

# THE IPSWICH & EAST SUFFOLK BEEKEEPERS' ASSOCIATION

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## Newsletter for

# April – June 2025

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*Opinions expressed in this Newsletter are not necessarily those either of the Editor or of the Association.*

The Suffolk Beekeepers' Association is an Area Association of The British Beekeepers' Association. <http://www.bbka.org.uk/>

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Not only is David Adams our new President, he is also an Honorary Member.

## The Suffolk Show. Tuesday 28<sup>th</sup> May & Wednesday 29<sup>th</sup> June.

You have already been asked if you are willing to help and we have that information; if anyone else likes to volunteer, please inform Richard, our Secretary. Quite as importantly, we would like all members to enter at least one of the Show classes, preferably more. Besides honey, there are candles, cakes, jams, pickles, etc. – the draft schedule will soon be available from the website.

## Wanted!

We need a new Newsletter Editor, a Speaker Finder and some Ten-Minute Talk speakers. The Association doesn't run by magic; things don't just happen; please help.

## Our Wherstead Teaching Apiary

In 2017, on Barrie Powell's initiative, we signed lease at a peppercorn rent (literally) with Ardencrest Limited, the legal name of the Eastern Counties' Co-operative Society. We then moved our apiary to Wherstead Park, their HQ, and installed our hut and apiary. While relationships between us are good, we have no security of tenure there so we continue to look for a small suitable piece of land we might buy for an apiary; so far, we have not found one.

The Co-op has much capital tied up in the estate so wants to release it by selling and leasing back the buildings they currently occupy. That would give them money to develop. We understand that a condition of the sale would be that tenants like us with a current lease remain until their lease expired. For us, that's October 2027. The Co-op's Real Estate Manager, Regina Peachey, expects the new owners to offer us a new one. But there's no guarantee of that, or of being granted the same terms.

We have some money saved and amazingly large grants are often available to charities like us so, if anyone knows of a small piece of land that might be suitable for an apiary, please tell one of the Committee.

The ninth issue of the electronic monthly European Beekeeping Association magazine "NO BEES, NO LIFE" is now out. The [magazine](#) is completely free and is published in English

## In memoriam: Barrie Powell



Telling the bees

## Swarm Search

is the new system set up by BBKA (British Beekeepers' Association) to provide a direct link between those who report swarms and those happy to collect them. The way it works is that members of the public/beekeepers/anyone finding a swarm can go to the BBKA website and find the Swarm Collector page and map. They can then access swarm collector contact details and report swarms directly to the individuals registered. Swarm Collectors may then collect the swarm or simply provide advice.

If you opt into the system, the Swarm Search map will then show your phone number and name in your postcode location. As the swarm season moves on you may opt out at any point (for example, you don't want to collect further swarms).

Please see the swarm collector page:

<https://www.bbka.org.uk/find-a-local-swarm-collector>

Finally, when you are on the swarm search map, check to make sure you are happy with the details.

Members can opt out at any point. *Thanks to Harrogate & Ripon BKA*

## Practical beekeeping advice from Mike Rowbottom

The intention of this note is to present some points that may be helpful for beekeepers who are just beginning. There are plenty of books for new beekeepers but in my experience, the subject of practical issues that arise when inspecting a colony are not well served.

If you use a hive stand to keep the brood box at a more convenient height, then use a spare hive stand to minimise the height of lifting hive boxes during an inspection.

Before starting any inspection, be quite clear as to why you are inspecting. If you are not clear why, then think carefully before proceeding.

When removing for the queen excluder to inspect the brood, always turn it over and look for the queen. Regardless of whether or not she is seen, you can then be confident that she will remain with the brood and not get into the supers.

When looking for signs of potential swarming in a brood extending over two or more boxes, if there are no queen cells in the top brood box then it is extremely unlikely that there will be any in the lower brood box(es), and there is no need to look for them. *[However, if there are two brood boxes, it is usually considered good practice to inspect the lower one first.]*

If you are working to a 7-day inspection interval, be sure to pull down any queen cups with eggs in them in the inspection, as they can be anything up to 3 days old and

capable of delivering a sealed queen cell before the next inspection.

Some books advocate putting the first brood frame removed from the brood nest on the floor by the entrance. This is quite a good way to lose a queen; the use of a frame box is strongly recommended as a safe temporary home for this



first frame.

Such a box is also a good place to put a frame with the queen on if you are still looking for signs of swarm preparation. Nothing is more annoying than finding the queen and returning her into the brood box, only to find a good unsealed queen cell a couple of frames later.

If you find a newly mated queen on a brood frame in a brood nest from which she was mated, there is a risk that she may fly. If she does fly, calmly put the colony back together. As long as the hive isn't moved, she will know her way home and, at the next inspection, it is most likely you will find her back in the brood nest.

If the brood box frames are all either laid up and/or full of stores, shake the bees off a couple of stores frames and replace them with frames of drawn comb or foundation. These new frames should be placed inside the pollen frame at the edge of the brood nest. Keep the stores frames for use with other colonies later on. NB Just in case there's no flying weather before then, do ensure the bees have adequate stores to survive until a subsequent inspection. Nothing is more depressing than finding a colony that has starved.

If you have the misfortune to break a frame lug while trying to loosen a stuck frame, shake off the bees and put it down away from the hive. Two of the nails used for hive manufacture (50mm long 3mm diameter galvanized lost head nails) can be driven into the remaining top bar as a

temporary support and a hive tool makes a reasonable emergency hammer.

Devote at least two inspections each year to looking for foulbrood disease and doing nothing else. Refresh your memory on the appearance of healthy brood. Such inspections require the bees to be gently shaken off every frame in turn looking carefully at all the cells. The sealed cells should be dry, slightly domed and a uniform biscuit colour. Healthy unsealed cells should have shiny pearly white larvae, lying comfortably curled in the cell with their segments all visible. Any departure from these descriptions requires further investigation. Sunken and/or moist cappings suggests American Foulbrood while discoloured unsealed larvae or unsealed larvae in distorted positions or all melted down describes European Foulbrood. Either requires contact to be made with your Seasonal Bee Inspector. Be aware that finding foulbrood is an unwelcome shock, and that the first reaction to shock is denial. Fight this, and call an inspector immediately.

Bees work to a remorseless timetable when rearing new queens. Deal with the presence of advanced or sealed queen cells immediately.

Never ever kill a queen until you are absolutely convinced that you understand the situation of the colony.

Mike Rowbottom, Harrogate BKA

## Don't Become a Beekeeper!

*This article by Alison Benjamin was reprinted from The Guardian newspaper: the links have been left in so you can pick them up if you wish. The brackets are edits to clarify that she is talking mainly about city beekeeping.*

The best way to help (wild) bees? Don't become a (city) beekeeper like I did.

When I set up my honey bee hive, I had no idea I might be harming wild bee species. Now, I've found better ways to encourage biodiversity.

I took up urban beekeeping more than a decade ago with the best intentions. I wanted to help to save bees from the many threats they faced in the countryside – the modern farming practices that douse crops in toxic pesticides and rob bees of [wildflower meadows](#). My small back garden, filled with bee-friendly flowers, [seemed like a paradise in comparison](#).

But what I didn't know was that by keeping bees I would only be helping one species of bee – the managed honey bee, which [doesn't really need saving](#) – and possibly harming others.

Most people think [all bees](#) make honey, are striped, sting, and live in a colony with a queen, but this isn't the case.

There are [270 different species of bee](#) in the UK, and the honey bee is the only one that fits that description. Globally, there are about 25,000 different types of bee; many are harmless, they come in a plethora of patterns and colours, and only a tiny percentage live in social colonies. The

overwhelming majority are solitary, which means that the female bee nests alone in nooks and crannies or makes underground burrows in which to lay her eggs. These solitary bees, along with bumblebees – the plump, densely haired ones that seem to defy aerodynamics – are all wild insects, which puts them at much greater peril from habitat loss than the mollycoddled honey bees we have in hives. When I collected a swarm of honey bees from my local beekeeping association to put in my hive, I knew none of this, nor that my newcomers could do more harm than good. Little research had been done back then to understand the [decline in wild bees](#) and other pollinators, including the potential negative impact played by managed honey bees. But recent studies conducted in Europe and North America seem to suggest that when honey bees are introduced into urban areas, they can outcompete the wild bees.

If you really want to help a variety of bees, the best way is to plant flowers that bloom sequentially from early spring to late autumn. Bees feed only on nectar and pollen from a diversity of flowering plants, and in return pollinate them. Honey bees have an unfair advantage over wild bees when it comes to competing for nectar and pollen because there could be 50,000 of them in a single hive at the height of the summer, compared with a hundred or so bumblebees in a nest, or a single solitary bee. They are also capable of foraging much further than other bees, and have devised an ingenious [waggle dance to communicate](#) to their fellow

workers the directions and distance to an abundant source of food.

[In Munich](#), an increase in hives in the surrounding area reduced the number of wild bees recorded between May and July in the city's botanical garden. Similarly, [in Paris](#), fewer wild bees were observed when more hives were introduced across the city. The findings were echoed [in Montreal](#), which between 2013 and 2020, witnessed a twelvefold increase in hives from 250 to almost 3,000. Sites with the largest increase had the biggest drop in wild bee species.

[2020 report by Kew Gardens](#) assessed the number of flowering trees, shrubs and flowers in a typical urban setting and how many beehives it could reasonably be expected to support. It calculated that a square kilometre of urban landscape in the UK could support just seven and a half hives. Although we don't know the exact number of hives in our towns and cities because registration isn't mandatory, it is estimated that there could be [more than 50 for every square kilometre](#) in some parts of London.

One of those hotspots is likely to be the [City of London](#), where companies have been installing rooftop hives over the last few years with the best intentions (and also to boost their green credentials). Although half of the UK's wild bee species have been recorded in London, a survey of the City's green spaces last summer by the charity Pollinating London Together found that [honey bees accounted for](#) 57% of all pollinators recorded, with bumblebees just 16% and solitary bees 9%.

From my own experience of creating habitat for wild bees in the capital and monitoring their numbers on a monthly [bee walk](#) through my inner-city neighbourhood from March to October, I know there could be a number of reasons for

## Another new forage crop for bees

On 5<sup>th</sup> March Dale Gibson spoke at a meeting of the Ipswich & East Suffolk BKA. He and his wife Sarah and one helper. A Bulgarian, run the enterprise Bermondsey Street Bees with about 100 colonies, some in Essex and the others in London. In conversation, Sarah mentioned that *Limnanthes douglasii*

their scarcity other than an influx of honey bees. New flats and workspaces are going up on sites where wild bees could previously have been nesting and foraging, and many new-builds are so tall as to shade out green spaces below. Our wetter winters and hotter summers may also be taking their toll on nest survival rates. So, honey bees are likely to be only part of the problem. [‘Honey bees are voracious’: is it time to put the brakes on the boom in beekeeping?](#)

Beekeeping is a fascinating hobby, and raw honey harvested from your hive is much tastier and healthier than anything you will buy from the supermarket. However, honey bees are livestock, like pigs and chicken. And just as keeping chickens won't save wild birds, honey bees won't save wild bees, and in some cases could be contributing to their demise.

If you want to help a variety of (wild) bees, the best way is to plant flowers that bloom sequentially from early spring to late autumn – even if you only have a window box or pots on a patio. Avoid gardening with chemicals, and leave areas undisturbed where solitary bees and bumblebees can nest. But don't take up beekeeping (in cities). I now work with companies to install and maintain [bee-friendly gardens and bee hotels](#) for solitary bees on office rooftops across London, and I [educate people](#) about how they can help wild bees at home.

I wasn't a beekeeper for long because when I got stung, I had a severe allergic reaction. I'm so glad I had to give it up. It allowed me to save (wild) bees instead.

Alison Benjamin is co-author of [The Good Bee: A Celebration of Bees and How to Save Them](#)

(Poached-egg plant) is an up-and-coming crop, greatly attractive to bees. Apparently, a much-valued oil can be extracted from the seeds. This is one of the pollens that features in the BBKA's Microscopy assessment. I always wondered why when most of the others are of wild plants.

## Notes from the Eastern Region RBI's, meeting on 22<sup>nd</sup> March 2025

You will have heard that Rachael Reeves is trying to reduce the size of the Civil Service. One small element of it is Defra's National Bee Unit. Andy Wattam, the National Bee Inspector, is currently short of eleven bee inspectors and he is not allowed to recruit.

**One message that came across loud and clear was that if the NBU doesn't know where your apiary is, its inspectors can't help you. Have you registered with BeeBase?**

There are about 50,000 beekeepers in England & Wales. Each year the NBU's inspectors manage to inspect only

about 10% of them. In the detection of disease, nationally 34% is found by ordinary beekeepers who notice something wrong and notify a bee inspector. In the East of England only 17% is found this way! Are beekeepers in the East of England afraid to tell a bee inspector they think there's something wrong? Or do they just not notice? In inspecting, to be able to see the brood, it is important to shake the bees off their frame.

From reading the BBKA News, it might be thought that many no longer treat for Varroa. One Eastern Region Bee Inspector did not treat one of his apiaries. He had mixed

success (more swarms than usual and not much honey) until the eleventh year when all 13 colonies in that apiary died.

**Treating for Varroa.** Most beekeepers treat too late; this should be done in early August.

A reminder: hive swarms on plain foundation, not drawn comb, and don't feed them for the first 48 hours. It is important they metabolise all the honey they bring with them AND so destroy any pathogens it may contain, not store it.

## Hornet deterrent



Treat swarms with oxalic acid in sugar syrup – any Varroa they bring with them can't hide in capped cells so will be killed.

In 2024, there were 29,000 reports of sightings of Yellow Legged Asian Hornets; only 6 were true! The busiest month for genuine sightings was October. Pest controllers claim £100 per YL Hornet nest destroyed so are always pleased to help! If you think you have seen one, take a picture. Do you have the app on your phone?

Each Yellow Legged Asian hornet can eat up to 50 honey bees a day! They catch most of their prey by hawking, this is hovering outside an active hive and grabbing bees as they return.



One way French beekeepers have found to be effective in preventing this is to fix a plastic baffle box over the entrance to the hive. The bees quickly learn to fly directly through the holes in the baffle box whilst the hornets appear to be very reluctant to follow suit. Any that do can be quickly outnumbered and dealt with by the colony's guard bees.

These guards are currently available from Thornes at a cost of £20 plus postage and packing.

## “EARS” – our East Anglian Research Student

This is a scheme for widening and deepening the pool of bee research scientists by funding students' PhD studies – and, with some luck, finding answers to some ordinary beekeepers' day-to-day problems. It was originally the idea of Giles Budge, now a Professor at Newcastle University, and was put forward at a meeting called by the Regional Bee Inspector of the East Anglian beekeeping associations. These are: Bedfordshire, Cambridgeshire, Essex, Hertfordshire, Norfolk, Peterborough, Suffolk and West Norfolk & King's Lynn. While funding a studentship would probably be beyond our financial means, the plan was for us to be “the industry partner” and use the government's Biotechnology and

Biological Sciences Research Council (BBSRC) grants scheme.

This worked well for the first three students but the fourth withdrew and since then EARS has been in the doldrums. The EARS committee still holds some £16,000 and the BKAs more awaiting a resolution and a new student. Finding a suitable student can be difficult. Finding a good research project can be even more difficult – particularly as there is competition between the researchers for good ones. There is no reason why EARS must be at PhD level. Anything that improves bee welfare in useful ways could be considered.

At the Regional Bee Inspector's 21<sup>st</sup> March 2025 meeting of the East Anglian beekeeping associations, two new projects were suggested.

One is to develop a way an App using quick digital smart phone pics to detect abnormal brood patterns and so detect AFB and EFB and, of course, other conditions. The aim is to give more confidence in the recognition of abnormalities and then to increase contact with Bee Inspectors. FACT: only 17.3% of cases of EFB have been recognised by Eastern Region beekeepers at present! (AI is already being successfully used in human medicine to assist in better diagnoses – from diabetic eye disease, to interpretation of mammograms and processing of pathology specimens.)

## Making Metheglin - Spiced Mead

Mead is something I've been making since I started keeping bees about ten years ago. I've made all sorts of country wines and beers as a hobby since the 1970s and mead has added a new dimension. It's a great way to use either extracted honey which turns out to have too high a water content for sale, or older honey which has separated or granulated coarsely. If it still tastes good, then try making it into mead!

I usually make meads with fruit bases, which are melomels. For my latest batch, brewed in November with Christmas approaching, I thought I'd try making a metheglin, as I'd not made this before and I like mulled wine.



*Cleared mead after syphoning*

The other was to use genetic engineering to make Varroa sterile. The US company GreenLight Biosciences produces Vadescana. This acts on the CALM1 gene which controls the production of Calmodulin. In many animals Calmodulin acts as an intermediary protein that senses calcium levels and relays signals to various calcium-sensitive enzymes, ion channels and other proteins. If Vadescana is fed to bees in sugar syrup, it is later ingested by the mites feeding on the larvae, making them sterile. I understand that Vadescana is already in the university of Hertfordshire bio-pesticides database and EPA certification has already been applied for in the USA. Costs are unknown.

Other ideas would be welcome - tell us what you think please!



*Cleared mead after settling*

*Making wine and mead was part of cooking in my grandmother's day (although she was teetotal herself). Mother and daughter would make the country wines in the kitchen, without much of the modern chemicals and yeast varieties to hand and bubbling wines and home-made pastries and cakes filled the kitchen with delicious aromas.*

When I started brewing, I nervously followed recipes and methods, but now I'll often invent a recipe as I go and just see how it turns out! For my metheglin I made a basic mead with 4lb of baker's honey, juice and grated rind of a lemon, three pints of tap water and a packet of whole mulled-wine spices. I let the combined ingredients barely simmer in a large pan for about ten minutes and then let the pan cool quickly to about 30°C in the sink, floating it in cold water. I

poured the cooled must and a champagne yeast into the demijohn through a funnel, ensuring all the bits of spice went in, topped it with an airlock and sat the demijohn in a pie dish near the radiator.

It helps to add yeast nutrient, to nourish the growing yeast culture. I do this after about three and nine days, sprinkling it into the must through a dry funnel. You can follow progress by watching the bubbles in the airlock slow down day by day. When it's starting to make a creamy sediment and the bubbles have slowed down, you can either let it carry on somewhere cool until it stops and clears by itself, or get right on with the next stage.

I made a pot of strong tea which I left to cool, then poured the mead slowly through a sieve down a funnel into a clean demijohn leaving just the spices behind. I crushed and added four Campden tablets to the mead (these are used to stop the fermentation and kill the remaining yeast), and I added a teaspoon of dry bentonite (this is a pure clay which sticks to

the yeast cells and makes everything relax to form a firm creamy sediment). I added the cooled tea to top it up, put the airlock on and put it in the fridge. (In the winter, the garage is often as cold as the fridge and works just as well.) Once the mead had cleared, I siphoned it into a clean demijohn. I poured the bottom sediment through a funnel into a clear wine bottle. I left the airlock on the clear mead and a loose cork on the wine bottle, and put them both back into the cold for another few days. The wine bottle is narrow, so the sediment quickly falls to the bottom, leaving a clear top for tasting! I put an elastic band round the bottle to mark the top of the sediment, so I can see when it has finished settling.

I was very pleased with how good the finished metheglin mead was. It was clear and palatable in early December and we enjoyed three bottles, labelling a couple more to put away for next Christmas!

Alan Smith

## Nature's Calendar

The Woodland Trust run an excellent phenology calendar — [Nature's Calendar](#) — with 'live' species maps. It's a great resource, with historical records going back a decade. Note that there are issues with the map displaying on some browsers; Prof David Evans uses Vivaldi (a Chrome variant), and they don't work, but they're fine on Safari or Tor, so be prepared to try an alternative if needed. It's worth the hassle ... you can see how this season is progressing, and how it compares to previous seasons.

Nature's Calendar is a citizen science project. Anyone can volunteer to become a citizen scientist, and every single

Nature's Calendar volunteer adds vital information to the database.

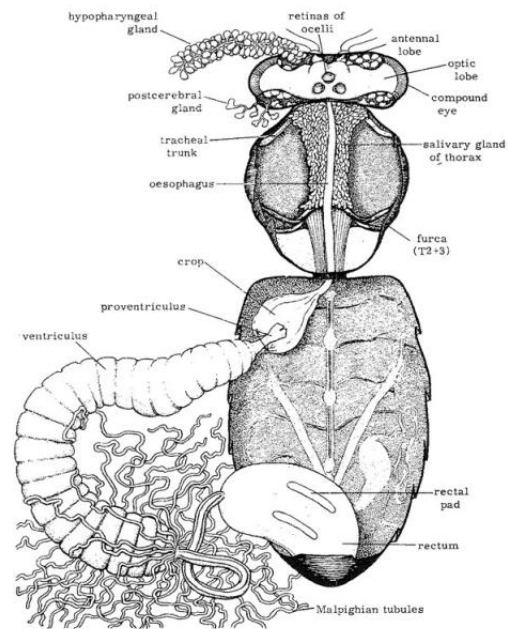
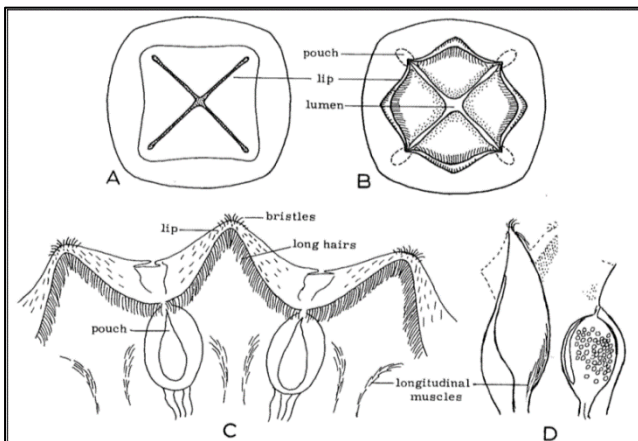
What it records and why. The plants, animals and fungi you can record have been selected to help us understand how nature is affected by weather and climate change. Join in and let us know what's happening to wildlife near you.

Organised beekeepers, with good hive records, might even be able to find some dependable correlates of swarming in their area. *Numerate*, organised beekeepers, could consider accessing the datasets and trying to do something statistically meaningful with them.

## The Honey bee's Proventriculus and Crop

At the January meeting of the Icenii Microscopy Study Group, Peter Sunderland led an investigation of the honey bee's proventriculus. It is his work that follows.

In 1986 the fine structure and function of a proventriculus (the valve between the crop and the ventriculus or midgut) were studied by Peng and Marston using scanning electron microscopy and video-recording in live bees. Their observations showed that this organ is used to engulf pollen and other particles in the nectar which is carried into the crop. The four lips are controlled by its internal and external



muscles. Combs of filiform-hairs (70µm in length) located on the margins of the lips 'catch' and filter particles from the fluid. By repeated filtering, opening and closing actions of the hairs and lips, particles are filtered and collected in pouches

between the ventricular folds to form boluses and are eventually passed into the midgut.

This study found that particles ranging in size from 0.5 to 100µm in diameter, including dandelion pollen, Torula yeast, bee disease spores of *Nosema apis* (now *Varimorpha apis*) and *Paenibacillus larvae* (American Foulbrood), and man-made particles could be filtered by the hairs. Small particles (0.23µm in diameter) filter through the hairs and return back to the fluid. Large particles (100–200µm in diameter) were caught between the stylets of the mouthparts and are not ingested. They say these observations suggest that the particle size plays an important role in determining what can be taken by the mouthparts and the proventriculus and what can later be utilized as a food source by the bee.

Further research by Vasquez and Olofsson (2012) of the crop itself showed that many different lactic acid bacteria (LAB), are present. These are well recognized beneficial host-associated members of the microbiota of humans and

animals. These abundant, diverse and ancient LAB microbiotas have beneficial effects on bee health, defending them against microbial threats. This finding of LAB in all extant honeybee species, plus related apid bees, one of the largest collections of novel species from the genera *Lactobacillus* and *Bifidobacterium* ever discovered within a single insect, suggest a long (>80 mya) history of association. The dominant LAB member in bee associated microbiotas is *Lactobacillus kunkeei*. Those showing potent antimicrobial properties are acquired by callow honey bee workers from nestmates and maintained within the crop in biofilms - though beekeeping management practices can negatively impact this microbiota. Prophylactic practices that enhance LAB, or supplementary feeding of LAB, may serve in integrated approaches to sustainable pollinator service provision. They believe this microbiota will become central to studies of honeybee health and act as an exemplar case of insect-microbe symbiosis.

## Varroa-Sensitive Bees by Bec Kay, Master Beekeeper

We attended the recent BIBBA conference on varroa sensitive hygienic bees. (VSH). We treat our bees but have a keen interest in bee breeding and the latest research. We keep our varroa boards in all year round, insulate all year round, feed in the Autumn and have around 40 colonies at present.

I think most of us are beginning to understand that varroa resistant bees can sense varroa infested capped worker cells and remove the pupae. It turns out that grooming and biting at mites makes little difference; it is the interruption of the mite brood cycle that results in varroa resistance.

Here is a summary from the conference:

1. There is a good chance that we have a local population of VSH bees out there, maybe 10% of all colonies, and they are happily coexisting countrywide in close proximity to non VSH colonies. All colonies can sniff out and remove dead pupae in capped worker cells, but only VSH bees detect a problem early enough in the brood development to interrupt varroa breeding and remove infested pupae while they are still alive. (5, 6 or 7 days after capping at the pink/purple eye stage). The pupal removal kills the varroa offspring and releases the foundress mite. After 3 interrupted cycles the females become infertile. 40% of mature mites in VSH colonies are therefore infertile. Infested drone brood is not routinely uncapped or removed/chewed out.
2. Most people we have spoken to who have simply stopped treating have lost all their bees at around 3/4 years after stopping treatment. We now understand why this happens. The non-resistant colonies get overwhelmed and collapse at around 3 years and the

varroa migrate through drifting, drones and robbing to VSH colonies. These also get overwhelmed and collapse, mainly because there is too little healthy brood left to be sustainable.

**So, whatever you do, don't just stop treating.** A colony still collapses at 40% load of varroa.

3. To transition safely we have to carefully monitor to be sure which colonies are VSH and treat and requeen the rest. This may mean teaming up with others to get a big sample population. There was a strong message not simply to stop treating and that an element of queen rearing is needed to get going, even if that is just splits. Beginners should treat their colonies unless they have a long term (over 6 years?) treatment-free source of bees. We are hoping to identify our VSH colonies and breed from them this year, replacing non VSH as we go, at least in one apiary.
4. To monitor, mite drops must be counted every week and the daily average calculated over a long period (e.g., a rolling average over 7 to 14 days). We've been doing this for 6 months (that's a royal 'we', Mark does the work). A quick scan and an approximation is good enough. We have seen a surprising difference in our treated colonies including the mites killed by treatments. The lowest was 45, the highest over 1,000 over 6 months. It is good to see bald brood (only sometimes and only on the patches of frames that are at the pink/purple eye stage, around 5 to 7 days after capping). It is also good to see chewed out pupal remnants and dead, immature, pale mites on the varroa board. You can also do the Harbo test (see reference B). 5 mites or less, daily drop on average is ok, with a spike after splits when the colony is queenless. There can be a big spike in

VSH



August, when they are 'stores safe' (they have a super of honey over the nest and don't feel the need to forage and put aside more stores, so it's important not to remove this). Also, in August there is only worker brood so the bees can pull out all infested cells (remember, they don't act on infested drone brood).

5. Emeritus professor Stephen Martin says 100% of VSH offspring are also VSH as the traits are passed on through epigenetics in the female line (so you can forget punnet squares and the stuff you hear about recessive alleles!). This may also mean that you need a higher mite drop than the NBU varroa critical varroa level for a season to trigger the epigenetic mechanisms. This is all very exciting as, once you've cracked it, you can reduce your monitoring frequency to maybe once a month. Please don't ask me to explain epigenetics in much detail. I can try but it's complicated. It's to do with gene activation and inheritance outside of the classic Mendelian genetics, DNA and meiosis. A good example is queen development from a worker egg, due to cell orientation and feeding. The bees do not need to evolve a new trait, we just need careful selective breeding without overwhelming the favourable colonies to develop existing VSH traits in our colonies.
6. The NBU 'board count' numbers are unnecessarily cautious. They reduced the recommended trigger, which was carefully researched and proposed by the above, from 5 mites or more in winter to 2 mites to be extra cautious. I will let you speculate about his reaction. Sugar roles, alcohol washes, etc. only count phoretic mites at a single point in time and therefore are not good indicators. (Thank goodness as they are so tedious.)
7. They don't yet know what role drones play. Open mating doesn't seem to dilute VSH but drones do seem to be able to spread VSH somehow. Swarms from long-term, free-living colonies are probably a good place to start looking for VSH stock - as long as they have all the usual desirable characteristics. More research is on its way. It is possible that free-living and VSH drones are winning the 'race to mate' because they are raised in right sized cells, free of traces of miticide, not cooled during development during inspections or exposed to the high viral load from mite transmission.
8. Deformed wing virus - DWV 'B' - is the main reason for collapse in high varroa colonies. They are effectively injected with the virus by the varroa so have an astronomically high viral load compared to 'natural' exposure such as ingestion.
9. There is also evidence that VSH colonies have reduced levels of chalkbrood. Sadly, there is no evidence that

VSH bees reduce Nosema (properly now Variforma) levels, however the experts think winter losses are mostly due to Varroa and DWV and that high presence of Nosema is incidental (90% of bees in Hawaii have and cope with high levels of Nosema ceranae, there's also been a 15-year study in Germany). Efforts to manage Nosema should not be a distraction from VSH.

(*Nosema ceranae* is highly prevalent in Sheffield and nadiring is common practice. We have picked up infections in 90% of our colonies and a bee health day has shown it to be present in virtually every dead out and most apiaries. The experts are saying it's not a problem but it remains of high concern locally. Personally, I wonder if nadiring promotes *Nosema ceranae* due to the additional oral processing of stores, so trophallaxis is a vector. This year we will put the super for the bees above the nest, we hope this will also give the bees less work to do with stores ('stores safe') so they can focus on uncapping and removing infested brood if they are VSH.)

August is a key time, when bees need to be spending time identifying and removing infested brood in worker cells. We don't yet know how this will interact with 'heather season'. Treating before winter bee production is always an issue and we hope that developing VSH colonies will help and the bees will find time to deal with varroa and produce a heather crop. It is only a small percentage of un-cappers and removers that are needed, so hopefully the heather flow will not be a distraction.

We suspect that the reduction in the amount of drone brood is the biggest factor leading to high mite drop in August and not the reduction in foraging. At this point mite reproduction can only take place in worker brood leading to higher levels of detection and pupal removal. We also suspect that the full super above the bees helps with insulation at this time.

10. Varroa is now a 'first world problem' as we can afford to treat. Most South African and South American beekeepers can't and their bees have developed resistance through natural selection.

We are feeling more hopeful than ever that we can successfully transition. We hope these insights help. It's great to have others interested too. Please message me ([bexjkay@gmail.com](mailto:bexjkay@gmail.com)) if you want to be kept in the loop with our journey.

References:

- A. <https://www.varroaresistant.uk/research/>
- B. The Harbo test details are here: [https://youtu.be/l43\\_ISCRAgY?feature=shared](https://youtu.be/l43_ISCRAgY?feature=shared)
- C. Nosema: <https://pmc.ncbi.nlm.nih.gov/articles/PMC3420906/>

## Could using pollen prevent roads going into holes?

*And if it will, will the bees - and all the other pollinators - be left struggling?*

By Joe Pinkstone, Daily Telegraph Science Correspondent (Edited)

Oil-rich plant spores in a hybrid material raise hopes of preventing pot-holes. A scientific breakthrough may have discovered how to prevent the holes from ever appearing. Experiments by academics at King's College London (KCL) have found a self-healing asphalt, which could lead to roads that never get potholes. Though the work has yet to be tested on an actual road, the study has raised hopes that traditional asphalt, which is brittle and easily breaks, could be replaced by a more durable alternative. Bitumen, a thick and heavy constituent of petrol, is the main component of asphalt but it becomes weak and brittle after exposure to oxygen. This leads to oxidation, the same process that causes rust, cracking asphalt and weakening its structural integrity. The exact process of how the bitumen falls apart is, however, still unknown.

KCL scientists tasked an artificial intelligence model, aided by Google technology, with learning more about how atoms in the viscous bitumen flow and interact with chemicals in the air. Lab-based experiments inserted tiny strands of plant-based materials, called spores [*pollen spores?*], throughout the

bitumen. These contain tiny amounts of oil which are released when the asphalt cracks. The oil helps fill in the newly formed cracks and repair the surface before the cracks become bad enough to pose structural issues.

"This work proposes, for the first time, the use of extremely resistant biobased spores for the encapsulation of recycled oil-based rejuvenators to produce more resilient self-healing pavements," scientists from Chile, who have now continued the work at KCL, write in their study. It was published in 2022 in the journal *Applications of Polymer, Composite, and Coating Materials*.

The new form of bitumen is a hybrid material with the strength of traditional asphalt and spores woven throughout, creating a cork-like porous material. Dr Francisco Martin-Martinez, an expert in computational chemistry at KCL who co-authored the pioneering study, said: "We want to mimic the healing properties observed in nature. "For example, when a tree or animal is cut, their wounds naturally heal over time using their own biology. "Creating asphalt that can heal itself will increase the durability of roads and reduce the occurrence of potholes."

## The effects of smoke on honey bees

It is often said: "Smoke give bees the impression that there is a forest fire and they gorge on honey and nectar stores before having potentially to abandon their nest."

Tom Seeley in *The Lives of Bees*, pages 82-84, describes how all 17 colonies of *Apis mellifera capensis* nesting in rocks, sat out a fire that engulfed 988 hectares even though several suffered partial destruction. He comments: "What it reveals, however, is a bit different from the standard explanation for why honey bees fill up with honey and become quiet when they smell smoke: to prepare for abandoning the nest to escape the fire. I think the standard explanation is probably incorrect, for I suspect it is unlikely that a colony threatened by fire can successfully evacuate its nest site and fly off through flames and smoke, especially since its queen is apt to be gravid and therefore a perilously clumsy flier."

Ted Hooper makes no mention of smoke causing bees to abandon the nest. He says: "The smell of smoke causes the bees to fill themselves up with honey from the honey store, and this renders them much more amenable to handling. A full bee, like a well-fed human, is much less likely to start a fight. It takes about two minutes for the bees to fill up and for the full effect of the smoking to be obtained. Beginners are therefore advised to take things steadily and to wait this amount of time, giving the bees a reminder in smoke two or three times. The beekeeper, as he becomes more experienced and confident in his handling, will find that smoking at the entrance can be cut out entirely, smoke being applied under the crown board as this is removed. This saves time, and it is usually just as effective, but the beekeeper should learn to keep one eye on the entrance because every now and then a colony may start to flood out from here and a puff at the entrance as well as at the top will stop that nonsense immediately.

## Royal Jelly – what we know and don't know about it.

Some years ago, when my elderly mum (who is Ukrainian albeit she now lives with me) found out that I had taken up beekeeping, the first thing she said was: "Great! Can I have some Bee bread and Royal Jelly please?" The topic of Bee Bread or "Perga" as it is called in Eastern Europe I will try to cover in the future. But today's topic is Royal Jelly. Of course, I had heard of Royal Jelly. The very term would, in the first place, make me think of queen rearing and, secondly,

premium skin care products. That was pretty much it. My first research on YouTube brought up Japanese videos of Royal Jelly mass production briefly covering the hive part and taking you into a very high-tech production line with the final product being some tablets in a box. It really caught my attention when a friend of mine purchased a big tub of those tablets from the most luxurious store in London at around £300... (Ouch!)



Having watched a number of those Japanese videos, the problem was obvious.... I didn't speak Japanese! Having mentioned about my research to more experienced beekeeper friends, I found that the topic was only explored in the UK from the perspective of queen rearing. I remember often discussing Royal Jelly production with the late Barrie Powell and, for once, he was the one asking questions. It was, of course, very flattering that I could introduce a new beekeeping topic to our conversations!

Following discussions with others, two beekeepers sent me links to the one and only book in English about Royal Jelly production. I purchased it, but all the information was fairly generic, and a lot of references were made of using RJ in Asia. At that point I felt I had reached the end of my search... until it occurred to me to search for Royal Jelly in Cyrillic! A whole new world opened up. I found that there were dozens, if not hundreds, of YouTube videos online in Ukrainian/Russian languages. Luckily, I understand both and since then my horizons have expanded dramatically. I found that not only is Royal Jelly a very big deal in Eastern Europe and Asia, but many other hive products are too.

In Eastern Europe and Asia, Royal Jelly has been a beloved natural remedy, health booster, and beauty enhancer for centuries. In ancient times it was as precious as gold. It was believed that Royal Jelly could make you stronger, healthier and live longer. Anecdotally, in the Soviet Era even cosmonauts were using it to stay fit and healthy in space! In China, Japan, and Korea, it is often used in Traditional Chinese Medicine to balance your body's energies and keep you feeling your best. In ancient China, Royal Jelly was a top-secret elixir reserved for the Imperial family, believed to grant strength and longevity. And in modern society Royal Jelly still maintains its magic aura! Royal Jelly is used to **support the immune system**. Packed with vitamins, minerals, amino acids, and antioxidants, it's a fantastic immune booster. In Eastern Europe, it's a popular dietary supplement that helps keep illnesses at bay and improves overall health. I found that it is not only in Eastern Europe that this important benefit of Royal Jelly is well known. My good friend, a French beekeeper, also told me that Royal Jelly is often used in France to support immune system after long illnesses and even to improve the immune system between chemotherapy sessions. (Please note that it is **NOT** allowed to be used during chemotherapy as it greatly diminishes potency of treatment).

Feeling tired? In both Eastern Europe and Asia Royal Jelly is known for **fighting fatigue and boosting energy levels**. It's like a natural energy drink, helping athletes and those recovering from illnesses to get better faster.

In Asia, especially in skincare-obsessed South Korea, it's a popular ingredient in creams, serums, and masks. It's believed to promote collagen production, hydrate skin, and keep wrinkles at bay. In Eastern Europe as well as UK it is often used in high quality **skin care** for its nourishing and anti-aging properties.



Royal Jelly is thought to support **cognitive brain function**, enhance memory, and protect against neurodegenerative diseases. This is especially valued in Japan where it is used to maintain mental sharpness.

In traditional Chinese medicine, Royal Jelly is often used to **regulate hormonal imbalances** and support reproductive health. It's believed to help with menopause symptoms and boost sexual vitality. In Eastern Europe, it's also recommended for women's health, for issues like menstrual irregularities and fertility.

Recently, I have also come across a Japanese study of RJ effect on tear secretion (for people suffering from Dry Eye syndrome) potentially through direct activation of the secretory function of the lacrimal glands. This is achieved by oral administration of Royal Jelly for the duration of eight weeks. I found this study to be of great interest to me personally as there is currently no cure for Dry Eye syndrome apart from lubricating eye drops.



You can find Royal Jelly in capsules, tablets, and liquid extracts. In Eastern Europe, it's a health store staple, often mixed with other ingredients like ginseng and propolis. In Asia, it's added to foods and drinks, from health promoting mixtures to energy boosters. However, as with any other natural product, there is a huge difference between an apple fresh off the apple tree and one that was dehydrated, pulverized, stuffed into artificial pills and stuck on the shelf for months on end. We, as beekeepers, are in a unique position to be able to use the best and purest product.

Royal Jelly is produced using the same principles as in the process of rearing queens. A hopelessly queenless hive is created. For best results it should be extremely overcrowded with nurse bees. For example, if you create a new colony by shaking nurse bees into a new hive, you can start grafting the following day. In preparation for the grafting day, it is easier if some queen isolation technique is used. It could be a queen trap with a couple of old empty combs or a vertical queen excluder isolating queen on only few frames in the hive. When you are only grafting a small number of cells for a dozen of queens it is easy to find suitable age larvae. It is very annoying and time-consuming to look for a large number of right age larvae when you need to graft hundreds of cells. Like with queen rearing, for grafting choose the youngest possible larvae in the biggest pool of Royal Jelly. Take care not to flip the larvae over so as not to drown them. Typically, I dry graft, but some sources recommend to pre-coat your cells with RJ. Make sure to feed your new colony well with thin syrup and add at least one frame of pollen (put it next to your grafts). You can either find pollen frames in another hive or create a pollen frame by trapping pollen in advance then packing it into an empty drawn comb. Once the frame(s) with the grafts are inserted the Royal Jelly will be ready to harvest in three days. Once started, make sure you harvest the old batch and graft the new batch on the same day. If you stick to your routine and continue the process regularly, your yield should increase. It is recommended that once RJ is extracted it can be kept in the fridge and used within two weeks. Should you decide to keep it longer, freeze it immediately and once defrosted, it has refrigerator shelf life of two weeks.

On a practical note, you can use the same hive for both Royal Jelly and rearing your queens. The hive will be set up for continuously doing so during the season. It is awkward to constantly change your weekly routine to fit three days grafting and Royal Jelly harvesting days, instead you might decide once a week graft for Royal Jelly and after three days graft for QC leaving them for four days instead. The started queen cells can be transferred into a finisher hive which doesn't have to be queenless, it will be sufficient to keep your existing queen in a bottom box and separate two by a queen excluder. If I am still worried, I separate my finisher brood box by a couple of supers and I know that my unfinished queen cells will be completely

safe. And don't forget to top up your RJ hive regularly with new nurse bees!



If you Google dosage of Royal Jelly some go as far as suggesting a teaspoon of Royal Jelly a day for weeks or months... Some suggest mixing it with drinks or add to your breakfast. Personally, I find it wasteful and not at all practical. First of all, we know how long it will take someone to collect that teaspoon of Royal Jelly if that someone is not in the business of producing it on commercial scale. Secondly, when Royal Jelly comes in contact with the stomach acid it becomes useless before it can be fully absorbed by your body. I have read and listened to a lot of discussions on this topic, and I believe that if you are taking RJ for general health, the best way to take Royal Jelly is as a small amount of jelly under your tongue where it can be best absorbed by your body bypassing direct contact with the stomach acid. This is what I have been doing myself. Wrapping it up, it is well known that in some places, traditional remedies like Royal Jelly are more commonly used and accepted. In the UK, there's often a stronger focus on conventional medicine, which can overshadow natural supplements like Royal Jelly.

Having touched upon some serious topics above, I feel I have to make a disclaimer, that I am not in the medical profession and therefore cannot give any medical advice. All the information above is from conversations with other people, reading on-line articles and books and listening to various on-line interviews and programs. Should you decide to use this information, I recommend that you conduct your own research and consult medical professionals.

Reference: Clinical Evaluation of a Royal Jelly Supplementation for the Restoration of Dry Eye: A prospective Randomized Double Blind Placebo Controlled Study and an Experimental Mouse Model. Sachiko Inoue, Motoko Kawashima, Ryuji Hisamura, Toshihiro Imada, Yusuke Izuta, Shigeru Nakamura, Masatakalto, Kazuo Tsubota. PLoS One. 2017; 12(1): e0169069. Published online 2017 Jan 6. Doi:10.1371/journal.pone.0169069 PMID: PMC5217957

**Olga Hammond**

# Calendar

Unless otherwise specified, Ipswich & East Suffolk BKA winter talks are held in Scout Hall, Kesgrave IP5 1JF from 7:30 pm

Members of the six Associations which form the Suffolk Beekeepers' Association are welcome to attend any or all these meetings. If you do not belong to that particular local association, please introduce yourself to that BKA secretary. There will be other meetings but details were not available at the time we went to press.

Date	Event	Details
Wed 3 Apr	Kevin Thorn: The Sustainable Apiary for the Hobby Beekeeper	Ten Minute Tip: Phil Ramsey: The BBKA's Basic Assessment
Sat 12 Apr	Cambridge BKA One Day Seminar at Old Divinity School, St. John's College, Cambridge	See: <a href="https://www.cbka.org.uk/">https://www.cbka.org.uk/</a>
Sun 27 Apr	Wherstead Apiary opens 2-4pm. If coming, please sign up.	And every Sunday afternoon until 10 Aug. See: <a href="https://www.suffolkbeekeepers.co.uk/AP25.php">https://www.suffolkbeekeepers.co.uk/AP25.php</a>
Sun 27 Apr	Bee Health Day 09:00 to 15:30 at Dallinghoo IPI3 OJX and final day of <i>An Introduction to Beekeeping Course</i>	Others welcome. If coming, please email: <a href="mailto:JeremyQ@tiscali.co.uk">JeremyQ@tiscali.co.uk</a>
28 & 29 May	THE SUFFOLK SHOW	
Sun 15 June	Apiary Safari (Kirton & Felixstowe areas) 10:00 – 16:00	Please book a place at: <a href="https://www.suffolkbeekeepers.co.uk/AP25.php">https://www.suffolkbeekeepers.co.uk/AP25.php</a>
Wed 2 Sep	Kesgrave meeting 7:30pm	Auction, Forum

## Cambridge BKA Talks & Seminar

See: <https://www.eventbrite.co.uk/o/cambridgeshire-beekeepers-association-30328239926>

### Coffee Éclairs

3oz Wholemeal Flour

2oz Margarine

¼pt Water

2 Eggs

Sift flour. Heat margarine & water. Remove from the heat and add flour. Stir with a wooden spoon until it holds together.

Lightly beat eggs and after leaving the mix to cool in the saucepan, beat in eggs a little at a time. When fully incorporated put into a piping bag, pipe onto a greased baking sheet. Cook for 30 minutes, split each éclair and place back in the oven for 3 minutes. Remove and allow to cool.

**Filling:** 4oz Philadelphia, 4oz Whipped Double Cream, ½tsp Vanilla Extract, ½oz Instant Coffee & 2 tbs Honey. Mix together.

When the éclairs are cool, fill them and brush the tops with warmed honey.

*That's the recipe but I think I'd prefer a topping of black chocolate.*

### Richard Martin Beekeeping Supplies

A large range of stock including: hives in the flat, WBC, National and Commercial; frames and foundation, honey jars, buckets, tools, bee suits, veils and gloves. Agent for Thorne's of Wragby Little College Farm, Creeting Hills, Creeting St Mary IP6 8PX  
Opening hours: 1 April - 30 Sept 4pm - 7pm Mon - Sat.  
At other times, please call on 01449 720491



### Box House Beekeeping Supplies

*In East Bergholt, Suffolk - for the local supply of hives, frames and foundation, tools and other equipment for keeping bees. Open by arrangement - please email or telephone Paul White to discuss your requirements. 01206 299658 or 07768 634038.*

### Note from the Editor

I apologise that this edition of your newsletter is so much a rag-bag of articles that have caught my eye in the last few months as have been put down more or less as they were without much attempt to fill each page neatly.

I apologise if I have carelessly transgressed anyone's copyright.

If anyone would like to take on the editorship of this newsletter, I should be very grateful indeed!