



**THE LEEDS BEEKEEPERS ASSOCIATION
BRANCH OF THE YBKA
AFFILIATED WITH THE BBKA**



“The Leeds Beekeeper”

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Bottling, bottling and more bottling (technically jarring) but I think you get the picture. All ready for my first honey stall in November. I did think I was done when Camilla returned from the Heather in early September, but her ladies have gone on to fill another two supers since their return, including some more cut comb. There is clearly a benefit to a site near Balsam.....

Meanwhile at home there is also a little bit of science going on with Deidre and Camilla’s colonies and an experiment with pollen patties; but more details in a future issue.

CHAIRMAN’S NOTES

Hello Members.....So there we have it the clocks have gone back, the first frost has arrived and all the winter bees are tucked up. So what's happened since we last had a little chat.

The main event has been the AGM which was held on the 25th October. There were a number of changes to the committee, certain members left, other members changed jobs and two new committee members were elected. To see all the committee members in all their glory please go to the LBKA website and click on committee. To those who have served on the committee in the last year – many thanks for your hard work.

October's weather was kind to us with exceptionally warm days so the bees were out bringing in the last of the Himalayan Balsam, so hopefully your bees should have sufficient stores for the winter ahead. All liquid feeds should have ceased by now and your mouse guards should be in place.

November can be a cold and damp month and it's the damp that kills the bees not the cold so make sure your colonies are well ventilated. If you are storing spare brood boxes containing drawn comb beware they are particularly vulnerable to wax moth especially the greater wax moth. These moths lay their



Catching some sun

eggs in the cracks and crevices of the woodwork. The eggs hatch and the larvae tunnel their way through the wax. The combs are destroyed and the brood boxes are damaged. One possible way to avoid this is to stack the boxes outside. Treating with acetic acid is another way to avoid any damage by these moths. Not a lot else we can do now, except look back at the season and think if things went wrong and how you can rectify them next season.

Regards Duncan

MEMBERSHIP RENEWAL 2018

As you will be aware, membership subscriptions are due with effect from 1 January 2018. The subscriptions for 2018, following the AGM, are as follows:

Individual membership £31

Family membership £36

Associate membership £12

We use the online system Webcollect for renewals. Payment can be made, through Webcollect, by Paypal or cheque.

Participants on the 2017/18 Winter Course do not need to pay anything as their membership for 2018 is included in their course fee.

Any questions please contact Kylie, the Membership Secretary.

MANDIBULAR GLAND

So now we find ourselves at the mandibular gland, one of a pair of glands located either side of the bee's head, just above the base of the mandible. Secretions run, via a short duct, to the base of the mandible. The size of the gland varies between bee castes, they are very large in Queens, smaller in workers and smallest in drones. Worker bees also exhibit a change in mandibular gland secretions with age and/or role.



Mandible gland location © Adam Tolfilski

Hierarchy is a key aspect of social insects such as bees; one queen leading the many in pursuit of a common goal; survival of the colony. Thus it is important that the queen is able to 'control' the behaviour of her subjects and the mandibular gland plays a role in this. The queen will secrete queen mandibular pheromone (QMP) consisting of 9-oxodec-2-enoic acid (ODA), two isomers of 9-hydroxy-2-enoic acid(9-HDA), 4-Hydroxy-3-methoxy phenylethanol, methylparaben and other minor components. QMP affects social behaviour, hive maintenance, swarming, mating behaviour, and inhibition of ovary development in worker bees.

The composition and quantity of QMP varies between virgin and mated queens, with a high proportion of ODA in young unmated queens changing to roughly equal proportions of ODA and 9-HDA in mated queens. Virgin queens also produce a much lower quantity of QMP. ODA is responsible for the attraction of drones to the virgin queen, thus it makes sense that once mated the quantity of ODA produced by the queen would decrease. 9-HDA is mildly attractive to drones and is involved in swarm cluster stabilisation.

Brood pheromone also plays a role in suppression of worker bee ovaries and indeed inhibition of swarming. As a queen ages her pheromone levels decrease, in addition to a reduction in her egg laying rate. A reduction in egg laying rate reduces the amount of unsealed brood in the hive, thus reducing the amount of brood pheromone present. It may be that the reduction of both QMP and brood pheromone works in tandem to stimulate swarming with the sum being greater than the individual parts.

It is also worth noting that coniferyl alcohol is found in the mandibular glands and along with the 5 QMP components and 3 other compounds is known as queen retinue pheromone, important for the retinue of workers around the queen. The mandibular glands in drones are much smaller than those found in workers or the queen and their role is not currently fully understood. It has been suggested that the mandible pheromone in drones helps them to find and congregate at drone congregation

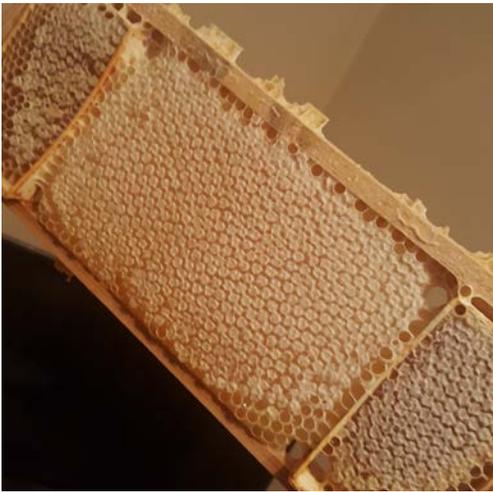
areas, however the mandible glands begin to degenerate at nine days of age before they are fully sexually mature.

Young worker bee's mandible glands produce a lipid rich white substance which is mixed with the hypopharyngeal gland secretions to produce royal jelly. Worker bees, once they are of foraging age, produce 2-heptanone in their mandible glands, this is thought to be an alarm pheromone but much less potent than isopentyl acetate requiring around 20 to 70 times more to invoke a response. 2-heptanone also interestingly acts as an anaesthetic in small arthropods such as wax moth larvae and varroa mites which are paralysed after a honeybee bite.

HONEY TYPES

Whilst all honey may start from the same humble beginnings as nectar it does not necessarily end up on an equal footing, with a variety of types of honey possible:

Comb honey



Comb honey anyone?

Some see this as the purest form of honey, stored by the bees, untouched by human hand and removed by the consumer direct from the comb. For the beekeeper some advance preparation work is needed. Either a thin sheet of foundation can be used as the base (30% the thickness of standard foundation), or a thin wax starter strip along the top of the frame, or for the really adventurous, you can give the bees no guide at all and cross your fingers.....

Comb honey is rich in very-long-chain fatty acids and alcohols that help lower the levels of bad cholesterol and raise the levels of good cholesterol. Also because the honey is left just as the bees intended and not subjected to an extraction process

there is no oxidation of the honey. Be mindful however, excess comb honey can cause gastrointestinal blockage, as one woman found out in 2009. She believed eating large amounts would offer health benefits, but after over indulging during a two month period she found herself in hospital requiring surgery to have a large mass of wax removed from her intestine!

Liquid Honey

Liquid honey is the most common form of honey found for sale. It is prepared by cutting the wax cappings off the frame of honey and then processing the combs in a honey extractor. Spinning of the frames in the extractor removes the honey from the cells by centrifugal force, flinging the honey to the walls of the extractor. The collected honey can then be filtered and stored in jars ready to be sold.

Depending on the nectar source the bees have been visiting the resultant honey taste will vary, thus each batch of honey will be unique in taste. If the bees have visited crops like oil seed rape, then the resultant honey will be high in glucose and thus more prone to crystallisation. This is where the skill of the beekeeper comes in, knowing what forage is in the local area, or perhaps having sites their bees can be moved to at particular times of the year depending on what is available. Honey that crystallises quickly in the jar is going to lead to customer complaints..... maybe refunds? But definitely not return custom.....



Or perhaps something more runny?

Granulated honey

Honey is around 18% water, removal of this by freezing or drying the honey leads to a powdered form. These granules can be turned into powder and easily inserted into baths, smoothies, teas, and cosmetic products without the honey taking excessive time to dissolve. Also when it comes to shipping the granulated product, you are not paying to ship water!

Set Honey

Set honey, sometimes referred to as creamed honey is honey which has been thickened making it easier to spread on your toast – you don't want it dribbling off the edge like that runny stuff does. However, honey cannot be sold as 'creamed' as there is no cream in it....one of those European regulations and thus 'set' or 'soft set' honey is a more suitable name (you don't want something the consistency of concrete).

Creamed honey is a blend of one part crystallised or 'seed' honey and nine parts liquid honey that is stored at about 14°C until it becomes firm. The firmness makes creamed honey easier to spread (e.g., toast). To make seed stock, either grind crystallised honey in a pestle and mortar until it has an even consistency or alternatively borrow some seed honey from a fellow beekeeper. Once you have prepared a batch keep some seed stock for next time. The honey will need to be rewarmed before placing into jars to enable it to flow. Another method would be to take a bucket of set honey and warm it enough to loosen it (but not melt it) and then cream it with an electric drill fitted with a paddle; be careful not to incorporate large amounts of air during this process. The honey will then stay spreadable when bottled.

Chunk honey

This is a hybrid of comb and liquid honey, essentially a piece of comb honey is placed in the jar and then liquid honey is poured over it. It is a good way to add a premium to your honey, but beware introducing a 'foreign object' in this case a 'chunk' of honey comb promotes crystallisation. Once crystallised there is no way back as warming the honey (the usual way to remove crystallisation) will melt the wax.... And no one is going to want to put that on their toast! As with runny honey it is important to use a honey that is not going to be prone to crystallisation so brassica honey – (OSR, mustard etc) is a big no no. Finally, you need to cut the comb longer than you think so that it fits

snugly from bottom to top of the jar - just under the lid. Otherwise the rectangle of comb will float to the top of the jar - spoiling the visual effect of the cut comb as there's a large void at the bottom of the jar filled with just honey.

All honey - runny - creamed - chunk etc. Once you've filtered for runny or whipped using a paddle for set - you've introduced tiny air bubbles. If you bottle straight away you'll get an unpleasant layer of white "stodge" at the top of every jar. An unwelcome sight to customers opening the jars. Far better to keep the bulk honey warm for a few hours to let these small bubbles rise to the surface and scrape off this scum before bottling. This then goes to my family! I swear that they don't actually know that honey comes in forms other than bottled scum.....

Thanks to Dave Barratt for his input to this article. We have not considered the influence different flora can have on honey – we will save that for another day.

BEES ON THE BOX

There is a nice piece on Channel Four's food unwrapped on set versus runny honey.

<http://www.channel4.com/programmes/food-unwrapped/on-demand/65676-003>

BEE DISSERTATION

I am undertaking a dissertation at the University of Leeds regarding the motivations and challenges of Urban beekeeping. I am hoping to interview both urban and rural beekeepers regarding their experiences with beekeeping in order to make a comparison. I am wondering if this would be of any interest to your beekeeping group. Your help would be greatly appreciated.

Regards Madeleine

If anyone is interested in taking part in this please contact Madeleine direct (ee15mp@leeds.ac.uk)

IMPROVING BEEKEEPING?

My project involves a plastics brief, where I have to make or improve a gardening/outdoor object ideally manufacturing it mostly from plastic. At this stage I am looking to identify what common issues beekeepers face (even ones when they first started) and what could be improved with the hive and or beekeeping to make processes easier. I would be grateful if members could complete the survey below to give some first-hand experience of issues they may face.

Regards Lauren

Please follow the link below to Lauren's survey <https://www.surveymonkey.co.uk/r/P7NJRYD>

BEE TOXINS – SOLVE MUSCLE ACHES?

A leading Hollywood star fell afoul of the latest craze to sweep Tinseltown – injecting bee venom. It is believed that bee venom can help muscle aches and thus after a long day of filming Gerard Butler decided that a shot of bee venom was just the job. However after 10 shots he began to suffer anaphylactic shock and was admitted to hospital. It didn't stop him repeating the process four days later with the same result.....

Apitherapy has been around for centuries firstly by placing the bee on the designated area and more recently by direct injection of the bee venom. It has been used to treat rheumatoid arthritis, multiple sclerosis, skin lesions, and chronic hives.

<https://www.theguardian.com/film/2017/oct/20/gerard-butler-i-injected-myself-with-bee-venom-and-ended-up-in-hospital>

NEUROTOXINS ON TOAST?

Scientists have tested honey from every continent in the world (except Antarctica – not many polar bees down there) looking for signs of nerve agent pesticides with surprising results. Seventy five percent of the samples contained at least one neonicotinoid, with ten percent having residues of four or five. It should be noted that the levels found in the honey were generally below those considered safe for human consumption.

*Dave Goulson, Professor of Biology at the University of Sussex, said:
"Beyond doubt ... anyone regularly eating honey is likely to be getting a
small dose of mixed neurotoxins."*

However, three key neonicotinoids have been banned from use by the European Commission since 2013, yet in European samples there was still residual neonics detected across the board. Indeed samples from Germany and Poland exceed the maximum residue levels for combined neonicotinoids.

This study comes hot on the heels of industry funded research released in the Summer. Commissioned by Syngenta and Bayer, the companies that sell the two neonicotinoids tested, the research showed a negative effect on bees in large scale farm trials in three countries – Hungary, Germany and UK. One interesting regional result was that bees in Germany were less reliant on OSR for their food source leading to a lower impact on German bees compared to UK and Hungary.

<http://www.independent.co.uk/environment/pesticides-bees-human-threat-found-in-honey-threat-danger-a7985281.html>

I CAN SEE YOUR HALO

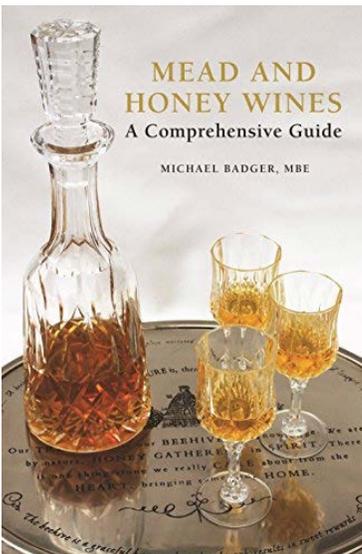


Yellow to us but a halo to bees © Edwige Moyroud

As the Beyoncé song goes..... but it turns out that bees can also see halos on certain types of flowers due to the nanostructure of the material. The presence of minor ridges on the surface of the petals around the centre of the flower – the target of the bees, causes light scattering and a subsequent blueish hue. Whilst this may not be visible to the human eye, it is like a bullseye to the bee who are very sensitive to light in the blue/ultra violet region and allows them to target the flower.

To investigate the phenomena, researchers constructed small squares of the same colour which then had either a smooth surface, a textured surface to generate an iridescent sheen, or a surface which formed a blue halo. A sugary reward was then put on one of the squares, bumblebees released into the area could identify which square had the sugary treat from the secondary surface topology generated colour and were able to navigate to the correct square even when they were rearranged.

<https://www.nature.com/articles/nature24285>



MEAD AND HONEY WINES

After last year's book covering heather honey, Michael Badger has turned his attention to mead, with a comprehensive guide to Mead and Honey Wines. The first recorded example of mead comes from 9000 BC in northern China, this book covers both the historical aspects as well as the practicalities. The book is a manual of all aspects of mead making from the ingredients used; methods and practices; mead and honey wine production problems; bottling and cellar craft; requirements for producing meads and honey wines; recipes for meads, honey wines and honey based vinegar; keggings systems; floral and honey varietals; exhibition and judging of mead and honey wines.

One for your Christmas stocking?

WINTER MEETINGS

As the active period of beekeeping is drawing to a close you are invited to further develop your beekeeping knowledge by attending the Winter Programme of speakers.

Attendance is FREE. We have some excellent, knowledgeable speakers on a variety of different topics which I'm sure will be of interest to you. See below for details of the time and venue. Please book a place via Webcollect, this will help us to ensure adequate refreshments are available. You will be sent a reminder for each session.

Date	Speaker	Topic
Wed 29 Nov 2017	Gerry Collins, Doncaster BKA	Mating in miniature: a guide to the setting up and use of Apidea mini-nucs
December 2017	No meeting	
Wed 31 Jan 2018	LBKA Members	Cooking with Honey : sharing samples and recipes
Wed 28 Feb 2018	Dr Sophie Evison University of Sheffield	Trouble shooting in Queen rearing & recent Chalkbrood research.
Wed 28 Mar 2018	John Chandler, Harrogate BKA	Pollen in Honey

All meetings will be held at:

St Theresa's Church 'Newman Centre', Station Road, Crossgates, Leeds , LS15 7JY

Located across the road from Crossgates shopping centre, free parking available on site.

Access to the car park is via a steep path between the church and the Newman centre.

Public transport : Crossgates railway station - 3 minutes walk, bus No.40 stops outside;

Buses 56 and 64 stop on Crossgates Road close to the Mecca Bingo - 5 minutes' walk away.

Time: 7.00-9.00pm (Doors will be open from 6.30pm)

For more detailed directions see the website: www.leedsbeekeepers.org.uk, from the top menu bar click on 'About', then 'Find us'.

Hope to see you there.

GREEN FINGERS DAHN T'APIARY

The beekeeping season may have come to an end but activities at the apiary have not. The last weekend saw a valiant tribe of volunteers armed with saws, loppers and trimmers tackle the overgrown vegetation in the apiary. It's amazing just how quickly the leylandii grow! With many of the bees now resting in the hives, it was possible to trim around the hives to reduce the overgrown grasses and weeds. Only one sting for Steve, a new beekeeper this year - he'll get used to them. You could hardly blame the bees when we were disturbing their colonies with noise and vibrations - or maybe it was the roar of the dinosaurs that upset them - the latest attraction at Temple Newsam was certainly bringing in the crowds!



TEMPLE NEWSAM HONEY

It has certainly been a good year for the teaching colonies at Temple Newsam who produced their own surplus of honey this year. Six supers surplus to requirements were removed in late September and yielded around 115 lb (52 kg) of honey. Eight colonies were subsequently prepared for Winter, and whilst honey production is not the primary concern of the TN apiary it is nice to see them working hard during the Summer and doing what bees do best!

The number of beehives in the UK has declined by 73% over the last century, falling from 1 million hives in 1900 to just 270,000 in 2015

HONEY YIELDS DOWN?

The results are in from the BBKA honey survey 2017 and it paints a depressing picture, with an average yield of 23.8lb (~10.8 kg) per hive across the country. This represents a 2.3lb decrease on the average yield recorded last year. A particularly wet summer in Wales and the South West saw average yields in those areas, drop to 18lb per hive, whilst warm weather in the East and South East saw yield around 30lb per hive.

Another interesting conclusion from the survey was that urban rooftop and suburban garden bees showed a higher annual yield than rural garden bees; 27.5lb versus 22.5lbs. It is believed that the more diverse diet available to urban bees leads to a richer diversity of pollen and a more constant food source.

Additionally, the top five factors worrying beekeepers about the future of the honey bees are:

- Use of pesticides including neonicotinoids 62%;
- Loss of forage from agricultural development 31%;
- Asian hornet 32%;
- Varroa mite 28%'
- Climate change 28%

BBKA REVAMPS COURSES

The new year will see a change to the structure of BBKA examinations, with the creation of two new qualifications available after completion of the basic assessment – Honey bee Health Certificate and Honey Bee Breeding Certificate. For a full diagram of the new BBKA exam structure please see [here](#).

Ask The Beekeeper

Have you got a burning beekeeping question that you want an answer to? Then please send it to editor@leedsbeekeeper.org.uk and we will do our best to find you an answer!

12OZ HEXAGONAL JARS

Hopefully your bees have been busy and you now have lots of honey and not enough jars to put it in... fear not LBKA have the answer! 12oz (340 g) hexagonal jars with lids are available in the shop at a bargain price of 23p each, they come loose so you can buy as many as you require. Please bring a cardboard box to carry them home in. If you require a large quantity, please email Duncan thebeeman@hotmail.co.uk or ring him on 07855 308143

Got an article for the next edition? Please email to editor@leedsbeekeeper.org.uk by 30th November.

FORTHCOMING EVENTS

November

Saturday 11th - Apiary Day – 10.00 a.m. – 12.00 noon

Wednesday 27th – Winter Talk – 7pm Newman centre - Gerry Collins, BBKA examiner and Honey judge: Mating in miniature: A guide to the setting up and use of Apidea mini-nucs

December

Wednesday 6th – Winter Course

Saturday 9th - Apiary Day – 10.00 a.m. – 12.00 noon

Wednesday 13th – LBKA Christmas Meal