BUZZWORD

The Newsletter of the Norfolk Beekeepers' Association

May 2019

Inside this issue:

Next issue in July!

All articles, events and things of interest to the beekeeping world (and maybe some other things too...!) should be sent to the Editor by **30 June 2019** at:

buzzwordnbka@gmail.com

Published bimonthly
Volume 20, Issue 3

Chairman's Buzzwords

Graham Wrenn

Dear fellow beekeepers, as I write this our typical English weather has taken a turn for the worse. Swarm season is upon us – more in other articles from Don Cooper and John Everett. Before we know it we will be into the "June gap", or perhaps it will be the "July gap" this year. Oh the joys of beekeeping and the vagaries of the weather!

Still, the farmers tell us that they need the rain and as long as it doesn't knock all of the flowers over it should help them to produce nectar for our bees to turn into honey. Then we will all forget about the trials and tribulations and pat ourselves on the back for a good honey crop. I wonder what our bees might say about that, if they could?

I hope that you are enjoying the new look *Buzzword* and that you will let us know what you want to see in future issues. Don't forget that you can submit your own articles for consideration and that you can also submit questions, which will be answered by an experienced beekeeper. You should still ask, even if you think that it is something that you should know, as there may be others who are afraid to ask but dying to know (contact the editor at buzzwordnbka@gmail.com). There's no such thing as a daft question.

Enjoy the rest of the issue. Best wishes, Graham (chairnbka@gmail.com)

Date for your diary – Asian Hornet, the French experience

With the ever-increasing threat of the Asian Hornet, you should not miss this talk. Andrew Durham, who had a fascinating article in September's *BBKA News*, is at Easton College on **1 June 2019 at 2pm** and will tell you what every beekeeper needs to know about the Asian Hornet.

A Cambridgeshire beekeeper, Andrew has made a special study of the Asian Hornet. Drawing on French research, information from French beekeepers, and visits to France to investigate the problems posed by the Asian Hornet, Andrew has prepared a comprehensive briefing that covers:

- Why the Asian Hornet is a problem to beekeepers and the opportunities for control over the annual cycle of the hornet.
- The invasion and spread of the hornet across France – which will give us an idea of the scale of the problem that we will face over here.
- Spring trapping of foundress queens – a controversy that has driven a wedge between beekeepers and scientists.
- Nest location & destruction and the role of the French "referent" – a likely role for Asian Hornet Action Teams.
- Defence of the apiary.
- Managing the bees through the predation period so as to minimise over-wintering losses.

And it was all going so well – Bwindi Batwa one year on

Venetia Rist, Examinations Secretary

Having spent a few weeks in Uganda last year, Venetia returned in February to see how the people she worked with have progressed. With myths, mistrust and the odd ginger gorilla things have not gone as well as she may have expected but, as Venetia explains, there is hope for the future.

It's now 12 months since I was first in Bwindi, working for Bees Abroad, with three Batwa pygmy settlements on the edge of the Bwindi Impenetrable Forest, home of the mountain gorillas.

So it was with a great sense of anticipation that I returned to revisit these Batwa projects for a week, during my time in Uganda this February, to see how they were progressing. The rest of the time I was in Kabale, about 100 km away from Bwindi, on the other side of the Impenetrable Forest, the Bwindi National Park. I was working with the five villages that make up the Murambo Beekeepers Group, who use traditional basket type hives, very different from Kenyan Top Bar hives – but that's another story.

Gorilla candles

I knew that the gorilla candles had been selling well in the hospital where I stay in the volunteers' hut. The Batwa beekeepers can produce both black and natural beeswax candles and they look good sitting on their banana leaf mats. However, I found some ginger coloured 'gorillas', without any wicks. They looked more like orangutans than gorillas! Not quite what we had been intending to produce.

I discovered that the reason for this is that the main man in coordinating the Batwa projects with Bees Abroad, John Bosco, had been beaten up by some men employed by one of the safari lodge owners. It was because one of the visitors had thought that the gorilla candles seemingly promoted the burning of gorillas. Oh dear!

Orangutans or gorillas?

Consequently, Bosco is scared to make any more and is hoping the tourists will buy the 'carved from wax' ones! Highly unlikely I would say! I never got to the bottom of why they thought brown would be a good idea! Apart from the fact that the safari lodges wanted red candles for Valentine's Day and the red shoe polish they used to dye the wax turned it brown and they were using it up.

Just in case you don't know where it is...

Misconceptions of all kinds were evident and it was hard to try and dispel and disprove them. For example,

- If you add honey to cheap shampoo to make an improved product with built in conditioner, it will make your hair go grey.
- Similarly, a piece of plastic, usually green, tied round a chicken's wing, will prevent it from getting coccidiosis (an intestinal disease caused by a protozoa).
- Getting bee stings will prevent you from getting malaria.
- Removing large combs of brood (in all stages) and leaving it on the ground will invigorate the hive. (The fact that it may have the queen on doesn't occur to them because they never see her!).

The settlements

I went and looked at each settlement on consecutive days and found the difference in the condition of the bees, the hives and the attitude of the Batwa people very marked.

The first, Bukoto, had thriving, strong hives and we were able to harvest some beautiful combs of sealed honey. The group members were paid individually by the weight of their combs in the bucket, 27kg from 7 hives, and we took it back to the processing unit (the shed on Bosco's farm).

Bosco has discovered that there is a market for cut comb, but the only containers I could get were in the main town, 18 km away. I bought as many as they had.

So, the lucky customer got a nice container to keep,

along with the comb. It is selling for 10,000 ugs (ugandan shillings) per half kilo (£2.00). Who'd have thought it!

This was their first good harvest and they were very pleased. I taught them how to split a hive that was on the point of swarming and recolonise an empty hive in the process rather than lose the bees. A real test of whether they had carefully measured before cutting when they made the hives was to see if the top bars were interchangeable between hives! Some were, others weren't!

When I swapped the positions of the hives they kept asking if I was sure? Ha ha! Yes! It stopped the swarming and equalised 2 hives.

Termite trouble

The problems in Bukoto had been where the termites were eating the hives and stands on the shallow soil of the south facing steep slope. The hives were collapsing. Before Christmas we sent money for them to buy angle iron and cement, sand and gravel to make hive stands. Obed, the fabulous overseeing beekeeper, had done a brilliant job of making them.

So the beekeepers on the whole were happy, although they only have a few beesuits, their gloves have broken and gone, and they haven't made provision for their replacement.

They want Obed to do all their harvesting because they don't trust each other to be truthful! I suggested that we supply each settlement with a spring balance and they can harvest in pairs so that others will know what they have got before they take it to Bosco.

This Batwa settlement is gradually becoming more prepared to learn farming methods and although it is not immediately obvious from their appearance, life is slowly improving for them.

Left, Bukoto were able to harvest 27 kg of beautiful combs of sealed honey from 7 hives

Below, the impressive concrete and angle-iron hive stands, built to withstand termites, made by Obed

They collect the urine and droppings from under the goat house at night, store it in a tank and use it as fertiliser on the crops they have agreed to learn how to grow, onions, cabbages, peppers, carrots and potatoes. So far so good.

Next day we did the long walk to the Mukongoro settlement. In the tropical rainforest during the rainy season, which had just arrived the week before, violent rainstorms can occur suddenly, and unexpectedly. I was soaked to the skin in seconds on the long walk up the mountain, then I squelched my way around the apiary looking at less than impressed bees, and then walked all the way back again, gradually drying out, and steaming, until it rained again. Oh what fun!

Above, using empty powdered milk containers and old cut-off antibiotic bottles, that Venetia had scrounged from the hospital, the Batwa were able to make dipped candles

Misconceptions cause problems here too, to the detriment of their beekeeping. The Batwa in the Mukongoro settlement think that if they look inside their hives with Obed, they can't then sleep with their wives that night or they will get no honey! How do I go about disproving that one?

Consequently Obed is not really welcomed and their beekeeping skills are not progressing as they could be and they have no honey to harvest. Rats and cockroaches have chewed the bee suits.

Rebel tribes

This tribe is still rebelling against being taught, but they are becoming more interested in the crops. They still steal their honey and want to do everything on their own. Slowly, slowly!

Finally on to the last settlement, Buhoma, the closest and by far the smallest of the three. They have had a terrible year on a personal level in that the tribal chief, who was the main beekeeper, died in the Autumn and his son decided to go to Kampala to try and get a job. That leaves just the elderly ladies to look after the five hives. One of those ladies I saw the Saturday before I left, and she had a terrible cough. I suggested she went to the hospital (Batwa receive treatment for 40p) but she had advanced pneumonia and despite intensive treatment she died 2 days later. Batwa want their folk to die at home and she was denied that.

Bosco and Obed have taken pity on these ladies and look after their hives for them. There is not a lot of honey to be had there and the hives, although colonised, are in a very basic form with the top bars/planks still measuring at least 6 inches! I don't hold out much hope for that tribe long term.

Bwindi Batwa one year on (cont. from p3)

As the gorilla candles have had an unfortunate set back, we turned to making dipped candles, using empty powdered milk containers, and ones moulded in old cut-off antibiotic bottles, supplies of both of which I managed to scrounge from the hospital.

Bosco was keen to revisit the making of lip balm and body cream, and we also made black shoe polish using black hair dye to colour the wax and white spirit mixture!

On the whole, the Batwa are progressing in their efforts to sustain and support themselves. Bukuto have goats and thriving bees, Mukungoro have some rabbits, vegetables and surviving bees, Buhoma has an aged population who I fear are doomed.

Lip balm, body cream and even black shoe polish are some of the products that can make money for the Batwa

As far as future projects go for the Batwa and Bees Abroad, the Batwa Development Project are hoping to convert a school into a boarding school for Batwa children from all the 12 tribes. They would like us to put a beekeeping enterprise into their syllabus and keep a few Kenyan Top Bar hives. This way the children can learn about the art of beekeeping and take the knowledge back to all the tribes. This will hopefully be more successful than battling against the stubborn elders of tribes who resist education and do not want to learn!

This venture is all in the discussion phase. Watch this space!

Bees Abroad

Relieving Poverty through Beekeeping

Until recently the Batwa forest people lived as hunter gatherers in the Bwindi Impenetrable Forest. The Forest is home to giant gorillas, which are a valuable tourist resource. The Batwa were forced out of the forest to reduce the risk of disease transmission from humans to gorillas. They were given no land or support by the government and depend entirely on goodwill. They are struggling to adapt to their new conditions.

A frame of eggs (or a test frame)

John Everett, Master Beekeeper

A mated queen bee can lay two types of eggs:

- An unfertilised egg (with 16 chromosomes) that will always develop into a drone;
- A fertilised egg (an egg and a sperm) with 32 chromosomes that almost always develops into a female bee.

If you want to know about the exception put diploid drones into your web-browser or read my explanation on p.8.

The female egg can then develop into a worker or a queen depending on the diet the larva has. If a colony has a queen problem, workers will feed one or more female larvae so well that they develop into new queens.

If you have a colony that has:-

1 A drone-laying queen – Kill the queen as it can no longer mate and is useless.

2 Laying workers – eggs laid by workers hatch into drones (workers cannot mate).

3 Possibly no queen at all…

You can put a frame of eggs (or even a frame with a few eggs but ideally no larvae) into the problem colony. The colony workers will draw out queen cells around eggs/small larvae if the colony is queenless. If the colony is queenright the bees will develop the eggs into normal worker brood.

This is one reason why it is recommended to have two colonies so you can get the eggs from your other colony. It is an almost fool proof system for testing a colony to see if it is queenright.

Eggs are remarkably resistant to chilling and you can move a frame of eggs from another beekeeper to your hive if you only have one colony. The larvae will die of cold but the eggs will survive. Obviously, the donor colony needs to be healthy and disease-free.

I put a drawing pin into the test frame so I can inspect it a few days later without having to inspect every frame. The queen cells that develop resemble bent little toes – my sad description.

Every year folk tell me their colony is queenless, usually after it has swarmed. It can take five weeks for a young queen to mate, mature and start laying. A frame of eggs can help reassure you.

Some more thoughts on sex – determination

Ian Watkinson

Across the animal kingdom there are various ways that the sex of an organism is determined. Ian Watkinson describes some interesting phenomena about temperature in reptiles and discusses how sex is sorted in bees.

In mammals such as ourselves, there is a specific pair of chromosomes that contain the genes that control sex. A longer 'X' chromosome and a shorter 'Y' chromosome; a pair of 'X' chromosomes produces female development, an 'X' and a 'Y' pair, male development. Genes for male characteristics are situated on the Y chromosome and these overrule the default female development. (This is mainly due to the fact that mammals develop in a female environment.)

The sex of some reptiles, such as crocodiles, alligators and some turtles, is determined by the temperature at which the eggs are incubated. At a critical stage after the eggs are laid, the temperature affects the sexual development. For some turtles, cooler nests produce males and warmer, females. In crocodilians high and low temperatures produce female offspring, medium temperatures, males.

What about the bees?

So, I hear you all saying, what about bees. I'm sure most of you are aware that female larvae can develop into either workers or queens depending on how they are fed before the larvae are three days old. If fed large amounts of royal jelly, which is a rich, sugary food, a gland (endocrine) produces a chemical (juvenile hormone) which leads to queen development. If fed smaller quantities of brood food the larva will develop into a worker bee.

The sex of a honey bee, queen/worker or drone, is determined by whether or not the egg is fertilised; a fertilised egg will develop into a female whereas an unfertilised egg will develop into a drone. This method for determining the sex of an organism is known as haplodiploidy. It is mainly found in the order Hymenoptera which includes ants, wasps and bees. The queen determines the sex of an individual by fertilising (or not) the egg as it passes down the oviduct.

This is not, however, the complete picture. In some cases a fertilised egg can develop into a drone (known as a *diploid drone). So how does this happen? After some searching, researchers found a gene that is connected to sexual development, called the *csd* (complementary sex determination) gene. It was found that two, different versions (alleles) of this gene are required for female development, one copy (or two identical copies) results in male, drone development. If a fertilised egg (diploid) happens to have identical copies of this gene it will become a drone, thus a diploid drone. Workers recognise these larvae and remove them; to allow them to develop would be disastrous for the colony.

Readers may be interested to know that the full honeybee genome was deciphered in 2006 (*Nature* 443, 931–949)

The chances of a fertilised egg having two identical copies of the gene are much higher when bees are inbred. This is one reason why the queen mates with multiple drones, hopefully from different colonies. Further research has shown there are a number of genes, found on various chromosomes, that are also implicated in determining sex. It is thought there are about nineteen variations (alleles) of these genes.

How does all this science apply to our practical beekeeping? Most of us are unlikely to encounter diploid drones unless you have a very isolated apiary. It is, however, a good idea to introduce new 'blood' into your bees from time to time.

*Most living things have paired chromosomes. Humans have forty six in total; there are twenty three different pairs. We get a set (twenty three) from each parent, which then pair up to give us our full complement of forty six. If something has a full set of chromosomes it is known as diploid, if it only has one of each pair of chromosomes it is referred to as haploid (half the normal number). Egg and sperm cells are both haploid so that, after fertilisation, the full diploid number is preserved. (If not, every time we reproduced, the chromosomes would double. By now we would be all chromosome and nothing else!) See also p.8.

Waxmoths – a case of revenge?

Please can we help a researcher at the John Innes Centre working on the gut bacteria of *Galleria mellonella*? She would like to study the gut microbiome of wild waxmoth and she has come to the right place!

It is the larvae she is interested in, living or frozen specimens gratefully received. I'm sure it's not too much to ask for some members to volunteer to collect the larvae that they find when checking their hives.

Please get in touch with: Harriet Gooch (PhD Student), John Innes Centre, harriet.gooch@jic.ac.uk

What on Earth… (or WTF)?

Thank you to the people who wrote in to identify this plant. The two people who identified it as *Petasites* (common name, butterbur) were Peter Lanyon and Jaime Blake and it was Peter who managed to narrow it down further and identified it as *Petasites fragrans* (winter heliotrope). They also gave useful tips on how to control it.

Don's take on bees and beekeeping – the current situation

Don Cooper

Honeybees have an unfortunate habit of catching the beekeeper out year after year. The first time many realise that our little friends are in need of a bit more room is when a swarm has already departed from the hive, never to be seen again, leaving behind a brood box full of hatching queen cells. Maybe the bees are still there, but are busy making urgent plans to find pastures new. This is Don's take on swarming and bees.

Swarming is either a complicated problem or just a wonderful event – depending on your point of view. The swarming of honeybees is nature's way of increasing/replacing the number of colonies in a given area. As with wild animals of every kind (be they bees, fish or birds), food supply and other environmental factors, such as pollution (including pesticides), predators and disease are the main restrictions in population numbers.

As always, the solution to any problem is not to get into a problem situation in the first place! Plan well ahead of needs and be aware of what might be happening in the hives. So the answer is to have queen excluders cleaned and supers prepared (at least two will be required for each strong hive very soon, depending on weather, temperature and colony strength). A strong stock would be bees covering ten or eleven brood combs at this stage. Oil-seed rape is showing yellow (as of 15 April) so a third super may be needed if and when the honey flow gets underway. It is not uncommon to get four or five full supers in a good year, if the bees are in tip-top order and positioned in a good area.

Supers are not just for honey

It should be remembered that supers are not just needed for nectar or honey, they are an essential part of swarm control. In much the same way as Integrated Pest Management (IPM) relates to varroa control, hive congestion promotes swarming – an expanding stock needs elbow room.

It is important to be aware of what is happening with bees themselves. Bees don't read the same books as the beekeeper. My first inspection this year happened around early March, with a quick check, to get first impressions of what's going on under the crown board, to make an assessment of colony strength and to make a visual check on stores (what's in the pantry?).

No brood combs need be removed for inspection at this point unless something appears amiss. A heft of the hive is done and if there is any doubt, a pack of fondant is placed on top of the crown-board if needed. We have been experiencing a period of mild weather up to now, so a further check on colony requirements will be carried out in the next few days, with a queen excluder and super given where the bees are asking for more room. Thirty, forty or more years ago, one would not have dreamed of supering hives before the first week in May – that's global warming for you!

Replacing old comb

If stocks are on old or deformed combs, plan to remove one or two outside flanking combs and replace with either new or re-waxed frames. A good guide as to timing is as soon as the apple blossom shows. Replacement frames should not be placed in a way that splits the brood (which if isolated could get chilled), or on the outside next to the hive wall. To get good, well drawn combs the temperature needs to be warm and the stock expanding – get it wrong and the bees may well just chew up your nice new wax.

Remember, the best laid plans of mice and men/women may not follow through. The bees always have the last say.

Bee Paralysis Viruses

John Everett, Master Beekeeper

You may have been unfortunate enough to have had a colony with bee paralysis, as cases seem to be on the increase. John Everett describes the symptoms and what to do about it.

The symptoms look like spray poisoning with dead worker bees or dying worker bees around the hive entrance and it is easy to cast the blame on farmers and insecticides!

The number of dead bees rises rapidly after a good flying day when the remaining living bees can bring out the dead, a process known as necrophoresis.

Careful observation of your bees could show hairless, shiny bees that shiver and may have either bloated abdomens or small runty abdomens.

The chances are that one of the paralysis viruses has been transmitted by varroa, so the first thing to do is to treat again for varroa – immediately.

Feeding warm syrup may help the bees survive but severe infections will probably lead to colony death. There are different viruses that cause slightly different symptoms. You cannot treat viruses but you can help the remaining bees by killing varroa and so reducing transmission in an attempt to stop the viruses spreading. (For more information, go to http://bit.ly/2W0eCAX)

Lots of dead drones in early autumn is caused by the ladies kicking out the males and so probably not by bee paralysis – it's normal.

Happy Beekeeping!

Norfolk beekeeping – over 100 years ago

Peter Beckley

An almost chance remark made in conversation with the *Buzzword* Editor prompted me to look out a beekeeper's diary or record that was passed on to me many years ago by the late Fred Richards to whom we owe the survival, success, and consolidation of good beekeeping in Norfolk in the years following the Second World War.

Fred had inherited the diary along with other beekeeping bits and pieces with only a vague idea as to their provenance. The diary, headed by the beekeeper 'Bee Notes' initially, covers the period 1918 to 1932. Fred thought it possibly belonged to Mr. H. J. Thouless* from the Wroxham area.

It is, of course, written in clear copperplate with a dipped pen and blue/black ink. It is interesting how the notes developed with more detail as the years passed and provide a record of the trials and tribulations of beekeeping, which are so familiar, with the seasonal differences and the weather playing a great part.

The notes also illustrate what was seen as important during that period and also show how so many things have not changed.

Along with the notes are various articles and pages kept from *The British Bee Journal*. This begs the question "Why were those seen as important"? Some of the 'snippets' seem to be quaint – even in that period (which may be why they were kept). There is a full report of a meeting of the Norfolk Beekeepers reported in broad 'Norfolk' dialect, which must have made interesting reading among other beekeepers throughout the country. However, it seems there was a fashion to send records of regional meetings in the vernacular.

The first year (1918) I will transcribe in full but as the entries get more 'fulsome' I will apply some editing:

> *"Bee Notes. Commenced 1918*
>
> *Sent order to B Atkinson, Fakenham, February 1918 for one 6 framed colony to be delivered in May at £3. These bees did not come until July 6th.* (Nothing changed there then in 101 years! – Peter). *They soon covered the 10 frames but only provided about 4 lbs. surplus.*
>
> *They were very active during the winter. They took about 7 lbs. candy in addition to their stores and wintered satisfactorily."*

This is an experience so many of us have had. I will try to relate the script to any event or person I know about but welcome any correction based on other beekeepers' factual knowledge. (To be continued in our next issue.)

*[*Further research has shown that this may well be Henry James Thouless, born in Norwich 1864. "An ardent student of entomology, he collected butterflies and moths and became an acknowledged authority on beetles. President of the Norwich & Norfolk Naturalists Society in 1915, and at the time of his death in 1933 was the Treasurer of this society. He lived in College Rd, Norwich and also owned a bungalow on the bank of the River Bure near Wroxham."*]

In our hives… topical tips

John Everett, Master Beekeeper

A disadvantage of an open mesh floor (OMF)

I like OMFs, not only do they help lower the varroa population in colonies but with better ventilation you get less mould on frames and the hive parts. But there is a disadvantage.

On 17 April 2019 I collected a good-sized swarm at the far end of the village and transferred it into a national in the evening. Not being a good evening for reading a book, I had a look and could not see a queen.

'Geriatric John' then lay on the ground and looked underneath the OMF. There was a lovely clump of bees so I reset the hive on a solid floor and sure enough I saw the queen in the clump beneath the OMF.

Then she was lifted off and put by the hive entrance and obligingly walked into the hive.

Topical Tip

Several beekeepers have admitted that their colonies have built up well and have good stores of honey. What a difference from last spring.

We have had good brood rearing weather and unfortunately that also means good varroa breeding conditions. Today I saw some bees with deformed wings and my guess is that the colony concerned will have parasitic mite syndrome and die unless it is treated soon.

If you see deformed wings, dead bees outside your colony or perforated sealed brood (that could be mistaken for AFB) you must treat for varroa. Extract any honey and immediately treat with your favoured treatment. If you value your bees please do not wait until late summer.

A couple of years ago I was asked to have a very aggressive colony. I realised it had parasitic mite syndrome (too many varroa) and when the varroa were killed the bees became less aggressive. I would be interested to know if anyone else has noticed this (email me on: everettapple-bee@hotmail.co.uk).

Bumble Bees

A friend was asked to remove a swarm on 18th April 2019. After travelling 15 miles it turned out to be a bumble bee nest. The owner swore blind they were honey bees!

It's worthwhile asking questions before you set off for swarms. Even ask for a photo if you are not sure.

International Meeting of Young Beekeepers

Rachel Scrafield

Those who read the Eastern Daily Press will know that we have a teenage beekeeper, Ben, in the county who last year passed his BBKA Junior Assessment. This year he has been selected to represent England's young beekeepers as one of a team of three at the International Meeting of Young Beekeepers to be held in Slovakia at the beginning of July. Well done Ben and good luck to the English team.

Making an artificial swarm (simplified Pagden swarm control)

John Everett, Master Beekeeper

With many reports of early swarms coming in, in this timely article, John describes how to make an artificial swarm as a form of swarm control.

What is a real swarm?

A swarm is a queen with lots of workers but no brood. This method aims to make a swarm without the bees actually swarming.

If during routine inspections you find developing queen cells (not just queen cups) you can make an artificial swarm. You will need an extra floor, brood box with frames, crownboard and roof or a travelling box/nucleus hive and made up frames.

1. Move the original hive to a new site 2 metres from its original position and ideally rotate it 90° so the bees fly in a new direction.
2. Put the new hive on the original site.
3. Go through the original hive to find the queen and move her on a frame of food, with very little brood and definitely no queen cell, to the new hive on the original site. Ideally add another frame or two of empty drawn cells for the queen to lay in. Fill both broods with frames.
4. Place a queen excluder over the queen-containing brood chamber and add the supers on top. The new hive now has the swarm in it (i.e., the old queen), lots of flying bees and no brood.
5. Go through the old hive with all the brood and decide which queen cell you would like to keep. Grub out all the rest. Do not inspect the queen cell brood chamber for four to five weeks so the queen cell can hatch, the new queen can mate and start laying without being disturbed.
6. The swarm hive on the original site can be inspected as normal. It also has all the flying bees and little or no brood so may give you a good honey crop.

Practical tip

If you cannot find the queen put one queen cell in both hives and hope you do not get a real swarm. This is a good way of breeding a new queen.

Swarm collecting

Rachel Scrafield

Would you like to be a swarm collector, or perhaps build up the number of colonies you have with a swarm or two? If you would like to join me when I am called to collect a swarm I will show you how to take and hive a swarm. I live in (Weeting which is about 8 miles north west of Thetford) and get called to swarms in an area which stretches from Swaffham in the north to Lakenheath and Brandon over the border in Suffolk. My phone number is 01842 812481, ring me if you would like to join me.

Diploid drones – Errata with apologies

The Editor foolishly attempted to explain diploid drones at the end of John Everett's article on sex in the March issue. Sadly, and with humble apologies to John, I got it wrong. Here is the proper explanation from John:

John Everett

This may be of little concern for most beekeepers or, indeed, bee colonies but there are thought to be about 16 sex genes in the European honey bee *Apis mellifera*.

For convenience we can label the genes S1, S2, S3, etc. to S16. Any sex cell (sperm or egg) has one sex gene. Any sex cell is haploid, meaning it has half (16) the number of chromosomes of a normal female bee cell (32).

A normal female cell has two sets of chromosomes, one from the egg and one from the sperm, and is said to be diploid. Because drones develop from an unfertilised egg, drones only have one sex gene that could be any one of the genes S1 to S16. Biologists say it is haploid.

All females develop from an egg and a sperm so all females have two sex genes that must not be the same, for example, S1 and S5 or any other combination of different sex genes.

It is slightly possible that a fertilised egg has two identical genes, for example, S7 and S7, so the embryo only has one type of sex gene and so it develops into a male which we call a diploid drone. The drone is deformed and eaten by workers as it hatches from its egg.

The only time this might be a problem is if you have constant inbreeding from a very closely related line of bees but my guess is that other bees in your area will introduce various sex genes when virgins mate on the wing. (See also sex determination on p.5)

The Secretary Matters

Garry Bowler

For this newsletter I thought it might be an idea to give an update on your Committee and a look ahead to the Royal Norfolk Show and planning for 2020.

There are four Officers on the Executive Committee. At the AGM one of the formalities is the election / re-election process. The Officers stand for re-election annually and this year all four were happy to be re-elected and continue in their roles. So, you have Graham Wrenn (Chair), Trevor Nash (Vice-Chair), Garry Bowler (Secretary) and David Goodwin (Treasurer).

Members of the Committee serve a 3-year term and at this year's AGM three Members were re-elected and we had one new Member elected to fill a vacancy. Your Committee Members are David King (also Membership Secretary and Webmaster), Ady Marshall, Pat Marshall, Paul Metcalf (President), Alvan Parker, Lynne Pettit, Michael Pfeil, Venetia Rist and Ian Watkinson. Chris Coath (*Buzzword* Editor) is co-opted onto the Committee and we are also joined by Judy Heal (WNKLBA representative) and Bob Spruce (Waveney representative).

Members' renewal

Another issue discussed at the AGM and mentioned by David King in the March *Buzzword* was the matter of membership renewal. Membership of the Association runs from 1 January to 31 December each year. Prior to the AGM, Rule 27 of the Association stated "Members who have not paid their subscriptions by 31 March will be considered to have left the Association". This presents a number of challenges:

1. The Membership Secretary receives renewals from November to at least 31 March (some still renew after this date) making it a long and onerous process.
2. The AGM is held before 31 March each year and at that point we do not have an up-to-date list of active members. So, who should receive AGM information, who is eligible to vote etc?
3. BDI insurance submissions need to be made in mid-March, members renewing after this will have a gap in their insurance.

At the AGM the members approved a proposed revision to the Rules which should overcome these problems. Existing members are now required to renew membership by 1 February each year. Additionally, it was approved that we will introduce a registration fee of £5 which will be payable by new members. This fee will also be payable by existing members who renew after 1 February.

Enough from the admin side, I always feel that describing such matters comes across as rather dry.

Future events

Other things being dealt with by the Committee include planning for forthcoming events. The Events Planning Sub-Committee has made a start on planning for 2020. We would welcome suggestions for events, talks etc. and offers of venues for our regular apiary demos are always appreciated. We realise there aren't a large number of members who can accommodate a visit from 30 or 40 beekeepers but we do like to try and move round our area.

Plans are well under way for the stand at this year's Royal Norfolk Show (RNS). Pat Marshall will be delighted to hear from anyone who would like to lend a hand for a couple of hours or so during the two days of the Show. The RNS is such an important event for us. A chance to promote bees and beekeeping to the wider public, to educate and an opportunity to put on a really good demonstration of the honey and other products that we produce. Coming along to help is also good fun, a chance to socialise and you get a complimentary ticket for the Show if you are on the stand. You can also bask in the glory when your honey wins an award in the Summer Honey Show. (secretarynbka@gmail.com)

Apiary sites

South Walsham, Fairhaven Woodland & Water Garden

We have 130 acres of cultivated and semi-natural woodlands and water gardens. We also have a small kitchen garden and herb patch where we grow fresh vegetables for our cafe.

We would love to look into working alongside one of your beekeepers, if someone wanted to put a hive (or more than one) in our kitchen garden.

Southrepps

Spacious garden with orchard, house surrounded by countryside and farmland. They would be interested in speaking to an interested beekeeper.

Enquiries to the Secretary (secretarynbka@gmail.com)

BeeConnected

BeeConnected, is a new, nationwide web-based communication system between farmers and beekeepers. It is open to all beekeepers to register and to receive alerts from local farmers when they are spraying insecticides.

Alerts from farmers will tell local beekeepers by e-mail:

- when spraying will occur,
- the crop being treated,
- the compound being applied
- and enable appropriate mitigating action to be taken.

BeeConnected is a joint venture under the Voluntary Initiative between the BBKA, NFU and Crop Protection Association.

Register now for the system launch at: www.beeconnected.org.uk

Members 'Wants' and 'For Sale'

Adverts are free to members. Contact the Editor on buzzwordnbka@gmail.com

For Sale:

Bee keeping equipment from a beekeeper who has decided to give up beekeeping. She has not included prices but she is expecting at least 1/4 of the Thornes latest catalogue price.
Please contact Fiona on fiona.musters@hotmail.co.uk or 01603 465733.

All Commercial/ National size unless otherwise stated.

1 brood box (commercial), 1 eke, 1 roof with galvanised lid, 1 netted floor, 3 Ashworth feeders, 3 feeder buckets

Queen excluders: 1 plastic sheet, 2 metal sheets, 2 framed metal rounded wire, 2 mesh screens

1 clearer screen, 1 galvanised lid, 1 galvanised lid (not commercial/national size – slightly smaller), 3 crown boards, 9 entrance blockers, 2 mouse guards, 4 netted mouse guards, 2 hive straps (non-ratchet)

Castellated brood box spacers: 2 pairs national 10 slots, 1 pair 11 slots

Misc: 1 smoker, 1 bag of wood chips for smoker, 1 thermometer, 1 honey creamer, 1 wicker skep, 1 bee brush, 1 uncapping fork, 1 press in cage, 6 lbs of wax already melted into loaves

Storage: 4 storage buckets (10lbs) with lids, 3 smaller storage buckets with lids, 1 bucket (25lbs) with lid, 2 tanks with draining holes, 3 taps 1.5 inches diameter, 2 taps 1.75 inches diameter, 1 small bag of misc taps bits

Local suppliers listing

Please note that this list is made up only of the suppliers in Norfolk who have confirmed that they are still 'in business'; to add your name to this list (for which there is **no** charge), please contact the Editor at buzzwordnbka@gmail.com

Applebee Apiary, Rockland St Mary

John Everett, Master Beekeeper

We carry a large range of beekeeping equipment from Thornes and other suppliers.

We breed and sell honey bees. Large stocks of hives, frames, foundation, jars and other bee-keeping sundries always in stock; beginner's courses from May.

01508 538231 everettapplebee@hotmail.co.uk
http://applebeeorchard.co.uk/

Closed Sundays

Don Cooper, Roughton NR11 8QP; 01263 761517

5/6-Frame BS nucs available in May from £150

30lb Buckets of honey

Advice on "all things bees"

Glebelands Apiary, Rocklands St Mary NR14 7BX

Peter Beckley, Thornes agent (reportedly the longest serving in the UK)

01508 480262; orns@btconnect.com

Forthcoming Events

Date	Time	Event	Venue	Contact
May				
31	19:00 – 21:00	Executive committee meeting	Easton College*	Secretary
June				
1	14:00 – 16:00	Talk on Asian hornet by Andrew Durham	Easton College*	Secretary
26–27	Both days	Royal Norfolk Show	Norfolk Showground	Show Secretary
July				
12	19:00 – 21:00	Executive committee meeting	Easton College*	Secretary
13	All day	Introduction to beekeeping	Easton College	Secretary
20	All day	Holkham Country Fair 2019	Holkham park	WNKLBKA
August				
3	14:00–16:00	New members' day, incorporating closing down	Stiffkey	Lynne and Guy Pettit
September				
13	19:00 – 21:00	Executive committee meeting	Easton College*	Secretary
21	14:00 – 16:00	Talk by Chris Evans	Easton College*	Secretary
October				
5	All day	Autumn show and social	Easton College	Secretary
13	All day	Apple day	Gressenhall Museum	Secretary

*Rooms are on the first floor of the Sports Centre