

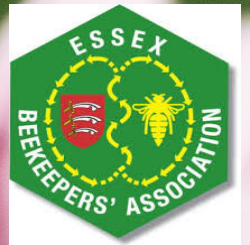
The Essex Beekeeper

Issue 688

April
2022



Monthly Magazine of the
Essex Beekeepers' Association
www.ebka.org
Furthering the Craft of Beekeeping in
Essex
Registered Charity Number 1031419



Contents Page

What's Happening in the County	4
Why shook swarm? Alex Thomson MB	8
BBKA Spring Convention 2022	12
BBKA President's Update	13
Making sense of Bee Pheromones	15
Why do the bees rear so many drones?	16
Two Methods for changing comb by Alex Thomson MB	18
Useful Contacts	21



Approved **National Bee Supplies** stockist and distributor.
Local beekeeping supplies with everything you need for your honeybees.

Open by appointment.

Please contact **Wendy** to arrange a time on the following days:

Mon & Thurs: 1:30 – 5:30pm. **Wed & Sat:** 8:30 – 12:30. Closed Bank Holidays

Contact by phone on **07764 609 803** or via website: [click here](http://beeshedstock.co.uk)
beeshedstock.co.uk:

*Address: Meepshole, Great Prestons Lane, STOCK, Essex, **CM4 9RL***

Articles appearing in 'The Essex Beekeeper' are not necessarily the views of either Essex Beekeepers' Association or its Editor.

To ensure inclusion within the diary of county-wide events, would divisions provide the editor with details of local meetings by the 20th of the previous month

Many thanks, Dee Inkersole, editor@ebka.org

www.thorne.co.uk
sales@thorne.co.uk
01673 858555

THORNE

HELPING BEEKEEPERS
KEEP BEES FOR
OVER 100 YEARS

Hives, Bees, Frames, Foundation,
Hardware and Clothing,
Processing, Labels, Packaging,
Queen Rearing,
Health and Feeding,
Books, Gifts, Education
and Candlemaking

ORDER ONLINE OR IN STORE

RAND

Beehive Business Park, Rand,
Nr Wragby, Market Rasen LN8 5NJ
sales@thorne.co.uk 01673 858555

STOCKBRIDGE

Chilbolton Down Farm
Chilbolton Farm
Stockbridge
Hampshire SO20 6BU
stockbridge@thorne.co.uk
01264 810916

SCOTLAND

Newburgh Ind Est
Cupar Road, Newburgh
Fife KY14 6HA
scotland@thorne.co.uk
01337 842596

DEVON

Quince Honey Farm
Aller Cross
South Molton EX36 3RD
devon@thorne.co.uk
01769 573086

WINDSOR

Oakley Green Farm
Oakley Green
Windsor SL4 4PZ
windsor@thorne.co.uk
01753 830256



Formicpro™

Formicpro is the next generation in
formic acid treatments. It is a fast
and easy way to treat varroa



Spring 2022 Convention

We will be attending the
BBKA Spring Convention
on the 9th April 2022

Make sure you have your wax
ready for conversion, and pick
up our new catalogue!



Smokers

Traditional British smokers
produced in our workshops at Rand



What's Happening in the County

All Members are welcome to attend any Divisional meeting, but please advise the organiser if you plan to attend. All planned meetings are subject to any new Covid restrictions. Please check with the organisers nearer the time.

April 2022

24th Braintree: Apiary meeting at the Divisional Apiary,
3:00pm at Coney Green, Great Bardfield, CM7 4PV
(Telephone Jan French 07725166609)

19th Chelmsford: Honey
7:30pm at Margaretting Village Hall, Wantz Rd, Margaretting, CM4 0EP

28th Colchester
7:30pm at Langham Community Centre, School Rd, Langham, Colchester CO4 5PA

Epping Forest: TBC

7th Harlow
8 - 10pm at The King's Church, Red Willow, Harlow CM19 5NU.

18th Maldon & Dengie Q&A session along with a guest speaker
7.30 for 8.00pm at The OAKhouse, High Street, Maldon CM9 5PR

7th Romford:

6th Saffron Walden: Making soft-set honey. Richard Ridler will give a practical demonstration to members on how to make successful soft set honey.
2:00pm

26th Southend: Clive de Bruyn: 'Starting the year with bees'
7:30 at Nash Hall, Rayleigh Methodist Church, 78 Eastwood Road,
Rayleigh, Essex SS6 7JP

8th - 10th BBKA Spring Convention To book, [click here](#)

May 2022

29th Braintree: Apiary meeting at Cressing Barns
2:00pm: Tour of Walled Gardens and Barns
(Telephone Jan French 07725166609)

17th Chelmsford: Swarming
7:30pm at Margaretting Village Hall, Wantz Rd, Margaretting, CM4 0EP

26th Colchester TBC
7:30pm at Langham Community Centre, School Rd, Langham, Colchester CO4 5PA

20th Epping Forest: TBC

5th Harlow: TBC

Maldon & Dengie From mid April 2022, we move to a summer programme and members meetings on the 2nd and 4th Saturdays in the month from 10-12 noon. Please ensure you contact the secretary to book you in.

5th Romford: TBC

22nd Saffron Walden: Apiary Meeting: Follow-up apiary session for Basic Assessment training with Jane Ridler 1:30pm

24th Southend: TBC

7:30 at Nash Hall, Rayleigh Methodist Church, 78 Eastwood Road, Rayleigh, Essex SS6 7JP

June 2022

Thursday 2nd Harlow: Boot/Table Top Sale of unwanted/unused beekeeping goods for any Essex members.

8 - 10pm at Kings church, Katherines, Harlow CM19 5NU

Cost £5.98 per pitch. To book, [click here](#)

No charge for entry.

For any further enquiries, Email Louise on Harlowbeekeeping@gmail.com

Saturday 18th June 1.30 – 4.15pm Ted Hooper Memorial Lecture

Save this date in your diaries. More information on page 6

September 2022

EBKA Honey Show

After a break of two years, this year's show is to be held on
Saturday 3rd September at the Orsett Show Ground

This year the judges are Bill Fisher and Sue Carter.

Judging of members' entries will take place in the afternoon of Friday 2nd September.

Information about this year's show and entry forms will be sent to members later in the year.



EssexBeekeepers'Association

THE 2022 TED HOOPER MEMORIAL LECTURE

Saturday 18th June 1.30 — 4.15pm

Wax Chandlers' Hall, 6, Gresham Street, London, EC2 7AD

**TICKETS AVAILABLE ON EVENTBRITE
NOW**

Early tickets for EBKA members only at only £10

**Subsidised by the Worshipful Company of Wax Chandlers and
the EBKA**

[CLICK HERE TO BUY
TICKETS](#)

This event is open to Essex members only at this price and at this time.

Main Speaker: Vince Gallo,

“How to build honeycomb - a Bricklayer's Perspective”



Also includes tea/coffee/soft drinks, biscuits/cake **and** Presentation by the
Beadle of the Wax Chandlers' Company and tour of the Hall



Why shook swarm? Alex Thomson MB

At its most elementary, brood comb within the colony enables our bees to perform essential life-continuing activities, the most basic being the provision of a nursery and a food store.

During the year when the queen is actively fulfilling her function as an egg-layer there are potentially 10 cycles for worker bee reproduction and slightly fewer for drones.

Each successive emergence of a bee results in the cell being cleaned out from the former occupant and polished. After a short period the cell becomes smaller and darker. Concurrently, and at all times of the year, brood cells may be used for the storage of pollen, nectar, and processed honey.

In addition to the demands as a nursery and a larder, brood comb will also provide a place of refuge during inclement weather and during the autumn/winter period, also as a resting place between periods of activity, a dance floor to communicate food sources and a sound board to transmit a multitude of vibratory communication signals.

Overall, brood comb is the most necessary commodity a colony produces, clearly demonstrated by the fact that when a colony swarms its first task is to produce wax for comb building.

“A ‘Shook swarm’ is a good way to replace old dark or damaged comb”

Due to this daily activity and constant usage of the comb, over time wax cells become reduced in size and darkened by pupal skins, and there will also be normal wear and tear resulting in damage and holes in the structure. The comb may also become a depository for pathogens including bacteria, viruses and fungi, and, bearing in mind the internal warmth and humidity, these conditions could potentially be dangerous if not lethal.

At certain times feral colonies will recognize when it is time to move on, not just due to overcrowding but when adverse conditions prevail, and they will abscond and set up new homes with the resulting production of new healthier better condition wax comb.

As managers, therefore, we ought to be deterring our colonies from swarming/absconding as well as keeping them as healthy as possible. We can do this by providing new brood comb and the most effective means to do this is by the ‘shook swarm’ process. Under certain circumstances shook swarm can be regarded as desirable but if a colony has European foul brood (EFB) or high numbers of Varroa it has to be regarded as essential.

Hopefully, I have made out the case for the need for beekeepers to regularly replace old, damaged or contaminated brood comb and the following is an explanation of the shook swarm process which I believe to be most effective. Like many manipulations it is better achieved working with a colony having a

readily identifiable marked queen and working with a fellow beekeeper. (This may present a training opportunity for a relatively inexperienced member.)

“The ideal time to carry out a shook swarm is April, or – if EFB has been confirmed – at any time of the season.”

Equipment

Prior to starting it is necessary to check that the following equipment is available especially when working at an out-apiary and remember, the whole point of the exercise is to provide either new or clean sanitized equipment (flamed and scrubbed):

- Open mesh floor
- Brood box
- Crown board
- Queen excluder
- 10 brood frames with new foundation (if available, several treated drawn combs)
- Dummy board
- Covered container/bag for old brood combs.

Proceed as follows:

Find the queen and place her in a queen cage or match box for safe- keeping.

Re-site the colony to be shook swarm close to one side.

On the original site place the floor and on top place the queen excluder. This is essential otherwise the colony (which will be initially be without brood) may abscond.

Place the new brood box containing the new brood frames over the excluder and create a space by removing five central frames.

Now individually shake the bees from the old frames into the space in the new box and then place the old frames containing brood and stores into a covered container/bag otherwise flying bees will be attracted to them.

Once all old frames have been cleared now brush all remaining bees from within the old brood box into the space and now replace the five new removed brood frames.

Tighten up the frames using the dummy board and return your caged queen to the new brood box and put in place the crown board and roof (whilst this has been taking place returning foraging bees will be returning and entering the new hive).

You now have to decide whether or not to feed. I always err on the side of feeding; even if there is a nectar flow it may cease or weather conditions may deteriorate and confine the bees to the hive for several days. Always feed using a bucket type contact feeder using heavy 2:1 syrup (i.e. 1kg sugar to 625ml water). Where you have carried out the process due to an EFB infection it is advisable to leave feeding for a couple of days to allow the bees to use up any potentially contaminated honey for wax production.

After a week it will be necessary to check that the colony has settled, and that new brood is

present and if this is the case then the queen excluder can be removed as the potential to abscond has now been eliminated. Feeding should continue until all frames have been drawn and this can be assisted by moving and/or turning the frames

“Within a few weeks colonies flourish on new comb”

If the process was initiated by high Varroa levels remember that many Varroa will have been discarded along with the capped brood but some will have remained phoretically on the adult bees. So, you may now either (a) treat the colony with a miticide, e.g. MAQS, or (b) take a marked frame of open brood from another colony, place it centrally in the shook swarm and after 7-9 days remove, and destroy as the remaining Varroa will have been attracted to the open brood just prior to capping.

As for the old frames, I have found melting down the wax a messy business and so generally I don't bother. Of course, where the shook swarm process has been carried out for EFB purposes, destruction is necessary.

In conclusion, when I first became aware of this process, I was somewhat reticent to accept its necessity or be convinced of its efficacy. Now, however I am a staunch advocate, having completed several successful operations both to deal with EFB infections (along with Tim Roper, Bee Inspector) and where I have had old, darkened and damaged comb in need of replacement. On each occasion and within a matter of a few weeks all colonies flourished on new comb as if revitalised. Several colonies even produced a surplus of honey, and where the process was carried out later in the season they produced sufficient to over-winter successfully. The idea of throwing away open and capped brood as well as stores is now not so traumatic as I initially thought!

As a final note: if your colony is suffering from Nosema then it is better to use the modified Bailey comb replacement process.

Why shook swarm? Because it makes sense and your bees are worth it.

This article is reproduced from “Beemaster” the newsletter of Notts BKA via eBees

Honey Buckets – Food Grade Quality

Capacity: 11.3 litres / 32 pounds

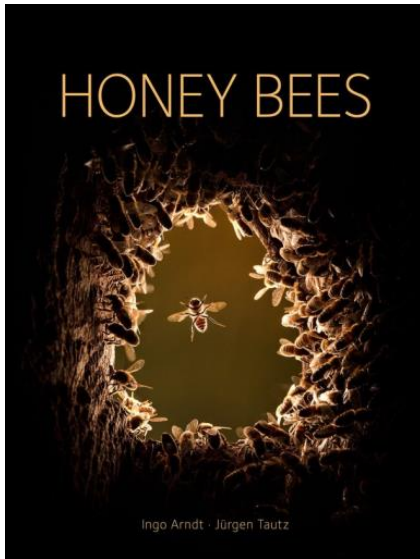
With lid and reinforced handle

Price: £2 each

Telephone: David Tyler

01279 730 228 or mobile: 07955 768 124

Book Review



Honey Bees: by Ingo Arndt and Jürgen Tautz Published 2021
by Natural History Museum ISBN 9780565095277 £25.00

“Bees are a symbol of nature conservation. People all over the world are studying their fate and the threats posed to them by human activity and biodiversity loss. This stunning photographic record captures for the first time the unique way of life of the, forest-dwelling honey bee. A lavish, picture-led book, this is a unique collaboration between Germany's leading bee expert, Prof. Dr Jürgen Tautz, and one of the world's top nature photographers Ingo Arndt,

which documents a major research project into the mysterious, hidden world of the honeybee.”

This hardback book contains a stunning series of photographs which document the life of forest dwelling honeybees in Central Europe.

Jürgen Tautz, a leading expert in the behaviour and sociobiology of bees has collaborated with Ingo Arndt, an award-winning wildlife photographer. Arndt spent eight months over a period of two years photographing the secret life of wild honeybees. He often spent hours hanging 20 metres above the ground on a rope to take pictures of bees in their tree nest cavities. Other photos were taken using specially constructed flight tunnels and observation tents. To observe scout bees dancing on the surface of a swarm he caged the queen at the centre of the cluster to prevent the swarm from absconding.

The beautifully designed book aims to explain how honeybees evolved as forest dwellers with their nests high up above the ground in cavities in tree trunks under the dappled shade of the tree canopy. The authors acknowledge that the majority of honeybee colonies are now found in man-made hives on cultivated land, but they suggest that beekeepers can learn and profit from the natural selection that happens in these wild colonies.

The text covers the communal life of honeybees inside their nests, the defence of the colony against predators, living alongside squatters who often help the bees out and how bees orientate using many senses. There's a whole chapter devoted to the yearlong process by which a colony took over an old woodpecker nest.

The stunning photographs, with close ups and beautifully lit images of bees flying and interacting with nest mates, bring the text to life and illustrate the complexity of bee anatomy not easily seen with the naked eye. Some of the images are simply breathtaking and merit repeated scrutiny.

At the end of the book the authors muse on the reasons why honeybees remain essentially wild animals despite thousands of years of interaction with humans. With so many problems occurring in managed colonies and the added impact of a changing climate the authors end with the hope that wild forest bees may have potential to help us out of our bee problems.

Note: when searching for this book online be aware that the USA edition is titled "Wild Honey Bees". The UK edition published by the Natural History Museum is called "Honey Bees" and is available from various booksellers at a discount from the RRP of £25.

With thanks to John Eaden of Manchester BKA via eBees

BBKA Spring Convention 2022

The BBKA Spring Convention is finally being held face to face!

Keep the **8th-10th April 2022** free in your diary as beekeepers from across the country will make their way to Harper Adams University, Shropshire for a mixture of lectures, workshops and trade stalls. For new beekeepers, or those of you who have never attended this is not an event to miss. For further information visit: <https://www.bbka.org.uk/pages/category/about-spring-convention> . A full programme can now be found on the [BBKA website](https://www.bbka.org.uk)

BOOK NOW!



Spring 2022 Convention

Friday 8 - Saturday 9 – Sunday 10 April 2022
Harper Adams University, Shropshire, TF10 8NB

Lectures, Workshops and Seminars covering a wide range of practical and scientific topics, directed at all levels of experience, presented by leading experts. Bumper Trade Show Saturday 9th

Speakers and Tutors include; Marin Anastasov, Mark Barnett, Shirley and Richard Bond, Norman Carreck, Lars Chittka, Celia Davis, Joyce Nisbet, Juliet Osborne, Julian Parker, Sara Robb, Nigel Semmence, Jo Widdicombe, Geraldine Wright, and more...

For further information, **and to book** from 31st January
see the Spring Convention pages at www.bbka.org.uk

BBKA President's Update

Honey Labelling

We need the Government to overhaul and update the labelling of the Honey sold in the UK. This is the first step in reducing the amount of 'so-called' Honey sold in our supermarkets that contains very little Honey produced by bees. **Please consider signing this petition and ask your friends to sign it. This affects anyone who buys, sells or eats Honey.**

Review honey authenticity and current regulation of the honey market.

Fully review the honey market and Honey Regulations, to review evidence of honey fraud within the honey market, and reform regulations and arrangements for enforcement, to prevent future fraud.

[Sign this petition here:](#)

The other action is very positive. We want to promote local Honey and highlight the advantages of knowing where the honey being consumed in the UK originates. The BBKA is going to promote our local Honey and the health and medical benefit that we know it has. We want to celebrate the local Honey produced by our bees.

We are challenging the labelling laws. We want to know where the Honey in our shops has come from; was it from the bees visiting 1000s of flowers to collect and process their Honey, or is it a mixture containing complex sugars and chemicals disguising the fact that it contains little or no Honey? We do know that China is responsible for selling tons of 'fake' honey to Europe. We do not at the moment produce sufficient Honey to meet demand so some Honey must be imported, but some imported Honey found on shelves in major supermarkets has additives and is not pure Honey.

Samples of 1lb jars of imported honey were purchased in 13 of our major supermarkets and sent to Germany where the complex ingredients found in 'fake' honey can be identified. They all failed the test of being 100% Honey. Our supermarkets are buying honey from the EU which does not have the country or countries of origin clearly stated on the label. The sampling by the English Food Standards' Agency of the imports into England cannot detect the sophisticated disguise used to sell this 'fake' Honey; we do not at the moment have facilities available for this.

If we can persuade the Government to change the labelling so that every jar shows the country of origin, the public can make a choice. Cheap blended honey from non EU countries is available. Why is it so cheap? Countries listed on the label would help consumers in making an informed choice.

Derogation of Neonicotinoids

We asked you to sign the petition on the website requesting Government to overturn the derogation issued for the use of a neonicotinoid on sugar beet to control yellow virus. The petition reached its mark and the Government will have to justify the decision in Parliament.

Asian Hornet

The final action is the request for a plan to cope with possible future incursions of large numbers of Asian hornets that would be beyond the control exercised by our hard working Bee Inspectors.

I received a very pleasant letter from Lord Benyon thanking the BBKA and their Asian hornet teams for all the efforts made to keep the alien invaders at bay.

I have written to the Minister for Food and Environment highlighting the need for a 5 to 10 year plan to be issued by the Government that will address all the probable issues such as cost of nest removals, and additional trained personnel, how involved local councils should be and how nests should be removed.

It was briefly discussed when I introduced the subject in the Bee Health Advisory Forum but I am also writing to the Non-Native Species Secretariat to ask whether they have a future plan and when that plan will be published.

As you can see we have been busy, but we need your support and we will be introducing more ways in which you can help as the year progresses. Thank you for your support.

Anne Rowberry

BBKA President

With thanks to West Sussex BKA via eBees

www.thebeeshop.co.uk

Quality Beekeeper Clothing At Affordable Prices

Full Suits, Smocks, Bee Vests & Veils

Full adult suit - £55 (with free postage)

From Somerset

Email: michaeljohnduckett@gmail.com

Articles appearing in 'The Essex Beekeeper' are not necessarily the views of either Essex Beekeepers' Association or its Editor.

To ensure inclusion within the diary of county-wide events, would divisions provide the editor with details of local meetings by the 20th of the previous month

Many thanks, Dee Inkersole, editor@ebka.org

Making sense of Bee Pheromones

Both the sting pheromones and the Nasonov pheromones are examples of releaser pheromones which generate a rapid, but normally short lived, response from other members of the colony.

So, you get back to your hive inspection and work your way through the brood box, noticing newly laid eggs and young larvae. Eventually you spot your marked queen and you can safely close up the box and record your observations knowing that your colony is queen right.

Of course, the workers in the hive don't need you to tell them they are queen right. The laying queen continually secretes a powerful and complex mix of pheromones from her mandibular glands. This *queen substance* has been found to consist of at least 24 different compounds and perhaps may contain still others yet to be identified. The most abundant pheromones in the queen substance are two acids - 9-oxodecanoic acid (9ODA) and 9-hydroxy-E-2-decanoic acid (9HDA). Both of these compounds are much less volatile than the alarm pheromones and Nasonov pheromones and they are dispersed throughout the colony mainly through contact between bees.

If you observe a queen bee on the comb you will notice that she is often surrounded by a retinue of attendants who face her and touch her with their tongues, antennae, and forelegs. The queen regularly spreads the queen mandibular scent over her body by grooming with her forelegs. The attendants pick up the pheromone and transfer it to their own bodies. They then move through the rest of the colony and distribute the queen substance throughout the nest. Other attendants replace the first group, and the result is a constant flow of queen substance throughout the nest. If something happens to the queen, or she is removed from the colony, it doesn't take very long before the lower levels of queen substance stimulates the bees to start the process of queen replacement by building queen cells and feeding young larvae with royal jelly.

The queen pheromones 9ODA and 9HDA have several functions within the colony including inhibiting queen rearing and swarming, preventing the development of worker ovaries, attracting drones for mating, attracting workers to a swarm and recognizing nest mates. The queen pheromones are primer pheromones which cause long term changes in bee physiology. For example, the suppression of worker ovaries takes a while to fade after a colony becomes hopelessly queen-less. Thus, the emergence of laying workers become a last resort measure.

It has only been possible to discover a little of the extremely complex chemical signalling that happens in honeybee colonies since the development of modern analytical tools which can identify the tiny quantities of the molecules involved. Experiments to study the effect of adding or removing a compound suspected of being important in regulating bee behaviour are very challenging and there remains much to be discovered about the many subtle ways in which bees use chemical scents.

Acknowledgments

I have derived information for this article from these books:

- The Biology of the Honey Bee - Mark L Winston - Harvard University Press 1987
- Form and Function in the Honey Bee - Lesley Goodman - IBRA 2003

With thanks to John Eaden of Manchester BKA via eBees

Why do the bees rear so many drones?

Drones in their season seem necessary to the working spirit. Experiments in eliminating all drones have not proved profitable, for the Hive Mind is not happy, possibly not complete, from May until August, unless big brothers are about.”
(H.J. Wadey)

The question of the large number of ‘useless’ drones is often raised and occasionally answered by saying that the bees must know what they are doing, even if we do not always understand it. They must have a compelling reason to invest so much capital in their drones. Drones can neither forage nor feed larvae, nor the queen. They cannot defend the colony, secrete wax, build comb, bring in water or fan for cooling, clean the cells or pull out infected larvae. In light of what they cannot do, **why do the bees produce them in such enormous numbers?**

It is estimated that about 10% of the brood reared in a feral colony of bees are drones. Special cells have to be constructed in which to rear them, they take space and need to be ‘spoon-fed’, first as larvae, and then as adults too, throughout their life. If we assume that a strong colony produces 50,000 bees during a season then it apparently invests in at least 5,000 drones. How many of these are actually involved in inseminating a queen? If we assume that a colony produces on average 2.5 swarms in a season, and therefore 2.5 virgin queens to be mated and assume that a queen will mate with say twelve drones on average, only some 30 drones will give up their lives in mating, less than one percent of the 5,000! We must wonder what the other 99% plus do for a living.

In the spring the bees produce drones in their thousands, and in the autumn their younger sisters have the task of evicting those males, who have only survived the season because they were not good enough to mate!

It does appear to be the case that the drones do not fulfil any, as yet unfathomed, function within the hive, and are therefore ‘useless’ in that sense. However, the bees are forced by the logic of evolution to rear as many drones as they can possibly manage short of bankrupting the colony, because queens mate randomly in drone congregations. Thus the probability of a drone from a given colony reaching a queen, is a simple function of the number of drones from that colony being present in the air at that point in space and time. *[Ed: Fertilisation with drones from another colony is ‘preferred’]*

To understand this, imagine that in the long course of the evolution of the honey bee, a mutation were to arise in a colony that favoured the production of many drones - that colony would then naturally produce many drones. The genes that carry that mutation, which we can call the ‘many-drones’ genes, would be carried by those drones (which are, almost but not quite, genetically identical to their mother queen), and those drones being numerous, the chances of one or more of them mating with any queen that happened by a drone congregation area would therefore be increased, thus passing those ‘many-drones’ genes on to the next generation. That new generation would then produce many drones again and those, having the advantage of numbers, would once again dominate the mating and ensure the successful propagation of those genes, and so on. It is a self-reinforcing process, a lovely example of what a logician would call a ‘positive feedback loop’.

Conversely, just for the sake of argument, if a mutation were to arise in some colony that favoured the production of very few drones, that would lead, accordingly, to that colony producing few drones, and those drones, carrying the ‘few-drones’ genes, being few in number, could not compete in probability terms in the chase after queens; such ‘few-drones’ genes

would therefore tend not to be passed on and would sink into oblivion over time.

Hence, we see that the 'many-drones' genes are bound to dominate over evolutionary time, and the bees are 'compelled' by those genes to produce lots of drones, and to pamper them and look after them really well so that they are strong and virile and can outdo the others in the chase after queens, which is the competition to pass on the genes of the queen that has produced them.

The success of the bees over millions of years has depended and still does on many other successful genes, which help them to adapt to the different environments they inhabit and to stand up to all the challenges that nature throws at them all the time, (including, of late, that of dealing with us humans with our 'agriculture'), but the 'many-drones' genes are essential for all the other beneficial genes to be carried forward and not be lost. A healthy and vigorous colony manifests a combination of many advantageous traits and being strong, it also produces many drones. These then tend to dominate the mating by sheer force of numbers and therefore propagate their successful genes far and wide, in a kind of apian 'sharing of best practice'. We know that an individual bee will always put the interest of the colony before its own, in the way it over-works itself to death in the summer to secure the coming winter's provisions, and in sacrificing itself when stinging an intruder.

But here is an instance where the whole colony as a super-organism puts the interest of the species as a whole ahead of its own. The expenditure on drones apparently does little in the short term for the colony that produces them, but is a vital investment for the long-term survival and prosperity of the honey bee as a species.

Editor's Note

This article is an adaptation of a much longer article written by **Baruch Livneh**.

Baruch is a retired FE teacher who has kept bees since 1996. He presently has some 30 colonies in several apiaries, plus 20 hives in two apiaries in the Tiverton area as part of an independent association, **Mid-Devon BEES**, formed three years ago to teach beginners and others, with a bias toward conservation and the environment, and rearing queens from their own black bees.



With many thanks to Lune Valley BKA via eBees

Two Methods for changing comb by Alex Thomson MB

In this second article about changing comb I wish to describe two other methods which result in giving your bees new comb but may not be as effective as shook swarming when it comes to Varroa and pathogen removal.

Method 1, entitled 'Bailey comb replacement', is best performed on strong colonies with a high proportion of young bees whose wax glands are at optimum production, whereas Method 2, 'Modified Bailey comb replacement', is to be used on small, weaker slow-developing colonies infected by Nosema.

Method 1 Bailey comb replacement - for strong colonies

When compared with shook swarm this process is less drastic as brood and stores are not discarded: brood can emerge and some stores of existing pollen and nectar are utilised during the process. The decision to carry out this method can be initiated due to age, discolouration, and damage to comb, or too many drone cells, or simply the desire to provide new clean healthier comb for the colony.

“The Bailey comb replacement is suitable for strong colonies”

Equipment needed:

- clean (scrubbed and flamed) brood box
- clean frames with foundation
- clean floor
- modified eke with entrance
- contact feeder for 2:1 syrup.

Day 1:

Place clean brood box and 10-11 frames with foundation directly over existing brood box containing colony.

Feed using contact feeder for 2:1 syrup which will encourage younger bees into upper brood box to start drawing out foundation usually the middle frames where it is warmer for wax production and manipulation.

Day 7:

After a week there should be freshly drawn comb in the upper box so now is the time to find the queen probably still in the lower chamber and as she is marked this task will be made so much easier!

Now close the entrance to the lower brood box and place the modified eke with entrance and the queen excluder between the two boxes and then place the queen in the upper box.

Flying bees will now use the new upper entrance to bring pollen and nectar which will be used to continue drawing out new comb and to feed new brood whilst at the same time all brood in the lower chamber will continue to be fed and nurtured until they emerge.

Day 21-24:

By this time all brood including drones within the lower box will have emerged and most will have migrated into the upper box (except drones trapped by the queen excluder). Now is the time to take away the lower box and place the upper box onto a new floor, continue feeding if necessary or alternatively put on a super if there is a good nectar flow.

You can now scrub and flame old floor and brood box and determine whether to extract wax from old frames but certainly boil up wood frames with washing soda crystals for reuse.

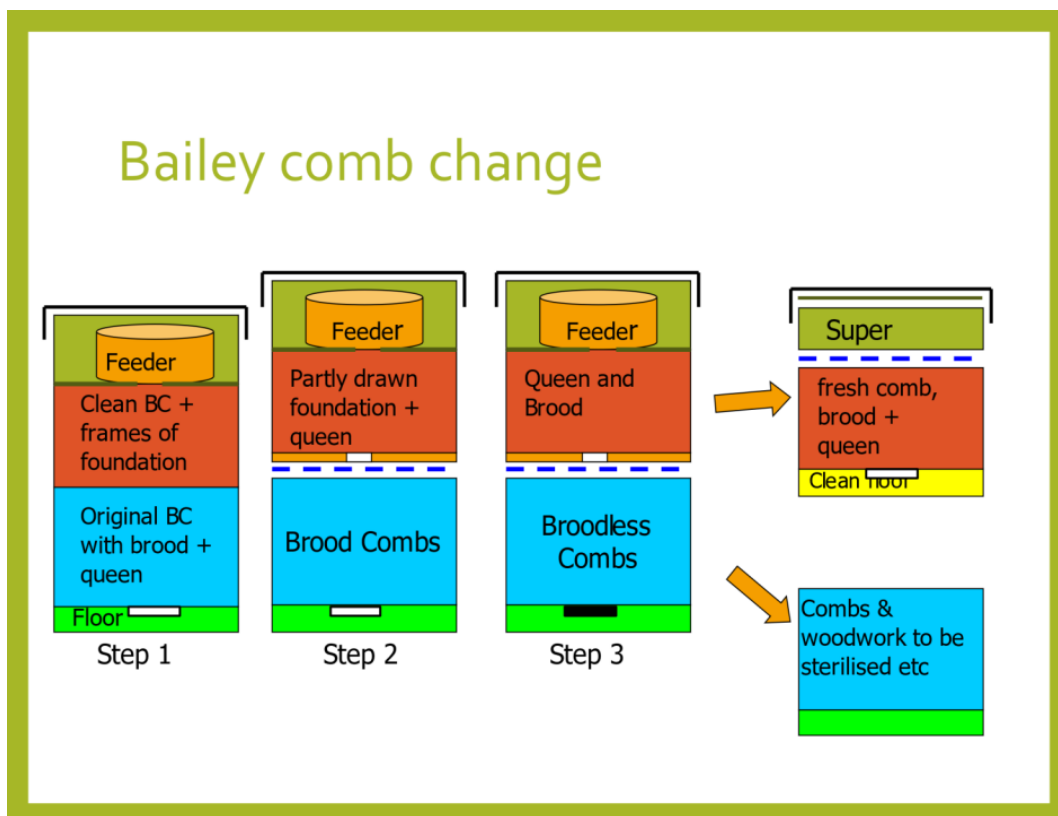


Diagram courtesy of Gerry Collins MB NDB

Method 2 Modified Bailey comb change for colonies weakened/reduced by Nosema

The success of this method is greatly enhanced with the use of some sterile, well-drawn comb as colonies affected by Nosema find wax production difficult.

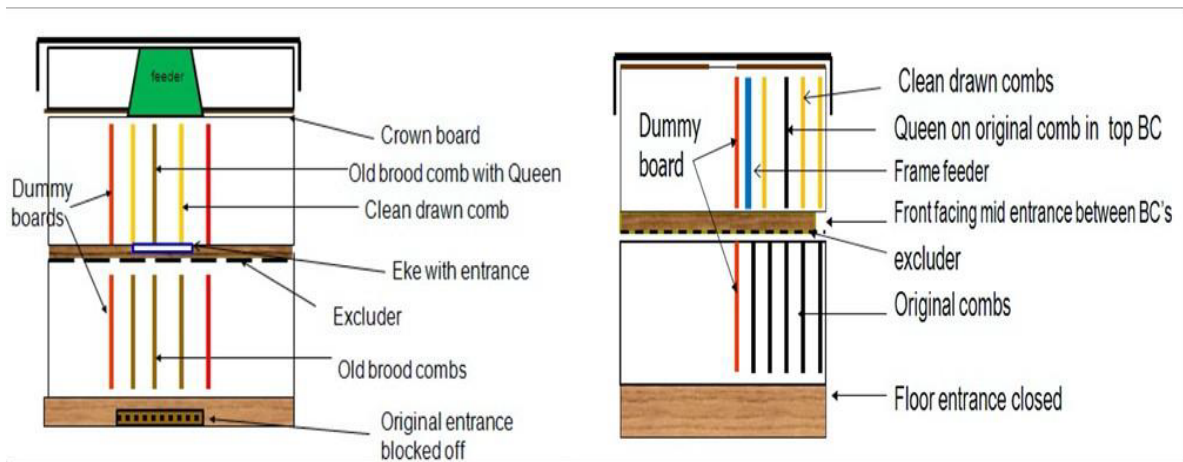
Equipment needed is as the same as for Method 1 but with extra dummy boards.

In your original brood find the queen (marked?) and, along with the frame on which you find her, place into the new clean brood box in between 2 clean drawn frames of brood comb (mark the old frame as it will be removed in a few days). Close up these frames in the new brood box with dummy boards.

In the original brood box remove outer frames which are probably now unused and again cramp together with dummy boards and position so that they will align with frames in new upper brood box.

Now assemble the equipment as follows:

- Place the original brood box on the floor but close the lower entrance.
- Above this, place the modified eke with entrance and then the queen excluder;
- Above this, place the new brood box containing the queen.
- Finish off adding either a contact or frame feeder using strong 2:1 syrup.



After a few days check that the queen is laying in the adjacent brood comb and when confirmed replace the marked frame from the original brood box down below but make sure you **don't transfer the queen**.

Now at least 21-24 days after commencing the process all brood within the lower box will have emerged and so this original box and redundant frames can be removed after gently shaking any adhering bees into box with queen. Replace old floor with new/clean floor and place brood box with queen on to it.

“Modified Bailey comb change works with weaker colonies“

Continue to feed and add more frames of drawn clean comb and/or foundation as the colony develops and thrives.

Bearing in mind this process was initiated because of Nosema, personally I wouldn't bother trying to reclaim any wax from the old frames, but I would boil wooden frames in washing soda crystals and also scrub and flame brood box, floor, dummy boards and crown boards.

Later in the year it is likely that the queen will be superseded due to the original Nosema so I would recommend requeening as soon as possible with a queen you have raised yourself!

Both the Shook Swarm (page 7) and Bailey comb change articles are reproduced here courtesy of Notts BKA via eBees.

Useful Contacts

EBKA Trustees

President:	Jean Smye, Hon CLM	president@ebka.org
Chair of CEC	Jane Ridler	chair@ebka.org 01799 218023
Treasurer	Pat Allen	treasurer@ebka.org
Secretary	Vanessa Wilkinson	secretary@ebka.org
Braintree	Bridget Mudd	braintree-trustee@ebka.org
Chelmsford	Mike Abel	chelmsford-trustee@ebka.org
Colchester	Andrew Linley	colchester-trustee@ebka.org
Maldon & D.H.	Glenn Mayes	maldon-trustee@ebka.org
Epping Forest	Simon Nicholson	epping-trustee@ebka.org
Harlow	Louise Carr	harlow-trustee@ebka.org
Romford	Jim McNeill	romford-trustee@ebka.org
Saffron Walden	Linda Yeats	saffron-walden-trustee@ebka.org
Southend	Chris Allen	southend-trustee@ebka.org

Non Trustee Members of CEC of EBKA

EBKA Exams Sec	Steph Green	examsec@ebka.org
Bee Health Officer	Dave Garratt	beehealth@ebka.org

Divisional Contacts

Braintree	John le Seve	secbraintreebeekeepers@outlook.com
Chelmsford	Fiona Cutting	chelmsford-secretary@ebka.org
Colchester	Morag Chase	colchester-secretary@ebka.org
Epping Forest	Katy Langley	epping-secretary@ebka.org
Harlow	Louise Carr	harlowbeekeeping@gmail.com
Maldon & D.H.	Glenn Mayes	maldon-secretary@ebka.org
Romford	Sue Richardson	romford-secretary@ebka.org
Saffron Walden	Linda Yeats	saffron-walden-secretary@ebka.org
Southend	Sarah Rumble	southend-secretary@ebka.org

Regional Bee Inspectors

West Essex

Peter Folge

E: peter.folge@apha.gov.uk

T: 07775-119433

Essex

Ian Nichols

E: ian.nichols@apha.gov.uk

T: 07557-178416

The Essex Beekeeper Magazine & Web site

Editor & Advertising: Dee Inkersole
editor@ebka.org

Web site: Graeme Crook:
webmaster@ebka.org