



The **Apiarist**

... High Weald Beekeepers' Newsletter

Chairman's Chatter

1. It is with regret that in the light of recent government guidance from the PM, Sir Patrick Vallance, and Prof. Chris Whitty that we have decided to cancel/postpone the current beginners' course.

Those on the course who already have bees or have committed to buying bees in the near future will be offered support via one to one bee-buddy assistance, and assuming they wish to remain members of the HWBKA & BBKA will therefore have their course fee refunded but not the membership fee. We may also ask them to make a voluntary contribution to the association should they feel the support worth it.

Those who feel they would like to hold off till next year when the course runs again... presumably, will be given the option to have the course fee refunded or for it to be simply held in abeyance, and for their membership of the HWBKA / BBKA to continue so they receive BBKA news etc.

Those who wish to quit will simply receive a full refund.

All other events such as BeeBanters, our attendance at country fayres etc, will also be cancelled until further notice.

Keep safe everyone!

Please also see the latest BBKA and BeeBase advice at the end of this Apiarist, page 16!

Otherwise...

2. The new committee members are all in harness and contributing wonderfully well already.

3. The new apiary site at Horsted Green Park is now all ready to roll... almost. The tenancy agreement is all signed, we have the keys to the door (gate) and the barn ...we just need the ground to dry out so we can get hives up there without needing to design floating hive stands first.

4. We are also investigating additional sites in the Crowborough area which would be more central for us.

5. The recent SBKA AGM saw little change, although there was much discussion and concern about how to deal with the Covid 19 outbreak at our various events. The most sensible contribution came from a member of the audience ... 'Just follow the government advice'. The Chair Pat Clowser also placed great emphasis on our AHATs (Asian Hornet Action Teams) even though, as our Regional Bee Inspector Kay Wreford said at the Autumn Convention, there's not much coming down from head office yet. There was also an extremely interesting talk by Celia Davis on bee biology (see Paul's write-up later) ... almost tempted me to study for that module.

Other Chatter Matters

...of a more light-hearted nature.

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FORTHCOMING EVENTS

Events and Beginners' course cancelled until further notice – see Chairman's Chatter!

For Full calendar & details see <https://hwbka.org.uk/event/>

And – take the Asian Hornet quiz that the AHAT (Asian Hornet Action Team) has prepared (click on link here if you are online!)

The Apiarist is a quarterly newsletter produced for members of the High Weald Beekeepers' Association.

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Peter Coxon has tried a method of cleaning hive components suggested to him by Steve Davies.

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Take

1. One old 50-gallon oil drum and cut approximately in half (What else are you going to do with one of these things ... except maybe make a barbeque?) – Ensure all traces of the previous contents are removed.
2. 10-15 gallons of water
3. 4-6kg of washing soda
4. Enough broken branches from the garden after the winter storms to light a small fire
5. Add to this, hive frames, Queen excluders, crown boards, hive tools and whatever else takes your fancy.
6. Boil these for 3-5 mins or so, or until tender.
7. Season with a modicum of elbow grease, applied via the medium of a scrubbing brush

... and hey presto, not a new delicacy from Jamie Oliver, but lots of lovely clean equipment in record breaking time!



Everything gets a nice even tan from a thin layer of propolis evenly distributed all over the surfaces – perhaps beneficial for the bees?!

I normally have all my equipment cleaned in the autumn and ready for the new beekeeping season, but not this year ... being retired I just don't seem to have the time anymore.

Normally, I would have cleaned everything the 'traditional way', scraping, scratching and torching, which is OK for small quantities, if a bit tedious, and requiring a great deal more of that elbow grease.

However, our genius Apiary Manager Steve Davies introduced me to an alternative methodology last summer involving cleaning the frames using hot washing soda solution ... he even cleaned a few frames for me. He had in turn been introduced to this by Michael Myszyn, and Michael by his father before him etc.

I had been aware of this method previously, but always thought it a bit of a palaver ... until Steve showed me the light and how well it worked.


I had quite a lot of equipment to clean last week when the rain finally stopped for a while, so I thought "don't be so unadventurous Coxon ... give it a go" ... and 2hrs later I had 11 Queen excluders, 6 crown boards and 18 frames all cleaned. I reckon the 'traditional way' would have taken twice as long at least.

But what's most impressive about this method is just how clean you can get everything, especially the Queen excluders, which are always devilishly tricky little blighters to clean... all those little crevices and cracks where the baddies can hide out.

It even appears as though they all have a nice even tan from a thin layer of propolis now evenly distributed from the 'soup' all over the surfaces. One could imagine that might be beneficial for the bees ... or am I drifting off into the land of optimistic fantasy here?

Steve is somewhat more professional than I am and has invested in a gas ring and bought one of those outrageously expensive metal bins to use as his boiler. (Obviously embarrassed about all his extravagance, (when he now sees it in black and white) he tells me he has found that an old water tank is large enough to fit supers and brood frames in, even 14x12.)

Me, I'm too tight... but definitely a complete convert to the Davies/ Myszyn methodology... although it must be said the Coxon adaptation to the D-M protocol is more economical, carbon neutral, it only took me an hour or two to cut the drum in half and I didn't get burnt too badly trying to light a fire under an old oil drum. I must admit the idea of an old rectangular metal cold-water storage tank as an upgrade and that would take a 14x12 brood box has me little excited anyone got one? Am I mad? ... definitely but happy in my own little way. 😊

Peter Coxon 



Perhaps a more professional take is to invest in a gas ring and one of those outrageously expensive metal bins – at least that is what Steve has done.



Christy Stevens shared her long experience of selling bee-related products commercially.

Lectures at the SBKA AGM

At the latest AGM for SBKA in Uckfield we were treated with not only one lecture, but two!

First out was Christy Stevens, former beefarmer in Chichester and active in the West Sussex BKA, until both she and her husband developed an allergy against bee stings.

Selling honey beyond the doorstep

Christy's lecture was on the topic of selling hive products, mainly honey but also many other products. As the title indicates this lecture was mainly intended for those thinking about stepping up their hobby to become a serious business. Early on she reminded us to value the honey, and never sell it cheap. Also work with quality with the mantra "Good honey is good enough to show"! Looks matter, and so does how the honey is displayed. Don't use standardized, pre-designed labels, because people may have bought honey with such a label before that wasn't to their liking, and they will think (perhaps not even consciously) that your honey will come from the same source. But once you have settled for a certain design for a label then don't change it unless you have very good reasons – this is now your brand, something people start to recognize.

When going commercial it's important to have sales objectives, and make sure you have planned for a sustained capacity to deliver volumes over time. Shops and wholesale dealers want to know that they have a steady supply from you.

In terms of quality you also (of course) need to know and follow the legal requirements and have the tools and measuring devices to check your honey.

Christy gave lots of tips on how to market your products, like for example attend local markets and fêtes, craft fairs, open house/open garden events. On top of that you should produce leaflets, place ads in local magazine and church newsletters, put up cards and leaflets in local

village shops etc. Don't be shy – contact the local newspaper and ask if they are interested in an article about what you produce, and how it is produced! And extend your contact network to include the local library, pubs and National Trust sites. And of course contact the local BKA and see how you can cooperate with them.

More ways to promote your products are to attend wedding shows, and suggest personalized honey labels as a gift. Contact local florists and B&Bs and ask if they want to sell your product. Contact local schools and ask if you can come and talk about bees and honey. In general – get to be known in the community!

Use the internet – set up a web site, start a FaceBook group, use Twitter!

You should also work continuously on product development; add soap, candles, jams etc to the range of products.



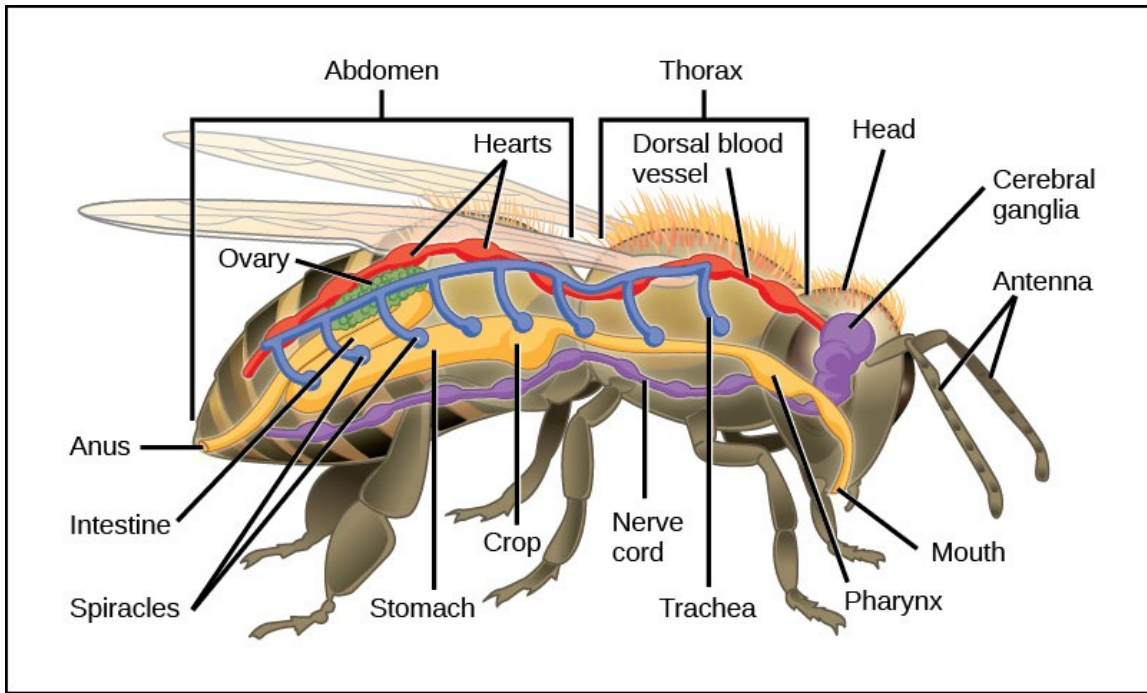
Celia Davis talked in an engaging way about the anatomy of the bee.

The ins and outs of the honeybee

The second speaker was Celia F Davis, biologist who has served on the BBKA Examination board. She is the author of many articles for the magazine Bee Craft, and has written two books. The first "The Honey Bee Inside Out" was published in 2004, and the second book "The Honeybee Around and About" in 2007. Both books have since been revised and updated with new editions.

Celia is very entertaining to listen to. For example, she started very early to declare that "bees and humans are much the same" (with a twinkle in her eyes). And yes, there are perhaps some similarities between humans and

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An overview image of the main parts of the honey bee. Illustration from PNGFuel, a license free image library.

...continued from page 3

bees in terms of the anatomy, but during the lecture it was clear that there are some definite differences as well. Many of you are probably fairly familiar with the anatomy of the bee, but for those who still regard ourselves as beginners, there was a lot of new stuff presented in a very entertaining way.

A big difference between bees and humans is for example how they get oxygen into the blood and digestive system, with the help of the respiratory system. The bee has 10 pairs of spiracles, openings into the tracheae (tubes), acting in a similar way as our lungs. This design can't be scaled up very much – this is why we don't have insects the size of elephants, or dinosaurs for that matter! (this was new to me).

The circulatory system for bees is also very different in terms of how blood is pumped around. We humans have a "closed" system with the blood circulating in tubes. The bees has an "open" system which is simpler. The organs in the head, thorax and abdomen are suspended in cavities and these spaces are filled with haemolymph. The bees also have hollow legs by the way! The main function of the heart is to propel haemolymph forwards to the head, and especially the brain.

Celia then went on to describe the components in the head of the bee, and especially how the antennae work. She started by saying that the queen is of a much simpler design than the worker bee – she basically only has one function – to lay eggs! The worker bee switches roles and function over its life span, and has a more diverse anatomy to match. Celia then suggested that the drone is the most important member of the colony, because they carry the DNA gene. The drones also have better vision

and sense of smell than queens and worker bees, and for obvious reasons, they need to spot the virgin queen quickly, first by smell and later by sight. She urged us not to talk down drones, they are important. Yes, they mostly hang around, don't collect nectar, but they have an important role in the bee community of course. (And modern beekeeping may actually produce fewer drones than might be needed by the bees – see the article "Drones" by John Whitaker in the March 2020 issue of the BBKA News, page 89).

Celia ended with some words on how the endophallus (penis) is designed in drones. It's wrapped up inside the abdomen, and extended "inside-out" when mating with the queen. In fact, so much blood goes to the abdomen of the drone to do this, that he passes out! Perhaps a good thing, since as we know, he dies shortly after, having had the endophallus ripped out in the process of mating. Celia added "Hopefully he dies with a smile on his face". If you want to learn more about the bee anatomy I can strongly recommend her book on the topic. I bought both of her books at the AGM, and look forward to reading them properly.



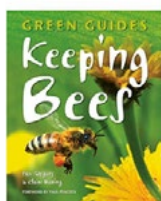
The two books by Celia F Davies; "The Honey Be Inside Out" (2004), and "The Honeybee Around and About" (2007). Both books have since been revised and updated with new editions.

The HWBKA library on beekeeping

We have asked Malcolm Wilkie, HWBKA Training and Education Manager, to suggest some good books on bee-keeping, and here is a wide range of books on various topics – all with short, personal comments from Malcolm.



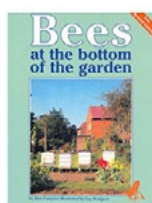
1. *The Bee Manual: The Complete Step-by-Step Guide to Keeping Bees*, by Claire Waring. Excellent beginners book with good photos.



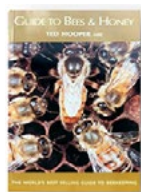
2. *Keeping Bees* (Green Guides Series) by Pam Gregory and Claire Waring. The best book for someone starting bee-keeping. Covers everything including dealing with wax and making candles. Simple steps for swarm control. Every beginner should have a copy.



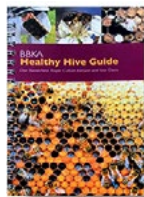
3. *Practical Beekeeping* by Clive De Bruyn. Clear and straightforward. Really useful for an improver who wants to improve his/her knowledge.



4. *Bees at the Bottom of the Garden* by Alan Campion. Comprehensive and useful for an improver.



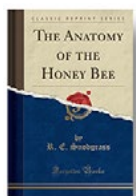
5. *Guide to Bees and Honey* by Ted Hooper. I struggle with Ted Hooper. Helps if you have a PHD or you are a scientist. For those among us who are obsessed and are prepared to wade through difficult text.



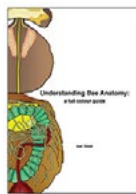
6. *BBKA Healthy Hive Guide*. Amazing little book with great pictures. Every bee-keeper should have a copy. Helps you to keep healthy bees and recognise brood disease. Simple and straightforward.



7. *The Buzz about Bees: Biology of a Superorganism* by Jürgen Tautz. For the advanced beekeeper. The photos are amazing. One could spend an hour just looking at the photos.



8. *The Anatomy of the Honey Bee* by R. E. Snodgrass. You really need to be an obsessed beekeeper if you read this one. Anyone studying for a module on bee biology needs to read this.



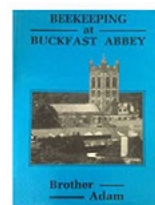
9. *Understanding Bee Anatomy: A Full Colour Guide* by Ian Michael Stell. Required reading if you are going to do the BBKA exam on bee biology.



10. *Form and Function in the Honey Bee* by Lesley Goodman. A huge expensive book. It looks at the honey bee under a microscope. You will discover things about your bees you never even expected. Difficult.



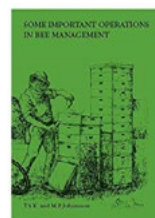
11. *BBKA Guide to Beekeeping* by Ivor Davis NDB and Roger Cullum-Kenyon. This new guide by the BBKA looks comprehensive.



12. *Beekeeping at Buckfast Abbey* by Brother Adam, the person who developed the buckfast strain of bees. For the serious beekeeper who wants to understand about bee breeding.



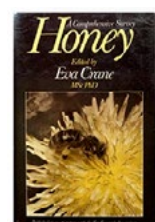
13. *Keeping Healthy Honey Bees* by David Aston and Sally Bucknall. A difficult comprehensive book dealing with disease and what you can do about it.



14. *Some Important Operations in Bee Management* by Dr Torge S K Johansson and Mildred Johansson. Serious beekeepers fight over this as I don't think it is in print any longer (ed note: it looks as if it is available again). Not for the beginner.



15. *The Honey Bee Inside Out* by Celia F Davies. Dense and difficult but a requirement if you want to know more about bee biology.



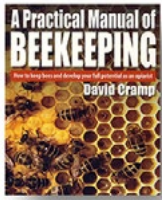
16. *Honey - A Comprehensive Survey* by Eva Crane. I haven't even tried to read this one. It looks difficult – a tome.



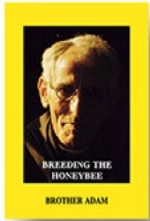
17. *The Asian Hornet: Threats, Biology & Expansion* by Professor Stephen Martin. My copy purchased at the honey show. Comprehensive.

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18. *A Practical Manual of Beekeeping* by David Cramp. Good for the improver.



19. *Breeding the Honeybee: A Contribution to the Science of Beebreeding* by Brother Adam. You need to be seriously interested in bee breeding to read this one.



20. *Queen Rearing Essentials* by Lawrence John Connor. As with all Queen rearing books, only meaningful to those who have already done some

Queen rearing.



21. *BBKA News - In the Apiary - Special Issue Series*. Articles written by Dr Ivor Davis. Simple. Every beginner should have a copy.



22. *BBKA News - Practical Mead-Making - Special Issue Series*. Ask Rob Gore about mead making.



23. *BBKA News - Swarming - Special Issue Series*. Every single member of the association should have a copy of this leaflet.

Note that many of the books above form part of the HWBKA library and can be borrowed. A deposit of £5 is taken when you borrow a book, given back when the book is returned.



How to present honey

How often have you been into a farm shop or local butcher's and seen honey like this for sale? Look at the scum on the top of the jar and crystallisation taking place. Some of you perhaps have taken honey to a farm shop for sale. It has been freshly extracted and looks lovely. However after two months sitting on the shelf crystallisation takes place and the general public hesitate to purchase the product.

Don't think that I am NOT guilty of such poor presentation. The jar below is mine and was the only one that did not sell at a Christmas fair organised by Sue Wallis and Deborah Park. Hardly surprising when you see the amount of frosting present.



Malcolm's honey - how NOT to present honey!

Presenting honey properly is an art in itself! Sometimes one is extremely lucky and natural crystallisation produces a smooth honey that is absolutely wonderful. But this doesn't

happen very often.

I am perhaps stating the bleeding obvious when I say that if you try and sell honey such poor presentation will mean that the general public do not come and purchase from you again. Although the honey will be absolutely fine to consume, it looks dodgy and people will hesitate buying the product.

So what should we, as beekeepers, do in order to better present our product? Firstly producing small batches helps. I have a warming cabinet and if I was selling to a farm shop I would always warm up my crystallised honey to make sure that it was runny. A lot of the general public like runny honey and so this is how I would give it to them. Once crystallised honey has been warmed it tends to stay stable for about three months and, hopefully, by that time it will have been sold.

Peter Coxon sells a lot of his honey. It is always beautifully presented, and he tells me he often warms up his jars of runny honey before taking them for sale. Ask him when you next see him. He is a reference for us all. Peter prefers jarring most honey which is to be sold as runny, immediately upon extraction; his thinking being that as honey has very poor thermal conductivity, if it sets, then when warming a large bucket, the honey on the outside liquifies a long time before the honey in the middle and it is therefore needlessly

exposed to elevated temperatures for much longer with the attendant risk of generating more Hydroxymethylfurfural (HMF) – see table below. Warming 1lb jars takes relatively much less time.

Below is a table taken from [North-umbrianbees](#). The second table is a table copied from an article Peter Coxon recommended in the BBKA magazine. . . note the differences!

Reactions to Heat		
Temp	30 mg/kg rise	Diastase halflife
30 Deg C	100 days	200 days
40 Deg C	20 days	40 days
50 Deg C	3 days	5 days
60 Deg C	1 day	1 day
70 Deg C	4 hours	4 hours
80 Deg C	1 hour	1 hour

Table 1: Reactions to heat.

Temperatures you should know:	
60° C:	A safe temperature to re-warm honey in a water bath for 45 minutes.
50° C:	A safe temperature for warming honey from bulk for bottling liquid honey for approximately 24 to 48 hours.
32° C:	The safe temperature for warming set honey from bulk.
14° C:	The optimum temperature for granulation.
10-14° C:	Ideal temperature for storing airtight containers of bulk honey, in a dry environment.

Table 2: Temperatures you should know. Table from BBKA News Aug 2019, page 273

Here, however, are my recommendations if you are getting a lot of honey. Don't jar up too much on the day of extraction- put your honey into buckets and let it crystallise. That way you will have an indication of what the crystallisation will be like. Lesley tries to keep each super separate as often the bees have collected the honey at different times. Each different bucket has a slightly different flavour and each bucket crystallises at a different rate depending on the fructose/glucose content.

Once you know how your bucket of honey is going to behave then you will be in a position of knowing how to proceed. And in my experience each year it is going to be different. So don't think that what happened last year will necessarily be repeated this year. If you have a good crystalli-

sation, then it's simple. Gently warm your bucket until the honey is mobile and then jar it. It will recrystallise quickly and as long as you haven't dissolved all the crystals by overheating your honey, it will recrystallise in the jars with the same size crystals as you had in the bucket.

If the crystallisation is coarse then you proceed differently. You will probably need to leave the honey in your warming cabinet at 40° for a couple of days.

I am not in the business of simply warming up my set honey in order to jar it (I am wishing to change the crystal size by seeding it with a honey of my choice) so need a higher temperature than 32°C. Only this will guarantee the dissolving/removal of the coarse crystalline structure that I want to get rid of. A warning – 40° C is very near the level when honey can become degraded: distase levels can half and levels of HMF (Hydroxymethylfurfural) can increase. So keep a close eye on your bucket and don't leave it in the warming cabinet for any longer than you must. I am unable to flash heat my honey, unlike Peter, as my buckets will take quite a long time to heat up. Jars (unlabelled I would recommend) gives Peter flexibility. However he won't be able to seed a whole batch as that would just be too fiddly if he had to do it jar by jar.

From the point of view of getting the correct consistency the important thing is that all the sugar crystals have melted out so the honey then becomes mobile and clear. It is at this stage that you need to use a seed honey. This will transform your 'gritty' honey into something altogether different and much more likely to appeal to a member of the general public.

(If you are at all worried by the above but wish to make soft set then the logical choice would be to make soft set a day or two after having done your summer extraction. You then control the granulation process by seeding your runny honey,

thereby guaranteeing you a nice soft set without any of the dangers of destroying beneficial enzymes in the honey or introducing HMF into your product.)

The seed honey that I have used myself is last year's spring extraction. This contained a lot of rape and the sugar crystals are tiny. Peter tells me that Eva Crane states in her book on honey that the quicker the honey granulates, the finer the crystals will be. This is the sort of honey that needs to be used as a seed and if you ever get honey like this, DON'T sell it. Keep it in order to seed your other honeys. You only need to add 10% of a fine crystallised honey in order to turn a bucket of warmed up honey into a super duper product. Each one of you can become an alchemist. You will transform a substandard product into something extraordinary. Give it a go! Your family will be impressed!

Below is a picture of a bucket of warmed honey to which has been added a seed honey . Helen is about to mix it in so that the crystals of the seed are distributed evenly throughout the bucket of runny honey you are about to transform into soft set. The video below shows the first stage of how she achieves this transformation.

Top tip. Let your bucket of warmed honey cool. Warm your seed honey slightly so it is mobile (BUT don't overheat it and change the crystalline structure of your seed honey) and at that stage combine the two. The reason why your warmed honey needs to be cool is you do not want to risk the seed honey being dissolved by the warm runny honey. If this happened you would lose the crystalline structure of your seed honey and you would be back to square one. In other words the honey would eventually recrystallise with its original coarse structure. In this scenario you would fail to become the alchemist I am intending you to become!

Finally once the runny honey and the seed honey have been combined,

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jar the honey.

At this stage you ideally need to put the jars in a cool cellar or larder so that crystallisation takes place. The ideal temperature is 14°. If you do not have a cellar, try and make soft set in the month of October/ November when temperatures are cooler. Lesley used her under stairs cupboard and the honey set in a fortnight. The important thing is that the temperature doesn't fluctuate too much because if it does you may get frosting on the inside of the jars which will spoil its look.



[Link to video of Helen Hadley seeding honey in order to make soft set honey. - click here to see it if you are online!](#)

To end this article I am going to make another suggestion. That is for you to make creamed honey. This process means there would be no danger of frosting. And so this method would produce the most stable product that would remain looking good in the farm shop for the longest time of all.

Creamed honey

To make creamed honey everything that I have set out above also applies. However the creaming process takes place in the bucket. Once you have managed to get a bucket of honey with the correct crystallisation (so you still may have to go through the process of seeding a coarsely grained honey as described above) you are then in a position to cream your honey.



Honey creamer.

Take your bucket of honey and warm it up until the honey becomes mobile. Respect the temperatures given above. Don't overheat the honey anyway because it still needs to keep the crystallisation that you have chosen for it. Then using a honey creamer, cream your honey as Margaret Mawson does in the video below. Make sure you get as little air into it as possible. Once you have creamed the honey, jar it immediately. This product will stay looking good without any frosting for a very very long time.

Please don't be tempted to cream a coarse grained honey. It will be gritty and not nice.




Drill plus honey creamer



[Video of Margaret Mawson creaming a bucket of rape honey - click here to see it if you are online!](#)

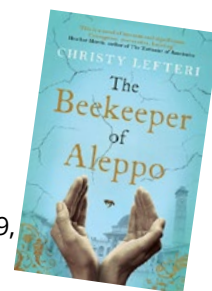
Creamed honey is a sensational product and more of us should be making it.

A final thought for everybody. Lesley had a big super of honey and we know that the majority came from a huge horse chestnut tree next to the hives. The honey was fairly dark and left a rather bitter aftertaste in the mouth. We made soft set. At a ratio of 20% rape to 80% horse chestnut a beautiful soft set honey was created. It won second prize in the soft set section in the Sussex classes at the National Honey Show. Something that I would not have rated at all became an exceptional product! So, have a go! 

Book review (1)

By Paul Lindström

The Beekeeper of Aleppo by Christy Lefteri




This is a fairly new book, it came out in 2019, and has received high praise.

It's not a manual about beekeeping, but the bees have a central part in the story. It's not exactly a true story, but rather an amalgamation of many persons that the author met during her time as a volunteer in a refugee center in Greece during the early days of the civil war in Syria.

Christy Lefteri was born in London in 1980 to Greek Cypriot parents who moved to London in 1974 during the Turkish invasion. She has a degree in English and a Masters in creative writing from Brunel University. She taught English to foreign students and then became a secondary school teacher before leaving to pursue a PhD and to write. She is also studying to become a psychotherapist.

We hear about war and atrocities almost daily in the news, so much that we risk becoming numb. But this book pulls you in, you feel like you know the main characters Nuri and Afra personally, and for that matter Mustafa, Nuri's cousin and fellow beekeeper. You realise, at least to some extent, how much suffering they have endured because of the civil war.

There is one single person that seems to have been one of the main inspirations for Christy, and that is Dr Ryad Alsous, now living in the UK, and founder of the "Buzz project". Dr Alsous, himself a refugee from Syria, teaches refugees how to manage bees. He was a beefarmer in Syria before the civil war started, and his life seems to be very close to the fictional character Mustafa in the book. You can find the Buzz Project on Facebook and follow what they do there.

As I understand it this is Christy's debut novel, and what a debut! 

The Garden Jungle

Lecture by Professor Dave Goulson, University of Sussex

Text Paul Lindström

I really wanted to attend this lecture, but stupidly I forgot to go on the actual evening, despite having been reminded during the day by my note in my calendar. But since several of the people I asked said it was a very good lecture, I contacted Dave Goulson and asked if I could have a copy of his presentation, and he kindly gave me the link to a video recording of [a similar lecture he held at the Cardiff University](#), on the same topic. So if you were there, and don't recognize some detail in the following, that's why – this is based on a lecture in Cardiff, not the one he gave in the Cross-in-Hand pub for us.

Professor Goulson is an extremely productive man, with around 290 scientific articles under his belt, and has published 5 books over the years. His first book "Bumblebees; Their Behaviour, Ecology and Conservation" was published in 2010. Then there is "A Sting in the Tale", a popular science book about bumble bees, published in 2013. "A Buzz in the Meadow" came out in 2014, "Bee Quest" in 2017, and the latest book "The Garden Jungle" in 2019. On top

of this he founded the Bumblebee Conservation Trust in 2006, a charity which has grown to 12,000 members.



The Garden Jungle is Dave Goulson's latest book, published in 2019.

As we all sadly know there are many threats to our environment, our planet – overharvesting of fish, pollution, deforestation, soil erosion, climate change, biodiversity loss etc – a quite bleak and depressing outlook. We will focus on the decrease of insects, and especially pollinators. While the research worldwide is patchy, recent research in the UK and Europe show an alarming decline in both numbers and species. It's not only about pollinators – other insects like for example Dung beetles and Lacewing larvae do an important job helping to break down substances



Dave Goulson is Professor of Biology, specializing in bee ecology.

going into the soil, as well as reducing the emissions of nitrous oxide (a greenhouse gas). Other insects like Earwigs, who used to be seen as pest by farmers, now (of course) are known to be of benefit in the ecological chain.

Regarding pollinators it's very obvious how important they are in vegetable and fruit production. About 87% of plants need the help of pollinators to reproduce. As we know there are areas in SW China where most of the pollinators are simply gone, and for example fruit trees need to be hand-pollinated. Awful! It's ridiculous to suggest that some kind of miniature robots or mini-drones could replace the function of insects. We have to look at the main causes of the decline of insects. The three main causes are: loss of habitat, the use of pesticides and foreign diseases.

In regard to lost habitats, the fact is that in the last 100 years the UK has lost 98% of its natural meadows. They have been turned into industrial scale farmland, often modern (monoculture) farming. And the use of pesticides is enormous – in the UK farmers spread 16,900 tons of toxins per year on their fields, often applied up to 17 times at intervals –

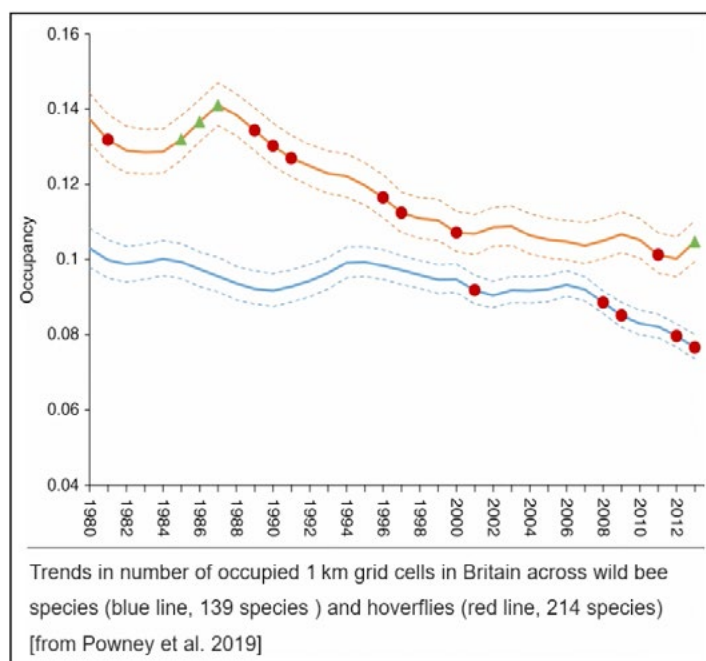


Figure 1 – The trend is alarming, wild bees are in a clear decline. We need to do something about this, and soon!

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no wonder the fields aren't exactly buzzing with life!

Now this is of course also depressing, and one wonders what can be done. Clearly the politicians need to put the environment higher on their list, and farming has to change to the better. But what can we do individually to help the pollinators to survive, to create some habitats, some havens for them?

Dave gave some suggestions, both to individuals and what councils can do. Privately we can simply mow less, leave some strips unkept perhaps, but generally mow less often. For councils this also applies, in that they can decide to let strips of grass grow un-mowed along the verges of roads, on roundabouts etc.

We can also be more generous with what we call flowers (a flower is weed that we like). Or rename some selected weeds to be called "wildflowers". Bees love Dandelion, so perhaps we should allow them, and not try to eradicate them from our gardens.

Another thing is to use no or less pesticides in our gardens. Councils don't need to have weed killers sprayed on every single patch of grass showing along roads, around trees etc! In France most pesticides have been banned for be used in gardens - why do we use them still in the UK? Some have been banned, like slug pellets, but every garden centre is full of all kinds of toxins to be used by gardeners. Do we really need them?

Choose pollinator friendly flowers for your garden. Dave gives a range of examples on Youtube - just search on Dave Goulson and you'll find several short videos on this. Among the flowers he suggests are Dog Rose, Catmint, Geranium (not to be confused with Pelargonium), Borage (also known as Starflower), Lavender and Comfrey. But beware that many plants marked as "bee friendly" in the catalogues have been treated with pesticides, so better to grow them



Borage (starflower) are popular with pollinators. The flower has a sweet honey-like taste and can be used to decorate desserts and cocktails!

from seeds.

If you can plant trees (a long-term project) go for Horse chestnut, Apple or Crabapple (or miniature apple trees to put in a very small garden or on a balcony!) and Lime (also called Linden).


And don't buy peat, or peat-based products. It's not good for the environment - better make your own compost. Surprisingly few gardeners bother to compost - Dave finds this strange.

Put up different types of bee hives and bee hotels. By this Dave means homes for solitary bees and Bumble bees. There are many types to buy or they are easy to build. Dave showed a model with a window on the side, so you can inspect how the bees are doing.



An advanced model of a bumblebee nesting box, from Nurturing Nature Ltd. It's called the Solitary Bee Observation Nest Box. It has windows on both sides, and each nesting unit can be taken out of the nesting box.

Finally Dave suggests making Hoverfly lagoons - good fun for the children to investigate now and then! Just put some old grass and water in a bucket and leave to fester. Soon the Hoverflies will find it and lay their eggs there.

Regarding modern farming Dave pointed out that 70% of the UK is farmland. But while allotments are quite efficient at food production while still being havens for insects, modern farming delivers high yields, but at a cost - not much habitat for insects, and using a lot of pesticides. Yes, we need to feed the population, but do we really need to waste 33% of the produce? And with 27% of the adult population being obese (and 20% of the children age 10-11!) - do we need to eat this much? Dave doesn't suggest we should stop eating meat, but perhaps reduce the amount. It takes about 30 times more land and resources to produce meat than producing vegetables for direct consumption by humans. Organic farms don't provide as high a yield as "modern" industrial farming, but we need to balance the pros and cons. Farmers probably need to change their practice, but this won't happen unless the government works closely with them on such a change. 

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Honey Bee Pests & Diseases

These pages give details of honey bee pests and diseases that all impact and management options for a range of infestations and inf

Current Disease Incidence

The [Disease Incidence and Reports page](#) gives live information ab in England and Wales. It also provides information on imports of be inspections programme is updated daily during the beekeeping see whereabouts of diseased apiaries (10km square basis). These pag

Details of every apiary inspection and laboratory diagnosis carried distribution of notifiable bee disease data. These are generated wit

If we all register at BeeBase we will help them keep track of how our bees are doing. There are also a lot of useful information including the Varroa calculator. You can also use their hive inspection report tool if you like.

This screen dump shows where you will find more information on colony losses and other disease incidents

Colony losses

By Paul Lindström

Last year I lost one of two colonies, and this year I've again lost one of two colonies. My neighbour meanwhile lost both his colonies already in November, so I started to think there might be something really wrong with this winter. So at a recent "BeeBanter" in the Mayfield pub I took the opportunity to ask some fellow bee keepers how they had fared so far this Winter. Luckily the picture sounded much brighter after I had listened to their reports – some lost colonies of course, but on the whole most reported that their colonies were doing fine. Since we have just entered spring (my dear wife declares spring present on April 1 whatever the temperature, and switches off the central heating), and this date coincides with the cut off date used by BBKA to report colony

losses, but more on that later.

This triggered me to try and find out what the statistics have been for the last few years in our region, South East England, and so I started to search for such statistics. At first I couldn't find this easily, not on BeeBase, and not at the BBKA web site. For those of you that have tried, and failed to find this type of information, I thought I should share where I eventually did find it.

BeeBase

BeeBase is managed by The National Bee Unit (NBU), and it delivers what is called the "Bee Health Programmes" on behalf of Department for Environment Food and Rural Affairs (Defra) and Welsh Government (WG) in England & Wales. It has been involved in the management and control of bee pests and diseases, along with training and dissemination of information to beekeepers for over 60 years. The

current team of 80 people comprises laboratory diagnostics, programme support, research personnel and 60 home-based Bee Inspectors who are managed by the National Bee Inspector (NBI) – the head of field inspection services.

I can strongly recommend that you register your apiary at BeeBase, and so help them keep good statistics on how our bees are doing. It's free and quite easy. Their web address is <http://www.nationalbeeunit.com/>.

To find the statistics on colony losses you need go to the section "[Disease Incidence](#)", where you will find different types of reports. To find the statistics on colony losses you click on the link "[% of colonies found dead by regions over whole years](#)". You'll get a graph showing the colony losses starting with the horrible year of 1996 when the measures against Varroa still hadn't had much impact.

It's a bit difficult to see the figures
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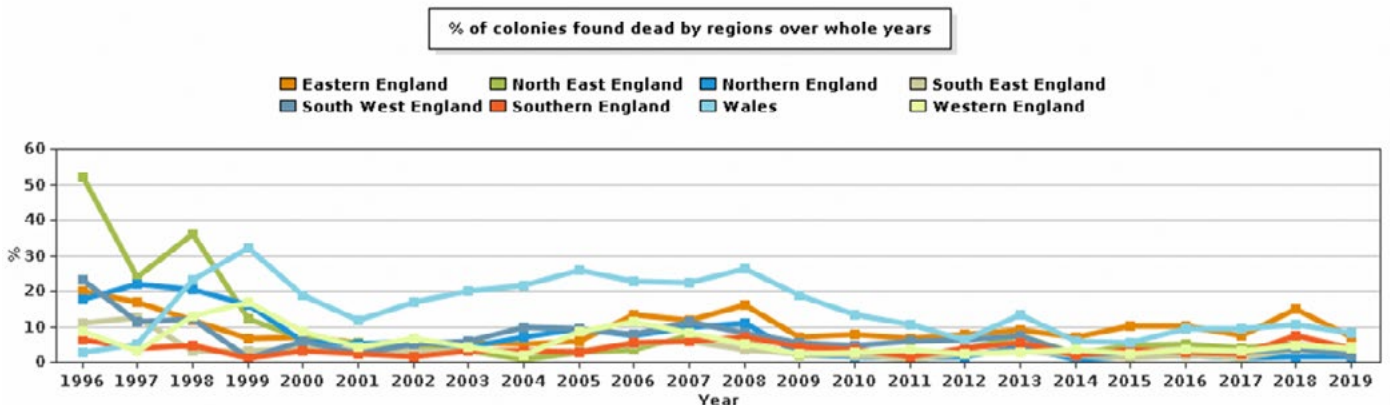


Figure 1: The statistics on BeeBase starts in the horrible year of 1996 with very high percentage of colony losses. The picture of the last 10 years is much more positive, at or under 10%.

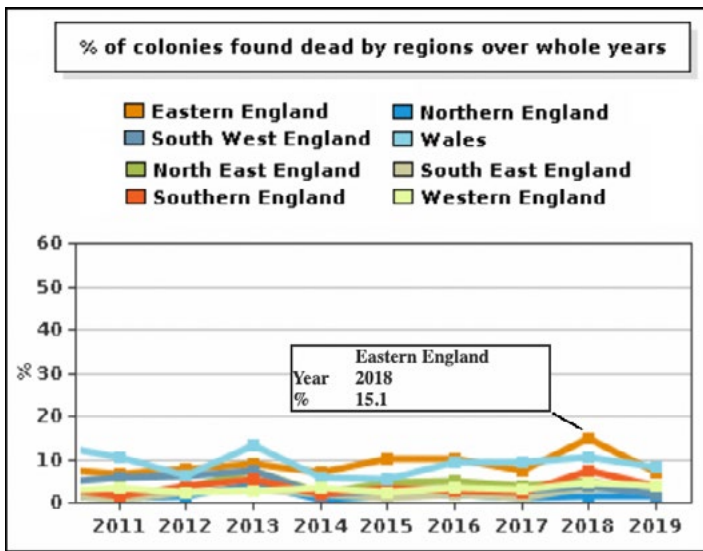


Figure 2: By hovering over a particular year and line, you'll get more exact information out of the diagram on BeeBase.

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for each region, but the diagram is interactive, so if you hover with the pointer over a certain year, the figure for each region is shown in a window.

Unfortunately it's not very straightforward to report what colony losses you have had on BeeBase – it seems you'll need to mail one of the inspectors, but I've suggested that they make this more easy, for example with a form on their site. Or that they cooperate with BBKA and use those numbers.

BBKA statistics

The BBKA, of which we are all members through HWBKA, also provides statistics of colony losses. But they are a bit more tricky to find, and you'll have to search for published articles on this topic. But after some searches on "colony losses" some articles showed up. The latest I found



The BBKA indicates a higher % of losses than BeeBase, but still well under 10% in most regions. You will find some more graphs in the original article.

was a report called "[Record low level of winter losses of honeybees](#)" published June 28 2019, based on a survey covering the period Oct 1 2018 to April 1 2019. This was the first year a survey was carried out online. Myself I can't remember having seen this survey – I might have missed it.

The BBKA survey 2018-2019 showed a fairly low percentage of colony losses – in average 8.5% across the membership who took part (5581 members in the BBKA did, just over 20% of the total membership of 26,000). Normally 20% response rate is quite good for general surveys, but in this case I had actually expected a bit better response rate, since we are active members in this association. Perhaps it was more than me that missed the invitation to take part in the survey?

Anyhow, below 10% colony loss sounds quite good to me, compared to the reports of up to 50% colony losses in neighbouring France during the same period. Of course, France has the pest of the Asian hornets, which explains such horribly high colony losses – we need to take the threat of the Asian hornets seriously, or we will suffer similar losses I'm sure!

Let's all take part in coming surveys from BBKA and NBU, to ensure the quality of those surveys. If you haven't seen any invitation yet (should go out in April) then look for them at the BBKA and NBU web sites.

Book review (2)

By Paul Lindström

A Honeybee Heart Has Five Openings

by Helen Jukes



Again – not a manual on beekeeping, but rather a personal account of why and how a fairly young woman came to keep bees, published in 2018.

Helen Jukes was born in London, England, and grew up in the Midlands. She studied at the University of Nottingham and Goldsmiths College. Jukes was among the founding members of [the Bee Friendly Trust](#) and tutors at the creative writing program at Oxford University.

Written in the style of a memoir we find Helen struggling in a new job which she finds stressful, having difficulties making new friends in Oxford. By chance she helps the "urban" beekeeper Luke with his hives spread over and around Oxford. She decides to get her own bees, and starts to research the topic very systematically, bordering on obsession. Through this we learn a lot about bees, because Helen conducts much more in depth research than the average new beekeeper I'm sure.

She decides to go for a top bar hive design, which has its own challenges.

The book is endorsed by Helen Macdonald, author of the book "*H is for Hawk*" – a book about how to train a goshawk, and Helen Jukes approaches the topic in a similar way. Bees are wild animals, and so are goshawks, and we humans need to respect that while working with and managing them. In the process Helen finds new friends and ways to deal with her stress. And she finds love!

It's a charming book which reminds me a bit of my first year as a beekeeper – the silly mistakes one makes, and the thrill and joy of slowly understanding a bit about how the colony actually operates.

DIY: Simple Hive Stand

By Steve Davies

This stand is simple, sturdy, and easy to construct. Using 75mm posts provides a more solid support although 50mm x 50mm will also work.

Equipment needed:

75mm x 75mm fence post (3" x 3")

25mm x 38mm (1" x 1 1/2") or 25mm x 50mm (1" x 2")

Roofing batten

32 x screws (#5.0 x 50mm)

4 x tack glides / chair buffers / 10mm diameter coach bolts and pronged tee nuts

Method:


- First, cut four legs from the fence post. The length will depend on your height but aim to have the top of the brood box just below waist height. This will reduce the need to bend over and makes for more comfortable beekeeping. At 152 cm (5' 8"), my comfortable working height required the legs to be 435mm (17")
- Cut four battens 500mm in length.
- Using two screws per end, fix one batten to the top of two legs and the other across the middle (as per photograph). Ensure that there is a 25mm overlap on either end (the batten width).
- Check the legs are square to the battens as you go along otherwise you could have a wobbly stand!
- Repeat the process with the remaining two legs and 500mm battens.
- Next, cut another four battens this time 460mm in length. These are then screwed to the outside of the legs between the existing battens (photo 2).
- Using a sander or power file, sand down any overlaps especially the tops of the legs. You are aiming for the hive to sit squarely on the top battens; if any leg protrudes, this can tilt the hive slightly.
- Finally, I prefer to have my stands raised above the paving slab so that the wood does not sit in puddles etc. To do this pin, or screw, one tack glide / chair buffer to the bottom of each leg. Alternatively, you could use coach bolts and tee nuts and this will give you the ability to adjust the stand to get it level.
- NOTE: the coach bolts do not need to be long as there is only going to be a small amount of adjustment. Old fridge feet for example, are good as they have a wider base and short bolt length.
- Finally, although not strictly necessary, painting with good preservative will help preserve the wood. 





Photo by Paul Lindström

The second story in a multipart series called “Three Bees”

Under Attack

By Laurel Lindström

The comb was barely pressed soft and cosy to their shapes, before the boys woke to a terrific buzzing and the choking fug of bee commotion. A wild storm of pheromones clogged the air and all about them was frantic motion. A nanny bee bustled up, antennae akimbo and sticky with fresh nectar from a minor collision with an incoming worker. “Get out, get out of the way you fools” she squeaked in near panic pressing herself against the side of the hive, one leg stretched protectively in the general direction of Burly, Curly and Twirly. Sleep drenched and hazy they watched wide eyed as dozens of workers dropped their loads and martialled into tidy rows, creeping as one across the comb towards the hive’s opening. It was almost clogged with the serried rows of massed bees, all facing the same way moving in steady robotic lock step. Stretching his neck which gave a little crack as it reached maximum stretch for the first time, Burly looked slightly to one side and hissed with what he hoped was menace (it wasn’t) at the little nanny bee: “what’s going on, we were asleep. You woke us up. We’re hungry.” The little nanny bee ignored him, and pressed her outstretched leg tighter against Burly’s abdomen. Curly, peering out from behind his much bigger brother, added by way of encouragement: “why aren’t

you feeding us?”. The little nanny bee paid no attention. Instead she pulled in her leg and started moving carefully towards a new row of bees creeping slowly and deliberately towards the hive’s exit. She was soon pushed back by an incoming forager: “not so fast you, you stay here with the brood and youngsters. You’re not ready for this.” The little nanny bee’s head dropped disconsolately, antennae drooping, wings still as she moved aside to let forager and guard bees go by to join the ranks. Moving away from the exit, she headed towards the stores to fill her belly and return to feed the three sleepy drones. Burly and Curly watched her go in anticipation, oblivious to the shoving and jostling as more and more bees scrambled by to form new lines.

“What’s happening?” Twirly mumbled through a half yawn as he snuggled deeper into the softened comb. He was still recovering from his birth trauma, wax still sticking to parts of his face and dozily he rubbed his massive eyes. In the near darkness he slowly focused on the mayhem that was all around. “We don’t know, but something big is definitely up” Curly hissed. “All the bees are being called up and the guards are yelling orders.” Burly stared after nanny bee, looking forward to getting something to eat, but Curly

was urgent. “Now’s not the time for food. We can’t wait. Something big is going down. Follow me”. With Curly weaving a careful way through the colony and Burly and Twirly struggling to follow, the three bees started moving towards the hive wall where the traffic looked easier to navigate. It was slow going, and as they moved forwards they saw more and more ranks of bees crawling steadily on. But no nanny bees stopped to give them anything to eat. All nanny bees had been ordered to guard the brood chambers, to keep the gestating baby bees safe and to feed those grubs whose chambers were still uncapped. These were the most vulnerable and possibly hardest to protect, but they were the colony’s future. They had to survive the drama at all costs.

As the three drones got closer to the hive entrance, they could hear the sounds of guard bees snarling instructions and a terrible humming sound that stopped them in their tracks. The guards were calling all workers to come straight to the entrance and to organise themselves into tight exit facing formations. The three youngsters could just about make out teams of bees as they lifted off no longer in tidy rows but in what looked like a state of chaos, of turmoil, random and messy. They jumped out into the air flying

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at alarming speeds whilst inside the hive the signal was spreading and the ranks of defenders lined up row after row after row awaiting instructions. Twirly, now suddenly wide awake and in a state of extreme agitation was turning tiny circles in a complete panic, his little legs sticking and tripping and hooking onto one another making him lose his balance. As he twisted and turned he stepped into the paths of harried bees now moving in many directions, who cursed him as they passed. "Useless drone. Get out of our way". Most moved towards the entrance to join the guards and their rapidly assembled army, some were in search of their queen and some to rally nurse and housekeeping bees and order them to the brood cells.

Poor Twirly was the one who understood what was happening although he didn't get it quite right. "Attack" he squeaked, "we're under attack, we're going to die, even though we've only just been born, we're going to die, to die" and tiny bee tears misted his oversized eyes, as he tripped over another bee, blind and consumed with unnamable terror. It was useless drama and Curly watched quietly as Burly bumped hard into Twirly's abdomen, before whacking him resolutely across his gaping and hysterical jaws, which suddenly stopped their frantic opening and shutting. Burly had a forelimb raised for a second swipe, but with a twist of an antennae Curly stopped it. Twirly's tears did not stop but his wild motion calmed and ceased. He sniffed and whined in a little whisper "we're going to die, to die, we're going to die. All of us." And he sniffed some more. Nursing the slight bruise to his foreleg, Burly was inclined to believe him, despite the fact that he was totally unaware of what attack his brother was on about.

Burly's thinking didn't stretch so

far as to wonder if the colony had the strength of numbers to see off whatever it was. "What is it?" muttered Curly his tiny bee brain working at top speed to process all the signals he was getting. It was no use, he would have to get away from the terror pheromones emanating from his companions and clogging his senses. As Curly moved away, he could hear Burly and Twirly offering small mewling sounds of reassurance and comfort to one another. They were following him, which did little to help Curly's mood. For a moment he stayed still in the mayhem, masses of worker bees and newly conscripted guard bees eddying around and over him. Gradually the signals got clearer and Curly could sense a strange scent in the air. Slowly he came to understand that something was circling some short distance from the hive entrance, picking off tired workers as they returned heavily laden with nectar in their bellies and pollen in their legsacks. He understood that the something had been chased away but only to hover at a slight distance, beyond the range of the usual guards. It kept coming back. The guards had started sending emergency communications shortly before the three bees' sleep had been disturbed. The colony had flown into action with the more experienced guards responding to signals from the hive to get more ranks of defenders into position so that they could counter attack in large numbers.

Curly processed all this data at speed, and understood that it could take much more than the usual few coordinated defence teams to kill off whatever it was. He wasn't entirely sure what an attacker looked like or why it would be interested to invade the hive, only that the colony was in an extreme state of distress. A few moments pondering and he found himself creeping closer towards the outside, slowly moving along the wall to where the guards were coordinat-



Photo by Paul Lindström


ing their platoons' departures.

As Curly approached the light he noticed a small hole in the hive wall. It was too small for him to pass through, but big enough to see out. Then he understood what was attacking. There were three of them, massive airborne insects magnificent in gleaming golden armour, giant eyes shining with malice, menace and malevolence, focused, coordinated. The huge yellow legs, barbed and powerful, were held in perfect symmetry from their immaculate bodies, their vicelike jaws ready. As the long black wings whirred and rattled in the air, Curly watched in fascination. The creatures dove and swirled into the clouds of oncoming bees, opening and shutting their iron hard mouths to capture bees that couldn't move fast enough to get out of their paths. And with every thrust towards the hive entrance the defending bees, at top speed changed direction, confusing and deflecting their foes. What looked like mayhem was an aerial dance elegant and random, choreographed in precise and coordinated patterns. The bees were suffering losses, but stayed intent, agile and resilient turning suddenly and unexpectedly to pound and pound against the hornets again and again, tiny spitfires hurtling through the air to hit and sting with sudden impact the shining sides of the invaders.

At the first onslaughts of angry bees, the armour plated hornets, momentarily shimmied away before

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continuing forwards to meet the next swathe of bristling angry bees. Curly watched fascinated as the defending squadrons leapt into the air from the hive's take off and landing platform. And slowly it seemed they were winning. A process of steady attrition was underway. The gold of the invaders seemed to shine less brittle bright, seemed to catch less and less of the slow setting sun, and the inclination to fight on through the defenders seemed to weaken. The noise around the hive was giving way to a softer and less frantic hum. Still close to the exit, Curly could see the guards conferring, casting their eyes over the readied ranks of foragers turned soldiers, assessing, calculating, deciding if more should be readied for potential sacrifice. And then suddenly it was all over. Inside the hive the ranks of bees were once again in apparent disarray, meandering about, deciding who should go where for nectar and sharing food with others before heading, bellies empty, back out to the flowers. Curly could see no more hornets, so he made his way carefully across the comb to find his brothers.

He found them in good spirits. Burly was happy because a passing bee had heard his plea for food and along with a few of her sisters was feeding him and Twirly. Twirly wasn't quite happy, but his anxiety was subsiding and he was pleased to see that his little bit of honeycomb was still unrepaired and Twirly shaped. He eased himself back into his own personal nest, patting the comb beside him and signalling to Burly and Curly that it was time for a nap. They joined Twirly but Curly decided not to share what he had learned that day with his brothers. Instead he sighed a tiny bee sigh and turned over zzzzzzzzzzzzzz. 

Written by Laurel Lindström as a bonus for supporters of her coming book *"The Draftsman"*, to be published by Unbound Publishing House September 2020.

Advice on Covid-19

The National Bee Unit

Please see the below guidance from the bee health policy teams in England, Wales and Scotland regarding beekeeping during the COVID-19 pandemic.

[COVID-19 and Beekeeping Update](#) (this link should take you to the original document if you are on-line, and you can then read the whole text)

If you have any queries please contact BeeHealth.Info@defra.gov.uk

BBKA

A number of members have asked for guidance on where they stand with beekeeping in light of the current "stay at home" policy.

On the 19th March the BBKA chair, Anne Rowberry put out the ["BBKA Statement on Coronavirus Pandemic"](#)

In this statement she says:

"Please follow the Government guidelines, we are asked to avoid social contact and unnecessary travel. This will mean considering carefully the swarm collection service and applying appropriate safeguards.

I have contacted Defra for advice on the position of beekeepers visiting their bees if the country moves into a more intensive 'lock down'. At the moment bees will be considered as livestock and can be tended accordingly but we are following Government advice and need to address possible future directions.

I have also been in contact with Alpha and the All Party Parliamentary Group and I am writing to the Minister of Environment asking about the position of beekeepers visiting bees I have also suggested that should there be a sugar shortage beekeepers have an allowance (as I believe they had in

the war). This may seem extreme but we need to be thinking now, just in case."

The situation is changing all the time so please continue to check what the current guideline/policy might be.

HWBKA

By Peter Halford

My personal view at the moment (and so should be used as a point of discussion and not guidance) is:

Do you really need to visit your bees at the moment?

They are very unlikely to swarm just yet. The weather is very cold at night and there won't be many drones around yet anyway.

Do they really need supplementary feeding? Your apiaries are all in different positions, but most areas have got many flora with both pollen and nectar unseasonably early.

Don't feel you need to visit an out-apiary because you are at a loose end. Find something else to do, like making up frames for later in the season.

If you need to visit your apiary, do you need to come into close proximity of another person?

We all have different homes and apiaries. E.g. If your out-apiary is some distance away, you may need to walk past people in order to get to your car. Is it really necessary to put those people, or yourself, at risk?

Be sensible when touching things that others have, or might, touch.

If you travel to your apiary by car and you need to fill up, use common sense when using the pump and paying the cashier. Keep your distance from others, wash, and don't touch your face.

Each of you will have a different situation, and so the ramifications of giving advice to someone else may have unforeseen consequences. 