



The Apiarist

... High Weald Beekeepers' Newsletter

Ex-Chairman's Chatter

This is essentially an overview of 2021 for the HWBKA picking out some of the highlights ... and lowlights. More detail can be found in each of the committee members reports which you have received before the AGM we held on Sunday 28 of November last year.

Starting with the 'lowlights' we are obviously still being impacted by COVID although not as severely as in 2020 when almost everything stopped.

On more positive notes the Association continues strongly with 247 members, only one down on last year.

Finances are still strong with a healthy balance of ≈£21k although

this would have been even greater had we been able to run the course last year in 2020. It is still our hope and intention to be able to fund an Apiary with a permanent Club House and we are slowly building funds to accomplish that.

Despite the BBKA increasing their charges last year, when we had to absorb the cost as we could not do anything about it until the following AGM, we have decided again to maintain our current level of subscriptions and absorb that cost increase once more. Most of your dues do go to the BBKA and for BDI as can be seen in Peter Halford's and Rob Gore's

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At our AGM Peter Coxon stepped down as Chair after 4 years, replaced by Jo Gore. Jo handed over two tokens of appreciation on behalf of the association; the book "Wild Honey Bees" by Ingo Arndt and Jürgen Tautz and a Sweet pepper bush. In the background on the screen our President Peter Leswell who participated via Zoom.

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FORTHCOMING EVENTS

Most "live" events are still cancelled until further notice. We will try and arrange seminars via ZOOM though, so please check our web site now and then, and watch your email in-box.

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

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

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reports. It was for this reason that we changed our rules and constitution to enable us to increase dues by whatever the BBKA impose should we need to, without having to wait for the following years AGM to pass a resolution or hold an EGM.

At the beginning of 2021 it was not at all certain we would be able to run the Beginner's Course. It represents a major revenue for the Association both financially and in terms of new members. In anticipation of future difficulties, we setup an education sub-committee, an objective for which would be the generation of a comprehensive course manual, and this was completed during the bleak mid-winter and early spring. Armed with this document we felt that in the worst case we might be able to run the course on a one-to-one basis or in much smaller groups depending on prevailing lockdown criteria at the time. This would of course require a greater number of tutors who may well need the manual for reference. In the event the first 2 classroom-based sessions were held on Zoom and the initial 'in-the-field' events one to one with the very much increased number of tutors in their own apiaries. Our tutors did sterling

work, and we are very appreciative of their efforts on behalf of the beginners. This all worked well and then in July we recommenced group events. The manual will stand us in good stead for the future and all new beekeepers on the course get a copy to keep so they get our association's view and are not too confused by all the sometimes-conflicting advice they might get in books and on-line

We held the Taster Day this year in June at my apiary and had a most enjoyable day with 11 participants, including Peter Halford and Talha Dinc who came long to help.

Following on from a laudable initiative from Malcolm 2 years earlier to encourage people through their Basic Assessment, we finally managed to hold the assessment, again in my apiary to better facilitate necessary teas, coffees, brandies etc. 5 people, 4 from HWBKA and one who came up from Hastings and Rother took part. Mike Cullen, a Master Beekeeper from Hastings took us through quite gently. My guilt at not doing it earlier in my beekeeping career finally got the better of me and I too took the test of 'beekeeping manhood'.

In terms of other events held throughout year they have been quite severely curtailed. Committee Meetings have been held on Zoom

as Peter Leswell has had to maintain a strict isolation regime. There were no country fayres we could attend. BeeBanter was off the menu until it re-commenced in the latter half of the year. Attendance at BeeBanters has been somewhat down compared to the past, no doubt because of people's legitimate concerns over either getting infected or spreading infection. Last month Talha managed to organise a very successful wax workshop which Helen Hadley led, and Sandy Infield hosted in her spacious studio. On the 8th December he has organised our annual Christmas Dinner at the Middle House in Mayfield.

Our Association Apiaries are in mostly good fettle, although it has been a tricky year for many beekeepers as indicated in Keith & Steve's report about Slab Castle. We heard in Jonathan Coote's Apiarist article about the winter losses. We had a warm February causing the colonies to build quickly and early, followed by a colder dry spell and then a colder wet spell and some colonies never really got up to speed. My own honey crop as with the Associations was less than half the usual.

Nonetheless Slab Castle is going into the winter with 10 colonies and much work has been done over the year maintaining it and the equipment.

Our lease from WDC for the Horsted Green Apiary was increased to 12 colonies in exchange for which they wanted our assistance with promotion, and you may have seen articles in Ashdown Living Sussex Country Living. I took over from Steve running the Apiary mid-way through the year as the combination of running Slab Castle and Horsted with all the travel that entailed was getting too much. Steve was very largely responsible for setting up the splendid facilities at Horsted for which we owe him a debt of gratitude. There was a very successful queen rearing activity held at Horsted and led by



The AGM on 28 November last year was pretty well attended despite covid restrictions. 41 members attended, either physically or via Zoom-link.



Helen Hadley was presented with the Lynn Moore memorial cup for outstanding contributions to the HWBKA association. Helen has lead many activities, for example "Lotions and Potions", "Candle Making", and "Cooking using Honey related ingredients", as well as the Queen Rearing Programme.

Helen Hadley and Malcolm. We used a particularly vigorous colony of nice gentle bees and produced some 30 or so queens which were given out to various members. We plan to hold something similar next year with more emphasis on teaching the craft.

We will also be raising 10 nucs of bees with the very generous assistance of John Miller, to supply future new beekeepers on the course. A small part we can play in reducing the need to import bees from abroad along with whatever plague they might bring in with them.

As mentioned above, it is an awful lot of work running the association apiaries and we hope next year to be able to enlist some permanent or semi-permanent assisting teams to help share the burden and perhaps as a teaching experience too for those less experienced, to learn from the likes of Steve and Keith. There was a form sent out as well as handed out at the AGM for those who would like to express interest.


The Apiarist is going out quarterly 'jam packed' thanks to the sterling work of Paul with his expertise in DTP and publishing in general.

AHAT – fortunately there has been very little activity on the Asian Hornet front, due in no small part to the continuing vigilance of beekeepers nationwide and of course FERA.

The website continues to support our activities and membership very well. The advent of booking forms for events and the eR2 system making life much easier for our Membership Secretary Peter ...although it is still a great deal of work he does behind the scenes to keep our Association running smoothly.

SBKA has been quiet and similarly impacted by CV-19 and holding meetings on Zoom. There was no Bee Market this year but the Autumn Convention which was a hybrid live / Zoom meeting had some interesting talks particularly from the folks at Buckfast Abbey.

Having overstayed my statutory three term year as Chair by one year in extremis to get through the COVID crisis this has been my last year ... honest!

It's been fun, an honour and a privilege. I will still be around, however, looking after the little darlings at our Horsted Apiary. 

HWBKA Honey show results 2021

Class 1 Clear Honey

1st Sandy Infield
2nd Peter Coxon
3rd Neil Underhill
Highly commended: Debbie Park

Class 2 Set Honey

1st Malcolm Wilkie
2nd Rob Gore
3rd Sue Taylor

Class 3 Cut Comb

Vera Becvar cup: Sandy Infield

Class 5 Cakes

1st Phil Edwards
2nd Debbie Park
3rd Jo Gore
Highly commended: Malcolm Wilkie

Class 6 Biscuits & Confectionary

1st Debbie Park
2nd Sue Taylor
3rd Jo Gore
Highly commended: Phil Edwards

Class 7 Preserves and Mead

1st Phil Edwards
2nd Phil Edwards
3rd Peter Coxon

Class 8 Dipped Candle

1st Rob Gore
2nd Jo Gore
3rd Malcolm Wilkie

Class 9 Moulded Candle

1st Lesley Frances
2nd Sue Taylor
3rd Bob Curtis
Highly commended: Liz Missen, Phil Edwards

Class 10 Any other Wax, Pollen or Propolis Product

1st Lesley Frances
2nd Sue Taylor
3rd Jo Fuller
Highly commended: Lesley Frances

Class 11 Hive or Beekeeping Item (Handmade by the entrant)

Paul Lindström

For pictures see next page



Sandy Infield won 1st prize in Class 1 Clear Honey and the Vera Becvar cup



Peter Coxon won prizes in both Class 1 and 7



Neil Underhill won 3rd prize in Class 1 Clear Honey



Debbie Park won prizes in Class 1 and 5

A Gallery of winners in the HWBKA Honeyshow 2021



Malcolm Wilkie won prizes in Class 2, 5 and 8



Rob Gore won prizes in Class 2 and 8



Sue Taylor won prizes in Class 2, 6, 9 and 10



Phil Edwards won prizes in Class 5, 6, 7 and 9



Lesley Frances won 1st prize in Class 9 Moulded candle



Bob Curtis won 3rd prize in Class 9 Moulded candle



Liz Missen was Highly Recommended in Class 9 Moulded candle



Jo Fuller won 3rd prize Class 10 Any other Wax, Pollen or Propolis Product

Book review

By Peter Coxon



Honey Bees
by Ingo Arndt
& Jürgen
Tautz.

I stood
down as
Chairman
at the last
AGM in
November
2021
(about

time too) and as a token of appreciation the committee presented me with a couple of gifts ... a book, *Honey Bees* by Ingo Arndt & Jürgen Tautz, and what will be a beautiful plant, a *Clethra alnifolia* (also called sweetpepperbush) popular with bees of course ... although at the time it did more closely resembled a twig it must be said.

Anyway, back to the book review ... it is a very beautiful tome indeed with the most amazing images particularly the macro photography of inside the colony that I have ever seen. Ingo Arndt is famed for his photography. Some years ago, there was a fad for 'coffee table books' with beautiful pictures for light reading and this one should be top of the list for any beekeepers.

However, it is not just a 'coffee table picture book' for, as you'd expect with any book Jürgen Tautz has had a hand in, there's much interesting a valuable learning some of which was new to me. Jürgen Tautz is certainly one of my favoured go-to authors for



Clethra alnifolia (also called *sweetpepperbush*) popular with bees.


bee learning.

A couple of example takeaways from the book that I found interesting might be:

- 'Why are bee-suits white' ...a tricky colour to keep clean at best... well in the section 'Defence at any Price' on the powerful evolutionary driver that is the relationship between predators and prey, Tautz describes the relationship between bees and bears extant for many millennia. A colony that falls prey to a bear is sure to perish ...so bees are programmed to recognise the 'beary' threat as something corresponding to being dark, fluffy / hairy and emitting lots of CO₂ in its breath...sounds a bit like me? So, bee suits are generally smooth and white. It is also a good idea not to breathe into a colony, and that explains something else for me. Instead of moving bees around on a frame with my hand when examining the colony, I quite often gently blow on them. Sometimes that works well, and other times drives them into a frenzy and now I know why ... and it

wasn't the garlic pasta for lunch after all.

- In the section on 'Squatters in the Hive' which include the usual suspects – varroa, wax moth, tracheal mites (*Acarapis woodi*), bee lice (*Braula coeca*) which cause acarine etc. Tautz talks about the Book Scorpion (*Chelifer cancroides*), something I had never heard of, let alone seen, and I am someone who quite often spends an interesting hour or so examining the various flora and fauna on my varroa inspection floors (you should try it sometime ... fascinating ... if a little sad!). Anyhow Book Scorpions were once a beekeeper's best friend in the days when bees were kept in tree hollows, skeps and bee gums, as they are an arachnid and live on/eat the other bee pests and parasites such as tracheal mites, varroa and bee lice. They are still to be found in tree hollow colonies apparently and help keep the pests at bay. However, modern beehives free from the nooks and crannies they live in are not conducive to their wellbeing, and even worse they will perish long before the varroa mites do when using varroacides.

More and more these days as I learn I never cease to be amazed at the subtle dynamic equilibrium that has supported life on this earth for such a very long time and this last point seems to me to be yet more evidence, as if any were now needed, that this is indeed the case and that our 'tinkering' without understanding the bigger picture often seems to cause more harm than good in the long term. 

HWBKA Committee Election 2021/22

President	Peter Leswell	Apiary Manager (Horsted)	Peter Coxon
Chair	Jo Gore	Events Secretary	Talha Dinc
Honorary Secretary	Lorraine Patel	Membership Secretary	Peter Halford
Honorary Treasurer	Rob Gore	Training & Education Manager	Malcolm Wilkie
News Letter Editor	Paul Lindström	AHAT Coordinator	Talha Dinc
Apiary Manager (Slab Castle)	Keith Obbard	Ordinary member(s)	Helen Searle
Assistant A.M. (Slab Castle)	Steve Davies		

Oh BEEhave!!

By Julia Parrish

My first real introduction to Beekeeping began on the Beginners Course via zoom in 2021. Many facts and figures were given out, many, many noughts! (60,000 km of bee flight 2,000,000 flowers visited to make 1lb of honey! 40-80,000 workers in one hive, up to 2,000 eggs laid in one day at the height of the season!) Fascinating ... but had I ordered any bees?

I decided to go gently towards becoming a beekeeper and started by ordering some equipment. If I was going to have a beehive I wanted it to look like I'd always imagined, so WBC it was, and why not build it myself? My husband and I spent a couple of (fairly) happy days of Lockdown tapping and swearing. Our new hive was complete and the Oast smelt like a sauna, filled with the scent of cedarwood.

Meanwhile, a friend said she was keen to learn too and knew of a very experienced beekeeper who would happily guide us through the first steps, and eventually give us bees. It

was now May. We met every Tuesday, with the intention of inspecting her hives, followed by a glass of something nice in the evening sun. However, the weather through May was diabolical and we found ourselves trekking across wet fields to the hives under the trees, fingers freezing, looking at one or two hives, shivering, then abandoning due to the stormy, cold winds. But what an excitement it was to open the hives and see for the first time how they are made up, to understand their system and to know that it wasn't frightening but utterly fascinating to watch thousands of bees going about their business. It was magical to see Janey calmly and passionately monitoring her hives. I was hooked.

So I now had a hive, a very white beesuit, and a real excitement at the prospect of getting some bees. A site had been established in our field and levelled. I was ready!

Janey messaged and said she had been asked to collect a swarm...

these might be my bees! I went over and watched completely mesmerised as she laid out a white sheet in front of a nuc and tipped a skep full of bees onto it. To see how those bees established that this was a good option for them, communicated it to the colony and to watch them all trek fairly quickly into the nuc was the most extraordinary and quite humbling experience. These incredibly clever bees were going to be mine! We watched them together, saw and marked the queen and noted that she was laying. So they were transported



Julia Parrish with Grandchildren ready for an inspection.

over to their new home and put in the brand new hive. "Just leave them alone now, they'll be fine", says my expert friend.

The Beginners course was now able to meet up at the Apiary, so we gathered to learn about swarm management. It's an amazing session, where so much information is imparted. One of my fellow beginners subsequently had to split her new colony, as she discovered queen cells. I'm impressed but rather nervous.

My first inspection all alone was a nerve-wracking experience. What would I see, would the bees be aggressive, would I know what to do? It's difficult managing the new gloves, the hive tool, the pen and paper to report the contents of the hive ... and glasses which keep slipping off my head at the wrong time, under the hood ... not to mention lighting the smoker, and keeping it alight! I needed at least 2 pairs of hands! But I spotted the queen and noted that there was plenty of space, and empty frames, and felt proud of myself.

My second inspection was quite dramatic as I noticed that a pony had got itself into the field where the hive was. In the process of leading it out, it bolted, pulling the lead through my



The brand new WBC-hive is ready for the bees.



Jane preparing to hive the swarm she caught. This was to become Julia's bees.

hand and I incurred 6 stitches in my right hand! Not only did I not have two pairs of hands, I didn't even have one! I called my lovely Bee Buddy, and he came over to inspect with me. All was well, still plenty of space. No need for a super. But did I spot some queen cells or "play cells"? "Oh, no need to worry", said my Bee Buddy – "They won't swarm again".

We are by now in July. The weather was indescribably wet and cold, so the bees were left for 2 weeks. By now surely time to put on a super? I whipped out quickly before a trip to the theatre intending to just pop on the super, but on opening the hive I discovered 5 queen cells, 2 of which were capped! HELP!! The WhatsApp group was alive with advice and thoughts for me. If there are capped queen cells, then it is very unlikely that there will be a queen... they have swarmed. Swarmed??? Were there eggs? Start counting! (counting what, from when??? Panic sets in). If you get timings wrong they make more

queen cells. But ... "They are YOUR bees... only you can decide what to do".

Oh help. Feel I now need 10 pairs of hands. I enlisted the help of my husband, to stand at a distance with the course notes and a pen. My bees had now transformed from being very benign and disinterested to really quite unhappy, making my essential inspection quite tricky. I persevered until one feisty bee set off across the field with purpose and stung my husband! He threw all the notes into the

air and ran off back to the house, swearing mightily!

Covered in bees, I made my way back to the house to confirm that the sting had not caused any undue reaction, before returning to establish some more facts from these non-conforming bees! No queen was found and no eggs. I decided to squish all the queen cells bar the 2 capped ones and reported back to the group.

There followed more supportive but varied comments. Two capped queen cells? Maybe one will hatch and swarm, but there may not be two queens developing. Maybe there will be a war between the two emerging queens. Impossible to know the outcome. I made a comforting call to Peter Coxon who suggested doing nothing until he came for a scheduled inspection the following week. Relief!

Peter's inspection revealed a queen. Happy Days! He dug out 2 more queen cells, one with a queen

emerging, which then unfortunately got dropped into the hive! Oh my! With 2 queens now in the hive we decided the best policy was to crack open a beer or two and leave them to sort it out!


The summer proceeded. Further inspections showed no queen, no brood, no eggs, but 4 queen cells! A Conundrum I'm told! Malcolm visits, sees eggs, more queen cells but finds no queen. As further debate continues amongst the group as to what is going on in my hive, I find myself feeling somewhat overwhelmed, very inexperienced but incredibly lucky to have such phenomenal support from the team of experts.

I began to feel more and more relaxed about inspecting my hive, realised that the joy of collecting honey would not be mine this season, and failed to see a queen!

The bees continued to buzz happily. More lessons were learned as my attempts to topfeed sugar syrup ended in a drowning massacre, but I finally got to the day for a final inspection at the end of September. Imagine my delight at seeing the most enormous queen! My excitement during my attempt to mark her, meant that she had a spell on the ground outside the hive ... but all being well she's snuggled in for the winter now. A Xmas gift of sugar fondant showed active and compliant bees. Well Done Girls!

The year has been quite a journey, from the extraordinary sight of the swarmed bees being hived, through the fumbings and bumbings of managing the season (or not!), to the sighting of my next season's queen. I have learned so much about these amazing insects, mostly that I know nothing! But I have had some wonderful moments, not least of which has been taking my 7 and 8 year old grandchildren out with me, suited up, to inspect and learn with me.

"I hope your bees survive the winter, Grandma!"

So do!! 

Queen hatching using an incubator

By Julian Fitzherbert

This is an account of a new beekeeper using an incubator to hatch honeybee queen cells.

The reasons for using an incubator along with the preparations and set up are discussed together with the process of getting the hatched princesses into hives. Whilst the incubator successfully hatched about 10 queens introducing these into hives was a bit of guesswork though a successful technique was achieved.

Incubators aren't cheap and mine cost £160 off Amazon in July 2021. Amazon is currently quoting £195 but there may be cheaper out there. Mine is a Scientific Hatcher incubator with a 25L capacity really intended for small reptile eggs but capable of other uses like hatching bees, warming honey or cooling whatever is placed inside.

The incubator measures 19 inches (48cm) high by 13 inches (33cm) wide and 15 inches (38cm) deep. The weight is about 15 pounds or 7 Kg. The temperature setting control range is from 5C to 60C using a Peltier device that is capable of both heating and cooling the interior. A fan in the top of the incubator moves the air around to achieve an almost constant temperature throughout. Power is from 12v DC or mains 220v AC. The 12v capability means it is car transportable while powered. There is no humidity control but this, although important for hatching bees, can be achieved without too much difficulty.

So why buy an incubator? Well, having seen another beekeeper hatching queens in an incubator (John Miller) I thought I'd give it a go. In addition the learning experience would be useful and interesting. Also when multiple queen cells appear in hives why not try to make use of them to start other colonies or help those struggling.

The incubator arrived just as a frame in one of the hives was found with multiple queen cells. Queen cells were cut off the frame using a scalpel and wire cutters (the frame wire can get in the way).



Capped and uncapped queen cells at the bottom of the frame. These are most likely swarm cells. Supersedure or emergency cells would normally be in the centre of the frame (possibly because it is warmer and so the queens will hatch more quickly). The queen cells should theoretically hatch within approximately 8 days of being capped.

Capped Queen cells were carefully cut off the frame and secured to the incubator shelves with clothes pegs. Some cells were enclosed by queen cages others that were larger are wrapped in a fine gauze mesh. In both cases room needs to be available for the queen to emerge. When cutting out the queen cell it doesn't matter if some worker cells are included but avoid damaging the queen cell. If the cell is slightly damaged but the developing queen is intact then it can be resealed with a bit of wax and still put in the incubator.

It's important that the queens don't escape otherwise they could go into the incubator mechanism through the vents.

The ideal temperature for the incubator to hatch queens is 35°C and the humidity should be 60%.



The incubator: Controls from top left are On/Of, Temperature Up, Temperature Down and Interior light On/Off. On the back are connectors for mains or 12v power and a switch to selector the power source.



The interior of the incubator with queen cells in cages and some wrapped in gauze. The thermometer and humidity sensor at the bottom of the incubator is showing lower temperature and humidity as the door is open for the photograph.

As the cells are capped they should hatch within 8 days.

To maintain humidity a piece of wet kitchen towel has been placed at the bottom of the incubator. If the humidity is too low wet the towel. If too high open the door for a couple of minutes until the humidity drops.

Once the queens hatch they need to be placed in a hive as soon as possible. A little fondant on the bars of the queen cage will keep the queen fed and even better if any workers hatched with her. Also a drop of water on the cage bars keeps the queen hydrated.

Introducing virgin queens into hives has various methods. One YouTube video suggests giving the bees in the hive a spray of sugar water and then popping the queen into the hive away from the main cluster. The idea being that the bees will be distracted by licking the sugar water off each other and so the queen is accepted. Once the queen is in the hive don't look inside for at least 3 weeks as the disturbance can apparently cause the queen to be killed.


Not knowing any better at the time I put virgin queens straight into queen less hives which with hindsight is hit and miss to them being accepted. What worked best was setting up a mini nucleus colony and putting a virgin queen into it. The action of shaking off nurse bees into a bucket,



The mini nucleus hive sits on top of the polynuc with colony combining in progress. The colony in the polynuc has no queen so the hive top has been replaced with a board with a hole in it which is covered in newspaper. The mini nucleus has been placed over the hole with its base cover partially open. This provides a seal over the board but the bees in both colonies have access to the newspaper covered hole through which they soon penetrate and merge.

damping them and putting them into a mini nucleus leaves them confused and the virgin queen is more readily accepted. Once that mini colony was confirmed with comb and eggs a few weeks later they were combined with a queen less polynuc which to date is doing well.

Before purchasing the incubator described I did try using an existing chicken incubator where humidity is maintained. However, this had the temperature locked at 38C which is too high for bees so hatching was unsuccessful. In the science lab at school I recall locust incubators using incandescent bulbs as a heat source with a thermostatic control so a DIY incubator could likely be made that way. Alternatively some bird egg incubators may have adjustable temperature control and could be used.

Thanks to beekeepers Marc Mearns and George Oliver for assistance with setting up the incubator and supplying queen cells. Also thanks to John Miller for inspiration and incubator settings. 

Online lectures:

Horror of horrors – Tropi mites

by Paul Lindström

Just as we hope to have gotten the awful Varroa mites somewhat under control we are told about an even worse possible threat to our beloved honeybees – Tropilaelaps mites. Or as Dr Samuel Ramsey call them “Tropi mites”. You may remember that [Dr Samuel Ramsey](#) is the scientist that discovered that Varroa mites actually don't feed on bees “blood”, but rather on their body fat.

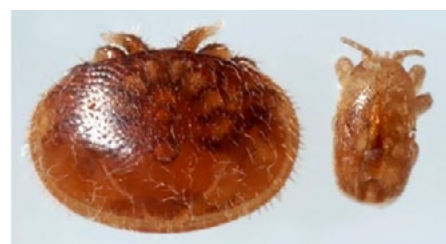
I listened to a recent lecture by him where he presented his latest research on a possibly bigger threat to honeybees than Varroa – the Tropi mites. He has founded the [“Fight the Mite Initiative”](#) to help fund research on the topic.

There are several species of Tropi

mites, of which *Tropilaelaps clareae* and *Tropilaelaps mercedesae* have been found to successfully adapt to attack honeybees. At the moment the spread is centered around China, spreading towards India and SE Asia. The hope was at one point that it couldn't spread into colder climates, but unfortunately there are signs that it has developed a strategy to move to host animals to over-winter – mice are one suspect. The Tropi mite is smaller than the Varroa mite, but moves around better and faster. Dr Ramsey has developed technology to study the mites live on brood, and the video he showed during the seminar was terrifying.




Dr Samuel Ramsey



Varroa mite (left) versus a Tropi mite.

Can colonies be treated against Tropi mites? Many treatment methods against Varroa won't help much, but experiments are taking place using strong doses of formic acid, and the results looks promising.

I don't like horror movies much, and I don't like scare mongers either. But I think we need to keep an eye on the spread of the Tropi mite, and prepare ourselves to fight it if it manages to arrive here in one way or another. 

Propolis is good – even better than we knew

By Paul Lindström

The Economist recently published an article in their Science & technology section about the benefits of propolis in the hive. They conclude that a common view amongst many beekeepers that bees which tend to propolis a lot is a bad thing and should be bred out, in fact causes unexpected troubles down the line.

A study by Alberto Satta and Francesco Nazzi of Sassari and Udine Universities, both in Italy, suggests that beekeepers' ambition to breed out propolis in honeybee colonies reduces one of the defences *Apis mellifera* have against Varroa.

We know that our bees like to coat the inner walls of the hive with propolis as well as fill in gaps here and there. We also start to realise that propolis also has antimicrobial properties, which help the bees fend off diseases, including American foulbrood, chalkbrood and nose-mosis. But that doesn't necessarily mean that propolis also can act as an arachnicide, a substance that kills arachnids (eight-legged creatures including for example spiders and mites).

But in 2017 a team led by Dr Satta found that colonies invaded by Varroa responded by sending out more

foragers than usual to collect plant resins, the raw material for propolis.

It was also found that propolis was applied to brood cells in the infected hive. Propolis contains phenols and these are pretty toxic. Phenol was the first widely used antiseptic and this would mean trouble for the mites.

Further controls confirmed that where phenol rich propolis had been applied about 20% of the mites died in the brood cells, while only 6% died in untreated hives which acted as a reference.

The scientists also monitored a third group of hives that were mite free but treated with equivalent chemicals to check if such treatment harmed the larval development, and it didn't. The treatment also effected the mites' capacity to reproduce. Of the mites which outlived their initial exposure to phenol rich propolis, only 26% went on to reproduce. In contrast, 46% of surviving mites in the chemical-free cells reproduced successfully.

It seems pretty clear that propolis helps protect against Varroa infestations, but this raises the question of why bees do not make more use of it in their brood cells. A plausible answer is that the ability to do so has been bred out of them. For a long time many beekeepers saw propolis as nothing but a nuisance, especially




The Varroa destructor doesn't like propolis. Image courtesy The Animal and Plant Health Agency (APHA), Crown Copyright.

when handling frames. For generations beekeepers have favoured colonies that produced less propolis. As a result, "modern" bees are fairly economical with the manufacture and deployment of propolis.

Reversing the consequences of such selective breeding will not be easy. It might possibly be done by hybridising domesticated *mellifera* with wild strains of the species, or other strains of *Apis* that have not lost the knack of making propolis.

Another thing we can do to help our bees is to plant suitable plants near the hives. And possibly synthetic versions of propolis can be introduced into the hive by hand, to be deployed by the workers in mite-unfriendly ways.

Regardless of the exact path out of the mess, the sad tale of propolis and the Varroa mite looks like an object lesson in the law of unintended consequences. 

DEFRA Healthy Bees Plan 2030

This guidance document was first published in 2009. An update was then published in 2020, but at least I have failed to notice or read it until now. I think it is a good document and thought there might be more than me who have missed it.

The goals set out in the Executive summary are clear and ambitious;

- Effective biosecurity and good standards of husbandry, to minimise pest and disease risks and so


improve the sustainability of honey bee populations;

- Enhanced skills and production capability/capacity of beekeepers and bee farmers;
- Sound science and evidence underpinning the actions taken to support bee health; and
- Increased opportunities for knowledge exchange and partnership working on honey bee health and

wider pollinator needs.

The plan will be developed by the Bee Health Advisory Forum. The plan will run for 10 years but the implementation plan will be refreshed approximately every 3 years.

Sounds all good – we'll have to keep a look-out for any updates or changes to the plan.

The document can be downloaded [here](#). 

Selected talk review from the Honey Show

By Peter Coxon

We asked Peter Coxon to comment on some of the lectures at the 2021 National Honey Show.

At this year's Honey Show there were quite a few talks with a pronounced shift in emphasis. One normally expects talks about how to be better beekeepers, candle makers, mead makers etc. and there would have been some of those too, but the emphasis had definitely shifted toward environmental considerations, viz. See schedule:

Thursday 21 October

9.30. Torben Schiffer: "How modern beekeeping enhances nectar competition and contributes to species extinction of wild pollinators"

11.00. Mike Edwards: "Beyond honeybees - an introduction to the rest of the 600 plus species of aculeates present in the British Isles and Ireland"

12.30. Jo Widdicombe: "The National Bee Improvement Programme"

14.30. Torben Schiffer: "Man-made breeding and selection vs natural reproduction and selection - why modern beekeeping will eventually send the species of honey bees into its demise"

16.00. Vince Gallo: "How to build honeycomb - a bricklayer's perspective"

Friday 22 October

9.30. Torben Schiffer: "Natural conditions of bees living in tree cavities in comparison to modern hives - how the housing affects the biology, development and Varroa infestation rate. (Why modern beekeeping is caught in the circle of constantly fighting the symptoms of the established husbandry system)"

11.00. Kirsten Traynor: "Pesticides in pollen: what are the bees in America consuming?"

14.00. Norman Carreck: "Global pandemics, bee imports and native bees"

16.00. Kirsten Traynor: "Media Mayhem: How the news media is pitting honeybees against native bees"

The first talk I attended was Torben Schiffer's, beamed in on Zoom from Germany. He is clearly part of a vocal environmentalist movement in Germany and with excellent beekeeping credentials, having worked with the famous Jürgen Tautz and Tom Seeley.

The first part of the talk focused on the design of modern hives comparing their suitability as bee habitats to natural tree habitats such as abandoned woodpecker nests etc. They presented an impressive array of thermal calculation/modelling

and thermal imaging to support the case that the natural habitat is far superior to a modern hive in terms of thermal insulation and humidity control. The team had also calculated the consequential impact on the colony in terms of honey production and requirements to keep warm. He stated that heat loss is the major problem for winter survival rates of bees.

However, I felt this part of the presentation somewhat unsatisfactory as in all their modelling they did not specify what sort of modern hive was used and whether it had a solid floor or a crown board with holes in or whatever, both of which would represent much greater sources of heat losses through convection (draughts) than radiative loss which had been their major consideration. I would very much have liked to ask questions at the end, but he overran and there was no time. He did also state that they are manufacturing hives now based on hollowed out tree trunks more akin to the natural habitat... so one might question their objectivity.

The second and most startling part of his presentation focused on the effect of increasing number of beekeepers on the feral population and perhaps more importantly the other native pollinators in the area. One fact I noted is that the colony density in native woodlands in Germany is typically 1 /km². In Munich it's 17-30 / km² (in Buxted it's probably 30-40 / km²). The data he showed indicated that other pollinators are impacted at much above 1 honeybee colony per km². There is a strong correlation between the increase in beehives in urban areas and the decrease in number of other pollinators.

We all know a scientist's demise is to confuse correlation and causation and one can imagine in urban areas there may be other causative factors such the prevalence of chemical treatments in gardens etc. They may well have considered this, but it wasn't covered in the presentation. We know from our own David



Torben Schiffer is an experienced beekeeper and worked at the University of Würzburg under Jürgen Tautz.

Goulson that neonicotinoids are present in garden plants at a density thousands of times greater than in the agricultural domain where they have been banned ... but apparently not for garden centre plants.

However, the copious data he presented from very many very credible sources was quite convincing in support of his general conclusions that the burgeoning interest in beekeeping is having a deleterious impact on the wellbeing of other pollinators ... a statement of the obvious we probably all suspected ... but without data???

His first conclusion slide was quite startling for a talk at the National Honey Show. It said:

What we demand

1. Beekeeping must be strictly regulated (using the) sustainability principle
2. Feeding honeybees should be forbidden
3. Beekeeping organizations and beekeeping itself are not to the benefit of nature nor the environment.
4. Intensive beekeeping and travelling with high numbers of beehives should be forbidden.
5. Man-made queen breeding with the goal to adapt honeybees to our needs should be forbidden.
6. Legal obligation of associations for holistic education.

Honey is a luxury product and not "Lebensmittel" (German for "essential food")

Important: No honeybee is to blame for the situation. Honeybees play an integral part in our ecosystems if densities and living conditions are natural!



Polynuc landing board with integrated varroa floor

By Steve Davies

Most hives now incorporate varroa floors but none of the suppliers provide these floors for polynucs. With many beekeepers over-wintering a nuc or two, it makes sense to manage and treat these colonies accordingly.

The instructions below are specifically for the Maisemore Polynuc but include measurements for the Paynes Polynuc at the end. Once the design concept is understood, the measurements can be amended for any size of nuc.

Materials required:

Framework: two 555mm lengths of 25mm x 100mm prepared timber
- two 250mm lengths of 25mm x 100mm prepared timber
Varroa tray: 450mm x 270mm 5.6mm plywood
Landing board: 300mm length of 25mm x 140mm prepared timber

40mm nails
20mm panel pins
Wood glue
Wood filler

Prepared timber is easiest to work with but is currently quite expensive. These could easily be made with any spare timber you have available.

Where possible, have an empty nuc available to use as a template throughout construction.

Method:

- Cut all timber to size leaving the plywood slightly longer than required. This will be trimmed back once the framework has been assembled.
- On the longer lengths, mark a point 450mm from one end; draw a line from that point down to the bottom corner forming an incline. Cut off the surplus wood.



Every polynuc should have one of those – a landing board with an integrated inspection board (and in the HWBKA aparies all have them thanks to Steve –editors note).

- We now need to create a groove for the varroa tray to slide along. If you have the equipment, a router is the most efficient. I found that a 6mm routing bit to be a too tight for 5.6mm plywood, especially when painted. On this version, I used a 10mm routing bit.
- The routing bit was set up so that it was 15mm up from the bottom edge of the timber. Technically, the groove only needs to go as far as the sloping edge, but my routing skills have not progressed that far! I cut the groove along the complete length and later used wood filler where required. 😊
- If you don't have a router, all is not lost – just tack a pair of frame runners along the bottom edge again 15mm from the bottom edge. Be aware that the runners are designed for inside a brood box and do not go the full length. Aligning them with the back edge makes it easier to insert the tray.



- Take one of the 250mm lengths and cut along the longer edge 60mm from the top. Do not throw away the off cut, it will form the lip of the varroa tray.



Next, the varroa tray

- Slide the plywood along the grooves until fully in place. If necessary, trim slightly to ensure smooth passage.
- Check the plywood meets the front bar along the complete width. If the bar was square to the sides all may be fine. If not (mine wasn't), then trim the plywood to fit.
- Once satisfied, trim most of the excess from the protruding edge of the plywood leaving a small overlap.
- Turn the complete unit over so the plywood sits on the bottom of the runner groove in its normal position.
- Using the 25mm x 250mm off-cut, place it on the plywood on the inside of the end bar. Mark it along its length level with the bottom of the end bar. Cut off the excess and discard; the remainder should be around 12mm in height.
- Mark the plywood tray in line with the grooves and the end of the framework. Glue and pin the 12mm off-cut between these marks (make sure the off-cut aligns with the end bar). This now forms the lip of the tray.
- Slide the tray back into the grooves and make sure it fits easily. You will probably need to sand down the top face of the lip but leave a slight gap to accommodate the paint layer. Sand down any surplus plywood ensuring it is flush with the 'lip'.

Assembly time!

- Mark a pencil line down the front edge of the sides just where the incline starts (see previous photo). Make sure it is perpendicular to the top. This will help align the cross bars.
- Glue and nail the front bar to one of the sides. Repeat with the back bar aligning it with the top face. Ensure both are square to the side bar.
- Glue and nail the remaining side bar onto the unit.
- On a flat surface (e.g. worktop) make sure the frame is level and square. Slight adjustments can be made by persuading the frame into line before the glue sets (not something you could do if you chose to use screws). Test it on the polynuc and adjust if necessary.



- Take the 25mm x 140mm timber and cut a bevel along one long side. This bevel should be in line with the top of the sides and in this example, it was 45 degrees.
- Glue and nail the landing board to the sloping faces of the side boards then nail through the top of the front bar into the underside of the landing board.



Effectively, the unit is almost complete. However, the feet of the Maismore design are flush with the edges of the Polynuc. When put on to the landing board, there is a large gap between the landing board and the nuc – big enough for bees/wasps to enter. My solution was to add a couple of off-cuts of timber to the end bars.

- Place the landing board on the upturned nuc and mark where the feet are positioned. Glue and pin the timber off-cuts level with the top surface of the landing board.



If you have only one or two nucs it is possible to adjust the framework to provide a better seal. However, if you have several nucs it may be advisable to leave some tolerance as I've noticed slight variations between nucs. NOTE: Paynes Polynucs have the feet recessed further into the body and you don't need to add these off-cuts.


Nearly there ...

- Sand down all faces especially the bevel along the top of the landing board. Once satisfied, fill in all cracks with

good quality wood filler. In my case, copious amounts to fill in the excess groove I created when routing!

- Once dry, sand down fully and paint in the colour of your choice. I would recommend using a good quality white gloss for the top face of the plywood tray (primed and under coated as well). This will make it easier to sweep off the debris and keep clean during inspections. Add a screw eye to the middle of the tray lip to help pulling in/out.



Finally, the reason I have aimed for specific measurements of the grooves and tray lip are for those who sublimated their bees. At the appropriate time, simply turn the tray over and re-insert upside down. The lip should not catch on the hive stand and you will be able to insert your applicator in the gap above the tray. 



Fondant for sale

Instructions for use: cut this up and place a slab in old takeaway plastic boxes and put above the bees or you can wrap slabs of fondant in beeswax paper and place above brood frames in an eke.

Collection from BN8 5SN or the association apiary at Horsted Green Park.

Contact Helen Hadley tel. 07871-32 03 16 or email h.hadley@btinternet.com



Photo Paul Lindström

Part 9 in a multipart series called "Three Bees"

Preparing for Winter

By Laurel Lindström

Curly the Wise One, last of the three drones, of three brothers, was keeping very still. As Mother moved away with her retinue, the ring of guard bees slowly dispersed. Curly was overwhelmed with relief and sorrow. Relief that the seven sisters, his colony's council of leaders, would let him keep his wings and stay. Sorrow that he had not been able to save Burly and Twirly from their very different drone fates. Curly was the only male bee left in the hive and his sisters were stepping away as well. All the bees were moving to their posts, to their allocated tasks but not Curly.

Curly the Wise was reprieved, if he could fulfil an unprecedented function. He hadn't been turfed out, wingless with the rest of the drones and could stay in the hive if he could ensure the nest of bees would stay warm as temperatures fell and winds howled. He didn't really know how to do this, only that his survival and that of his sisters, depended on it. "I said it, and I shall make it so." He was talking to himself through what might have been gritted teeth, if he had any teeth which he didn't. [the have mandibles though, so can bite. Perhaps he gritted his mandibles?! PL note] Curly was alone in a world where every individual had their place and their function. Alone and uncertain. And with a promise to keep.

Curly's usually tip top brain was in turmoil. The last couple of days had left him exhausted, his thoughts in

disarray. He felt confused and incoherent for the first time in his life. As he moved closer to the centre of the nest, he tried to calm down, slowly methodically cataloguing what he saw, reassured by its familiarity. He noted a dwindling number of capped brood cells and saw that the newly born bees were much rounder than usual. They did not have the streamlined and slender figures of the older girls, but were instead curiously plump. A chill passed through the hive as the wind outside rose and a heavy rain started to pound the roof of the hive. Perhaps the new shape was in response to the growing cold. Curly's bee brain was processing the awful events of the last couple of days, but this little thought lodged somewhere in the muddle. He would come back to it later.

The loss of Twirly wrenched and the image of the wingless drone with his slightly irregular limbs and fear-filled eyes rose up. Curly saw again as Twirly slowly drifted blank and stiff down to the grass below the hive, his eyes a confusion of terror and panic. By now Curly reasoned that Twirly and the other expelled drones would be dead. Perhaps blown away in the wind, or drowned in the rain, bodies curled and limbs tucked in. Dead. Death was the one thing a bee should definitely avoid. But colony logic dictated that dead drones meant fewer mouths to feed during the winter and an increased chance of survival for everyone else.

Drone destruction made sense in a sort of way, if you accepted insect logic to protect the many by evicting the expendable.

It was this flawed reasoning that had given Curly his chance. He knew a smarter way to manage the cluster would help keep the nest warm so the bees could survive the winter. How to do this though? How to live up to the bold and desperate promise he had made to the seven sisters? How could he manage the changeovers, the timings, how could he know if a bee's temperature was dropping to dangerous levels? Did the chubby shape of the new bees hold a clue? He needed a plan and he needed authority, he needed to tell the council of seven how his plan would work and how it should be shared with the colony. He must demand absolute power over the shifts. They must understand that the very survival of the colony depended on the bees' blind obedience to Curly the Wise.

Curly wasn't sure who to ask. He didn't know which of the tens of thousands of bees made up the council of seven, nor was he even sure there really was one. He formulated his plan quietly at the edge of the nest which was slowly cohering into a single mass of bees. They were at the centre of the hive where the Queen was and where the last of the season's brood were being nurtured.

Curly moved away to the edge of the hive where for some reason

it seemed to feel less cold. Here the scent of propolis was strong and there were no drafts. The wall of the hive felt warm to the touch and it reminded him of summer. Sunshine. Sunshine was bringing heat and Curly moved from side to side and up and down to track the warmth. This is what the bees could do to keep warm, so following the sun must be part of the plan. He was drawing imaginary circles on the wall and became aware of another bee, also away from the main cluster and also seemingly aimless. She came up close to Curly and he understood that she had news. She wanted to tell him what Mother had told her. Mother was the oldest bee in the colony and Mother wanted Curly to know what happened when the world turned cold and dark, when the colony started to fail and that the colony needed a plan for self-preservation.

The messenger explained that their survival would depend on the cluster having enough to eat and on having some means of generating heat. There were plenty of stores, but heat was another matter. It was this that Curly pondered. The messenger, an older bee that seemed to know Curly, let him understand that the dark and the cold would not last but that they would seem endless. The Queen had survived this cold and dark twice before and had stopped laying eggs because without brood to keep warm and nurture they could risk lower temperatures in the hive. Instead of summer's warmth, perhaps it could get much colder and they could still survive.

Curly the Wise wasn't convinced. He remembered his night after the drone massacre, the night when he started to lose all sensation, when his legs, wings and antennae seemed to freeze and he became immobile. He remembered the slow sensation stealing over him and his legs curling under him and his hold on the honeycomb failing. This is what



Winter is coming.

Photo by Paul Lindström

the cold does to a bee. They might be alive, but already a temperature of 9° C or less paralyses a bee. Movement towards food or other bees is impossible so they collapse and slowly die. Curly understood this now and understood that he must balance the temperature of the outer edges of the bee cluster with the time it takes for a bee to become so chilled. That would depend on the sunlight hitting the hive, on the number of bees in the outer layers and even their shape. Curly suddenly understood that curvy bees make better insulators than slender ones because they can trap more air.

They'll join arms the messenger was continuing, and they'll disconnect their wings and vibrate their wing-muscles to generate heat, and they must be able to move as one. Curly's imaginary drawings on the wall were starting to make sense to him. He started with the middle of the nest, with where the Queen would stay. That would mean nursing bees should be the next ring out, except that maybe nursing bees aren't needed in the dark and cold, because there will be no grubs to nurture. Perhaps it doesn't matter who is where, except that the layers

of bees who were thin would be more vulnerable to the cold and less able to generate kinetic warmth than the rounder and fatter bees.

Curly set off to survey the hive. There had been some changes in the last couple of days, changes that he hadn't previously noticed. The giant grub had put strange foods in the top of the hive. No good doing that Curly harrumphed, if the bees are too cold to move they'll not forage within the hive even if there's extra rations. He noticed that there were ample honey stores and that some of the honey was runnier than it had been in the pre-massacre days.

Water. Water would be difficult to manage when the days were mostly dark which was another thing the messenger had said before leaving. Mother had said that water was a constant worry for her attendants, although the Queen herself couldn't see what the fuss was about.

He understood what the messenger said about keeping things cosy, but Curly, not being used to numbers, didn't know how warm. The messenger had said it should be like a summer's day, like when drones were going out and sometimes coming back, when workers would




Photo Paul Lindström

drop exhausted and heavily laden on the landing board. He didn't know it but 34° C is the number Curly should have had in mind for summer, and the messenger had said they could make it with less than this where there was no brood, but this lower temperature of 25° would have to be constant until the light and warmth returned. He had no idea how long that would be or how long his family of many thousands would be able to survive. Or how they would manage to keep together as they slowly exhausted their stores.

Curly the Wise made a list. After make list, was an important conversation with the seven sisters. Then he

must calculate how many bees were in the colony and how many would be needed to cover the Queen and create a tight nest. Then how often the bees on the outside should creep to the middle and how many layers at a time should move. What about hygiene and defending the hive? The guard bees would have to be part of the cluster and the hive would be undefended from mice or badgers or wasps. Wasps he worried less about because they were like bees and probably had their own concerns as the darkness came and the temperature fell. Curly had seen mice and badgers coming up to the hive in the early summer mornings before being chased off by the colony's guard bees. He had noticed they had fur all over their entire bodies, even their faces and legs. Curly had wondered at the time why that was so, but now reasoned that it probably helped them stay warm and mobile. Maybe they were a risk, so maybe the stores should be moved away from the hive entrance to remain hidden under the scent of bees and propolis.

Water would be important so even though there were some limited water stores, he should factor in the occasional departure from the hive for a few of the stronger bees. They could collect water before going back to the heart of the nest. Curly would need to check for any cracks or gaps and delegate a team to block up new drafts with propolis. They had ample stores and were a healthy colony so they had the strength to vibrate their muscles to generate heat. Hooking into each other would conserve heat and make the vibrations more effective.

Now was the time to confer with his seven sisters. He finished his checks and ordered his thoughts as he moved closer to the heart of the hive. Within moments of his decision he was aware of the same drone patrol surrounding him and turning their bodies outwards. The group of seven were clustered together, the messenger one of their number. "Well," someone said. And Curly the Wise cleared his bee throat and started to explain his plan. 

*We wish you
an exciting and rewarding
beekeeping year*