



MONTGOMERYSHIRE BEEKEEPERS  
ASSOCIATION

E Version of

# The BeeHolder

April 2010



*Not an advert for the docile Italian bee  
Christchurch Hobbyist Beekeepers March 6<sup>th</sup> 2010*

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<b>CENTRAL SCIENCE LAB:</b>	01904 462510	

**Any of these contacts can be used to ask a Bee Question.  
They will pass it on if they cannot answer you themselves.  
They are here to help you**



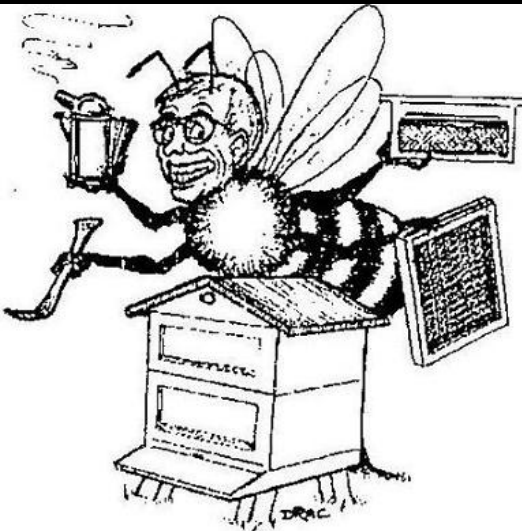
## MONTGOMERYSHIRE BEEKEEPERS ASSOCIATION

### FORTHCOMING EVENTS

- April 3<sup>rd</sup>  
Saturday 9.00am **MBKA** Beginners training day by Brian Goodwin  
Plas Dolerw , Milford Road Newtown
- April 24<sup>th</sup>  
Saturday 9.00am **MBKA** Beginners training day by Brian Goodwin  
Plas Dolerw , Milford Road Newtown
- April 25<sup>th</sup>  
Sunday **MBKA** Apiary meeting Host Julian Kirkam  
Penyrhallet, Brithdir Lane, Berriew, SY21 8AP  
tel 01686 640726 grid ref SJ 188 026
- May 16<sup>th</sup>  
Sunday 2.00pm **MBKA** Apiary Visit Host Roy Norris + Nigel Jones of **the Solitary Bee Unit**  
Llys Gwyn, Cefn Mawr, Newtown, SY16 2LB .  
tel 01686 622217 grid ref SN 112 936
- June 20<sup>th</sup>  
Sunday 6.00pm **MBKA** Apiary Visit Host Lorraine Ward & Tony Morgan  
Moorabbin, Abercegir, Machynlleth, SY20 8NR  
tel 01650 511652 grid ref SH 804 013
- July 19<sup>th</sup> - July 22<sup>nd</sup>  
Monday to Thursday Royal Welsh Show, **Bee Section** in South Glamorgan Hall,  
Royal Welsh Showground, Llanelwedd, Builth Wells
- July 25<sup>th</sup>  
Sunday 2.00pm **MBKA** Apiary Visit Host Fran Blockley  
Old Chapel Farm, Tylwch, Llanidloes SY18 6JR  
tel 01686 412744 grid ref
- August 13th/14th Shrewsbury Flower Show
- September 4<sup>th</sup> & 5<sup>th</sup> Food Festival at Glansevern Hall, Berriew  
**Bee Stall** run by **MBKA**
- September 19<sup>th</sup>  
Sunday 2.00pm **MBKA** Apiary Visit Host Keith & Philomena Wood  
The Wintles, Bishops Castle, SY9 5BF  
tel 01588 638242 grid ref SO 321 892
- October 21<sup>st</sup>  
Thursday 7.00pm **MBKA** AGM TBA  
Plas Dolerw , Milford Road Newtown
- November 18<sup>th</sup>  
Thursday 7.00pm **MBKA** AGM TBA  
Plas Dolerw , Milford Road Newtown

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## BRIAN NORRIS

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## Editorial

One of the joys of committee meetings over the last few years has been watching treasurer Roy Norris explode in a near-foaming fury every time bad-beekeeping or Devon are mentioned. Devon, he would claim, is the source of most of the bee troubles in the UK. I have asked him many times if he could put his passion into an article but as a senior officer of BDI (Bee Disease Insurance) he could not compromise his position by singling out one county for his wrath. “...and I tell you the Bayvarol strips weren't just left in for one year, they were added to until they were creeping out the hive entrance... and this was a professional beekeeper!” As you read Roy's article on page 9 try to imagine the original spoken comments complete with the teeth grinding and foam.

Civilisation progressed by the exchange of ideas and the electronic age just makes that exchange faster but Arthur Finlay's article about New Zealand Beekeeping and Roy's article reminds us that chance personal contacts are still essential for learning. Just as the computer has not reduced our use of paper as was predicted, it has not lead to the social isolation that was also predicted. Incidentally, some years ago the committee voted that all committee meetings are open to all members. Do come along, they can be great fun and perhaps you will be amused enough to stand for committee next February.

We start 2010 full of hope after the previous disastrous year but we should be aware that some of 2009's problems will come to haunt us in 2010. For example; mating of queens was so bad after last July that the 2009 queen will be especially weak in 2010. It is going to be harder to increase stock and honey production will also be less than we would normally expect from any given weather condition. It will take a few years before we can recover from 2009.

Is our weather particularly bad for bees? Terry Cook (page 13) would say “Yes” and that our native bee is ill adapted to providing sufficient production to be viable. He assumes of course that the commercial beekeeper and the honey bee are in a natural symbiotic relationship. Whether we like it or not *Apis Mellifera* is a result of thousands of years of selection by man (page 10) we cannot just leave it alone and expect the traits we want to magically appear or reappear. Brother Adam always argued that you cannot get traits out of the bee that were never ever there in the first place. Would he have had sympathy with the search for Hive hygiene genes or would he approve of investing in the scientific possibility of splicing a set of genes from *Apis cerana* into *Apis Mellifera* so that the latter could reproduce with the grooming behaviour of *Apis cerana* (Arthur Finlay's New Zealand report page 11)? Arthur would argue that the crisis in agriculture caused by the rapid drop in Honey Bee numbers does not allow us the luxury of being finicky about the concept of GM (genetic modification). His view is backed by Dr Simon Potts at Reading university's School of Agriculture. Dr Potts has found there has been a 54 per cent drop in the UK's managed honeybee population over the last 20 years. This compared to an average drop of 20 per cent across Europe. The study 'Decline of managed honeybees and beekeepers in Europe' shows that the UK bee population is declining at over twice the rate of the other 17 European countries in the survey.

On a happier note (page 15) a team from Louisiana (page15) claims to have found a Hive Hygiene Gene. We await with interest confirmation of this from other research establishments.

Tony Shaw March 2010

## We welcome as new members

Charles Balcock/Meiford, Sarah Chapman/Llanfyllin, David Clark/Bishops Castle, David Davies/Forden, Mervyn Evans/Kerry, Debbie Francis/Van, Henk Jan Kuipers/Guilfield, Chris Robinson/Bishops Castle, Dave & Jill Smith/Welshpool, and Judith Yates/Bishops Castle  
As usual the Data Protection Act prevents my publishing emails and addresses of members, but I can recommend the local telephone directory.

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## Secretary's Report To The AGM Thursday 18<sup>th</sup> February 2010

The year started well with a high turnout at the AGM, the year began with 70 members and as of today we now have over 100.

The first public exhibition of the year was held at Newtown Library the committee put together a display of equipment past and present the Virtual Hive & lots of photos and of course the most important piece the Observation Hive. During the time at the library we were asked if we could perhaps do some demonstrations for few primary schools, of course we said yes not realising how many children would be coming!

Tony, Graham, Ralph & myself put together a bit of display letting them taste honey, dress up in bee suits, show them how the equipment worked, how to extract honey and the grand finale looking at a working hive. One school however were not allowed to cross the busy main road so we took the display to them. This was so worthwhile the children & teachers were fascinated by it all and we received some lovely thank you letters.

After the school visits we started with the apiary visits the first one being in April to new members Rev John & Bridgit Newbury subject of the visit, where to place a hive.

Weather was too wet for the visit to Roy Norris's in May so that is planned to go ahead again for this year.

We then had a very successful bee demonstration, BBQ and open garden hosted by Dr Beverly Evans-Britt & Tony Shaw. A whopping £291 was raised through the sales of teas & plants and the proceeds were then used to buy some bee suits for children.

In July we had an enjoyable trip to Attingham Park to meet Brian Goodwin. Even though it rained for most of the day the weather did stay dry enough for us to inspect the hives at Radbrook College. The day was nicely finished off with a meal at the Mytton & Mermaid in Attingham.

August & September were the highlights of the year with two days at Shrewsbury Flower show & two days at Glanseven Food Festival. We were offered a stand by Glamorgan beekeepers which in itself was a challenge to put together but definitely well worth the effort and was very professional so a big thank you to them for letting us have it.

At Glanseven we held a raffle and managed to raise £465.70. Winner of the hive was Nigel Moulding who is now a new member.

September was the last of the outdoor apiary visits what splendid weather we had and tea fit for a queen. This was held at Liz & Roger Farrington's house in the hills above Manafon, the biggest

turnout yet with over 60 people attending most were new members who met us at the shows. With a bit of juggling with suits we managed to get everyone who wanted to see the bees into the hives. John Beavan our new SBI for the area also came along and did the talk & hive inspection.

In November we managed to persuade Sara Clutton from Theatr Hafren to put on the film Vanishing Of the Bees. This went down very well and had a large turnout and recruited a few new members on the strength of this.

In between these main events the committee has been working hard behind the scenes finding speakers for winter meetings, places for apiary visits, giving talks to WI's, Gardening Clubs, more Schools etc.

The year ended in January with a Christmas Meal at the Lakeside Golf Club. With Guests Brian & Daphne Goodwin, Peter & Marian Guthrie, John & Alison Beavan all of which have & still do give a lot of time to the MBKA. An enjoyable evening was had by all with 40 members in attendance.

For 2010 it is important to help all the new members we currently have. In April we are again holding beginners courses at Plas Dolerw, Newtown with Brian Goodwin who is the President of The Shropshire Beekeepers. We then hope to get a training apiary set up with the help of John Beavan SBI, fellow members and a grant or two. We have kindly been offered a piece of land in the woodland at Gregynog Hall, Tregynon. We want to show new members excellent bee husbandry skills make sure they get the right advice anytime. We are all beginners and learning all the time & we need to learn from each other. We are currently seeking grants to help fund the project and have applied to a number of organisations for this. Outdoor apiary visits will get more difficult to find with so many new members as parking can be very limited at a lot of places so it is vital we get this up and running as soon as possible. Finally this is going to be our last year as secretary, and Doug Woods last year as Chairman & Tony Shaw has asked me to tell you he will also be finishing as BeeHolder editor as it's important to have change & some new blood.

We will still be hands on but without the paperwork!

To sum it up we have had a very good year with the start of many more to come.

Thank you all for your continued help & support hope to see you at future meetings

Jessica & Dave Bennett Joint Secretaries MBKA

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**Treasurers Report and Draft financial statements** were distributed by Roy in January. Rather than repeat all the figures here will those who want to see the final approved, non-Draft version please contact Roy and he will send you a full copy.

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## Chairman's report,

Doug spoke at the AGM, his words are essentially covered in the secretaries report above

# Report on Meetings

## AGM 18<sup>th</sup> February

Around 50 turned up for the AGM on 18<sup>th</sup> February. The formal part was rushed through with joyous abandon leaving the evening to our two guests. Laura Shrewing from Glasu let us know what money she had to offer us which is a possible £5,000 we hope we can put a good case so we can be awarded that money. Roy is putting his all into it.

Seasonal Bee Inspector John Beavan gave a description aided by lots of photos of what his job entails, the area he covers and how he can help us. The evening finished at 9.30 and considering that we are supposed to leave by 9:00pm we can use that as a gauge of the evening's success.

Jessica Bennett

## Will Messenger and Stewarton Hive 18<sup>th</sup> March read with preview in January BeeHolder

About 40 members came to hear Gloucester beekeeper, Will Messenger, talk about the Stewarton Hive. Will became fascinated by the claim of Robert Kerr, Stewarton's inventor (1819) that the bees don't swarm and give masses of honey. Will's experience with a hive he built himself and operated over 7 years seems to bear this out. He has also had few health problems with this hive.

The Stewarton was one of several 18<sup>th</sup> and 19<sup>th</sup> century attempts at creating a hive which would be productive of honey, would reduce swarming and would so separate the honey storage areas from the brood areas that honey could be gathered without destroying the bees. We learnt about Neighbour's Improved Cottager with chimney and thermometer to keep the hive below the supposed swarming temperature of 100°F; and of Mr Well's double hive; the first WBC, Burt's Extra Deep Easy to Work and the Burgess Perfection which concentrated to give quadruple thick walls for extra winter warmth.

With its drawers, slides, shutters and windows the hive is a tribute to the cabinet maker's skill. Will proposed that many of its unique features contribute to the reduction of swarming and the tidiness of the comb. The octagonal shape had no cold corners and the rigid top bars did not wobble as can happen with modern frames (perhaps the cause of brace comb). Being near circular in plan the queen's pheromones spread evenly through the hive. In particular, the pheromone she secretes from her feet to discourage queen cell building is distributed along the bottom of the comb (because it is frameless) and so queen cell building is discouraged. An impressive pandering to the natural behaviour of the bee. However I could not help thinking that with so much monitoring and invigilation, the beekeeper might have been able to reduce swarming in any hive.



Will Messenger shows his Hive

For this talk, Will also researched the history of beekeeping in mid-Wales and found that there is none (history, that is). In fact there is little recorded history of beekeeping in all of Wales.

In the question and answer period at the end, somebody asked if the blue hive angered the bees. Will didn't know as he had painted previous boxes red, and this has never had bees in. He does have a blue bee suit which he has never used, so he will let us know if the colour blue angers the bees when he tries that one out!

This was a very interesting talk well received and as usual the catering was superb!

Chris Leech

# Beekkeeping in Devon

**It is the best of places – it is the worst of places.**

Before I launch into my polemic about Devon beekeepers. Let's be clear – a polemic is a one-sided argument or discussion. There are some good, even great beekeepers in Devon. The former National Beekeeper lives and keeps bees in Devon.

But why oh why does everything that is bad also come out of Devon.

Varroa came into Wales in the late to mid 1980's. It was first discovered in Tenby. Had it come in on a ship to Pembroke dock? No one knew and extensive research had to be undertaken only to discover that it had been imported into Wales from a beekeeper who had moved his stocks into Wales from Devon to gather more honey. Of course varroa could have come from anywhere, but it had to come from Devon.

Next, treatments are devised and Apistan and Bayvarol become available, are very effective and the problem is solved.

Or so we think -- but we hadn't reckoned on Devon beekeepers. Using Bayvarol or Apistan is quite simple, follow the instructions. The strips are not supposed to be in the hive for more than six weeks. As the meerkat says "simples".

But not so 'simples' to a Devon beekeeper who manages over a considerable number of years to stuff nearly 100 strips into a beehive. And guess what, the varroa mite gets quite used to the presence of synthetic pyrethroids and develops a liking for their taste. As do the mites very many offspring. And thus we have resistant mites. And these have spread all over the country. We now have integrated pest management which is demanding of time and not as effective as the pyrethroids were, if they were used properly.

Devon	SS20	BUDE	2
Devon	SS21	KILKHAMPTON	3
Devon	SS22	HARTLAND	5
Devon	SS32	CLOVELLY	1
Devon	SS41	STIBBS CROSS & GREAT	3
Devon	SS42	BIDEFORD	3
Devon	SS43	BRAUNTON	1
Devon	SS90	SILVERTON	1
Devon	SS92	DULVERTON & EXFORD	1
Devon	ST10	HONITON	1
Devon	SX19	MARSHGATE & STGENNYS	1
Devon	SX39	CHAPMANS WELL & CLAW	7
Devon	SX45	TORPOINT & PLYMOUTH	5
Devon	SX46	PLYMOUTH NORTH & BER	2
Devon	SX54	WEMBURY	1
Devon	SX55	PLYMOUTH EAST	3
Devon	SX65	IVYBRIDGE	3
Devon	SX76	BUCKFASTLEIGH & DART	32
Devon	SX77	HAYTOR VALE & ASHBUR	7
Devon	SX78	MORETONHAMPSTEAD	1
Devon	SX86	TOTNES NORTH & KINGK	4
Devon	SX87	NEWTON ABBOT	3
Devon	SX88	DODDISCOMBSLEITGH	5
Devon	SX96	TORQUAY	5
Devon	SX97	TEIGNMOUTH	4
Devon	SX98	EXMINSTER & TOPSHAM	1

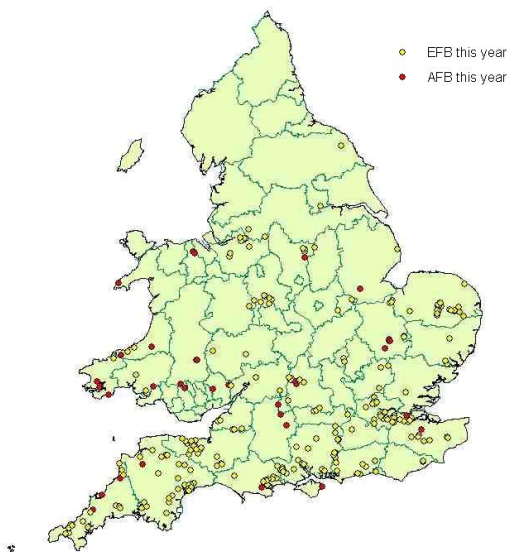
But to ensure that the resistant varroa were quickly spread over the country, Devon beekeepers continue to sell nucs and colonies to the unwary. They continued to export their colonies to gather honey from wherever the honey was flowing. This ensured that even if bees were not purchased in to infect non-resistant areas, they got in somehow.

This table, **to the left**, shows the number of incidents of the more serious American Foulbrood disease recorded in Devon over the past 10 years. Information is from the beebase website – you'll have register to see all the data available. The second column is the 10km grid reference square, the final column shows the number of colonies infected.

With 26 outbreaks Devon is up there with the leaders and think of the size of Devon compared to the other counties listed.

Devon does quite well for European Foul Brood as well. See the map, again for Beebase, for 2005.

### Foulbrood infected apiaries in England and Wales (as of 10/10/05)



What next - small hive beetle – tropilaelaps mites!  
Just steer clear of any bees from Devon.

And don't even think of sending your bees to Devon to collect Devon honey – you will never know what they have caught until it's too late and we are all infected.

And that's why it is easy to get me to rant about Devon beeping!

Roy Norris.

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## We are selecting for the wrong traits.

Up until the beginning of the last century bees were kept in what were called straw skeps. The design of these skeps made it difficult to know how the bees were progressing with the making of honey. When the beekeeper wanted to obtain honey from one of the skeps it invariably meant the destruction of the bees within. To ascertain which skep that he would empty the beekeeper would "heft" the individual skeps to estimate the quantity of honey in each. He would then select the heaviest skeps and remove the bees by placing the skep over a pit of burning sulphur.

Robert Burns wrote of the method in his poem "**The Brigs of Ayr**": "The bees rejoicing o'er their summer toils, Unnumbered buds an flowers' delicious spoils, Sealed up with frugal care in massive waxen piles, Are doomed by man, that tyrant o'er the weak, The death o' devils smooed wi' brimstone reek."

Read this article with Chris Leech's report on the March Stewarton Hive meeting Page 8

ED

# Learning from Kiwis

Touring New Zealand it's nice to occasionally bump into beekeepers, share a few yarns and exchange ideas. Before spending a day with the Christchurch Hobbyist Beekeepers I had already met a number of small holders, ("life stylists" is the Kiwi name) on the North Island who expressed dismay at the poor pollination of their orchards. A drop of 50% in the apple crop in Waiheke island just north of Auckland was related to the collapse of the local bee population. Aucklanders knew that all the evidence is that a local hobbyist was responsible for the introduction of varroa to New Zealand by illegally importing queens. Not surprisingly varroa is worse in the North island but a visit to Christchurch, half way down the east coast of the South Island, revealed a varroa crisis far worse than anything I had seen in Montgomeryshire.

Christchurch Hobbyist Beekeepers meet in their club apiary on the first Saturday of each month. The club has 150 members with most members, as in Montgomeryshire, having up to 10 hives. But they did have more than 20 members who each had more than 25 hives each. These "semi-professional beekeepers were the main source of bee-knowledge to the group.

On the 6<sup>th</sup> March 60 members and children turned up for a meeting whose theme was varroa and disease. Sam Miller, from Northern Ireland, was the guest speaker and ran through the problems of varroa in Europe emphasising that New Zealanders should learn from European experience of the parasite. He predicted that because of the longer honey season and more active bees varroa resistance would take hold in NZ at a faster rate than it had in Europe. I was startled to be invited to make a few comments and managed to remember some statistics about losses in the UK and about the DNA evidence that most of the viral and Fungal diseases killing off colonies were not new but had been around for at least 35 years and were opportunistic killers taking advantage of the lowered immune system that varroa infestation had caused. (Thank goodness I read my BeeHolders)

Then it was the turn of five of the semi-professional beekeepers who gave a sort of "topical tips": little tricks for adding formic acid, cleaning hives and opening hives. Sam and I particularly liked a pair of metal handles which President Jeff Robinson uses for introducing boards between brood or supers boxes. See picture below.



Sam Miller from Northern Ireland looks on as president Jeff Robinson demonstrates the Board insertion tool

The distance between the flanges was just a bit more than the width of a clearing board. One is put on one side of the hive and another on the opposite side. The Clearing or Crown board can then just be slipped between and the pair of tools then removed. The boxes need not be lifted from the hive and the whole operation can be done by one person. Sam and I were most impressed, so simple, just why had we not seen something like that before?

I think our MBKA would benefit tremendously by actively recruiting the local professional and semi-professional beekeepers into our association. Like their NZ colleagues our semi-professionals are full of little gimmicks that one can never find in books.

Another “topical-tip” was a way of selecting queens for good hive hygiene behaviour. Take the top of a yogurt pot and press into an area of capped brood on each of your hives. Within the circle of brood prick each cell with a pin. Close the hives and examine again in two days and four days. The hive where the most cells have been cleaned out has the queen with the best “hive hygiene genes”. This is the queen that should be used for stock increase. During the afternoon I met a retired lecturer in zoology (whose father was a beekeeper in Staffordshire) and we mused together whether there was enough time for selection of hygiene behaviour to be of use in combating the ravages of varroa or whether the mapping of the genome of *Apis cerana* and the transfer of the gene for grooming behaviour from *Apis cerana* into *Apis mellifera* might be a far more certain and quicker way of saving the honey bee and western agriculture.

When it was time to open the hives all four were opened together with many members viewing the hives without protection and four young children playing between the hives also without veil

or gloves on. How I envied the docility of the Italian bee. All the operations were made so easy. But Sam and I told the members we had never seen such a high degree of varroa infestation in the UK. Varroa mites everywhere. One frame was of recently introduced foundation. There was a patch of drawn comb about 10 cells by 10 cells on both sides. On one side the drawn comb contained some brood larvae. Although there was no evidence of varroa on the brood there were varroa mites crawling over the undrawn foundation. However, on turning the frame over one could see the varroa underneath each of the larvae on the opposite side. The quality of light in the UK is rarely such that we can see such things. I remember so many of our MBKA apiary visits where members struggle, even on a sunny Welsh day to see what is going on!



White at 7.30 to clump of bees is larvae on opposite side of frame with varroa seen feeding at the bottom of the cells.

A good learning experience for this Welsh and the Irish visitor.

Arthur Finlay

**I have cut Arthur's report on his NZ experiences on the grounds that his photos are self explanatory.**

**ED.**

## Why imported queens?

The reason for leaving the BBKA and all associations in it ten years ago was the simple reason of the amount of unnecessary drivel that is talked about in the bee world. A prime example is the forever trying to find the best bee for use, the British black bee. Well ladies and gentlemen, the fact is quite simple:-it never existed as you all would like it to have done. In the mythology of British beekeeping you have all seen the pictures of the veil-less beekeeper or the lady with only the long flowing dress on tending the bees. Well for any class of beginners I can do the same thing, weaken the stock, subdue it prior to the class or photograph and low and behold a calm easily manageable stock!

Many people ask me is there a problem with bees? Are they dying out? Are they disappearing, will they survive? I normally answer that despite the beekeeper, they are all doing fine, however, something is wrong and losses are up. So what are we doing about it? Breed our own? So how can someone think they can change the bee in half a life time, when they have been around for the last 35 million years in their present form? Can anyone argue that the person with the most time and experience was the late and dare I say the great Brother Adam. Anyone who cannot see that he and he alone on this island had the best chance for finding the British black bee and failed are simply living in cloud cuckoo land. Please read the book "Breeding the Honeybee" by the man himself and you will find the quote "You cannot breed something that never existed"

I cannot believe people in today's climate of bee losses; because their stocks get a little larger than they have seen before and thus the bees defend themselves more readily, they destroy the stock, yes destroy the stock and blame the aggressive bees. Not that they are not used to handling large colonies or that it was the wrong time of day to go messing with the bees, or simply that they have had the colony exposed to the outside world for so long so they can find the queen for the fourth time that week, no its the bees that are aggressive, so destroy. No ladies and gentlemen there are times bees get a little feisty, sometimes a little moody but never a bee that deserves to die because of a bad beekeeper.

I run a fair number of stocks so I don't have time to play with Mother Nature and create the "ultimate bee", so I import mated Carniolans (Carnica) bred with Italians. These are black queens that keep a very tight brood nest; I have found these to be the best in our climate even with the changes going on under our very noses today (I won't bore you with the statistics and characteristics of the breed, please if you have time, read up on them yourselves.) All I can say is that I put a nuc. of five frames with a new queen in a national hive, six feet away from the established Branch hive and it produced 67 lbs of honey to the branch hives 34 lbs. Was that better beekeeping or a better bee? The Branch members inspected that colony when they did their own.

Mr Oliver Field once suggested that I breed my own queens and I pointed out that I can't get mated queens in this country soon enough to replace losses or increase my stocks. I need to

continuously expand, (have you seen the price of fuel?) and where on this island can you isolate? Unless you artificially inseminate! You cannot secure breeding. Now if the Carniolans supersede they are at least 50% Carniolan x Italians and within three years are normally replaced. So if and when I produce a batch of queens, I know at least their heritage back one generation.

What I am trying to say with all this, is that what people want are bees, new people coming into beekeeping want bees, not hours of needless talk about the latest bee that can overcome *Varroa* after destroying how many colonies because of not treating and infesting (if that's the right word ) hundreds of colonies locally; or the locally produced queens that are the best in Wiltshire or Yorkshire or the Outer Hebrides but they can't have them, because the local queen breeders had a off year and only produced three in Wiltshire BKA. February August and maybe next year with a bit of luck you might get a queen to head a colony that they may get. They want a colony or a nucleus now or at least in May so they can start beekeeping.

So I might be an importer of queens and an enemy of the state but I can at least provide a nucleus of 100% Carniolans x Italians in May to produce a colony of honey producing, mild mannered bees, that are used to a climate very close to ours. By the way, each batch of queens are inspected by the National Bee Unit for any disease prior to introduction to the UK and the attendant workers destroyed.

*Terry Cooke*

**Kennet**

**I am sure that many of you would like to comment on Terry's article! Please put pen to paper and let me have them.**

Ed

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## Stopping the Waggle Dance

ALL beekeepers know that bees use the waggle dance to indicate to their fellows where to find rich sources of nectar and pollen, but did you know the display can be stalled by headbutting the dancer? James Nieh, an associate professor of biology at the University of California in San Diego, says the rude interruption can serve as a warning that the journey could be too risky – if, for example, the foragers had been attacked by rival bees.

The stop sign involves the warning bee vibrating at about 380 times a second for perhaps a tenth of a second, butting or climbing onto her 'victim' for added emphasis Prof Nieh said this signal and its effect had been observed before, but until now no one had established a 'clear natural trigger' for it. His findings, reported in ***Current Biology***, resulted from experiments on honey bees that were attacked by competitors while foraging for food at an experimental feeder.

BeeMail Feb 2010

# Honey Bees fight Back!

Honey bees are now fighting back aggressively against Varroa mites, thanks to Agricultural Research Service's (ARS) efforts to develop bees with a genetic trait that allows them to more easily find the mites and toss them out of the broodnest.

The parasitic Varroa mite attacks the honey bee, *Apis mellifera* L. by feeding on its haemolymph, which is the combination of blood and fluid inside a bee. Colonies can be weakened or killed, depending on the severity of the infestation. Most colonies eventually die from varroa infestation if left untreated.

Varroa-sensitive hygiene (VSH) is a genetic trait of the honey bee that allows it to remove mite-infested pupae from the capped brood, ie developing bees that are sealed inside cells of the comb with a protective layer of wax. The mites are sometimes difficult for the bees to locate, since they attack the bee brood while these developing bees are inside the capped cells.

ARS scientists at the agency's Honey Bee Breeding, Genetics and Physiology Research Unit in Baton Rouge, La., have developed honey bees with high expression of the VSH trait. Honey bees are naturally hygienic, and they often remove diseased brood from their nests. VSH is a specific form of nest cleaning focused on removing varroa-infested pupae. The VSH honey bees are quite aggressive in their pursuit of the mites. The bees gang up, chew and cut through the cap, lift out the infected brood and their mites, and discard them from the broodnest.

See this activity on video at:

[www.ars.usda.gov/is/br/bees/index.htm](http://www.ars.usda.gov/is/br/bees/index.htm)

This hygiene kills the frail mite offspring which greatly reduces the lifetime reproductive output of the mother mite. The mother mite may survive the ordeal and try to reproduce in brood again, only to undergo similar treatment by the bees.

To test the varroa resistance of VSH bees, the Baton Rouge team conducted field trials using 40 colonies with varying levels of VSH. Mite population growth was significantly lower in VSH and hybrid colonies than in bee colonies without VSH. Hybrid colonies had half the VSH genes normally found in pure VSH bees, but they still retained significant varroa resistance. Simpler ways for bee breeders to measure VSH behaviour in colonies were also developed in this study.

*From The Scottish Beekeeper, Courtesy E-Bees, November, 2009*

...."For those of you with black and white television, the blue ball is positioned right behind the pink" Ted Lowe

For this second edition in 2010 again NO COLOUR inside the Hardcopy of the BeeHolder. However on the web and Pdf edition it is in glorious COLOUR throughout. When Chris Leech reports a substantial increase in those using the website then I will revert to two extra pages of colour inside. Does that sound manipulative or even F...ist? Well that is no more than the social engineering we impose on our bees.

[www.montybees.org.uk](http://www.montybees.org.uk)

## The buzz on Klinker – Maryland’s Bee Dog

Sniffing out harmful bacteria in bee colonies is a full time job for Klinker — “our newest employee,” said William Troup, an apiary inspector with the Maryland Department of Agriculture. A black Labrador retriever trained late in 2009, Klinker is part of the department’s strategy to detect diseased bee colonies. Specifically, she’s looking for American foulbrood, the most common and destructive bacterial disease facing Maryland’s honeybees.

Klinker’s normal workday consists of walking along rows of hives. When she smells bacteria, she sits, alerting her handler. Since the 1970s, U.S. beekeepers have reported a shrinking bee population because of bacteria, disease, pesticides and parasites. Some of those factors might also contribute to Colony Collapse Disorder, in which worker bees abandon their hive for no known reason.

“If it were not for the honeybees, there would not be enough food on Planet Earth to support life as we know it,” said Jerry Fischer, who is in charge of the state’s Apiary Inspection Program. “Early detection of the disease by Klinker and Troup will save Maryland beekeepers substantial monetary loss from eradication of diseased bees and destruction of infected equipment.”



Clinker with handler William Troup.

A trained hive-sniffing dog such as Klinker can inspect 100 honeybee colonies in about 45 minutes, far more than humans, who inspect fewer than half that number in a day. Klinker, who is 18 months old, is the fourth bee dog to serve in the department. In the late 1970s, Maryland became the first state to use dogs to detect disease in honeybee colonies, and it is the only state to keep a full-time “bee dog” on its staff.

Adapted from article in Washington Post March 5<sup>th</sup> 2009

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## Bee Inspectors News

At the time of going to Press the data for winter losses have not yet been compiled so it is too early to get the picture of the 2009/2010 winter . SBIs John Beavan and Peter Guthrie will give details when they have them. They would still like to inspect losses if people want to get in touch with about it, particularly if there are a few dead outs.

Regional Bee Inspector John Verran is retiring in April . His replacement has not yet been selected. I know I speak for the whole association when I extend a thanks to John for all his help to us and to wish him a fulfilling retirement.

# Drone congregation areas

July 1, 1792

*'There is a natural occurrence to be met with upon the highest part of our down on hot summer days, which always amuses me much, without giving me any satisfaction with respect to the cause of it; & that is a loud audible humming of bees in the air, tho' not one insect is to be seen. This sound is to be heard distinctly the whole common through, from the Moneydells, to Mr White's avenue-gate. Any person would suppose that a large swarm of bees was in motion, & playing about over his head. This noise was heard last week on June 28th.'*

*Gilbert White, 'A Natural History of Selborne'*

The above writing is believed to be the earliest known reference to what we now call a drone congregation area. (DCA)

Although a lot of research has been carried out into drone behaviour in DCAs, no one has yet satisfactorily explained why the DCAs occur in certain places, and even more mystifying, why they persist in the same places year after year. (The DCA referred to by Gilbert White is still in use today.

Virtually all drones die in the previous autumn, so how do the new drones know where to go? Light distribution and the contour of the horizon seem to play a part in choosing a site (Pechhacker 1994) and Zmarlicki and Morse determined that most DCAs seem to be located over an open area of land of about a hectare, protected from strong winds. Obstructions such as high buildings and tall trees are avoided, but not all open spaces are used. The flyways connecting the DCAs tend to follow lines of trees or hedges, etc. There may be several DCAs adjacent to each other. One study showed that a 10 sq k. area next to an commercial apiary contained at least 26 DCAs and 18km of flyways. Based on radar images a DCA was defined as an area approx. 100m in diameter, where the drones fly at a mean height of 25m-it depends on wind velocity. The stronger the wind, the lower the drones fly.

## POETRY BREAK

The night is still young and our drinks are yet long,  
The fire's burning bright and here brave is the throng,  
So now I will sing you a sooth little song  
Of the busy brown bee - with a ding and a dong.

—J. R. R. Tolkien, *Natura Apis (A drinking song)*

Many drones seem to stay faithful to one DCA, but may visit another in the same general direction. Two to three miles seems to be an average distance for a drone to fly, but they have been known to travel up to 5 miles. For a queen rearer wanting pure matings from a mating apiary, it seems that this is the minimum distance there must be from any other hives, or else a physical barrier of 500m or more must be present. The parentage of a sample of drones was tested in Germany in 1998, and the conclusion reached was that all the colonies in the area seemed to send roughly the same proportion of delegates to the meeting, thus minimising the chances of inbreeding. (C.Collinson, *Bee Culture*, Sep. 2008) Because mating takes place in flight, it is difficult to observe.

Modern technology such as radar, combined with the technique of tethering a virgin queen to a moving line, has shown drones detecting a virgin forming a long comet-shaped tail behind her. Recent studies have shown that the drones find the virgin primarily by smell. One of the components of queen substance, called 9-ODA, attracts drones during mating flights. (Apis UK, July 2008). However, it has also been noticed that drones will momentarily chase anything that moves, butterflies, dragonflies or a thrown stone, so presumably eyesight plays a part as well.

Drones have to be very fit and well developed to mate with a queen. In addition to the excellent flying power needed to catch the queen, they must have ample supplies of spermatazoa, as only a fraction of each ejaculate will migrate to the queen's spermatheca. (Woyke and Jasinski, 1973) In a series of studies made by Duay et al, in 2002, it was shown that the effects of parasitism by Varroa destructor in the larval stage, could seriously affect the drones ability to mate. A significant reduction in drone body weight resulted from invasion by only one female varroa mite, and two or more mites reduced drone life expectancy so much that sexual maturity was seldom reached. Varroa parasitism by only one mite hardly affected flying power but sperm production was reduced by 24%. In those drones that survived, two female mites invasion resulted in greatly reduced flying power and a sperm reduction of 45%. Other interesting facts to emerge are;

(a) Drones like it hot. Flying to a DCA and gathering enough drones to form a comet only occurs at 18C or above.

(b) They are very good time keepers, generally flying between 2.00pm and 6.00pm This varies according to the weather.

(c) Drones returning to the apiary outside these times were not interested in a queen.

(d) Maximum flight height in flyways is 21m, but in DCAs it can reach 50m.

(e) Drones can make several trips to a DCA in an afternoon, returning to the hive to refuel when necessary. Each mating flight lasts about 30 mins.

(f) The number of drones in a DCA can vary enormously, from hundreds to thousands.

(g) Usually, 7 to 11 drones will mate with a queen. About 90 million sperm will be deposited in her oviducts, and a mixture of about 7 million of them will be stored in her spermatheca

## **Mating**

The actual process of mating has now been documented quite thoroughly. drone mounts a queen and inserts his endophallus and ejaculates his semen. During ejaculation he falls backwards and his endophallus is torn from his body, remaining in the queen. Any subsequent males mating with the queen dislodge the previous drones endophallus and leave their own in its place. The drones die quickly with their abdomens ruptured in this fashion. The queen returns to her hive still carrying the endophallus of the last male to mate with her. Beekeepers call this the 'mating sign' It will be removed by the nurse bees. The process is described very clearly in 'The Biology of the Honeybee' by Mark Winston.

## The Down-and-Out.

Once the mating season is over, the 'raison d'être' of the drones is gone. Only in queenless or very well provisioned colonies will some be allowed to overwinter in the hive. There is no sentimentality in nature, and drones with no function to perform are simply a drain on valuable resources, ie honey stores. In the autumn they are refused entry to the hive, or have their wings bitten and are forcibly ejected, to die of cold and starvation.

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'Beekeeping' by Kim Flottum.

'Pheromones of the Social bees' by John Free.

'The Honey Bees of the British Isles' by Beowolf Cooper.

CORNWAL JANUARY.

*And why is understanding of drone behaviour so important? Understanding drones may well be the key to controlling varroa. Drones range over a 5 mile radius. Workers range over a 3 mile radius. Drones are tolerated , even welcomed in strange hives. Worker bees are prevented from entering starange hives unless they have a full load of honey. For the varroa mite to spread it needs to defferentially lay in drone cells . This behaviour has evolved within the primary host/parasite, that of apis cerana/Varroa destructor. Those who keep the Honey Bee, Apis mellifera, have long noticed the preference for varroa to lay in drone cells. This has lead to the destruction of drone cells becoming an indicator of varroa infestation . Stimulation of the queen to lay whole frames of drones which are then destroyed is now a regular part of Integrated Pest Management IPM.*

(ED)

## Stop Press.

I put this BeeHolder together whilst away abroad. The report on the Will Messenger meeting (page 8) was slotted into a space already dedicated to it and was after the deadline of 18<sup>th</sup> March. Secretary Dave Bennett sent me an email railing at the poor attendance for the interesting meeting (lower than the figure given by Chris). The weather was reported to be good, the speaker is well known on the lecture circuit and the subject fascintating. There were no alternative amusements on that evening in Montgomeryshire. Even if the speaker had been rubbish there is a lot of beekeeping knowledge that can be obtained over tea and cakes. That is how I learnt my beekeeping, by listening to other MBKA members discussing their problems over tea. Poor attendances not only disheartens the committee but are ultimately bad for our bees. If members think that the committee has the wrong attitude....well a coup would be preferable than poor attendances!

(in exasperation ED)

**The next edition of the BeeHolder is in July 2010.**

**Copy for inclusion should be sent, preferably by email, to the Editor by June 16<sup>th</sup>**

A sterilising tank used for sterilising hives.

“We don't scorch in New Zealand. We dip in a heated mixture of paraffin and bees wax.”

The double walled insulation tank is heater by propane to 150° C. The lid was also insulated. The process not only sterilises but protects the wood by waterproofing it.

Would this work in the UK's wetter climate?



Hobbyist group apiary with the group's storage hut. Double broods on each hive. The hive second right was the "ladies Hive" with a  $\frac{3}{4}$  depth brood boxes.

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