



**MONTGOMERYSHIRE BEEKEEPERS
ASSOCIATION**

The BeeHolder

July 2009



The theme of this edition is Education.
We are teaching children about bees
and how to handle them with confidence.

CONTACTS:

PRESIDENT	Jim Crundwell
CHAIRMAN	Douglas Wood
TREASURER	Roy Norris
SECRETARY	Jessica Bennett
PROGRAMME SECRETARY	Graham Winchester
'BEEHOLDER' EDITOR	Tony Shaw
SPRAY LIAISON OFFICER	Bill Gough
EQUIPMENT SUPPLIER	Brian Norris
SWARM. CO-ORDINATOR	Roy Mander
NEW MEMBERS' REPRESENTATIVE	Julian Kirkham
COMMITTEE MEMBERS	Ralph Mills
	Joe Bidwell
SEASONAL BEE INSPECTORS (April to September inclusive)	Peter Guthrie John Beavan
REGIONAL BEE INSPECTOR	John Verran

To arrange for a visit by a Bee Disease Officer,
contact John who will make the necessary arrangements

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



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FORTHCOMING EVENTS

July 20 - July 23 rd Monday to Thursday	Royal Welsh Show, Bee Section in South Glamorgan Hall, Royal Welsh Showground, Llanelwedd, Builth Wells
July 26 th Sunday 12.30pm	MBKA Apiary Visit by coach Attingham Park for Skep beekeeping in a Traditional English Garden then to Shropshire BKA Apiary
August 14 th /15 th	Shrewsbury Flower Show MBKA have a stall in the Bee Section which is run by our neighbours the Shropshire Beekeeping Association
September 5 th & 6 th	Food Festival at Glansevern Hall, Berriew Bee Stall run by MBKA
September 20 th Sunday 2.00pm	MBKA Apiary Visit Host Bill & Carol Gough in Newtown contact MBKA secretary for details
October 22 nd Thursday 7.00pm	MBKA meeting Tony Spacey of Little Over Apiaries TBC Health and Safety issues for the Amateur Beekeeper Plas Dolerw , Milford Road Newtown
November 26 th Thursday 7.00pm	MBKA meeting Peter Gurthrie SBO End of Year and planning for the next. Plas Dolerw , Milford Road Newtown
February 18 th Thursday 7.00pm	MBKA AGM PLAS DOLERW Plas Dolerw , Milford Road Newtown

PLEASE NOTE

The main subject of the Apiary Meetings will be dependent on the weather during the previous few weeks

Teas

A Pool Tea System operates for Apiary Visits: please bring along something to eat by way of a contribution.
To assist with planning numbers etc it will be appreciated if those proposing to attend would telephone the
hosts in advance to let them know they will be coming.

**The theme of this edition is Education and Training.
Training ourselves, the next generation of beekeepers
and training bees themselves.**

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BRIAN NORRIS

FOR ALL BEEKEEPING
EQUIPMENT
AGENT FOR THORNES

HIVES IN DEAL AND CEDAR

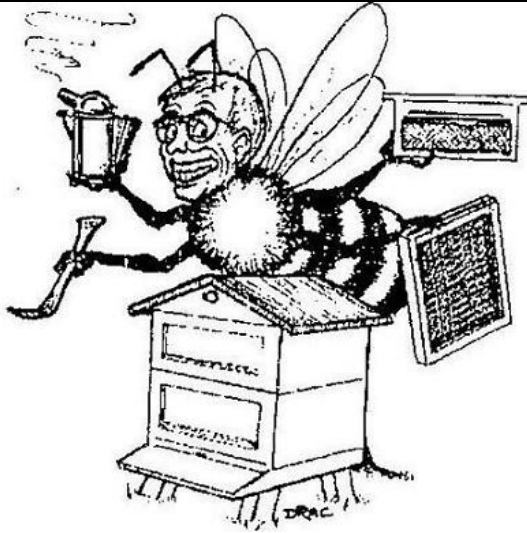
DISCOUNTED ON CERTAIN ITEMS
FOR ASSOCIATION MEMBERS

CATALOGUE AVAILABLE ON
REQUEST

Address: Little Garth, Garth
Lane

Bettws, Newtown
Powys, SY16 3LN

Telephone: 01686 625250



The BeeHolder July 2009

Editorial

In common with many Beekeeping Associations (BKAs) our membership is up and our finances secure. We all have to thank the media for keeping the subject of bee-health on the boil. At last the public is recognising that the health of bees is an indicator of the health of the environment: that bees are like the canary in the coal mine. Joining a BKA is perhaps like setting down a marker that one is environmentally concerned.

In the last three months we have given more bee talks, to schools, WIs and local "Shows", than anyone can remember. Our displays have got better and our presentations more sophisticated. We have found, hidden away in attics and workshops, beneath layers of dust and guilt, a wonderful array of teaching aids. We have added to this stock of teaching aids: we have invested in a virtual hive made up of full scale photographs of bee-covered frames fitted to actual frames (see photo front page). We can now demonstrate opening a hive, looking for the queen, seeing eggs, larvae and capped brood without the need to don protective clothing or exposing people to the risk of being stung. It really does give confidence. But of course, there is nothing like the real thing. We have taken some prize winners of a class Bee-project to an Apiary and taught them to handle frames of live bees. The parents were as enthusiastic as the children, but our safety equipment was exposed as being woefully inadequate (*see back page, 20*). It is obvious that we need to invest in children's bee-suits. There is money out there: it is just a matter of identifying which organisations would give to the worthy cause of encouraging and training the next generation of bee-keepers. There is a knack in pleading for money: one has to understand the particular nuances which will pass the various selection criteria. Some people are just naturally very good at it. If you have this skill please please volunteer to help.

How nice to see so many MBKA members at the Bee Disease day organised by Shropshire Beekeepers and the bee inspectors from the Western Region. The highlight for us all was a workshop where we had to don bio-security outfits and examine diseased combs. We've all read the books, seen the pamphlets, maybe attended lectures but nothing nothing can outdo actually seeing and smelling the diseases. Our continuing education is the best investment we can make towards the survival of the bee and our shared environment.

I had 3 contributions reporting on MBKA activities in promoting beekeeping for schools. It is the lot of the editor to choose, or edit. In the case of the contributions from Caroline Davies from CAFE and our own Joe Bidwell, both their articles covered activities in the Newtown area and I've done a cut-and-paste to make a single article. Neither party will thank me for interfering with their contribution. I have deliberately left the report full of details because other BKAs (who read this Magazine) may wish to share our experience when planning their own school/library events. We must thank Joe for organising our Newtown Library Exhibition and Caroline for introducing us to 7 primary schools in the Newtown area and guiding us through all the legal and bureaucratic palaver.

Tony Shaw July 2009

We welcome as new members

William Smirk, Meiford, and a rejoiner Marilyn Watkins, Montgomery.

As usual the Data Protection Act prevents my publishing emails and addresses of members, but I can recommend the local telephone directory.

Next Meeting

The next MBKA event will be a coach trip to Attingham Park and to see bee-keeping in the past (skeps and all that) and Radbrook College which houses the teaching apiary of Shropshire BKA. Here our old friend Brian Goodwin will show us round the apiary and introduce us to the bees. The day ends with dinner at the Mermaid Hotel. Secretary Jessica will no doubt pin name labels on us all to encourage bee-talk all the way there and back. So far, no one has objected to the labels, indeed increased attendances (over 50 at the last apiary meeting) attests to the fact that encouraging bee conversations is popular. Jessica needs numbers and money by 10th July. The cost of £15 covers all fees, travel **and the dinner**. That's really very good value. The cost of the meal alone is normally £20 ! We negotiated very hard and decided to subsidize because it is environmentally correct to travel together and it's more fun and productive.

The coach leaves Back Lane Car Park, Newtown 12.30pm and picks up from the car park by Spar, Welshpool at 1pm. Contact Jessica for more details and booking.

Report on Meetings

Roy Norris' **May Apiary Meeting** was cancelled due to quite appalling weather

We were going to have Nigel Jones of the solitary Bee Unit come to show us live solitary bees around the garden and in the houses which MBKA members had sent to Roy's apiary. We will have to make do with this picture of Red Mason bees (*Osmia rufa*) which have colonised one of the houses sent to Roy.

The bees have made their home in an old piece of hard oak which was covered in a layer of ancient whitewash. Some of the holes have already been filled and sealed by the bees.



Red Mason bee *Osmia rufa*

Midsummer (June) Apiary Meeting

Our June apiary meeting was held on midsummer's day at the glorious garden of Dr. Beverley Evans-Britt at Capel Deildre, which she has expertly tended for 40 years. Tony Shaw uses it as an out-apiary and keeps 3 hives of bees there and our visit coincided with the opening of the garden to the public through the National Garden Scheme (NGS).



BBC Wales camera-man filming "Gardening in Extremes" with weatherman Derek Brockway and gardener Dr Beverley Evans-Britt. The extreme in this case was growing plants at 1350'. The height is a challenge for beekeeping too as our apiary visit demonstrated: one hive was dying of starvation and had to be rescued. The other two hives were thriving.

A goodly number of Montgomery Beekeepers Association members attended and offered to steward the NGS event. They set up an impressive display of photos, equipment and information, 2 observation hives with live bees, and the new "virtual" hive. Then they were on hand to answer questions on beekeeping from visitors, from whom there was much interest and also concern about the decline in honey bee numbers.

The garden itself is beautiful, with wonderful views over Llyn Clywedog and the surrounding countryside. The borders were full of colour, perfume and the constant hum of bees. The plants were vigorous and healthy, generously nourished by copious amounts of home-produced compost. Visitors wandered the garden, enjoying the planting schemes and the views, and were then treated to a lavish afternoon tea.

MBKA members manned the plant sales stall where customers were encouraged to purchase bee-friendly plants to take home to their own gardens. The most popular were *Thalictrum aquilegifolium* (Meadow rue), *Astrantia major* (Masterwort) and *Polemonium caeruleum* (Jacob's ladder) – all very attractive to bees and gardeners alike. The proceeds from the plant sales (*nearly £300 Ed.*) will go towards the purchase of bee suits for children, to safely educate and encourage our next generation of beekeepers, who will be vitally important.

After the public had left, Joe opened the 3 hives and Tony was particularly keen for our new members to be actively involved, to gain experience in handling their own bees.

Then it was time to enjoy a delicious barbecue, beautifully cooked by Dave and Jessica, giving members the opportunity to relax and socialize. The weather was kind and we had a

most memorable and successful day, giving a great deal of pleasure to everyone who came.

Carol Gough

Newtown Library Exhibition and aftermath.

I hope that most of you went to see our very successful exhibition in the Newtown library during April. We managed to borrow the WBKA display stand and a quantity of top class photos plus the really excellent ones taken by Jessica and David Bennett. Jim Crundwell provided some really interesting old posters and equipment including a straw skep, and the Co-Op provided us with a quantity of packets of wild flower seeds which we gave away to children who visited the display.

The highlight of the show, however, was the two days of demonstrations of bee-craft to classes from local Primary Schools. Visits to the library had been arranged by Caroline Davies of the CAFE project (Children, Agriculture, Food & Education). Caroline helped us to overcome the hurdles of risk assessment and smoothed the path with those who can authorise these things. After all, we were talking not only about getting live bees into a public place, but also over



200 primary school pupils from the five schools in and around the town centre (Penygloddfa Junior, St Mary's RC Primary, Hafren Junior, Ladywell Green Infants and Ysgol Dafydd Llwyd)

At the end of the two days the children had dressed up in beesuits, examined hive equipment, tasted several types of honey and experienced seeing (and in some cases touching...shh) live bees. Of course we were also "educating" the teachers. We had taken along the Bee educational resources binder and Caroline invited the teachers to look through it and sent them photocopies of all the sections they had highlighted the following week. Our three MBKA demonstrators, Jessica, Tony Shaw and Graham Winchester, were thoroughly exhausted but pleased that other schools had asked for the team to visit with their "performance" and, of course, their bees.

Arrangements for the exhibition were harder than we had imagined. We found it difficult to work out whether our insurance covered taking live bees outside our own apiaries and we found the legislation about "Risk Assessment" sheets very hard to understand. In the end everything turned out well. We were somewhat pleased when a few weeks later we got a phone call from Peter Guthrie, the Seasonal Bee Inspector asking if we would send the Risk Assessment Sheet to Brecon & Rad BKA so that they could use it for a similar library exhibition that they were holding.

One teacher asked us to judge the Bee project she had given her class. The efforts were of exceptional high standard; far better than I think I could have done at 8 years old. We

decided to give a prize of an apiary visit to the best three. Again officialdom and bureaucracy had to be considered: one cannot just invite a child to see bees. Each parent gave written permission, and each child was accompanied by a parent or grandparent. We were lucky to have our Eifrion Thomas come with 3 children's beesuits. As headmaster of Aberhafesp Primary School he had the easy confidence and authority of supervising the dressing of the children and putting them at

ease. The rain relented for a couple of hours during which Graham Winchester showed the children his bee equipment and then opened his hives and encouraged the children to hold some frames. Each child was presented with a MBKA certificate saying they had handled live bees, and, as we guessed, they proudly showed these to their class-mates the next day. We had already asked each parent whether we could use pictures for publicity in the local paper or our magazine. Each had agreed. We then made a point of asking each child whether we could use their picture. After each had agreed we laboriously asked each parent whether it was indeed OK "....obviously it is up to you to make the final decision". Many simple procedures during the afternoon took seconds to perform yet took ages of planning. The children learnt a lot about bees: we learnt a lot about introducing children to bees. We would like to take this opportunity of thanking the staff of the Newtown Library for allowing us to use the foyer for our Exhibition and especially for their tolerance of all the noise the children inevitably made. We did find a way of reducing the noise: the children were told that the queen would hide if there was too much noise around her. A little boy in one group who were round the Observation hive approached some excited children at the honey-tasting table. "...be quite" he said sternly "we cannot find the queen".

Maesyrrhandir Primary School, Newtown, was one of the Schools that had requested a MBKA visit and Caroline was able to arrange this on 15th June. We came up with a 'Bee Discovery Day' with their 217 pupils plus of course, some very interested adults, teachers and teaching assistants, who



were learning with the children. It started with a 20 minute presentation to the whole school at the morning assembly. We had to rush through each class through 4 different types of bee- within the tight schedule. Next time though we will not be quite as ambitious in terms of throughput. related activities: the observation hive, the bee suits, the empty hive and spinner and honey tasting – run by Arthur Bennett fresh from his GCSEs!. We could not always do all the activities

Speaking educationally the teachers were interested because we were able to point out how Bees linked in to so many of their National Curriculum topics about homes, food, habitats and the new agenda for ESD (Education for Sustainable Development). We learnt a few more acronyms doing this – education seems to breed them! Clearly there would be interest in doing more – if we have the energy of course.

**Caroline Davies (Cafe Project) & Powys Council's School Farm Visits Officer and
Joe Bidwell MBKA education officer.**

This has been a cut-and-paste, see editorial (Ed)

MBKA visit to Churchstoke Primary School

“Fantastic! Amazing! Completely fascinating!” Those were just some of the comments from my teaching colleagues following a recent visit to school by the association’s new demonstration hive; the children, of course, were equally excited and enthusiastic! A beautiful sunny morning enabled us to use our outdoor classroom area which meant we could light a smoker and do a ‘real’ hive inspection with children dressed in suits and gloves, making the sessions more realistic than if we had been indoors.

I had already done a mini-topic on bees as part of our local harvest study last autumn with my class (9-11 yrs), so the hive provided an excellent opportunity to revise and extend the children’s understanding. The infant children are studying ‘minibeasts’ this term and had spent two days learning about bees through a range of multisensory activities prior to the hive session. Both groups were totally fascinated with every aspect of the session and I was impressed at how quickly they behaved like real beekeepers, handling the frames confidently and talking about what they could see. Spotting the queen and queen cells on the frame proved great fun.

We ended the sessions by opening a jar of my spring honey (thank goodness it’s been a better year!) and having a taste; it was surprising how many honey-haters were converted to the ‘real’ thing and came back for a second helping.

Excuse the pun, but there was a real ‘buzz’ in the staffroom when we had finished; two members of staff are now seriously considering taking up beekeeping with their children and will hopefully be able to attend the association’s final apiary opening in September to experience live bees.

Overall impressions? The virtual (demo) hive is a brilliant teaching tool which makes the life of the honeybee and beekeeping accessible to a wide age-range of children (and school staff, too). With thoughtful preparation and follow-up activities, it offers teachers an excellent opportunity to bring learning alive and MBKA the chance to get some important messages into schools and encourage a new generation of apiarists. Many thanks from all of us at Churchstoke School, especially to Brian Norris for loaning the bits and pieces to make a complete hive and to Bill Gough for bringing the hive in and answering the children’s questions. Now, of course, the children are clamouring to see some real bees next time...!

(Cover picture shows use of virtual hive at Churchstoke School)

Liz Farrington.

The MBKA Web Site

The website is up in a prototype stage. We are having discussions about privacy and legalities. We will resolve these problems, please be patient.

Please look at www.montybees.org.uk and then comment to Chris Leech bazaljett@yahoo.co.uk . The site belongs to us all so please help us develop it with your comments and suggestions.

Beebores (New Beekeeper reports on her first days as an MBKA member)

The fateful words “why don’t we get some bees?” were uttered quite innocently. I can’t remember who first suggested it, but the touch paper was well and truly lit and it’s been all go since then.

Myself and one of my oldest & closest friends Christine are both consciously trying to become more self sufficient and be more environmentally aware and often have lots of good but totally impractical ideas on how we can achieve this, but beekeeping seemed relatively attainable...or so we thought! After doing our own research on what would be involved we decided we had better have a go at handling some bees to see if we had enough courage to do it. Not minding a few bees going about their business in the garden is one thing but 20,000 plus in close proximity is a whole different ball game.

The internet was our first point of call but the closest BKA we could find was Shropshire. As we were debating how far we would be willing to travel, fate and the County Times intervened. “MBKA AGM at “Plas Dolerw”, Newtown. New members welcome!” It’s obviously meant to be we decided and waited anxiously for the meeting.

We didn’t know quite what to expect when we got there but were encouraged by the mix of old and new beekeepers and the amount of people there. Unbeknown to us this was a surprise to everybody else too!

Even with all our previous research the people at the meeting seemed to be speaking in a different language. What were we letting ourselves in for? But by the end of the meeting we had chatted to a lot of different people, found somebody local who sold beekeeping equipment, had been invited to observe a hive being opened up after Winter and signed up for a training course with Brian Goodwin.

Phew! It was hard work but with determination and arm twisting things were moving on. Now most of the conversations between Christine and myself seem to consist of anything bee related. “Where can we get some second hand hives?” “How would we treat for Varroa?” “Who do you know that would buy honey from us?” “Can we make candles?” Yes we were definitely becoming “Beebores”, but our enthusiasm was growing and not diminishing.

We attended and thoroughly enjoyed the training day with Brian Goodwin. After over 70 years as a beekeeper he kept us entertained with lots of information and anecdotes and we came away with plenty of handouts for future reference. The next day we went along to an apiary visit hosted by John and Brigit Newbury. They are new beekeepers too and wanted advice on where to site their hive when they get it. We thought we could only benefit by going along and how right we were! While we were enjoying a lovely tea Graham Winchester very kindly offered to loan us a hive and equipment to set as a bait

hive to catch us some bees! This was a great helping hand until we can get more equipment together and is much appreciated. We've also been for a visit to Graham and Jean's apiary to have a go at handling some bees. Hopefully we behaved ourselves and didn't upset the bees as nobody was stung. It was one of the most interesting things I've ever done and as Christine said "the time whizzed by"

My advice to established beekeepers is to be friendly and offer lots of advice. Make any old or redundant equipment available. We need your experience and knowledge to help us keep this essential pastime alive.

And my advice to any new beekeepers is to join your local BKA, go along to meetings, apiary visits and social events. Ask lots of questions and be a bit cheeky and ask for old equipment either to borrow or buy. And the main thing I've learnt so far is that there doesn't seem to be a right or a wrong way in beekeeping just your own way! All we need now are some bees!

Alisa Cakebread

Rare bumblebee coming back to UK

Bumblebee numbers have been dropping around the world but a bumblebee which is extinct in the UK, is to be reintroduced from New Zealand. The short-haired bumblebee was exported from the UK to New Zealand on the first refrigerated lamb boats in the late 19th Century to pollinate clover crops. It was last seen in the UK in 1988, but populations on the other side of the world have survived. Now Natural England and several other conservation groups have launched a scheme to bring the species home.



International rescue

Poul Christensen, Natural England's acting chairman, said; "Bumblebees are suffering unprecedented international declines and drastic action is required to aid their recovery.

"Bumblebees play a key role in maintaining food supplies - we rely on their ability to pollinate crops and we have to do all we can to provide suitable habitat and to sustain the diversity of bee species.

"This international rescue mission has two aims - to restore habitat in England, thereby giving existing bees a boost; and to bring the short-haired bumblebee home where it can be protected."

As many as 100 of the bees will initially be collected in New Zealand and a captive breeding plan established, with the aim of eventually releasing them at Dungeness, Kent, where they were last seen.

They will be flown back on planes in cool boxes, and will not be disturbed, according to Natural England, as they will be in hibernation during transit.

The scheme's project officer Nikki Gammans said the bumblebee was a "keystone species" which was key to pollinating around 80% of important crops.

"By creating the right habitat for these bumblebees, we are recreating wildflower habitat that has been lost, which will be good for butterflies, water voles and nesting birds."

Adapted from an article by Tania Rana (BBC Science)

Book Review

Queen Bee – Biology, Rearing and Breeding

By David Woodward.

There is no single way to be a beekeeper. But the easiest way to start is to read a book and accept an old beekeeper as a guru. To read two books or have two gurus will be confusing. Our Training Course tutor, Brian Goodwin, from Shrewsbury recommends that one either starts beekeeping by reading one bee book or 6. Reading two is just too confusing.

Queen Bee, Biology, Rearing and Breeding has a wealth of knowledge beyond that suggested by the title. It is really about the biology care and breeding of the honey bee and as such, it is definitely one of the 6 beebooks to have on ones shelf. But don't have it as your first beebook: David Woodward goes through his subject far too fast. Different methods of rearing bees are described without dogmatically advocating any one method. So have this book as your third beebook and you probably won't need to buy the 4th 5th and 6th.

As head of the Head of the Apiculture Department at the Telford Rural Polytechnic, Balclutha, New Zealand one would expect Dr Woodward to know how to communicate with students. He makes complex subjects very simple without ever talking down to his audience. But he does assume a background knowledge of the subject matter hence the book should never be one's first read about bees

The book is £21 post-paid from Northern Bee Books, has clear and comprehensive coloured pictures, drawings and tables and enough information to fill a book three times the length. It is to Dr Woodward's credit that so much information can so clearly and simply be expressed in so few pages. At the end of each page I often found myself thinking that I had attended whole lectures on the subject of just one of Dr Woodward's paragraphs, and I had understood his explanation far better.

There are times when Dr Woodward seems to suggest that successful Queen Rearing can only take place when one has more than 100 hives. The average reader, however, will be the hobbyist with far fewer. To these he makes a persuasive case for manipulating hives so as to encourage the supercedure rearing impulse of the colony.

Understanding the principle of queen breeding on the large commercial level will allow many beekeepers the opportunity of selecting a regime adapted to their own small apiary. However the chances of being able to select for any characteristic seem very slim. In a way that is comforting. To those who think they have successfully bred docile bees Dr Woodward would say it is luck. To those who struggle year after year with low yields or too much swarming (or any other the other traits that both annoy and fascinate beekeepers) Dr Woodward brings comfort through some easy to follow explanations.

For most hobbyists being able to successfully raise replacement queens will be the height of their beekeeping ambition. This book is an essential read to achieving that ambition.

Arthur Finlay

Sniffer Bees

Essex beekeepers had an interesting talk in April. It was given by Mathilde Briens, who is the Research and Development Manager of Inscentinel Ltd., a private company based at Rothamsted Research in Hertfordshire.

Mathilde is an environmental scientist and grew up in an amateur beekeeping family in Normandy. She worked in a bee research lab. in France collaborating with Rothamsted Research. From this came the idea of using honeybees as sniffer bees and Inscentinel Ltd was set up in 2003.

Sniffer bees are used in much the same way as sniffer dogs except that their training takes less than one hour. They are trained by *Pavlovian conditioned reflexes. The bees are given a taste of sugar at the same time as being exposed to the scent that is to be detected, whether it be explosives, drugs, money, moulds in foodstuffs and now even dry rot in woods is being detected.



The bees are given five lots of training each lasting five minutes and then they are ready for use. In the prototype equipment three conditioned bees were put in cages in a box with their heads projecting into a tube through which the air from the object being tested would pass. An infra-red camera was fitted to the box which would detect the bees' tongues coming out if the scent to which they had been conditioned was present. This would be picked up by the software on a computer. The bees are used for only two days after which they are returned to their hive, after being marked so that they would not be used again.

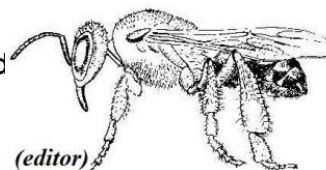
Bees can be conditioned to more than one scent but a recent development is equipment which will, house 36 bees in six groups of six so that each group can be trained on a different scent or scents. Instead of an infra-red camera a beam of light is now being used and the breaking of the beam by tongues can be detected. I should add that an advantage of using sniffer bees is that because of the short training/conditioning time operators do not have to take bees with them and can use local sources thus overcoming any import restrictions in other countries.

* Ivan Petrovich Pavlov (1849 - 1936), Russian physiologist and experimental psychologist. For his research on the nature of digestion he received the Nobel Prize for Physiology and Medicine in 1904. He is best known for his research on conditioned reflexes in animals, principally his experiments with dogs whereby he fed dogs and rang a bell at the same time so that they associated the bell ringing with food. When he rang a bell after the dogs had been conditioned it caused the dogs to salivate in the absence of food.

Based upon a report by Nobby Clark in Essex Beekeeper June 2009 with Inscential pictures added

In the BEEgining: the evolution of Hymenoptera (bees wasps and ants)

Flowering plants and bees evolved together. In the last two issues of BeeHolder we examined the early evolution of bees and flowering plants. In this final article we look at the divergence within Hymenoptera.



Raison d'eater cont;-

The mutualistic relationship between plants and insects may have begun as long ago as 200 million years when the first flowering plants benefitted by the visits of foraging beetles. About this same time (during the Triassic period) the order Hymenoptera, to which bees belong, arose from either an off-shoot of the Mecoptera (represented today by the scorpionflies) or the Neuroptera (fishflies, snakewings and lacewings). The earliest Hymenoptera were probably completely herbivorous and thus in direct competition with other plant-eating organisms. There was a strong evolutionary incentive to maintain any favourable random mutation that inevitably occurred and which eventually led to specialized life-styles assisting survival. Some hymenopteran species developed a larval stage which burrowed into the plant tissue and eventually developed special adaptations which regulated the growth of plant tissues stimulating gall formation. The galls offering both a food source and a protective defence against predators.

Adult females of some of these species developed the trait of using their ovipositor to cut slits in foliage or twigs into which eggs were laid (hence their name "sawflies"). Some 125 million years ago the flowering plants were enjoying a period of expansion due to the cooling climate of the era, against which their protected seeds gave them some defence. It was at this point that some sphecoid wasp species turned away from a predaceous existence to find nurture in the pollen and nectar produced by the flowering plants: they giving rise to the bees. Bees, as a group (the superfamily Apoidea), are distinguished from wasps in that they have plumose body-hairs, that is, branched or feathery hairs (rather than smooth hairs as seen in the wasps). Bees then derived all their food from floral

sources while wasps were frequently carnivorous (scavenging on dead animals or attacking other insects, including bees).

This series of shifts in life-style, from external foliage-feeding to gall-forming to parasitism to pollen and nectar foraging, also provided the basic anatomical tools to allow the development of another adaptation that is almost uniquely Hymenopteran: eusociality. The "fortuitous" acquisition of certain behaviours, which are, in fact, adaptive in themselves, seems to have neatly predisposed the order for the development of eusocial existence. In an impressive example of evolutionary convergence, eusociality has arisen independently in the Hymenoptera at least eleven times and only once, in termites, among other insects. The preconditions that favoured the development of such eusocial behaviour include: parental care of offspring, including feeding and nest defence, mutualism, parental manipulation and indirect kin selection.

To offer some idea of the diversity and venerableness represented by the order Hymenoptera in general (of which over 100 thousand species have been described) and of the bees in particular: we should contemplate the fact that there are as many species of bees around today as there are individual honeybees in an average wild colony.

Twelve Golden Rules of Apiary Behaviour

This has been 'foraged' from Notts BKA and e-BEES. Good advice for all beekeepers, I think, old and new! Here is an all-important set of rules you need to follow when working in your apiary. These rules are primarily for your safety and following these rules habitually will make your and the bees' lives much happier. Understanding the rules makes forming the right habits easy and they will quickly become second nature to you. So don't be intimidated by the number of rules. They're all just natural common sense once you have understood them and why they are important.

1 Smoke the hives before opening them Using the smoker is an absolute must if you are going to be opening the hive (where any frames are exposed. Lifting the top cover to inspect the feeder or refill syrup does not qualify as opening the hive.

2 Approach the hives from the back or the side Guard bees stand at the entrance of the hive, watching for intruders. Don't give them an opportunity to put the colony on alert. Always approach the hive from the back or the side and do all your work there – never from the front, except for a brief entrance examination in lieu of opening the hive.

3 Don't stand in the bees' flight path Honeybees don't appreciate running into unexpected objects in their flight path. If they run into you, they may get mad and be more prone to sting. (see Rule 2)

4 Move steadily and smoothly You should always avoid sudden, jerky movements when you are close to the hive. Bees are especially good at noticing movement. If you move around steadily and smoothly while you are in the apiary, you will not attract their attention.

5 Avoid any strong or unnatural odours Bees are especially sensitive to smell - their sense of smell is critical to the operation and social structure of the colony and to their ability to detect nectar sources. Since bees have been designed with an excellent sniffer, they will easily pick up strong, foreign odours near the hive.

6 Dress properly for the job Various jobs call for different dress. Opening the hive requires that you don your bee suit, bee hat and veil. If you have aggressive bees, you may also want to wear your gloves. But just performing a periodic inspection of the hive or refilling syrup should not require putting on all your garb.

7 Maintain a firm grip on everything Never drop any hive components and don't drop anything on or into the hive. When you are working the hive, don't wear gloves unless the bees are especially irritable that day. You can maintain a much better grip with your bare hands. If you have ill-tempered bees and must wear gloves, take extra care to ensure you are holding things securely, especially the frames.

8 Never bump the hive. Maintain a slight gap between your body and the hive. This practice, and keeping the apiary free from clutter means you don't trip on things and ensures you will not bump the hive which will cause the bees to go on alert.

9 Keep the apiary clean. Whoever said, "Cleanliness is next to godliness" never mowed, trimmed and cleaned an apiary on a hot summers' day while wearing a bee suit. Nevertheless, keeping your apiary clutter free, both at your feet and your head, pays dividends in convenience, safety and comfort each time you visit your bees.

10 Don't open the hives unless you need to do so One of the most fundamental practices to ensure the best honey production and the most docile bees to the absolutely minimise the number of times you open up your hives.

**97% of American Foul Brood
is diagnosed by Bee Inspectors
Only 3% by the beekeeper.
A terrifying statistic about this
terrifying disease**

11 Only open the hives early or in good weather. Never attempt to open a hive when a storm or cold-front is imminent and never open a hive in the evening when it is becoming dark, or at night. Bees are especially defensive at these times and the foragers are also coming back into the hive before bad weather or nightfall. It is very likely that you will be greeted with stinging bees. Just don't do it.

12 Watch the bees' behaviour and react accordingly. Your goal in the apiary is that you seem invisible to the bees and they act as if they don't even notice you. Of course, they will notice you when you open the hive but if you properly apply smoke first and follow these rules of apiary etiquette, they will first be preoccupied with engorging on honey and then

they will be too docile to care under most circumstances. Monitoring the bees' behaviour will ensure your safety and the success of your apiary visit.

BEGINNERS ... note in particular, item 5 above.

I well remember an apiary visit years ago when a member arrived duly 'spruced up', having used a particularly pungent after shave. It was quite a sight - the previously docile bees took offence at this and proceeded to 'bomb' his bee-veil. There was nothing for it, he had to retreat in haste. Another smell they definitely don't like - although the manufacturers say they are "unaware of any problem", or they were some years ago - is that of 'Head & Shoulders' shampoo. Our neighbour - just the husband, no-one else in the family - used to be stung by our bees when he was in his garden. None of us could understand why and I had to mollify him with endless jars of honey, until the day he mentioned his problem to a bee-keeping colleague at work. This colleague immediately came up with the answer; neighbour stopped using that particular shampoo and the problem disappeared.

Thanks to Notts BKA and e-BEES.

Barefoot Beekeeping - a different way top bar hives

I am very much a 'new boy' to the wonderful world of bees and beekeeping and yet, I feel that this is an advantage in pursuing this alternative way of keeping bees as I do not come filled with experiences and know-how of the current modern beekeeping way. Barefoot Beekeeping is a natural, sustainable approach to beekeeping; it is not a new thing and has been used extensively in the developing countries. Its popularity is increasing all the time and is particularly 'big' in America as well as being practiced in many other countries. Indeed, in my search for information and answers to my questions, I have been 'talking', via the dedicated internet forum, <http://www.biobees.com/forum> with beekeepers in Portugal, Germany, USA, Australia and even Corsham!

In this country, and probably worldwide, the inspiration and 'voice' of this natural approach is 'THE' Barefoot Beekeeper, Phil Chandler who lives in Devon. More information on him and his beekeeping world can be found on www.biobees.com - well worth a look. What appealed to me about this method of looking after bees? Well, I believe in the natural way of doing things. I feel that humankind interferes with nature far too much for the good of nature and ourselves (oops - just fell off the soapbox!!). Also, I needed to do this beekeeping lark as inexpensively as possible.

It is not possible to convey in this Newsletter all about Barefoot Beekeeping and Top Bar Hives (TBHs), so here is only an outline.

Where to begin? For a start the hives are completely different. There are two basic types: the vertical TBH (VTBH), developed by a French Abbé named Emile Warre, from where we get the Warré Hive and the horizontal TBH which is the method I shall be using. A horizontal top bar hive (HTBH) is a long box with either vertical or sloping sides on which are placed on top, simple wooden bars with a shallow groove cut along the lower face, filled with wax.

The bees build their comb as they please - using these strips as 'starters' or guides - resulting in almost as natural a formation as would be found in a hollow tree, but the advantage for the beekeeper of being individually removable. TBHs can be made from

virtually any wood, indeed some build from recycled pallets – but the best is Western Red Cedar (which is what I shall be making mine with from local forests) or Douglas Fir. There is no hard and fast rule to the size, but as simplicity is the by-word of Barefoot Beekeeping, a 48" or 36" long hive is the norm. It makes moving the hive a very simple matter, easily managed by one person when empty or two when full, and that's everything in one lift! TBHs are untreated as far as paint, wood preservers and the like. The external can be weather-proofed with a mixture of linseed oil and beeswax: as for the internal area, the bees will treat that themselves. Timber is 20-25 mm thick (about an inch in old money), which provides excellent protection against both the winter and summer conditions. TBHs can be made with an observation window built in one side, made from clear plastic sheet or even glass. This observation window is really useful in observing your bees without having to disturb them, particularly in the winter months. This is, of course, one of the essences of Barefoot Beekeeping and that is minimum disturbance of the bees throughout the year. One of the many advantages is the management of swarms: there is no need for purpose-built 'nuc' boxes. A 15" square plastic planter, (£2.49 from Wilkinsons), will do very well. Top bars on the top, a plastic sheet over the top to keep the weather off and a cork to plug the entry hole when the need arises.

Some of the things not needed are: frames, foundation wax, supers, mouse guards, queen excluders, bottling equipment and fancy feeders. As I have said, it is just not possible to cover every aspect of Barefoot Beekeeping and TBHs here. Maybe there has been some whetting of appetite or interest to know more. Be assured, Barefoot Beekeepers are not 'New-Age' types or out to criticize present beekeeping methods. Their aim is to provide the best possible environment for the bees naturally: their needs above that of their keeper! Barefooters will also take to task and challenge the pesticide manufacturers for the damage their insecticides are doing to the natural foraging habitation of our bees and consequently to the bees themselves.

I will close by leaving you with the principles of a sustainable beekeeping system:

- 1. Interference in the natural lives of the bees is kept to a minimum.*
- 2. Nothing is put into the hive that is known to be, or likely to be harmful either to the bees, to us or to the wider environment and nothing is taken out that the bees cannot afford to lose.*
- 3. The bees know what they are doing: our job is to listen to them and provide the optimum condition for their well being.*

David Smith West Wilts

Seasonal Bee Inspectors in Montgomeryshire

With the strengthening of the service in Wales by the National Assembly Government the number of seasonal bee inspectors has been increased from 7-11 under Regional Bee Inspector for Wales John Verran. As a result of the reorganisation of the boundaries of individual inspectors, that part of Montgomery broadly to the North and East of Caersws which was previously covered by Peter Guthrie has now been transferred to John Beavan (tel 01824707286, Mob 07793584139) Peter wishes to sincerely thank all beekeepers old

and new for their help and cooperation over the past three years since taking over from Phillip Jennings.

Members who have not yet done so are still urged to complete and return to the National Bee Unit the Honey Bee Husbandry Survey 2009. Further to this and with the receipt of additional funding the NBU has recently set up a Random Apiary Survey for 2009/10. This is designed to quantify the overall health status of bees as a whole in England and Wales. It is therefore, quite possible that apiaries already visited this year may come up for revisiting by either John Beavan or Peter Guthrie in order to secure a small sample of bees from specific hives to be sent to the NBU for detailed analysis. Your help with this is both essential and much appreciated by the inspectors in order to achieve a statistically viable picture of bee health.

Peter Guthrie SBI

**The next edition of the BeeHolder is in October 2009.
Copy for inclusion should be sent, via email, to the Editor by September
16th.**

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KEEP SCROLLING DOWN THERE'S ANOTHER PAGE!

These two pictures show why we need to buy some decent bee suits for when we take school children into apiaries.



In order to see anything the children had to stand in a flight path.

The suits were theoretically “Children’s suits” but they were obviously for bigger children. We did our best with cords and belts around the suits but we were probably lucky that the bees behaved themselves. Full suits would be more adaptable for different sized kids. More expensive but they would give children more confidence. One the day Eithrion Thomas, a local headmaster, and Tony Shaw were standing close without veils in order to give that extra feeling of confidence to the kids. If anybody out there knows of grants or any other way of getting funding please contact Treasurer Roy Norris. Some local Companies sponsor football kits...how very much more worthy to sponsor a set of bee-suits and ensure the training of the next generation of beekeepers!

