

# High Wycombe and District Beekeepers Association

Registered Charity No. 299638

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## *Newsletter - April 2006*

### Diary

#### Forthcoming Events

- |                 |   |  |
|-----------------|---|--|
| 1st April       | - | Training the Trainers - Buckfastleigh                      |
| 21st-22nd April | - | BBKA Spring Convention                                     |
| 27th April      | - | 'Beekeeping and doing another full-time job' - Andrew Gibb |

**BBKA Spring Convention Final Reminder** on 21st & 22nd April at the National Agricultural Showground, Stoneleigh-Park, Coventry. Entrance fee £13 to members on production of their membership card and £15 to non members.

This is the major national beekeeping event of the year. All the suppliers will be there with good offers on equipment and there is a programme of wide ranging lectures.

#### Recent Event Reports

24th February **'Beekeeping in the Yucatan'** by Nick Withers  
Nick Withers is the new CSL (Seasonal Bee Inspector) for Oxfordshire but he came to visit us about something totally different: the Bees Abroad trip to Mexico in January 2005. On the trip they visited several different beekeepers and beekeeping institutes, seeing the style of beekeeping with both Africanised *Apis mellifera* and with stingless bees. Although it was so bee-orientated, they also had time to see a little of the local culture and history. Nick gave us a slide show with commentary and discussion, and John Crick, our Chairman, who was also on the tour, added information from time to time.

The group visited the Yucatan peninsula, which juts out north-westwards into the Gulf of Mexico from the Isthmus of Panama (roughly behind Cuba on my map.) The area is at a latitude of about 20° North, has a frost-free subtropical climate and no winter period. During their tour the daytime temperature was about 20°C. The Yucatan is a very flat limestone plateau. It has no rivers above ground, because the underlying limestone is extremely porous. However in places where caves within the limestone have collapsed, these have become small steep sided lakes and pools, which are water access points for both wildlife and the local people. Up until 16th century, the Yucatan was part of the Mayan Civilisation, and the people still speak the Mayan language. The Mayans were beekeepers, who used the indigenous stingless bees.

In the recent past the main economic crop in the region was Sisal, grown for the coarse fibres in the leaves which were used to make ropes. With the development of synthetic fibres in the 1950s, sisal ropes were quickly outdated and the sisal growing industry became decimated. The peninsula is now an agricultural backwater; and beekeeping with both *Apis mellifera* honeybees and stingless bees has become a potential major income

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### Chairman's Chat

What a super event we had at the County Seminar! Over eighty people in attendance, some excellent speakers, very slick arrangements and a very good location in the refurbished premises. Nothing could be faulted and we must congratulate Sylvia Chamberlin for her excellent organisation of the whole event. We can now look forward to the 2007 event with keen anticipation.

We are now virtually at the end of our Introduction to Beekeeping course for this year, the final session to be held this Friday when we combine forces with the regular monthly meeting to listen to Dr. Cullen talking on 'healthy bees'. We have had 19 students and I must thank the members who came along to help out and particularly to answer all the queries during the refreshment break. The change this year to Powerpoint presentations has certainly enlivened the evenings.

In the previous issue I indicated that we would be arranging a stand at the Wycombe Charities Carnival but I am advised that this event is not now taking place. We will reserve our efforts for the Town Show in August.

We offer our congratulations to our neighbours in the Chalfont Beekeepers Society who are currently celebrating their 30th Anniversary. They have several special events arranged and we are all welcome to join them in these activities.

#### Other Items:

Our Regional Bee Inspector Ian Homer will be active in our area during May. He will be working with Mid-Bucks on Thurs. 25th May and with Chalfont on Friday 26th, and Saturday 27th May. Throughout there will be talks and demonstrations on disease inspections and we are welcome to join them as long as we give prior notice.

The County Association is running a BBKA course for the Basic Examination. To date we have six of our members joining in and anyone else who wishes to take part should contact Sylvia Chamberlin a.s.a.p. There are two combined sessions with our Mid Bucks colleagues on Mondays 10th and 24th of April followed by a practical session in our own Marlow Apiary.

*John Crick*

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source for the people in an otherwise flat economy. Honey is a 'cash crop' taken from the natural local flora. The peninsula now generates some 30 to 40% of all Mexican honey exports – 90% of it goes to Europe.

*Apis mellifera* honeybees were introduced at about 1910. The Langstroth hive is used and these cost about £10 for a complete new box, frames and foundation. There is a major problem with ants that invade the colonies to steal honey; so, to keep the ants out, hives are arranged on stands which stand in troughs of water. The Africanised bee arrived in 1987 and they are very vicious. These bees must only be kept well away from where people live, out in the bush. The tour visited one of these apiaries and handled the bees. Yes they were aggressive, with lots of stings into anything black. Orange-red beekeeping suits are preferred because they are less likely to be attacked by the bees than a white suit. They can check the degree of 'africanisation' by morphometry and DNA analysis and to some extent control it by breeding for less aggressive strains. The bees have Varroa, but since the africanised bee has a shorter brood cycle, smaller cells, and less drone brood than ordinary mellifera bees, the mites take longer to reach problematic proportions. Varroa control is by Apistan at about two year intervals. AFB is not prevalent in Africanised bees.

They visited a Honey Cooperative (Apicola Maya) which had a turnover of 10,000 tonnes/year. Nick showed us photos of their industrial scale Honey Extracting Plant. The honey is cleared by gravity separation weirs to remove wax etc, then packed into 45 gallon (200 litre) food grade steel barrels; most of which were secondhand. For local use, honey is sold in narrow neck bottles because at their temperatures it never granulates, and is always quite runny.

Stingless bees are the native bees, and are of several different genera and species. They can't sting, but they do bite, pull your hair, and will crawl into your ears, or up your nose! Beecraft for October 2004 has an article about them by Adam Hart. A characteristic of stingless bees is that there is a narrow tube entrance way, which sticks out a little from the surroundings. This is constantly manned by guards and you see little bee faces looking out at you! Stingless bees are significantly more ancient than *Apis Mellifera*. Fossil stingless bees have been found in amber 65 million years old. Because they are so ancient, they are very diverse with many different genera and species. The bees are parasitised by a special type of fly.

The colonies are quite small – perhaps 500 to 1000 bees for most types. The bees are photophobic, so tend to run away when a nest is opened. They are much less aggressive to handle than honeybees. The nest structure looked weird with two totally different types of comb present. The whole nest is usually constructed inside a hollow cavity: either in a tree, or below ground – depending on the species. It is enveloped by a waxy membrane in a way similar to the nests of some types of bumblebees. There is a drainage tube at the bottom of the nest. The queens have very swollen abdomens (a bit like termite queens) and much smaller heads and thoraxes. The bees make upward facing comb, which has a similar appearance to wasp comb, for the brood. There can be several layers spaced apart by support rods. These brood cells are mass provisioned with food when the egg is laid, then sealed. It takes some 50 days for the bee to hatch out and the cells are only used once. In a separate part of the nest, the bees also make honey storage cells, which look like bumblebee wax pots, but bigger.

Experimental work is underway with the aim of learning how beekeepers can farm stingless bees instead of honeybees. They

also want to select a type of bee to use for pollination of glasshouse crops. Depending on the species being cultured, they can house the colonies in hollow logs, or boxes. It is possible to have separate boxes for brood and honey storage; an arrangement similar to our honeybee hives. You can use plasticine type material to seal up the boxes, and hive tools to open them. To increase your colonies you can physically divide up a colony and let the subdivided colonies grow.

We saw an open sided shed with a hundred or more colonies arranged on benches. To harvest the honey you can either cut out the honey storage cells and drain out the honey, or suck the honey out from them using a 20 ml syringe. It is even possible to feed the bees honeybee honey and harvest from them stingless bee honey! There is a big economic advantage for culturing stingless bees, because while honeybee honey sells at \$1 per kg, stingless bee honey sells at \$40 per kg. It is sold as a medicament.

Nick brought along a sample of a stingless bee honey for us to try. It was absolutely delicious and had a most unusual flavour. Once he had told us about the beekeeping, Nick then explained a little of what they had seen of the local culture and Mayan history. They were very skilled astronomers. One of the gods of their culture was the honey god and we saw a picture of a statue of him that was in one of their Museums.

All in all it was yet another excellent evening. Many thanks to Nick for an excellent talk.

*Clive Hill*

### **Bucks County Bee Seminar Wendover 4th March Part 1.**

Under Sylvia Chamberlin's excellent guidance, County Bee Seminar goes from strength to strength. We had an attendance of some 80 people this year, coming from as far afield as Cambridge, Middlesex and Somerset! It was an excellent day out. Many thanks to our Speakers, Sylvia and her team.

There were two main speakers, Peter Martin, who spoke on Honey Testing and Philip Denwood from BIBBA, who talked about Queen Breeding. But there was input from three other people too, Gill Sentinella, who told us about making, and showed us her wonderful new DVD/Video 'Dancing with bees'; and then Ceri Collingborne, the Apimondia World Honey Queen, with her partner Chad Cryer. Coupled with all this were interesting side-stalls including BBKA, Bees in the Curriculum, Transrural Trust and a large Bring & Buy sales outlet run by Bob Hunter.

In this report I am covering Peter Martin's lecture on Honey Quality Issues and Gill Sentinella who talked to us about 'Dancing Bees'.

### **Peter Martin. Honey Quality Issues**

Peter is the Chairman of the Honey International Packers Association, which is a charitable trust with the objectives of training beekeepers, lobbying government and developing ways to harmonise international honey trading rules.

Peter put things into perspective by telling us the global production of honey is some 1.2 million tonnes, of which the international trade is some 400,000 tonnes. The UK market, which in regulation terms is part of the EU market, is about 25,000 tonnes; and 40 countries are permitted to export honey to the EU. Honey trade is monitored under the Food and Veterinary

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office, based in Ireland. They apply the regulations related to 'suitability for use' such as pesticide residues.

Beekeeping has substantial side benefits, firstly by allowing sustainable livelihoods, secondly by the pollination benefits, where the value of pollination is some 7 – 10 times the honey value; and thirdly from the point of view of biodiversity.

Peter then ran through the Honey Regulations 2003; which is the UK application of EU wide legislation. Honey is tested as follows:-

Water content, checked by a refractometer. It is an indication of the risk of fermentation. HMF level (maximum 40mg/kg from temperate sources, 80 mg/kg from tropical sources) and Diastase level. These two tests allow control of the heat exposure of the honey. HMF increases with heating, Diastase goes down. There is no health issue here, because jam can have 10 – 20 times the level present in honey and still be sold and eaten. Sugars present, not more than 5% sucrose except for honey derived from borage, which can have 20%. Electrical conductivity, which allows discrimination between honey and honeydew. Acidity, to check if it is in the normal range of 40 – 50. Water insolubles, which keeps out any 'rubbish'. Contamination residue, which looks for the undesirable presence of medication or pesticide residues. (These usually arise from poorly controlled use of medication against Foul Brood by poorly paid beekeepers in such countries as China, Mexico or Brazil.) Pesticides are seldom found.

Honey is blended in 20 tonne batches by emptying some 60 – 65 steel barrels, each containing 300 kg. The batch will then be tested to check it meets the regulations. Tests for the presence of antibiotic can cost up to £600. In addition it can be checked for floral origin, by pollen analysis; or for GM contamination – which will detect the presence of GM modified Oilseed Rape.

Peter then explained how the pollen content of honey can be isolated, then checked for its botanical and hence geographic origin using a microscope. This is Pollen Analysis which he can do, and for which he charges £40 per sample. HMF is normally checked by chromatography, and would cost a similar amount.

The worldwide honey industry would very much like to be able to move to Right First Time blending and testing control, so that the cost and time wasting of the present threefold testing could be eliminated. However, the long supply-chain with many links makes this unlikely in the near future.

During questions we learnt that honey would normally be expected to be filtered no more finely than 100 micron mesh. Also that 'Organic Honey' is mainly a marketing tool. The honey will be no different in test properties to ordinary honey, but there is a certification procedure that must be followed, and which controls how to keep the bees. Honey could quite properly be described as 'Organic' but be of unacceptable nature for example due to heavy metal contamination if the bees' forage was contaminated.

### **Gill Sentinella 'Dancing with Bees' DVD and video.**

Gill is a fairly new beekeeper who comes from Bedfordshire, and is a Craft Jeweller by training. She became entranced with bees and spotted that a need for a short inspirational film to be used in public contact places, such as museums and exhibitions. They had a suitable digital video camera available within her family, so she taught herself to use it: then she planned the type of visual content she needed for the film and started work. It became a year's project for her.

Gill also decided the soundtrack of the film should be Mozart's Clarinet concerto, which lasts just 10 minutes: and so that controlled the length of the film. Then she made contact with someone at the local University who would edit her 'film-stock' into shape. Finally she had to arrange replication on DVD and Video and packaging. BBKA has taken on the marketing role, and she will be on their stand at Stoneleigh.

Gill explained all this background detail while we watched the film displayed on screen. It was excellent! Then she answered questions. The film got an excellent reception and a good number of sales. Several of us pressed her for further films too.

*Clive Hill*

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## **Phil's April Quiz**

- (1) Name two reasons for splitting a colony in the Spring
- (2) What are the three basic steps when making a Nucleus
- (3) Honey bee larvae are almost totally inactive. They are blind and without functional legs or means of locomotion, and their mouthparts are such so that they can only suck up semi-fluid food. (True or False)
- (4) What are the primary ways in which a honey bee loses water? (1 point)
- (5) Pine trees are an excellent source of pollen for honey bees. (True or False)
- (6) In order to kill yeast cells in honey and so prevent fermentation, it is necessary to heat the honey to 145f (63c) for --- mins. or 160f (71c) for ....minutes or some gradient between these two temperatures. A. 60: B.40: C.:1: D. 20: E.30
- (7) An adult Varroa female mite lays more eggs in drone cells than she does in female worker cells. (True or False)
- (8) The ropy condition associated with American foulbrood can be demonstrated when the larvae is:  
A. Dull White B. White C. Yellow D. Black or E. Brown
- (9) Larvae are most susceptible to chalkbrood if they ingest spores when they are --- days old and then are chilled briefly 2 days later. A. 5 to6: B. 2to3: C.:3to4: D. L to2: E. 4to5
- (10) Terramycin is effective in killing American foulbrood spores found within combs in the hive. (True or False)

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## **Honey Jars for 2006**

I am pleased to inform you that your order for the above will be delivered to Bob Hunter's house on April 13th for collection by you on Friday April 14th or Saturday April 15th Payment to be made on collection.

Please make a note in your diaries. your co-operation is sought to meet these collection dates to avoid putting Bob's garage out of action longer than is necessary. Thank you for your help on this matter.

*Phil Wiggins*

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### **For Sale**

#### **I'm Spring Cleaning!**

I have lots of spare honey jars - mini pots, quarter, half and three quarter pound up to 1lb jars.

An ideal starter kit for a new beekeeper, or a supply for an existing beekeeper.

They are all yours for the bargain price of £20, which will be donated to the Kenyan beekeepers I recently visited.

Buyer collects (High Wycombe).  
Anna Chambers 01494 44 28 62.

# Seasonal Tips and Reminders - April 2006

We've had much more of a winter this year with several prolonged cold spells when the bees have been stuck indoors. They must be bursting to get out, defecate, orientate to where their home is, and then go foraging. So it is not a good time to have a line of clean washing out near a hive!

At last the weather has turned more spring-like and changeable: but about a month later than last year. The forecasters are talking of a drought to come: but there is enough ground water for the spring flowers. In terms of forage the Crocuses and Daffodils are out; the Hazel almost over, and soon there will be blossom on the Prunus and Cherry-Plum. Next should be the Sallow catkins. I'm hoping that a real warm spell gets going soon, then we will see the first bumblebee queens getting about – a sure sign of spring.

If you haven't done it yet, the first job will be to remove the mouse guard, remove the matchsticks that prop open the crown-board to give through ventilation: and also clean and replace the floorboard. Better still replace a solid floor with a Varroa screen floor.

Make a check for level of Varroa infestation by natural mite drop down. Follow the guidance given in the new DEFRA booklet 'Managing Varroa' PB10859, which has a large picture of a single Varroa mite on the cover. They have been available at our meetings for some time now: and supersede the earlier one of the same title (MAFF leaflet PB 2581 1996) which has a photo of mites on sealed brood cells. If necessary, I would treat the colony, following the manufacturer's recommendations. You can use the "Varroa Calculator" to guide you on "Time before Treatment" with a varroicide. (MAFF leaflet PB 3611 1998 – or find it on the NBU Website. [www.nationalbeeunit.com](http://www.nationalbeeunit.com)) Alternatively you can apply a varroicide (Apistan, or Bayvarol) for 24 hours over a screen floor, to allow the mites to fall onto a paper insert. Then assess their numbers.

Hopefully mite levels will again be low in the apiary this spring: and hopefully we will get another year or more before the mites become resistant to these control agents. If you haven't started already, make 2006 the year you move to Integrated Pest Control, to maintain mite populations at manageable levels with minimal use of control chemicals. If you are thinking of buying, or making, some new floorboards, go for open mesh floors: they will soon be an essential part of Varroa control.

April is the time that really active Beekeeping should get going ..... weather and temperature permitting. But at a time of very variable weather, what does this mean? The late Harold Aplin, who kept bees for 60 years or more, used to say "Wait until you can be comfortable outdoors in rolled up shirt sleeves." If you follow that advice, and work fast, keeping the colony open for just a short time, you'll minimise the risk of chilling brood due to heat loss.

When you make a brood chamber examination for the first time, check over about five frames. Keep your eye out for the queen. With a small brood nest you're much more likely to see her. (So it could be a good time to mark the queen – she'll be much easier to spot afterwards.) Look also for eggs, larvae, and the presence of stores. The overall hive weight alone is not enough, since brood weighs nearly as much as stores. If the colony seems low on stored honey (at the tops of frames, and on the outer combs)

feed them some sugar syrup. At this time of year the balance of adult bees to brood is very one-sided, and they can't bring nectar back to the hive as fast as they use it.

As soon as practicable, remove about three of the old brood frames, and replace them either with new drawn comb, or more likely with new frames of worker foundation. Put these at the side of the broodnest, with a stores comb outside them. Be careful not to split the brood area.

As soon as the broodnest starts to expand towards the outer combs, put on a queen excluder, and a first super above it. If the weather is changeable, put the super over a sheet of newspaper. Prick a few holes in it to help the bees chew it away so they can occupy the extra space as soon as they need it. This super will preferably have mainly drawn comb; and is added not only to give honey storage space, but also to cut congestion, and make bee-room in the brood chamber.

Take care when handling frames of drawn comb in cold conditions, since beeswax is then very fragile. When you start to get stored supers and frames back into use, it's important to check them over and to cull those with old or badly shaped comb. It's also a good time to check that the Frame Runners, or Castellations are positioned correctly in the box. The frames should all align correctly and have the correct Bee-space below (for bottom bee-space), or above (for top bee-space) the frames.

Once things start, we're likely to get a sudden rush of bee forage - with flows of nectar and pollen. An active colony in April will be foraging hard for pollen, water and nectar as soon as it is available. We need some warm weather to kick things off, but expect a sequence of useful flowers from Sallow and Blackthorn, Dandelion and trees like Cherry and Plum, then Sycamore and Horsechestnut. At the hive entrance look out for Dandelion pollen (strong yellow) and greenish pollen from trees like Sycamore. Brick red pollen will be from Horse Chestnut, although it's usually May before that's in flower. The Oilseed Rape is looking late this year, so I expect it will be late in the month, more likely May before a rape nectar flow starts.

Then, as the first super starts to fill with honey, you'll smell the aroma from the flowers as the bees fan at the entrance ..... a lovely time to sit beside a hive, listen, watch, relax and wonder.

*Clive Hill*

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## Life in the 1500s

Meat was not very plentiful and a lot of vegetables were eaten.

Sometimes they could obtain pork, which made them feel quite special.

When visitors came over, they would hang up their bacon to show off. It was a sign of wealth that a man could "bring home the bacon".

They would cut off a little to share with the guest and would sit around and "chew the fat".

*Phil Wiggins*

# INITIATION

Becoming a beekeeper is like joining a religious order. It is important to receive instruction about the principles and the way things work before you start. Then, there is the initiation ceremony for which you must dress up in strange pale clothing hiding your face with a veil. Around you are similar beings in similar clothes but who are they? You cannot see. There could be, your postman, the chap down the road, your bank manager, the Imam from the Sikh temple, the funeral director or the lady from the supermarket check out. Then, the smoker is lit, the air clouds over and a scent of burning pervades. The hooded figures drift towards the boxes arranged on low platforms amongst the grass and flowers. Bees can be seen flying in and out from a shallow slot near the bottom of the boxes. The bees take no notice of these strange beings who in their turn take care to keep the flight paths clear.

The high priest moves towards one box and takes a flat metal wand from his pocket, all gather round whilst an acolyte puffs smoke into the entrance. A few moments elapse, words like queen cells, foul brood, varroa, starvation and virgin are muttered from under the veils until the propitious moment arrives and the acolyte lifts the roof off the hive and places it to one side. The high priest raises his wand and deftly releases the crown board which seals the hive. The novices are apprehensive. Will the bees come rushing out? Some ease their way to the back of the crowd making sure there is an escape route. Calmly the high priest delves deep into the hive prising out frames filled with honeycomb and covered with bees. He raises them and praises them. He marvels at the work of the bees, he points out the tiny white eggs that the queen has laid and rejoices at the pearly white larvae. He hands the frame to a diffident novice instructing him to look and learn. He carefully replaces that frame and lifts out the next one. On this one are many cells covered in brownish wax, but then he notices a wax lid cracking and being pushed away, a young bee is being born. Bees are flying all round now though at the moment the hum is soft; but something is missing. We need to find the queen says the high priest. He moves with respect from frame to frame scanning each one carefully looking for the long thin abdomen and elegant legs. At last she is seen, surrounded by a circle of attendants carefully stroking her, to collect the magical essences she exudes and spread them to all the other bees in the hive.

The novices are thrilled. Such wonderful miracles of life have been revealed on this warm afternoon but suddenly all are aware that the pitch of the humming is rising, the hive has been open for too long and bees are pouring out of the hive. An alarm has been triggered and they are coming to attack the enemy. The smoker is immediately pumped to douse them with smoke and the high priest still working carefully replaces the combs, the lid and the roof. By now all the watchers have moved away but persistent followers are still battering at their veils. For the novices fear is in the air, extreme fear for one who has a bee inside the veil. The acolytes help and comfort him but point out that it is important to be stung on two occasions before becoming a true beekeeper. The high priest comforts him with the insights and wonder of the hive.

As the procession moves away the bees depart to their hive, bee suits and veils are removed revealing a convivial group of very ordinary mortals looking forward to having their honey for their tea.

*Sylvia Chamberlin*

## News off the Web

It has emerged from a leaked email that one of the major GM companies in the US is working in a rather surprising product area. With the huge success of very low calorie sugar substitutes like Splenda they are now working on the genetic modification of some plant species to make them produce the alternative sweetener rather than ordinary sugar.

It appears that sugars can be classified as either right hand (dextrose) or left hand (sinistrose) depending on which way they rotate a beam of plane polarised light when it is shone through a solution of the sugar. Almost all sugars produced naturally are right handed and humans and other creatures can only metabolise and benefit from the calories in the right hand sugars. Converting the right hand sugar to left hand sugar means that we can get all the sweetness of sugar without the dangers of an expanding waistline and rotten teeth.

The leaked email outlines the difficulties that the research workers have had with genetically modifying the obvious candidates, sugar cane and sugar beet, and so have moved on to nectar producing plants like rape and field beans where they can rely on bees to harvest the modified sugar. When it was pointed out to one of the senior researchers that if the bees collecting the nectar are unable to metabolise the sugar they will all soon run out of energy and starve to death, he thought for a moment then said "If the bees can't do what we want them to do, we'll just have to modify those little bu\*\*ers too".

*Ebrill Ffwl*

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## Answers to Phil's Quiz

- (1) \*A way to increase your colony numbers to make up for Winter losses.  
\*Reduce bee population and congestion in the donor colony, thus reducing the probability of swarming.
- (2) From the strong donor colony take 2 frames of sealed worker brood, 2 or 3 frames containing honey and pollen, and shake in another frame of nurse bees. Introduce a queen or queen cell to the Nucleus. (3) True.
- (4) Considerable water can be lost through respiration although the air intake through the spiracles contains the same concentration of water as the environmental air. The air that escapes back out of the spiracles is saturated with water. Loss is also experienced by evaporation from the cuticular surface but is much lower due to the waxy coating.
- (5) False. While honey bees collect large quantities of pine pollen, nutritionally it a poor source of pollen.
- (6) E. 30: C. 1
- (7) True. In a worker cell the maximum number of eggs laid is 5. In drone cells up to 7 eggs may be laid.
- (8) E. Brown
- (9) C. 3 to 4
- (10) False. Terramycin does not kill American foulbrood spores, it purely delays spore growth while allowing individual larvae to survive but does nothing about the virulent spores.

Items for publication will be accepted as hard copies (typed, printed or handwritten) as long as they are totally legible. Normally the closing time for material will be 7am on the 1st of the month

Send them (preferably unfolded) to:

Newsletter, 22 Claremont Gardens, Marlow, SL7 1BS.

E-mails (**without attachments**) can be sent to:

hwbka.newsletter@tiscali.co.uk

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