commission. The trustees agreed that it is important that they embrace diversity and encourage and welcome people with different styles and views.

We appointed the committee. The committee comprises the trustees, with the exception of Richard Glassborow, David Hankins and Stuart Kennon, who for various reasons will be not active committee members. We agreed that we will need new people to help deliver actions, especially member services.

We appointed an Asian Hornet Steering subcommittee consisting of Sharon (lead), Annie, Elliot, Luke Whyatt, and Rebecca Teare. They will propose the scope of their activities for agreement at the next committee meeting. The subcommittee are creating an action plan with a set of member-facing activities starting in Spring replacing the January, February and March Monthly meetings.

We discussed monthly meeting planning. The December meeting will be a quiz and social. 13th & 14th January is planned to be an Asian Hornet trap-making



www.nonnativespecies.org  
Produced by Lucy Cornwell, Claf Booy (NNESS), Gay Morris, Mike Brown (National Bee Unit) with assistance from Colette O'Flynn (National Biodiversity Data Centre Ireland) Stuart Roberts (BWNSS)

## Asian Hornet

Alert!

Report sightings of this species to: [alertnonnative@ceh.ac.uk](mailto:alertnonnative@ceh.ac.uk)

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### Species Description


**Scientific name:** *Vespa velutina*  
**AKA:** Yellow-legged Hornet  
**Native to:** Asia  
**Habitat:** Nests usually high in trees and man made structures, sometimes closer to the ground; hunts honey bees, other insects and also feeds on fruit and flowers.

Not easily confused with any other species. Dark brown or black velvety body. Characteristically dark abdomen and yellow tipped legs. Smaller than the native European Hornet.

Introduced to France in 2004 where it has spread rapidly. In 2016 the first UK sighting was confirmed in Gloucestershire. High possibility of introduction through, for example, soil associated with imported plants, cut flowers, fruit, garden items (furniture, plant pots), freight containers, or iron untreated timber. The possibility that it could fly across the Channel has not been ruled out.

A highly aggressive predator of native insects. Poses a significant threat to honey bees and other pollinators.


Do not disturb an active nest. Members of the public who suspect they have found an Asian Hornet should send a photo to [alertnonnative@ceh.ac.uk](mailto:alertnonnative@ceh.ac.uk).




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### Key ID Features

**Asian Hornet Queen**

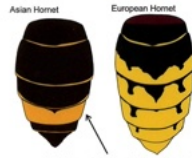


Queens up to 30 mm, workers up to 25 mm long


Entirely dark brown or black velvety body, bordered with a fine yellow band

Legs brown with characteristic yellow ends

**Asian Hornet**      **European Hornet**



Asian Hornet abdomen is almost entirely dark except for 4th abdominal segment.



Asian hornet 'hawking' for honey bee prey

Photos from: J. Hasaïne; Rachel Scopes and Nigel Jones; Richard Ball


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### Similar Species

**Asian hornet (*Vespa velutina*) for comparison**

- Queen up to 30mm long, worker up to 25mm long
- Legs yellow at the ends
- Dark brown / black abdomen with a yellow / orange band on 4th segment
- Head dark from above, orange from front
- Dark coloured antennae
- Entirely black velvety thorax
- Never active at night

Actual size




Q. Rome

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**European hornet (*Vespa crabro*)**

- Queen up to 35mm long, worker up to 30mm long
- Legs brown at the ends
- Yellow abdomen marked with brown on the upper part, not banded
- Head yellow from above, yellow from front
- Yellow antennae
- Thorax black with extensive brown markings
- May be active at night

Actual size




Roger Burgess

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**Giant woodwasp (*Dacnusa gigas*)**

- Larger than Asian hornet, female up to 45mm long
- Legs yellow
- Distinctive yellow and black banded abdomen
- Long cylindrical body unlike Asian hornet which has an obvious waist
- Long yellow antennae
- Female has an obvious long sting-like appendage (ovipositor) which it uses to lay eggs in trees

Actual size




Q. Rome

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**Hornet mimic hoverfly (*Volucella zonaria*)**

- Abdomen has more yellow stripes than Asian hornet
- Legs darker than Asian hornets
- Only one pair of wings (hornets and wasps have two pairs)
- Large, globular eyes

Actual size




Dixie Descouens

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**Median wasp (*Dolichovespula media*)**

- More extensive yellow and orange colouration on abdominal segments than Asian hornet
- Yellow markings on thorax unlike Asian hornet

Actual size




Q. Rome

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### Field Signs

Active April-November (peak August/September). Mated queens over winter singly or in groups, in various natural and man-made harbours – underneath tree bark in cavities left by beetle larvae, in soil, on ceramic plant pots – potentially any small, well-insulated refuge. Makes very large nests in tall trees in urban and rural areas, but avoids pure stands of conifers. Will use man made structures (garages, sheds etc.) as nesting sites.



For more information visit:  
[www.nonnativespecies.org](http://www.nonnativespecies.org)  
[www.nationalbeeunit.com](http://www.nationalbeeunit.com)

Alert!

Report sightings of this species to:  
[alertnonnative@ceh.ac.uk](mailto:alertnonnative@ceh.ac.uk)

Asian Hornet Identification leaflet. Source: [BBKA website](http://BBKA website).

workshop, and 11th February is planned to be an Asian Hornet spring track & trace training session, but this is subject to events. The committee agreed that we aim to publish a calendar of events for members in January.

We plan to revert back to the pre-COVID Introductory Course format with two in-person weekend courses, each with 30 attendees and aim to be taking bookings early in the new year. Attendees could volunteer at an apiary from the first inspection prior to the course starting to gain some practical experience before the theory sessions. It was suggested that we revert to refunding the BeeBasic fees for members who pass the exam, as a way of encouraging participation. Mentoring will be included as before. It was agreed that we should encourage mentors to have Bee Basic or equivalent experience. Also that we should encourage "roving mentors", on an informal basis.

We agreed that there is not enough demand for more talks arranged by LBKA, except that by David Evans on 24th January.

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## Asian Hornet Update

Update on what LBKA is doing about the Asian Hornet.

*Sharon Basse*  
[asianhornet@lbka.org.uk](mailto:asianhornet@lbka.org.uk)

We had a good Asian Hornet presentation and discussion at the AGM. It was good to see so many of you at the AGM and heartening to see how many of you have offered to become Asian Hornet (AH) volunteers and offer your support in one way or another. All help will be appreciated no matter how small.

The discussion on traps took up a good part of the meeting and by-catch was top of that list along with what trap and bait to use and when to use them. Ben had printed some 3D cones of differing sizes and had sent them to Jersey and France to have them tested. They worked and he made them available for free at the AGM. Thank you Ben.

A mapping system will be available hopefully by December and this will prove invaluable in tracking and tracing AH and mapping traps etc.

George offered up his logistic skills and these will come in handy as we plot a map for queen trap placement. In the spring. The plan is to ring fence London and place traps in strategic areas. We will be liaising with the NBU regarding this.

I am working on a paper for apiary management regarding the Asian Hornet and this will be made available soon.

Four members of the AH steering committee attended an AH conference in Hampshire this Saturday and will also be attending a Wash-Up meeting with the BBKA at the end of the month. A fuller report will be in the next news letter on the finding from these two meetings and this will help decide our action plan going forward.

Tristram Sutton, Annie McGeoch, Georges Mikhael and Yohanna Akladious

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## Sustainable beekeeping

Sustainable beekeeping – a call for greater collaboration to achieve more impact.

*Georges Mikhael*  
 LBKA member

"The density of honeybee colonies in some areas of London is likely to be detrimental to their well-being and possibly the well-being of wild bees as well". This was the message that spurred members attending the 2023 Summer Social into action. Delivered by the LBKA's Chair, Richard Glassborow, the London Bee Situation report was not necessarily surprising, but it did generate a drive by members to seek change. It was agreed by many at the social that we need to start a continuous process of strengthening our collective understanding of, and work towards, more balanced and sustainable beekeeping practices.

### The Journey

After the social, a small team quickly coalesced to define the objective, scope, methodology, and timelines of this project. Inspired by the honeybees we love, we adopted a consultative approach with a tight deadline: the annual general meeting (AGM). Our goal was to develop a document targeting the full spectrum of beekeepers (not yet started, hobbyists, natural, commercial, etc.) that provides guidance on how to work towards more sustainable beekeeping in London. The document would be periodically reviewed as further evidence emerges, and it should avoid being prescriptive.

We prepared an initial rough draft that was shared with seven (7) internal and external experts, including those with a good understanding of forage, honeybees, and other pollinators, a bee inspector, a couple of council ecology officers, and a natural beekeeper. We systematically collected and reviewed the feedback, and col-

lectively incorporated it into a revised draft, prioritising evidence-based information. We then shared the revised draft with the membership and invited everyone to share their feedback. We received some excellent and detailed suggestions, which we again systematically recorded and considered, and incorporated into a revised draft that was immeasurably better than where we started. This latest version incorporating feedback by members and experts was then submitted to the AGM for members to vote on for adoption.

## The result

Members attending the AGM on 8 November unanimously approved the document, [which can now be found here](#). While the team was excited to have taken one step forward on sustainable beekeeping in London, we believe our biggest contribution was highlighting the importance of creating collaborative, membership-driven, opportunities to deliver systematic change.

## What next?

Proud of our first steps, we are excited to continue the momentum and keep moving the topic of sustainability forward, particularly in the era of the Asian Hornet. The team will next focus on:

- ensuring there is a process in place to annually update the document based on new evidence and feedback from members
- start communicating about sustainable beekeeping to members and other key audiences. If you would like to be part of the team and contribute to more sustainable beekeeping in London, please get in touch!

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# November and December in the Apiary

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

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

## November

There is a saying in beekeeping that “Any fool can keep bees from May to October but it requires knowledge and skill to keep them from November to April”. I do not know the veracity of this statement but it does capture the challenge of bringing bees through the Winter months and into the following Spring. It is a lot different to keeping bees in the Summer. Most of the winter

preparation work is done from late Summer and Autumn and it is now too late to correct or amend many of those requirements which have been missed. However, this does not mean that there is still not work to do.

November and December are fairly inactive months for the beekeeper. However, a certain amount still needs to be done.

**Tidy up.** Tidy up the apiary if not already done. Any long grass around the hive should be cut back and overhanging branches pruned. Complete cleaning, sterilising and storing of equipment should have already been done. If not then it should be completed as soon as possible.

**Wax moth.** Check stored supers for evidence of wax moth infestation. The lifecycle of the wax moth is substantially different to that of the honey bee. A wax moth egg is temperature dependent regarding hatching and able to stay as an egg then hatch after a few weeks or months. Supers should be stored in a cold and draughty place if possible but also checked during winter. If any evidence of wax moth is found the best way to deal with it is to place the frame(s) in a deep freeze cabinet for 48 hours. This will kill the pest in all 4 lifecycle stages.

**Plan for varroa treatment.** Planning for further varroa treatment in December. December is the usual month for treating the colony with Oxalic Acid. Monitoring natural mite drop in November is a useful diagnostic tool and precursor to actual treatment next month. Insertion of the varroa floor for 1 week in November will give useful information to the beekeeper. If Autumn treatment with Apiguard or other such authorised product was successful then mite drop should be very low. If mite drop is high then the treatment has not been as successful as anticipated and the beekeeper should re-evaluate the Autumn methodology.

**Check hive is secure.** Check the hive is secure and that the roof cannot blow off or be dislodged. Placing of heavy items such as a couple of house bricks on the roof is usually sufficient for a National with a well fitting flat roof. They are designed not to blow off. A hive with a gabled roof, such as a WBC, or a nucleus hive may need tethering with rope.

**BBKA Basic Assessment.** For those who have not taken the BBKA Basic Assessment, please download the syllabus from the BBKA website and consider background reading with a view to taking the assessment next summer. The requirements are that you are a member of the BBKA and have kept bees for a minimum period of 1 year. The LBKA will not pressurise anyone to take the assessment but does actively encourage and assist those wishing to do so. We will offer revision tuition next April and will send electronic course notes to those LBKA members who wish to take the assessment next year. These will be sent out in November to those who have registered their interest. Reading about bees and beekeeping in the winter months is also

a useful way to spend our spare time and acts as a beekeeping bridge between the seasons.

**Consider your approach to next season.** Will you need an additional hive, nuc box or replacement frames? Most equipment suppliers have winter sales where they sell slight seconds. This is an excellent time to buy, especially if you search 2 or 3 websites for offers. If 2 or 3 people jointly purchase then you may even be able to save on the delivery charge.

Finally, do keep in touch with your association during the Winter months. We will continue to have meetings which will enable you to meet other beekeepers.

## December

December is a quiet time for beekeepers but an eye must still be kept on the apiary. However, one important task needed is the application of Oxalic Acid some time in December.

**Oxalic Acid.** Oxalic Acid only deals with mites on the adult bees and so must be applied when the colony is broodless or virtually broodless. Mid to late December is the usual time for treatment. Leaving it until mid January is not recommended as the queen will be laying by that time. Also, administration does set the colony back a little and it needs time to recover before spring gets under way. We have had a cold spell of weather in late November and early December which is likely to have produced a brood break. I anticipate administering my own colonies about 3 weeks later which will be circa 18th December. I will choose a cold day (or early in the day) when the bees are clustered. Although referred to as a "soft varroacide" this is a little misleading. Misapplication can be harmful to the bees and / or beekeeper. We are now unable to use the pre-made solutions and so must make up our own. It is a strong chemical and manufacturer's instructions should be followed explicitly and all safety precautions strictly adhered to. This is for the beekeeper's safety (do not inhale the powder) as well as the safety of the bees. Please keep the chemical away from children and carefully dispose of unused contents after use.

**Woodpeckers.** Woodpeckers may start to be a problem. Although this is usually a January and February issue, the cold weather may bring this forward to December. 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. I have been fortunate so far in that I have not had this problem with my hives.

**Mouseguards.** Check behind the mouseguards for a build up of dead bees, etc. Clear out if necessary.

**Water.** Ensure there is a water supply close to the colony. Bees become immobilised and die when the body temperature falls to or below 7C. They will make quick flights at outside temperatures below 7C 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. 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. Even better is to download the Basic syllabus from the BBKA website with a view to taking the exam next summer. Winter reading is a useful beekeeping bridge between seasons.

**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? Rather than just let the bees react and me follow it is more constructive to formulate a beekeeping plan for the following year. The bees may decide differently and it may become more challenging but it is worth thinking through a strategy. The plan could even be as simple as producing more honey. This may require some additional equipment and now is the cheapest time to buy.

I hope each and every one of us has a pleasant and peaceful Christmas, regardless of how we may choose to spend it. Hopefully, your colonies will have a very low varroa count by the end of the month and they will be in a stronger position to commence the spring build up in 2024.

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## Education Matters

Howards reviews LBKA's educational offerings last year.

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

Reading through the BBKA written exam results in the October 2023 issue of BBKA News, I could not help noticing the quantity of names of successful candidates from all around the country. Some counties had an impressive number of names, some over 12 with the largest being 18 in number. The alphabetical list of counties started with Avon and ended with Yorkshire. London's name did not appear at all as we did not have any member whatsoever taking any BBKA modular examination. There were 2 of our members who were successful candidates as members of neighbouring associations, one of whom, Lucie Chaumeton, passed 2 modules and both with Distinction. Well done Lucy! Myself, I have been a BBKA tutor for the modular examinations for a number of years but now only seem to tutor other association members via BBKA corre-

spondence courses, not our own members. There was a time, pre Covid, when the LBKA had educationally interested members actively taking these examinations and many taking the Basic assessment. The burning question is what has happened? In the past we had an active and participating membership, attendance at monthly meetings was both high and enthusiastic. At those meetings members forged friendships and communicated with each other. People would discuss (amongst many other things) educational matters, both BBKA and LBKA, resulting in large numbers taking the Basic assessment and several of these going on to learn with the modular examinations. This no longer happens yet appears not to be a problem in other county associations. Last year only 2 members took the Basic assessment. I would ask our members to inwardly reflect upon this. The BBKA education system is a massive resource available to us. Many other countries do not have anything like this structured opportunity that we have. Many other beekeeping associations' members avail themselves of this resource as the recent published examination list attests.

As usual we will make tuition available and facilitate the opportunity for our members to take the Basic Assessment and a modular assessment should they so wish. Details are as follows:

### 2024 BBKA Basic Assessment

Both the BBKA and London Beekeepers Association encourages members to take the BBKA basic assessment where possible. The BBKA requirement for entry is that the applicant has been keeping bees for a minimum period of 1 year and is a BBKA member. The assessment is fairly straightforward and the syllabus can be downloaded free of charge from the BBKA website. Follow the dropdown menu for "Members" then "examinations and assessments". The cost is £20 and entry forms can also be downloaded at the same time. There is no need to pay the BBKA entry fee at this stage.

Any LBKA member who has been keeping bees for a minimum of 12 months and wishes to take this assessment please confirm by email to [education@lbka.org.uk](mailto:education@lbka.org.uk). I will then be able to let you have some electronic course notes to read at your leisure over the winter months. The BBKA website should be sufficient to deal with any queries regarding the assessment. Alternatively, ask another LBKA member who has taken it. Preparation for the Basic is an interesting way of continuing your beekeeping activities through the winter months. Even if you have been keeping bees for several years but not previously taken the assessment then please do seriously consider taking it in 2024. It is well worth the effort.

London Beekeepers Association will also run a revision course in the spring for members wishing to take the examination. This is likely to last for 3 evenings (2 hours per evening) in early April. The assessment is both practical and simple oral questions. It lasts about

1 hour. We cover the theory on the revision nights and, for those wanting it, also offer a practical session at an apiary beforehand.

The assessment is not difficult, is within the capabilities of anyone who has been handling bees for 12 months and who is willing to download the syllabus and undertake some background reading. We also supply free course notes in electronic format.

### 2024 BBKA Modular examinations

We will run a 3 evening Module 1 revision course (dates to be decided) in February 2024 if a sufficient number is interested.

The Modules are written examinations, each on a different aspect of beekeeping, and will be held in March 2024. The LBKA usually offers tuition to members wanting to take one of these examinations and will continue to do so this winter. A lot of information is on the BBKA website. Anyone who is interested in developing their beekeeping knowledge by this route should first look at the BBKA website under the education section. There is a lot of information including a FAQ factsheet. Simply enter "module" in the search engine on the website. Then contact me by email on [education@lbka.org.uk](mailto:education@lbka.org.uk) to register your interest. I will then communicate directly with you. People who have taken the Basic in 2023 may be particularly interested in pursuing this.

Please note that a certain amount of commitment is required, both by me as tutor and by the candidates. It is not something that can be decided and pursued at the last minute. Those who may be interested should contact me now. Any revision course in February will not be sufficient to take a person who has not undertaken their own study up to examination standard by mid March. The course will be aimed at condensing and improving the knowledge already obtained by personal study during the winter months.

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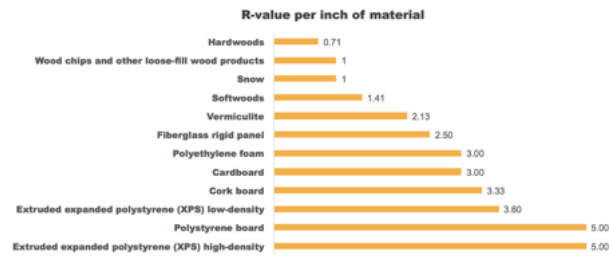
## Thermoregulation and insulation

This article taken from the writeup of a November Monthly meeting a couple of years ago, on the important and interesting issue of insulating beehives.

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

This is a writeup of a November Monthly meeting a couple of years ago. Vlad Zamfir led the first half of the meeting, presenting the results of his reading on how

## SOME INSULATING MATERIALS



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

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 CO<sub>2</sub> 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 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 tem-



Geoff showing us how to insulate our hives.

perature 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

Geoff Hood 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 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 orthodox.

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.

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## The Bees that make Christmas

We're wheeling out Mark's festive tribute to bees, a tradition for our December newsletter.

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

### 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 Lasioglossum 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 pollination 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.

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## Upcoming events

See our [website](#) for an up-to-date list.

**Sunday 10th December: Monthly meeting: Christmas quiz, social and honey tasting**

11:00-13:00 at *The Foundry, 17 Oval Way, London SE11 5RR*

This month's meeting will be a Christmas Quiz (with an amazing one-of-a-kind prize up for grabs) and festive social with food and drink. We will also have honey tasting! So - if you can - please bring along some of your honey for tasting. The variety of honey across London is always wondrous.

### Saturday 13th January: Monthly meeting: Asian Hornet queen trap workshop

11:00-13:00 at Battersea Park Children's Zoo, Battersea Park, London, SW11 4NJ (meet at the main entrance)

Asian Hornet queen trap workshop

### Wednesday 24th January: Winter Lecture: Bait Hives by David Evans

19:00 at Via Zoom - [book your free ticket here](#).

This talk covers theoretical and practical aspects of swarms and bait hives. Starting with a brief overview of honey bee colony reproduction, he will cover the role of scout bees in identifying a new nest site, the process of swarming, bivouacking and then relocation to the chosen location. After a brief digression into capturing swarms, he will then discuss setting up bait hives, the choice of box, its location and contents. This covers both scientific studies and how these findings can best be applied to practical beekeeping. Discussion of the contents of the bait hive necessitates another digression into using foundationless frames, which offer particular benefits for bait hives. The talk closes with a discussion of what you can expect to observe when scout bees find and favour your bait hive, and the things you need to do having attracted a swarm. These include moving it somewhere else and managing the Varroa that also arrive with the swarm.

David Evans is Emeritus Professor of Virology in the School of Biology, University of St. Andrews. His research interests included the replication and evolution of human and animal viruses, and the biology and control of both Deformed wing virus (DWV) and Chronic bee paralysis virus (CBPV) of honey bees. He has kept bees for many years and writes a well respected blog every Friday.

## Trustees

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

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

