LUNE VALLEY COMMUNITY BEEKEEPERS

NEWSLETTER MARCH 2019

Last meeting

At a well-attended meeting, Julia provided a fascinating talk which started with how wasps, bees and flies evolved at the same times as a diverse range of flowers. Supported by a superb collection of illustration photographs, she went on to explain how different flowers have evolved to attract specialist pollinators through both their shape, depth and their colour. She then illustrated and explained the different types of environment a gardener needs to create in order to attract specific types of bee or other pollinator. This was a very thought-provoking talk for both gardeners and beekeepers.

Next meeting

Wednesday, 13th March at the Scarthwaite Hotel, 7-30pm
Our speaker, Pete Sutcliffe will talk on "The hive as a processing centre".

Pete has been keeping bees for over thirty years, is a "Master Beekeeper" and has held a number of senior positions with BBKA and Cheshire BKA. To ensure the colony survives in a healthy state, honey bees collect everything they need from the surrounding area in the form of relatively simple, readily available, natural products. They then process these in sophisticated ways into such diverse items as building materials, miracle foods, antiseptic paints, and store them where necessary for future use. The abilities required for these processes have evolved over millennia to a level of amazing sophistication, but how do they do it? This lecture will describe those processes in a way that helps beekeepers understand the requirements of their colonies better.

Are you prepared?

The first swarm of last year in Lancaster was reported on 28th March, much earlier than anyone had predicted. What will happen this year is, at the moment, anyone's guess. February gave us mixed messages! We started the month with snow but on St Valentine's Day, the sun was out, the temperature in the sheltered parts of our garden rose to 17C and all the colonies were flying in some strength, making a welcome buzz in the garden. A week later and the temperature is back to 4C. My point is, the bees are already putting their season's plan into practice. Are you?

If you are planning a new apiary this year, have you started building it yet? Have you worked out what equipment you are going to need and where to get it from? Have you thought about how you might obtain suitable bees? Whatever you plan to do, do not leave it too late. At the time I am writing this, the Met Office is predicting the hottest February day on record. The season is almost upon us!

Bees and Schools

Ensuring that young people gain an understanding and appreciation of the natural environment is crucial to our future survival. Understanding the importance of pollinators is an essential part of this. We currently have the opportunity to develop and deliver a project to help schools inform their students about pollinators in general and honey bees in particular.

We have funding available to purchase children's bee suits and to develop resource packs and are now looking for one or two members to develop this project. Please give me a call if you are interested.

Bees and Scarecrows

We have been invited to have a stand at this year's famous Wray Scarecrow Festival. Whilst the scarecrows will be on display from 27th April until 6th May, the festival itself takes place on Monday, 6th May (Bank Holiday Monday). This year's theme is "Creatures extinct, existing or endangered". If anyone can spare any time to help erect and dismantle the stand, or help man it during the day, please let me know as soon as possible.

Out-apiary Site

If anyone is looking for an out-apiary site, we have one on offer. Situated in a very secure location in the central Lune Valley, this sheltered and stock-proof site offers an ideal location for a small number of hives. If you are interested, give me a call.

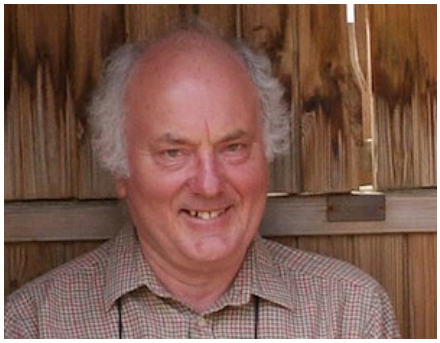
Equipment

John Keen writes:
"Having decided to concentrate on Warré hives, I have two used top bar hives that I would be happy to give to anyone wanting to start beekeeping and wanting that option."

John lives in Burton-in-Lonsdale. If anyone is interested please contact him directly on 07940 825626.

Note: The illustration is of a top bar hive, but not of John's hives.

BIBBA Sustainable Bees and Queens



On Saturday, 8th February I attended, along with over 250 others drawn from across the North West and North Wales, the second of BIBBAs regional advice days on sustainable bee and queen rearing. The day comprised of four, hour long talks, delivered at a cracking pace, by the irrepressible Roger Patterson.

The main message of the day was that we should all avoid acquiring bees or queens from outside the UK and concentrate on breeding and improving our own bees. Roger outlined a number of different approaches for achieving this. He also strongly advised those attending not to simply accept the information provided in books or by "experts" but to challenge what was being said in order to fully understand and validate. If in doubt, try it cautiously and see what happens.

There was also a strong message to Clubs to develop good training apiaries and provide a sound range of training to encourage new beekeepers to develop into competent beekeepers. All in all, it was an enjoyable and motivating day.

Correspondence

Jeremy Quinlan, a Master Beekeeper from Suffolk writes:

Dear Fred

I do hope you won't mind my observing that, in my view at least, your excellent newsletter is guilty of perpetuating an inaccuracy. Whoever wrote about dark bees said: "However, between 1916 and 1925 the British black bee, as it was then known, was rendered virtually extinct in England and Wales by Acarapis woodi (acarine mite), the outbreak being called the 'Isle of Wight disease'." Erroneously, Wikipedia says the same thing!

It was 100 years ago so difficult to be absolutely sure now but in the second edition of their book Honey Bee Pathology *Leslie Bailey & Brenda Ball discuss this theory at some length (pages 116-121). They report the final opinion of Rennie, a co-discoverer of the Acarine mite, that "under the original and now quite properly discarded designation 'Isle of Wight Disease' were included several maladies having analogous superficial symptoms". Bailey & Ball come to the firm conclusion that it wasn't Acarine but paralysis. Interestingly, they add that it originated with eastern honey bees, probably* Apis cerana *but possibly* Apis dorsata.

You may know that Chronic Bee Paralysis Virus is, worryingly, currently exhibiting a marked increase (particularly reported by bee farmers). It is being investigated by Giles Budge at Newcastle University.

Bee myths and customs

Jewish Rabbis tell the story that when the Queen of Sheba visited King Solomon, she held out to him two wreaths, one artificial and the other of genuine flowers. Unable to discover which were the real flowers, the king caused the casement to be opened, when, lo! A flight of bees entered and lighted on the natural flowers. So, the bees were wiser than the wise King!

Club Activities Programme 2019 - 2020

14th Apr **Spring Apiary Inspection** **Club Apiary** **10-00am to 2-00pm**
An opportunity for all members, especially new members, to experience a Spring inspection and assess how well the bees have over-wintered.

23rd June **Summer Apiary Inspection** **Club Apiary** **10-00am to 2-00pm**
An opportunity for all members, especially new members, to experience a Summer inspection and assess how well the bees have expanded and amassed stores during the Spring and early Summer.

12th July **Working party** **Club Apiary** **10-00am to 3-00pm**
Working party to set up for Open Day. Details to follow.

13th July **2019 OPEN DAY** **Club Apiary**
Details to follow.

8th Sept **Autumn Apiary Inspection** **Club Apiary** **10-00am to 2-00pm**
An opportunity for all members, especially new members, to experience an Autumn inspection and assess how well the bees are prepared for winter.

15th Sept **Meadow Mowing Day** **Club Apiary** **10-00am to 4-00pm**
Preparing the meadow for winter. Scythe, strim or just carry away the cuttings! But please do come, we need to complete this in one day.

16th Oct **Speaker Meeting** **Scarthwaite Hotel, 7-30pm**
Topic: Bee Together Project **Speaker: Catherine Mercer**
Catherine is the Coordinator of the Bee Together project which aims to connect communities and landscapes to reverse the decline of wild pollinators, and in particular wild bees. The project involves coordinating and delivering capital works and activity-based projects along the B-Line from Lancaster to Leeds, connecting communities to create pollinator super-highways.

Wed 13th Nov **Speaker Meeting** **Scarthwaite Hotel, 7-30pm**
Topic: Bees for Development **Speaker: Bob Spencer**
Bob is a Trustee of Bees for Development, an organisation that promotes sustainable beekeeping to combat poverty and to build sustainable, resilient livelihoods. It supports beekeepers to maintain environments that are good for bees, for biodiversity, and for people. Bees for Development works with local partners on community-based projects, and provides a wide-range of information services.

Wed 11th Dec **Speaker Meeting** **Scarthwaite Hotel, 7-30pm**
Topic: **Speaker: TBC**

2020

Wed 15th Jan **Social Event – Wine and Cheese Evening** **Scarthwaite Hotel, 7-30pm**
Details to follow

Wed 12th Feb **Speaker Meeting** **Scarthwaite Hotel, 7-30pm**
Topic: **Speaker: TBC**

Wed 11th Mar **Speaker Meeting** **Scarthwaite Hotel, 7-30pm**
Topic: **Speaker: TBC**

Other events of interest

Saturday, 9th March 2018, Beetradex 9-00am to 4-30pm
Hall H3, Stoneleigh Park, Warwickshire, CV8 2LG

This is the largest, independent trade exhibition of beekeeping equipment in the UK and attracts over 2500 beekeepers. A diverse range of free lectures run from 10-00am to 3-00pm.

Admittance is £5 if booked in advance, or £6 on the day.
www.beetradex.co.uk/registration/

12th–14th April 2019,
BBKA Spring Convention
Harper Adams University, Newport, Shropshire, TF10 8NB

The annual BBKA Spring Convention provides an impressive range of workshops, courses and lectures spread over three days. A large trade show also takes place over the first two days. Admittance for non BBKA members for the full convention is £26 (booked in advance) or £30 on the day. Entry to the trade show on the Saturday is £5. The full programme can be downloaded from: www.bbka.org.uk/news_and_events/spring_convention.php

World Bee Day. 20th May 2019

The purpose of this international day is to acknowledge the role of bees and other pollinators for the ecosystem. World Bee Day is celebrated on the baptism day of Anton Janša, who was born in 1734 in what is now Slovenia.

In beekeeping he is noted for not only writing a number of impressive books on beekeeping but for advocating changing the size and shape of hives to a form where they can be stacked together like blocks. As a painter he also decorated the fronts of hives with paintings. Janša rejected the belief that the male bees are water carriers and assumed that the queen is fertilised mid-air. He advocated moving hives to pastures.

Northern Bee Auction
This year's event will be held at Houghton Village Hall, Cumbria, CA3 0NW, on Sunday, 19th May and offers a range of both bees and second-hand equipment. Further information can be obtained from: enquiries@beeauctions.co.uk

Federal Scientific Centre of the East Asia Terrestrial Biodiversity of the Far Eastern Branch of Russian Academy of Sciences
Ministry of Education and Science of Russian Federation
Russian Foundation for Basic Research

IV Eurasian Symposium on Hymenoptera

9th-15th September 2019, Vladivostok, Russia

Further details can be obtained from http://pages.biosoil.ru/hymenoptera2019/

Researchers optimise broad beans for bees

Scientists from Royal Holloway, University of London and the University of Cambridge, have been taking part in an experiment to optimise broad beans to increase bee visitation rates and their findings could benefit both the beans and the bees.

In research published in *Ecology and Evolution,* the researchers found that it might be possible to optimise broad bean plants (*Vicia faba,* also known as field beans) to produce flowers that are better for bees when they visit them, and also improve the quality or quantity of beans that plants produce.

Dr Emily Bailes, lead author of the study from the School of Biological Sciences at Royal Holloway, University of London, said: "We know there are certain things that affect how often bees will want to visit a particular flower. Things like the flower's colour, size and shape have an effect, as does how much pollen and nectar a flower produces. We wanted to do two things: work out how 'rewarding' it was for bees to visit broad bean crops, and then see if we could specifically breed broad bean plants to make them attractive as possible for bees. The way to do this is to look at their flowers."

After studying 208 different broad bean plants, and collecting data from more than 2,000 individual flowers, the researchers found that genetic differences are responsible for causing flowers to produce differing amounts of nectar and pollen, meaning that farmers and scientists may be able to ensure the variations of broad beans they plant have more bee-appeal than current crops.

"This is good for a few reasons," explains Dr Bailes. "Firstly, more than 70% of the most important crops grown around the world are reliant on animal pollinators (like bees), meaning they can produce more food when their flowers are visited by these pollinators. We might be able to apply this research to other crops, potentially increasing their yield and making them more bee-friendly. "Secondly, protecting our bees has become increasingly important. By planting crops that are good food sources for bees, we can potentially help our bee populations living on agricultural land."

The researchers grew 30 different genetic lines of beans, growing multiple plants of each line. Growing them in a greenhouse, under controlled conditions, they were able to minimise any variations in the plants' environments. This meant that the differences they observed in the flowers were most likely due to genetic differences between the plants – which is something that can inform which variations of beans farmers should grow.

Prof Beverley Glover, senior author of the paper from the University of Cambridge said: "This potential to breed and plant crops that have a higher reward value for the bees could be used to increase the amount of food for bees available in agricultural land. This is beneficial for the environment, the bees, and farmers, especially when used in combination with wildflower strips to provide food at other times of the year."

In the UK, more than 125,000 tonnes of broad beans are produced every year and 192,000 hectares of beans were grown in 2017.

Moving to native dark bees

There is a growing interest amongst an increasing number of beekeepers in moving towards native dark or black bees. Most people do this by replacing existing queens with mated, native dark queens, often ignoring the value of drones. Used in the following approach, drones can be the major influence upon the improvement of your own and neighbouring stocks.

Firstly, set up some nucleus colonies and introduce as pure, dark, a native queen as possible into each. It does not matter whether the queen is mated or a virgin queen as a virgin queen when mated, will produce 100% pure native dark drone offspring, as they are from unfertilised eggs.

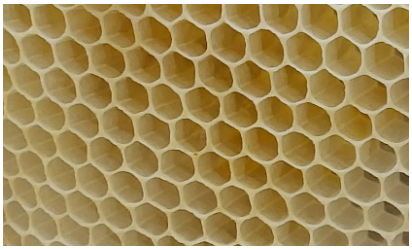
If possible, set up the same number of nuclei hives as you have colonies in your apiary. As the nucleus colonies grow, put frames of drone brood comb or foundation in each.

Once these frames are full of sealed, drone brood, remove and destroy all the drone brood in each of your non-native colonies and introduce a frame of sealed drone brood from your dark bee nuclei into each. They will not raise new drones, as there will be more than sufficient from the comb you have introduced. You will therefore be flooding your apiary with all pure native dark drones.

You can then safely split a few nucleus colonies off to rear queens that will be 5 – 7 days old to coincide with when the drones are between 16 days and 30 days old. This is important, as this is the peak age range for the sexual maturity of drones. Your new queens are then very likely to be mated with your drones, particularly if you are far away from any other apiary. As soon as your colonies have reached the desired level of purity you can distribute virgin queens to those around you to encourage others to keep pure native dark bees in the same manner, and so flood an even larger area.

The first queens mated from your old stocks will be 50% pure native dark and 50% cross breed. However, if you continue with this procedure of breeding only pure native drones, it will, in theory, only require eight hatches to have reached virtually 100% pure native dark status, which could be achieved in 3-4 years. However, the influence of cross-breed drones from nearby apiaries could slow the process, which is why encouraging nearby apiary owners to adopt the same approach, can be very beneficial.

The shape of cells



Many people believe that honey bees build hexagonal shaped cells. Actually they don't, they build round cells which then slowly change shape to fill in the gaps between them. If left long enough, bags of silage do exactly the same!

Hot bees and hard work make honey, but can insulation help?

Honey bees collect flower nectar to make honey, but that is only the beginning. This new study, by a researcher at the University of Leeds published by the Royal Society, shows that they can need more than 50% of the energy in the nectar they have collected to evaporate the nectar into honey.

The nectar found by honey bees is typically 80% water, they bring it back to their nest, add enzymes, and then reduce the water content to 20% to take up less space and protect it from being spoiled by bacteria and yeasts. We call that concentrated product "honey". They use a similar process, evaporation, and it takes a similar amount of energy to what you would use, if you tried to do it on your kitchen stove. Anyone who has tried a recipe for a sauce where it says "reduce by half " can attest to the amount of gas, electric and time that takes i.e. a lot of energy. Honey bees are not dealing in trivial quantities, a colony can produce over 100kg of honey in a year and that may involve evaporating 400Kg of water. They do not use a stove but lap at it with their tongues for a few minutes, then heat the air gently with their bodies and blow that air by fanning their wings for hours to drive off the water content. They don't use electricity or gas as fuel but the sugar in the nectar they collect.

This study shows that the efficiency of this process, vital to the honey bees survival, is determined by the outside temperature, the concentration of the nectar and the level of insulation of the nest or hive the honey bees occupy. In the wild, honey bees have thick walled (150mm) tree nests, man-made hives on the other hand have thin walls (19mm) and heat losses up to seven times greater. The difference is shown to impact how far they can fly to forage and what flowers they can collect from and still make a "profitable" journey back with the nectar. Consequently, it changes how many honey bees lives are needed to make a jar of honey. By improving the thermal efficiency of the hives and the bee keeping practices we use, this study shows how humans can make the honey bees job of converting nectar into honey easier. The full paper can be seen at: https://royalsocietypublishing.org/doi/10.1098/rsif.2018.0879

Varroa does not feed on haemolymph!

Based on an article by Claudia Blauert of Germany

Until very recently it was assumed that when varroa mites attacked bees, they fed on the bees' haemolymph (an insect's equivalent of blood). In a ground-breaking research study, Dr Samuel Ramsey from the University of Maryland and the van Engelsdorp BEELAB, have proved this to be wrong.

Dr Ramsey specialises in host-parasite research, in particular honey bee parasites such as varroa and tropilaelaps and their influence on the bees' survival both individually and as a colony. He compared the digestive tracts and excrements of varroa with other mites and their dietary habits, and from the results concluded that varroa does not feed on liquids.

To find out exactly how, where and when varroa feeds on bees, a range of incredible microscopic images of bees frozen in liquid nitrogen and infested with varroa, were taken, which showed the entrance wound of the varroa's feeding apparatus and the varroas' feeding behaviour. These were compared to the behaviour of other mites known to feed on haemolymph and shown to have significant differences suggesting that varroa actually feed on the bees' fatty body tissue.

This makes sense as a female varroa mite produces an egg around every 30 hours which corresponds to about 40% of its own body volume. The mite can only achieve this if it ingests sufficient protein-rich food. The varroa absorbs the tissue of the body fat of the bee and in the process injects digestive enzymes into the tissue of the body fat, which decomposes the tissue so that it can be absorbed by the mite. Remains of the digestive enzymes remain in the bees' bodies and continue to cause severe damage and eventual death.

The original webinar videos are in English and freely available on YouTube via the following link: www.youtube.com/channel/UCv02Ur9G2_0q4czIONHHZsw/videos

Distilling from honey

In the distilled spirits world, the name and classification of a spirit is often determined by the type of base sugar used. Brandy is distilled from fruit, rum from molasses, tequila from agave, and whiskey from a mixture of corn, rye, wheat and barley.

However, what do you call a spirit distilled from honey? And, did you know there was even such a thing?

There is, and craft distillers throughout the United States are distilling honey to create unique spirits with exceptional aromatic and flavour notes. In fact, the National Honey Board (NHB) conducted its first Honey Spirits Competition in 2018 and received nearly 30 entries into the "distilled with honey" category.

One of the most popular distillers using honey in this manner is Caledonia Spirits. Based in Hardwick, Vermont, Caledonia's Barr Hill Vodka is distilled 100% from honey, giving the spirit a floral depth that smells and tastes like the wildflower fields the honey bees forage for nectar.

Spirits distilled from honey tend to take on the characteristics of the honey used. However, honey spirits are not sweet. The fermentation process scrubs out most of the sweetness in honey, resulting in an intensely aromatic and nuanced-flavoured product. For example, if a spirit maker distils from orange blossom honey, the spirit most likely will take on a citrusy, crisp flavour. If a spirit is distilled from Tupelo honey, it will carry very aromatic notes with a subtle floral flavour.

Through varietals of honey, different strains of yeast and various distilling processes, distillers can craft a totally unique spirit that, to date, has defied classification in the spirits industry.

The growing popularity of spirits distilled 100% from honey has spurred a few craft distillers to collaborate on a definition and classification of spirits distilled from honey. Although efforts are preliminary, the NHB is excited about the potential for distilled-from-honey spirits to get the recognition they deserve.

Membership Renewal 2019-2020

Many thanks to those of you who have already renewed your membership. To those that have not, prompt renewal would be both helpful and appreciated. Membership subscription remains unchanged at £12 per member, as does Public Liability insurance cover at £10. Please complete the membership renewal form and return it to: High Tarn, Aughton, Lancaster, LA2 8LU. I know this is a bit of a chore but it keeps us compliant with both GDPR and HMRC.

LUNE VALLEY COMMUNITY BEEKEEPERS MEMBERSHIP RENEWAL FORM – 2019-2020		
Title:	Name:	
2019-202 Subscriptions		**Amount**
Annual Membership		12.00
Public Liability Insurance (delete if not wanted)		10.00
Donation		
Total due		
Please indicate method of payment	Cheque/BACS/Cash	
Bank details for BACS payment ***Please quote your name as the payment reference to help us identify the payments.***	Lune Valley Community Beekeepers Account number – 29993268 Sort code 77-26-17	
I consent to the holding of my membership records on computer and consent/do not consent to disclosure to other members of the Charity and BeeBase.		
Signed:	Date:	
Gift Aid declaration (for tax payers only)– past, present & future donations Please treat my subscription as a Gift Aid donation. I confirm I have paid or will pay an amount of Income Tax and/or Capital Gains Tax for the current tax year (6 April to 5 April) that is at least equal to the amount of tax that all the charities and Community Amateur Sports Clubs (CASCs) that I donate to will reclaim on my gifts for the current tax year. I understand that other taxes such as VAT and Council Tax do not qualify. I understand the charity will reclaim 25p of tax on every £1 that I have given. **Lune Valley Community Beekeepers – HMRC Charities Reference XT22947**		
Signed:	Date:	

Fred Ayres, Editor & Chairman,
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- Comfortably houses one colony of bees without the needs for additional supers or brood boxes
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- Can be managed by a person in a wheelchair
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- Has a removable floor tray which can act as a biological sump or a debris board for varroa counts
- Has 2” thick wooden walls which provide five times more insulation than a standard hive
- Roof space is ventilated and has space for a jumbo feeder
- Has a metal roof
- Is manufactured locally, especially for LVCB
- Is constructed from pine wood to reduce the cost but will need an external preservative or coat of paint
- Despite its high specification, it is economically priced whilst offering exceptional value for money.