THE FEDERATION OF BERKSHIRE BEEKEEPERS ASSOCIATIONS

The Federation, its Council, and its Officers cannot be held responsible for the views expressed in the Newsletter or possible errors.

February 2013

Number 673

General Secretary:
Martin Moore
Tilehurst
Reading
0118 967 7386
07729 620 286

E-mail: berksbees@btinternet.com

Web: http://www.berkshirebeekeepers.btck.co.uk/

Newsletter Editor:
Sue Remenyi
Curtis Farm
Kidmore End
RG4 9AY
0118 972 3699

In The Apiary

Our work this month commences with preparing for the coming season with the construction of frames, cleaning of equipment, including floors, spare brood boxes and supers. This involves scorching the wood and scraping the old matter off. Whilst doing this it is a good idea to make up ekes for each of your hives using 4 pieces of wood, (25 x 12 mm is fine). You will be needing ekes if you find you have to apply fondant as this will sit onto the frames below the crown board.

You should have opened your hives for oxalic trickling in December/January. February is a month for regular monitoring. Hefting is probably the most important procedure to do and if you feel that your hives are light, you will need to feed with fondant. After the terrible 2012 season there is a real possibility of your colonies suffering from shortages of stores to get them through this vital period when brood production begins and suitable brood food is required. With the high winds and heavy rain we have been experiencing water may well have penetrated the hives, particularly the outer walls of WBC's, resulting in water and fondant being mixed-up on the crown board. Be sure to mop and scrape this up. It is a good idea to promote drainage by wedging the rear of the hive up a little, say 10-15mm,using something like pieces of tiles

When feeding at this time of the year, if you can afford it use the proprietary 'Ambrosia' fondant as it is enzyme inverted (the bees do this to nectars in their honey stomach so plain sucrose candies may stress them in their vulnerable over wintering state) or make up some fondant from cane sugar (Tate & Lyle). A quick method which doesn't require a kitchen thermometer, (which are usually at least 5 degrees C inaccurate) is to take 6lbs cane sugar: place in heavy bottomed pan and add 1 pint of boiling water; without allowing it to get too hot, stir gently until completely dissolved. Overheating at this stage may burn the sugar, which is harmful to bees.

When dissolved boil strongly for 2-3 minutes and then allow to cool, when crystals start to form stir down (you may use a water bath) to form a white mass. Prior to the stirring down stage many recipes add ½ teaspoon of cream of tarter, others add lemon juice or vinegar. This has little or no effect on the formation of the fondant mass but is intended to try to partially invert the sugar. Recent writings indicate that these 'acids' are potentially harmful to bees. Fill out shallow plastic or foil containers and allow to cool thoroughly.

A variation on this method is to bring your pint of water to the boil and simmer for 10 minutes with the pared peel (without the pith) and juice of a large orange. The juice will acidulate so no other 'acids' are needed. This method is mentioned in 'Wedmore' and the resulting candy smells and tastes rather nice. Having used it for two seasons I can confirm that the bees seem to show more interest!

One of the problems of feeding colonies which may seem to be weakening is to get the bees up onto the fondant, hence the importance of applying directly onto the frames.

It is all very well for bee farmers who may give us talks us about building up strong colonies, scorning the weaklings within their 100 plus bee colony inventories, but many of us are attached to the couple of thousand or so bees in a hive that may be half of our bee stocks that we have tried to build up from the modest cast we collected last year. These are the bees that may need our extra efforts to get them to feed. You might like to check out Vita's 'Vitafeed Gold' available from your usual stockist. On the pack there are instructions on how to apply the solution in syrup direct onto frame seams. This beekeeper has had some success using this on weak colonies at the end of February in mild weather.

Also see:- http://www.vita-europe.com/wp-content/uploads/VitaFeedGoldUse201210.pdf

The weather this winter has had some predominately mild periods, despite rain and strong winds, and bees have been seen bringing in yellow/green pollen loads in January. This may be witch hazel, winter jasmine or hellebore. Some autumn purple crocus were blooming in my area in January, but it looks suspiciously like ivy to me!

Wax moth infestations progress during mild winter periods, so check your weak or empty hives, remove frames in infested boxes and replace with clean boxes wherever possible. The only sure method to treat wax moth is to fumigate with 80% acetic acid, and our good friend C. Wynne Jones (see adverts in newsletter) stocks this. Be sure to follow the instructions on the pack, but basically you will need 25ml per box, and you can stack up to five, ensuring the base is impermeable, i.e. a sold floor not a mesh! Apply the acid on an absorbent pad such as cotton wool and place on a saucer on top of the frames on the top box, the fumes are heavier than air so will sink. Seal everything with duct tape and if the stack is on a floor push a plug of rolled 'mini-bubble wrap' in the entrance and tape across. Cover the whole lot with a black rubbish back and leave for 2 weeks. Make sure that you air the individual boxes and frames thoroughly before reuse. The acid does corrode metal so ensure that there are no mesh or metal excluders in the stack. This treatment kills all stages of the wax moth including eggs & pupae. It is said to be a fumigant that also destroys the spores of the nosema protozoon that maybe dormant on wax etc.

Because of the milder periods we could have an early start this year so early, adequate feeding is essential. Good luck!

Triad

Editors Corner

Winter always seems to me to be the longest season, with seemingly no end to short days and dreary weather. But on the other hand – all the time this has provided for beekeeping maintenance just seems to have flown by! Good intentions of making up frames, cleaning boxes and equipment have yet to be completed and now it is a rush against time to be ready for the Spring.

This is a bumper newsletter with write-ups from the Associations meetings in December and January. There have been some fascinating talks on a range of topics from making mead, understanding pollen, to the life of the bumblebee and keeping

bees in urban spaces. So, thank goodness for winter time, which gives us the opportunity to benefit from these most informative guest speakers.

There is no further news to report about the future of the Federation this month. The next Federation meeting is set for 26 February and at this meeting the individual associations will report whether they wish to leave or remain. A report on this meeting will be provided in the March newsletter.

Around the Associations

Wokingham and District Beekeepers' Association

December

Nigel Perkins opened the December meeting by thanking everyone for their help and work over the last year. He said we could not have done it without the committee and everyone else who put their hands up and helped out behind the scenes, either at the apiary, making equipment, running the raffle, leading the microscopy group or undertaking numerous other tasks that cropped up during the year. It makes a huge difference to the smooth running of the club.

Nigel asked that anyone who has not yet completed the questionnaire to please do so as soon as possible, as so far we have only received a small number of replies. If you find it difficult to access via email, then we are happy to send you a copy by snail mail. It doesn't matter if it arrives after the closing date. We need to know what the members want from the association and what the association can do for the members so your input is invaluable.

Apologies but the EGM will be postponed until our January meeting.

Garth Matthews had received a supply of the round shaped Police Farm Watch signs from Suzie Carr who spoke at our last meeting. Unfortunately Suzie had run out of the yellow signs but is hoping to get some more at a later date. These were offered to members at the meeting but there are still a few available. If anyone would like one please contact Garth.

Garth has been speaking to the manufacturers of the liquid chemical DNA marking system, which was covered in our newsletter last month (the CESAR system, which is recommended by the Police). They are looking at whether it would be feasible to extend this to marking hive parts including the frames. They also run a tracking database of the DNA profiles against the purchaser's address. The challenge is to make sure the dots are located on areas that will not need to be flamed or washed. They are offering us the chance to take part in a trial and if anyone is interested would they please speak to Garth. One glue bottle, with brush, should be enough for

three hives and would include 1,000 dots with a unique id. Cost per bottle is £25.00. They would also provide three warning signs per bottle, to fix to the hives, so that any potential thief knows the hives are marked. The company is called Data Tag and their web address is www.datatag.co.uk if you would like further information before deciding to take part.

We then welcomed Dr. Nikki Gammans who had kindly agreed to come and talk to us about bumblebee conservation and in particular the reintroduction of the short haired bumblebee which went extinct in the UK in 2008. There are 250 native bee species in the UK, plus the honey bee. Of these 25 are bumblebees and 225 solitary bees; one in three are under threat and two are actually extinct.

Bumblebees are responsible for 80-90% of the pollination of crops and are worth over £560M to the UK economy every year. They also carry out buzz pollination which is not possible with honey bees. Plants where this method is very effective include tomatoes. In order to release the pollen, bumblebees and some species of solitary bees are able to grab onto the flower and move their flight muscles rapidly, causing the flower and anthers to vibrate, dislodging pollen. Wind would also have the same effect but obviously this is not the case in glasshouses so bumblebees are used to pollinate commercial tomatoes grown under cover.

Bumblebees are a northern hemisphere species which can account for their furry appearance. They are originally from the Himalayas so can forage in quite cold weather. Each nest, depending on the species, can have between 50-400 workers. They don't waggle dance like a honey bee, so on returning to the nest with a full load, the other workers only know that there is forage in the area, but not its actual location. Unlike honey bees, it is only the queens who hibernate over winter, the rest of the colony die.

There has been a rapid decline in their numbers over the last 60 years. We have lost 98% of our wild flower meadows and increased the use of fertilisers which out competes our native flora. There has also been a large increase in the use of pesticides and an increase in disease and parasites. Colonies get isolated in small areas, as there are no natural corridors for them to spread out into other areas, so inbreeding occurs and eventually you end up with infertile males and a loss of nests in that area. Queens can travel up to six miles when looking for a nest site, but the workers only forage within half a mile of the nest. Our gardens are therefore key to the survival of our bumbles. They are natural corridors and food sources for the bees, although unfortunately more and more gardeners are cultivating plants which provide little or no nectar. Depending on the length of their tongue (there are short and long tongue bumbles) plants might be good for one type of bee but not another, so diversity is key. Solitary bees sometimes only feed on one species. For example, the ivy bee only feeds on ivy.

Depending on the species, some queens start laying very early and some later in the season. The May/June bees have not done as well over the past few years, as there is a lack of forage at the key times later in the year. If you can only grow one bee friendly plant, then lavender is excellent for all bees. White clover is great for the short tongued species and red for the long tongued. Early flowers include berberis, bluebell, bugle, flowering currant, pussy willow, rhododendron, rosemary, dead nettles and heather. May and June could be campanula, comfrey, everlasting sweet pea, hardy geraniums, foxgloves, honeysuckles and thyme. Later in the season there are cornflowers, delphiniums, fuchsias, rock roses, scabious, sea holly and heathers.

The knock on effect of this is that more flowers mean more butterflies, insects, invertebrates and moths, which in turn provide food for our bats and birds.

Each queen lives for one year only and she hibernates for nine months of that year. In the spring, depending on the species and it can be as early as January, the queen starts looking for nectar. She then hunts out a suitable nest site, which could be an abandoned mouse hole or shrew's nest or even an old bird box. She then starts to collect pollen which helps to develop her ovaries. She stores nectar in a nectar pot to provide food for herself during bad weather and builds a pollen larder to store food for her brood. When 10-20 workers have hatched they start foraging on behalf of the colony. At about 12 weeks the queen stops producing workers and starts producing males, who are thrown out, and queens, who hatch about a week after the drones. Apparently thistles are popular mating posts for the queens.

Nikki also advised that some of the fancy bee boxes you can buy do not work. Instructions for making your own can be found on the Bumblebee Conservation Trust website. www.bumblebeeconservationtrust.co.uk. Some species are also partial to blue tit boxes but they need to be about 6' off the ground and south facing, with a sheltered entrance that is not in direct sunlight. Pop in an old mouse nest if you find one or some old bedding from a hamster cage. This is more likely to attract a queen than a nice clean shiny new box. Lastly make sure you are growing plenty of early spring flowering nectar plants which will attract the queen to stay.

Nikki is working with farmers and landowners in Kent to improve the environment in that area. Farmers are being paid to help bumblebees by planting legumes or wild flower mixes in field margins and also to retain pastures. Nikki hosted farm day events for farmers on how to manage the land for bees, what and how to sow and how to manage the resulting crop. Hay from a field rich in wildflowers is better value and worth more than silage so that is an additional incentive. All this needed to be done before the short haired bumblebee could be reintroduced, as it was thought it went extinct due to the loss of habitat. This particular species prefers a warmer climate so was found mainly in the South East of England. It was last seen in Dungeness in 1988 and the plan was for the reintroduction to take place in this general area. Kent, as a county, has the greatest number of rare bumblebees in the UK, so is a great place to visit.

The knock on effect of all this work is that the resulting landscape is good for the likes of water voles, sky larks, lapwings, marsh mallow and yellow hammer due to insect diversity. This type of habitat is also very good for barn owls.

Once the land was ready the decision had to be made on where to obtain queens. In the 1880's bees were taken from the UK to New Zealand for pollination purposes as the local bees were not pollinating the settlers' clover crops. However, one major problem of bringing queens from New Zealand is that they hatch in our winter. It was also found that the bees, due to years of inbreeding within that population, were no longer that close a match to the UK species and were also not surviving that well. They then looked at Sweden where the genetics are very similar and also it is in the same time zone. There is also a very healthy population in Sweden as they do not cut their roadside verges so there is plenty of forage available. The queens were caught in a net and transferred to a vial with some food. They were stored in a campervan fridge at about 4-5 degrees which kept them calm. They were screened for disease and parasites before being brought to the UK and then kept in quarantine for two weeks where they were screened again. 89 queens were collected this year. They must be collected before they have started a nest, otherwise they will not start another one elsewhere. Earlier this year (2012) the queens were released into the

wild. Unfortunately we had one of the worst summers on record so not the best time to try and reintroduce a species.

The site will continue to be monitored and hopefully more queens will be introduced over the coming years. They have also massively increased the number of hectares available to the bees and are hoping to go on growing.

If anyone is interested in volunteering or managing habitat for bumblebees then please visit www.bumblebeeconservation.org for more information. Nikki's own website is hymettus.org.uk and her email address is nikki.gammans@stir.ac.uk. She is also on facebook and twitter.

Nikki had kindly brought along a selection of brochures which were available for the members to take away with them. There was also a nice array of goodies to buy so we did some last minute Christmas shopping.

Thanks to Nikki for taking the time to come and give us a very interesting and informative talk. It was a great way to round off the year.

We then adjourned for Christmas nibbles and drinks which were followed by our grand Christmas draw. We raised £81 towards club funds. Thanks to everyone who contributed food and prizes and brought tickets.

January

Nigel opened the January meeting by wishing everyone a happy new year and apologising for the absence of our Treasurer which means we need to postpone our EGM again. This will carry over to our next meeting in February.

As many of you know, some time ago Ron Slater, one of our long standing members passed away and Nigel has since been contacted by his widow, Gill, to see if anyone would be interested in purchasing Ron's hive trailer for a small donation. Nigel is looking after it on behalf of Gill and can confirm that it is in very good condition. It has a steel frame with wooden body and holds six national hives. If you would like further information please contact Nigel.

We are also sad to report that Alex and Ian Atherton will be relocating to Devon and will be leaving the club in the next few months. Alex is our Apiarist and has done sterling work on behalf of the Club in sorting out the apiary and bringing order to chaos and both Ian and Alex are stalwarts of the microscopy club. They will both be missed and we wish them every success in their new venture.

Alex then took the opportunity to ask for volunteers to take on the following roles, if only for one season. No one will be dropped in the deep end and we will make sure whoever volunteers is comfortable with what they are asked to take on. If anyone can help please contact Alex, who is happy to discuss each role with you and let you know what is involved. We want you to enjoy what you are doing and not look on it as a chore.

1. New members pack. To put together a new member's pack to include the FERA brochures, our Apiary Best Practice guide and other useful pieces of information. This will then be given to every new member who joins to help get them up to speed.
2. Laminated information sheets. These include the signs for the donkey shed to show where certain items should be stacked, swarm control, winter feeding and any others that are relevant.
3. Inventory of club equipment. Keep track of what we have and where it is if it is loaned out.

4. Feeder monitor. We have been borrowing feeders when necessary but will be purchasing some specifically for the club. We need someone to make sure they are collected after use and cleaned and sterilised and put back in the donkey shed ready for the next feeding session.
5. Equipment maintenance – in November last year some members volunteered to scrape and clean the kit ready for spring and we need someone to organise it again later this year. This is a few hours to suit, either over a weekend or during the week if members prefer.

By splitting the jobs into small pieces no one role should be too onerous for anyone, so please do contact Alex if you can help.

Garth Matthews then gave a short update on his Learning & Development activities. He started with a note of caution as we are coming up to the start of the new season.

One of our members, who went to give her bees their winter treatment, unfortunately got a bee inside her suit. She could not remove the sting straight away, as she was covered in bees and by the time she got back to her car and managed to clear them away she was not feeling too good. She drove home which, with hindsight, she said was not a good thing to do. She had a very bad reaction and had to call the emergency services and ended up in hospital. She is now waiting for an Epipen and deciding what to do next. Please don't assume that because it is winter the bees will be sluggish and less likely to respond. A number of members have reported that the bees were quite feisty so make sure you are suited and booted accordingly. If you are on your own, let someone know where you are and what time you will be back and always make sure you have your mobile with you.

Garth has seven orders for the Data Tag liquid chemical DNA marking system. Unfortunately we need ten before we can go ahead, so if anyone else is interested please contact Garth as soon as possible.

Garth has also been invited to attend the L&D South East Region BBKA meeting in Surrey on the 10th February. This is a workshop to put together training programmes for the BBKA associations. Garth will report back following the meeting.

We had also circulated a questionnaire asking the members what they expected from our association. Unfortunately the response was quite low but the main requests were as follows:

- Copies of the lecture notes used by the speakers at our winter meetings and workshops on specific subjects.
- No one wants to take exams, except maybe the BASIC and everyone wants trips and
- it would be good to have some more up to date books in the club library.

The BBKA has now released details of the Spring Convention for 2013, although at the time of writing it is not possible to book tickets. Dates are the 12th-14th April at Harper Adams University College, Newport, Shropshire.

Gormanston Summer School in County Meath takes place from 21-26 July this year. There are lectures at all levels, as well as workshops on Beeswax, Microscopy, Morphometry, Hive Making, Queen Rearing and Furniture Polishing. The Annual Congress and Honey Show also takes place at the same venue. The cost is £400 residential. In addition the full FIBKA Preliminary Course is also taught during the week, including two practical apiary sessions. Participants, even those with no previous beekeeping experience, may take the Preliminary examination on Thursday after-

noon. Further information can be found here. Both John Campbell (our speaker for the evening) and Beulah Cullen have attended in the past and they confirmed it is well worth the money.

We then officially welcomed John who gave his keenly awaited talk on how to make mead.

Mead is apparently the oldest alcoholic beverage known to man and was said to be preferred by the gods of Mount Olympus but is quite tricky to make compared to other home brew. You also need to make sure you filter out any propolis as it makes the mead taste bitter. Apparently there are quite a few different types of mead where other ingredients are added in addition to the honey. Metheglin, which is made with spices; Melomel, which contains fruit, for example blackberries, raspberries or strawberries; Cyser, made with apple juice and Pyment, which is similar to Melomel. To make good mead you also need good honey. Once you have made your mead don't try to sell it unless you want to be in trouble with Customs & Excise.

It might be boring but always try to keep records. If you make a good mead, what was the secret? If you didn't take notes you won't know so it will be harder to replicate and if it is awful to try something different next time. John uses the honey retrieved from comb cappings, honey buckets and extractors so you don't waste anything. You don't need to use your very best honey for making show mead but it is your judgement. Water always needs to be soft. You can use water from a spring but do walk upstream first, to make sure there are no dead sheep or other nasties waiting to catch you unawares! Rainwater is a possibility but you need to make sure it is free of contaminants or mosquito larvae. You can use water from a dehumidifier or tap water if it is not chlorinated. However it is probably best, in the circumstances, to use boiled tap water.

You then need to destroy the native yeast in your honey before you add your brewing yeast and add a nutrient for the yeast to work on. You also need to add vitamin C as there is very little acid in honey. Always follow the directions on the packet. John uses VWP for sterilising all his equipment, including containers, bungs, traps, tubing, funnels and anything else you can think of. If you use it, sterilise it. John's preferred nutrient of choice is something called Tromozymol.

3lbs of honey to one gallon of liquid will give you a dry mead. 3½-4lbs of honey to one gallon will give sweet but it also depends on the yeast and the honey, so in the lap of the gods by the sound of it. It is also preferable to get a yeast that is high alcohol tolerant. John uses Gervin Varietal available from home brewing shops and websites. It is also useful to have a packet of restart yeast available, just in case the fermentation gets stuck and you need to kick it back into life.

Some honeys froth more than others when fermenting. Heather honey gives a huge amount, so do keep an eye on it, especially if it is somewhere warm like the airing cupboard. You won't be popular if it blows and all the laundry needs to be washed again! Fill your containers approximately 2/3 full to allow for expansion and then recombine once fermentation ceases. You don't want any air space which may allow nasties to contaminate your brew.

A problem with mead is that it might look lovely and clear in the jar, so you bottle it and then a few days later there is a thick sediment in the bottom. Better to leave for longer so you don't end up doing the same job twice. John uses an electric filter, which saves time but is expensive. You can do the same job with a paper filter and a funnel but it takes a lot longer. It depends how much you intend making. You need to

be scrupulous with hygiene and keep everything covered. Beware the fruit fly, which will turn your elixir into vinegar. If you are making a sparkling mead you must use reinforced champagne bottles and wire the corks down.

One of the questions from the floor was whether mead tastes better with age. The answer is yes. John's mother made mead for each of her children when they were born, to be drunk on their 18th birthday and it was delicious. However, a couple of years will usually give you a drinkable brew. John suggests leaving it in the demijohn for at least a year and hopefully, once bottled, you won't get a sediment. For those of us who have never tasted mead, it really does taste of honey. We then had a tasting session with a selection of meads provided by John.

John was accompanied by Beulah Cullen and we thank them both for taking the time to come and give us such an informative and interesting talk.

Our next meeting is on the 13th February and the subject will be Bee Wing Morphometry by Dave Moss.

Lynn Janes
Hon. Sec. Mobile: 07721 338833

Slough, Windsor and Maidenhead Beekeepers' Society

http://www.bbka.org.uk/local/slough-windsor-maidenhead

Neil Coxhead, Secretary SWM BKS

December Meeting – Making Mead

Our Christmas supper was preceded by a fascinating talk on making mead by John Gamble. There are various forms of honey wine, however mead is the basic form and is the oldest known alcoholic beverage. John gave an excellent overview of the ingredients, process and equipment needed, illustrated with the usual slides but also with some unusual sound effects!

Thanks to all who contributed in bringing along a lovely selection of supper savouries and sweets!

January Meeting

Sadly the scheduled speaker for the January meeting was unable to attend due to not being well but we were fortunate that Dennis Way, our President and a beekeeper of long standing, was able to step into the breach to chair an open discussion

on winter beekeeping and other subjects. More than thirty members came along and many subjects were raised.

Dennis brought with him a recent Telegraph newspaper article about The Natural Beekeeping Trust (recently featured on the BBC 1 programme 'Countryfile') which advocates a more 'natural' approach to beekeeping using skep style hives and no swarm prevention tactics. The ideas may be of interest to all beekeepers and information can be found on their website: www.naturalbeekeepingtrust.org.

The article sparked a discussion about leaving bees to fend for themselves and moved on to other subjects such as the pros and cons of insulating the hive in winter, the use of oxalic acid treatment against varroa mites and alternative treatments. Tales of winter experiences were shared and it seems that we are all holding our breath and waiting to see how many colonies come safely through the winter.

The meeting ended with the usual refreshments, which were enhanced by a birthday cake to mark the recent significant birthday for Don Church; there were candles on the cake but wisely, not for every one of his eighty years!

Annual Dinner

On Friday 25th January, we assembled at Stirrups Country House Hotel, Maidens Green for our annual dinner. We had a private dining room and were looked after well by the excellent staff; the food and company exceeded expectations and a good time was had by all.

Our sincere thanks are due to Don Church who once again organised the event meticulously and even ensured that nearly everyone won a raffle prize.

Forthcoming Meetings

February 12th: Beauty and The Bees – Dr Sara Robb
March 12th: Bee Health – Nigel Semmence

As always, details of all our meetings, topical articles and much more are on our website at: http://www.bbka.org.uk/local/slough-windsor-maidenhead

Reading and District Beekeepers' Association

Jon Davey, Secretary
www.rbka.org.uk

Our December meeting at Caversham Heights Methodist Hall on 18th December was well attended for an illustrated talk by Will Messinger on 'Bees As Wild Animals'. Will has been our guest speaker before and previously introduced us to the The Stewer-

ton Hive. He is a bee farmer with 100 plus colonies around Warwickshire and Gloucestershire and is active in BIBA on bee improvement schemes.

Will outlined the apparent effects and consequences of British honeybee activities on the "ridiculous" weather we have experienced in the 2012 season with the poorest apple crops on record. He touched on the likelihood of effects of human over population & exploitation of our environment, planned activities such as 'fracking' the use of seeds treated with 'neonics' on agricultural land, where fine particulate pesticide materials are released into the environment during this sowing. Will displayed some statistics of recent honeybee colony losses, which are indeed high. 30% recorded in 2007/8 season and 14% in 2010/11 season. Will pointed out that he could expect figures like these to indicate a 50% colony loss over 2 years!

Will continued with information about the origins and the former distribution of the various sub species of honeybees that contribute to the genetics of the largely hybridized current British bee population. These include Mellifera mellifera from the British Isles and Western Europe and Carneolians from the Balkans. He described their characteristics and the morphology of the honeybee and gave a clear (and happily for much of the audience) understandable description of the double sex chromosome (diploid) 'females' i.e. queen & worker bees and the single sex chromosome (haploid) drone who can "have no sons but can have grandsons". Bees, in common with other social insects in their colony can be described as 'eosocial' with their efficient division of labour working to support the colony with the biological objective passing on and expanding the distribution of their genes to subsequent generations. The honeybee colony can be considered as a 'super organism'. The healthy wild colony will be maintaining a good gene pool without inbreeding.

Will discussed the activities and interface of humans with bees, i.e. the beekeeper with queen rearing, selection of desirable characteristics in the colony, the effects of queen clipping, the treatment of pests such as varroa, desirability of colonies with good hygiene activities, etc. The objective being to increase the number of honeybee colonies who, whether in the wild or in the apiary, would be the fittest for survival.

An excellent talk from Will with plenty of biology and technology. We enjoyed our festive comestibles at the break and a fruitful questions and answers session.

Our January talk at Caversham Heights Methodist Hall on Tuesday 15th was by Steve Benbow, proprietor on The London Honey Co. A young man who to quote a tribute on the cover of his book '*The Urban Beekeeper*' from Keith Abel "… is a perfect example of having a dream and living it. Be warned his enthusiasm is highly infectious and sure to bring out your inner beekeeper!" With enthusiasm together with terrific photographs, thanks to Steve also being a commercial photographer, and his audience being already 'outed' as beekeepers, made this an exciting evening indeed. Although Steve's grandmother in Shropshire started him on beekeeping it was on his world travels as a commercial photographer that he got to know high rise beekeepers in New York City. In his 30's Steve with his partner David, began keeping bees in Salopia, building up to more than 800 colonies. Steve showed us superb pictures of mating apiaries and hives on the Long Mynd in sylvan glades, where there was relatively no poorer genetic strains other than Steve's Welsh bees, of which he is very fond.

Being a bit fed up with OSR honey which threatened to predominate when not on autumn heather and influenced by hives he'd set-up in an old pumping station in south east London that produced excellent honey, Steve began working with Fortnum & Mason with some bespoke architectural designs of double walled hives to go on Fortnum's roof, allowing them to produce their own honey for sale in the store. Despite the very sad loss of his pumping station hives through fire, Steve and his

partners and co-workers are now managing bee hives on the roof of the Tate Modern and Tate Britain. His approach to everything seems robust and clear sighted. He has designed special winches to bring supers and deeps down from the Tate Modern roof, and he moves hives from the former Battersea power station roof to the more sheltered roof of Taste Britain in the winter. Moving hives through busy London Streets could be a challenge, and so Steve explained how he wraps stacks of supers etc, in a fine mesh before loading them onto a motorcycle and sidecar. Using this method he can carry 5 boxes and incurs no congestion charge apparently!

Steve supplies honey, cut comb etc. under the London Honey brand from his packing site in Bermondsey to fashionable markets and retail outlets, as well as to Fortnums. Steve and his partners use all their own queens, his favourite being Welsh & Carneolians. The genetic traits of bees flying in London is rather mixed, so Steve re-queens every two years. He speaks highly of the qualities of London honeys, with London comprising 60 percent green space – including Hyde Park and Regents Park where there is some excellent forage, including acacia and the like. He also has hives foraging in what he describes as 'virgin woodland' in north London, and he speaks of large areas of flower meadows in the West London Boroughs.

Steve is a beekeeper we are very glad to have met and we would like to meet again to keep abreast of his plans and progress, and to be inspired that we ourselves could fulfil a dream of beekeeping as well as Steve has. Thanks to Steve Benbow, to Reading Beekeepers for a good attendance and to Michael Blackburn for introducing us to such a beekeeper! Steve's book is published by 'Square Peg', signed copies were made available for us at the meeting.

The February Meeting is on Tuesday 19th at Caversham Heights Methodist Hall. The Speaker is Andy Willis from Southampton and the title is '12 Months of Forage'-A look at the floral beauties our bees visit in central southern England, during the year in chronological order including major honey plants.

Jon Davey

South Chilterns Beekeepers' Association

Joanne Shanagher,
Secretary. Tel: 01189 721067

http://www.southchilternsbeekeepers.org.uk

December

The Honeybee; a film by Gill Sentinella (Wannabee Films, 2009)

In 43 minutes we saw the story of the life of a colony, with the most incredible close-up footage of what goes on inside the hive through the season, showing us things we've read about but could only imagine.

The story starts with a prime swarm in late spring. I discovered that the queen does not, as I had supposed, lead out a happy band of swarmers; the bees who have decided to go push her out, and the swarm gradually comes together into a cluster nearby just to ensure the queen is still with them, while scouts go out looking for a new home site. Returning scouts waggle-dance on the backs of their sisters on the cluster to communicate their finds, and eventually off they set, follow the queen in, and call in stragglers by fanning with the (apparently lemon-scented) nasonov gland. The close-up of lots of raised bottoms displaying the exposed pale gland showed it up as the aircraft landing-strip it really is.

Filming inside the hive (how did she do that?) shows the superorganism at work: fifty thousand bees living as one, sharing food, constantly tapping and grooming each other with their antennae, and working back-to-back in the bee space without hindering one another. To maintain the right temperature, some are waggling while others are still. We saw in incredible detail how they hook their feet together to form chains while extruding a tiny plate of wax, which they then pick up in their mandibles to chew, ready to build with. We sometimes see chains of bees in our own hives, but never close enough up actually to see the tiny fragments of wax they are producing. The strong hexagon structure cells slope backwards and down, and at the height of the season the queen lays about 2,000 eggs a day. We could witness how she tests the cell size first, using her front legs as callipers to measure the cell – a fertilised egg for the smaller ones, unfertilised for the bigger ones. Big drone cells of course are only produced in the mating season, and drones have a larger stronger body for mating flights. Young bees were feeding food produced from the hypopharyngeal gland in their heads, and cells were capped in due course. There was a lovely shot of an emerging new-born bee, looking hairy and weak and needing food quickly, getting trampled on by the bees rushing about. But then some of them stopped to wash and feed her, and she was ready for work within a few hours.

The first job is housekeeping, and we saw how hard they work at tidying up debris, even trying to carry away dead drones twice their size. The next job is guard duty, and there was an incredible incident of a forager returning to the wrong hive getting a literal tongue-lashing from the incumbents, and dropping her own tongue in submission to gain acceptance. Film of a wasp attack showed their evasive flight pattern while trying to get in, their ability to sting repeatedly (unlike the defending bees) and how they all fight to the death. It looked like the bees needed odds of about 10-1 to succeed in keeping a single wasp out, making it clear to us how vulnerable a small colony is. In the summer a bee then has about three weeks of foraging life before dying of exhaustion; I hadn't seen before how a new forager comes out of the hive and flies in increasing size circles backwards to fix the hive position. The honey bee pollinates earlier in the year than other insects, and is responsible for pollination of about a third of our crops. Pollen comes in all colours – even blue – and is the protein of their diet. Up close we could see the pollen-basket, a hollow surrounded by hairs on the back pair of legs not easily visible to the naked eye when empty, and the middle legs have combs to brush the pollen in; the bee mixes in a bit of honey to help the temporary storage. The film showed a bee trying hard to kick the pollen off the pollen-basket hairs on her back legs into a cell, banging it down with her head, and adding a drop of honey to prevent it deteriorating. Those who struggled were vibrating their bodies to ask for help with the unloading from others. Nectar, the carbohydrate of their diet, is fetched from up to 3km away in their honey stomachs. Although it's noisy in the hive, apparently bees have selective hearing and can feel or hear the amazing

waggle dances performed normally in the pitch dark – but somehow filmed here in bright light just for our benefit. It's a shame we don't often get to see these astonishing performances in real life.

In late summer, we saw bees passing nectar between them to reduce the moisture, and fanning at the hive entrance to drive the air conditioning that controls humidity, evaporating more moisture. The arc of pollen was around the brood, and around that the capped honey, which will keep indefinitely. Bees born now survive until spring, and they are starting to batten down the hatches. We saw honey spillages sucked up immediately, drones being corralled and dragged out of the hive, and one entertaining sequence where a bee which had been collecting propolis in her pollen basket to stop up gaps in the hive couldn't unstick it from herself, and called in help to pull the sticky stuff off.

The winter cluster forms as soon as it gets cold enough, with the bees taking it in turns to be on the outside and beating their wings to supply heat. The core temperature is maintained at 35°C, which makes you realise why they have to eat honey all winter to gain enough energy. Cleansing flights are taken on the odd day that's warm enough, but they can chill and die below 7°C, so doing your business is a risky business for a bee in winter.

In early spring, foraging starts as early as possible to expand brood production, and the old bees fetch water to dissolve crystallised honey stores. Unfortunately bees are not the only creatures in the hive expanding, and we watched in revulsion as a varroa mite, newly released from a cell, ran up onto the back of a passing bee. We saw diseased bees, damaged by viruses, being thrown out. Swarming season comes around again, and we're told the bees put an egg in a queen cell cup; I had always assumed the queen put it there herself.

Books tell us the virgin queens make a piping sound, which I imagined to be shrill and high-pitched, but the soundtrack of this film revealed a noise more like a crow cawing, much deeper than I would have imagined. Apparently the bees respond to this call by vibrating back a "wait" signal – we're not ready for you yet. When she does emerge, the tidy bees are there at once to recycle the wax, dismantling the empty queen cell. The virgin pipes through all the combs to assess from the replies when other virgins are likely to emerge, and either she kills the others, or the bees will drive her out with a swarm, or later a cast.

So the year turns full circle, and we start all over again.

The photography in this film is remarkable, and to see the bees close up and personal actually doing the things we read about but seldom see, is an amazing and uplifting experience. Watch it if you get the chance!

Meryl Toomey

January

Our Association scientist, Dave Moss gave a fascinating talk on pollen describing the evolution of land plants leading to the development of Sporopollenin.

Sporopollenin has been described as "one of the most extraordinary chemically resistant materials in the organic world". Green algae developed sporopollenin to protect its spores during long periods of drought. It also forms the outermost coat of the pollen grain and is resistant to strong acids, strong alkalis and attack by enzymes.

Pollination is the transfer of the pollen from the male part of the flower, the anthers to the female part of the flower, the stigma. Pollen can be transferred by air, water or by organisms such as bats, birds, moths and bees.

Fertilisation is the process by which the male gamete is transferred to the egg inside the ovary. Fertilisation in flowering plants is an act of double fertilisation. Two sperm cells are produced by the developing pollen grain. One sperm cell fertilises the egg to produce the embryo plant and the other fertilises nuclei within the ovary to become the endosperm – the food source which will be used by the germinating seed.

Pollen comes in a variety of colours. Bees tend to group the same types of pollen together as protein levels vary in different types of pollen. Bees transfer pollen from flower to flower and they will also collect pollen to return to the hive. They carry the pollen on modified hairs on their rear legs often called the “pollen basket”. A mix of different pollens containing different levels of protein are fed to the developing larvae.

Pollen grains can be recovered from different strata in the earth’s crust by taking core samples. The pollens found in the different layers can be used to map the abundance of various species over time.

Pollen is also useful in forensics. A person can be placed at a particular place by examining the pollen grains adhering to their clothing, mud from their boots or taking swabs from their noses and identifying the pollen found.

Pollens from different plant species are quite different in structure and colour. Identification of pollen is carried out by examination under a microscope at 400x magnification after using a fuchsin stain. The parameters measured include size, number of pores or furrows, appearance of the surface structure etc. An excellent book called “Pollen Identification for Beekeepers” by Rex Sawyer has over 250 slides of pollen as well as a method of preparing slides. Another book called “Pollen loads of the Honeybee” by Dorothy Hodges has numerous colour plates of pollen. It is out of print but can easily be borrowed from the local library. William Kirk has also produced several pollen reference books.

Fiona Johnson

Useful Links, Advice and Information

Video on how to use Vita Apiguard (all pack sizes)

http://www.youtube.com/watch?v=3RGSp3VEeAg

For added interest: What are the different types of hive demonstrated in the video?

Interesting article on how Honey suffers after bad year for bees by Hannah Briggs on the BBC Food website.
http://www.bbc.co.uk/food/0/19585638

NBU Advice for Obtaining Bees:

Join Beebase - By joining BeeBase you can access beekeeping information and ask for advice or help from the Bee Unit: https://secure.fera.defra.gov.uk/beebase.

Your Regional Bee Inspectors are:

Southern Region: Nigel Semmence at: nigel.semmence@fera.gsi.gov.uk,

The main website is: https://secure.csl.gov.uk/beebase/public/Contacts/contacts.cfm National Bee Unit, Central Science Laboratory, Sand Hutton, York YO41 1 LZ, tel: 01 904 462 510, email: mailto:nbu@fera.gsi.gov.uk .

South Eastern Region: Mr Alan Byham, fax/tel: 01306 611 016

Letters to the Editor are always welcome as long as they are signed. Anonymous letters and letters not in English will not be published. The Editor reserves the right to withhold names.

Contributions, including emails, to arrive with the Editor by the last day of the month for the following month. Contributions received after this will be held over for a later month.

Advertisement entries, to be received by the Advertisement Manager in advance of the 20th of every month. Rates**:** 2 Lines for £1.00; Commercial rates: £1.00 per line. Please make cheques payable to FBBKA. To be sent to the Advertisement Manager: Mr Jon Davey, 107 Northcourt Avenue, Reading RG2 7HG. Tel: 0118 975 0734.