

BBKA News

The newsletter of The British Beekeepers' Association,
incorporating the **BRITISH BEE JOURNAL**



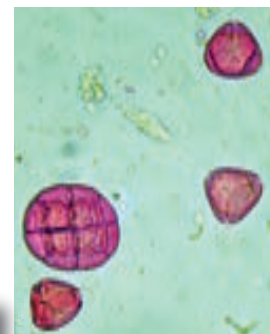
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Win-win at Hampton Court Palace Flower Show



Trees and Bees

Plant a bee-friendly tree in your garden and discover how it can enrich your bees' forage. Turn to page 14 for details.



Pollen in Honey

Do you want to describe your honey by its floral sources? Analysis using microscopy might help do this, as shown on page 17.



Above: Wild flower bee garden; Below: Bee House exhibit, photos by Roger Cullum-Kenyon; Left: HRH Camilla Duchess of Cornwall meets the team, photo supplied by Tim Lovett.



The Bee House Exhibit at Hampton Court this year was awarded Best Marquee Exhibit in the Show; a rich reward for the organising team and sixty volunteers, mainly from Surrey, Twickenham and London BKAs. The wild flower bee garden built by local designer, Rachel Parker-Soden, in which the bee demonstrations took place, likewise earned a

Best in Show award. To cap it all, one might say 'crown it', we were visited by HRH Camilla Duchess of Cornwall who was presented with a copy of the *BBKA Guide to Beekeeping* to share with her own beekeeper.

Tim Lovett, Director of Public Affairs



NDB Advanced Course

Read a participant's review of this course, held in York, for those people intending to take the NDB exam. Read more on page 26.





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Chairman's Letter



As the deadline for the implementation of restrictions in the use of neonicotinoids draws near, it is still unclear how the UK farmers and growers are going to adapt their practices to take into account the lack of availability of neonicotinoids for crops such as oilseed rape. We continue to have a dialogue with the Government, the NFU and the crop protection industry to see how this

topic will develop. It was a considerable omission on the part of the European Commission that no risk assessment guidance was given to Member States or the industries concerned on what options were available when the restrictions come into effect.

It is clear that additional spray applications of insecticides will have to be available for use if required and this could result in a potential increased risk to honey bees if they work the crops being sprayed. We are seeking assurances and demonstration that good stewardship in the use of the alternative products will be reinforced.

The announcement by Lord de Mauley of a national pollinator plan is very welcome, but I would remind the Government that the BBKA called for nutrition, forage and habitat to be part of the remit of the Healthy Bee Plan when the plan was first proposed. We will constructively engage in the development of the national pollinator plan with these considerations included.

We are now seeing the results of the hard work and efforts being made to raise sponsorship money and funds for the BBKA. It takes time to gain the confidence of a potential sponsor or donor and demonstrate why they should be supporting the work of the BBKA and its members. Some of the funds raised will be used to support new research and we will be announcing these projects in the coming weeks.

In the meantime I hope your season has been a good one, that your bees have produced sufficient honey for you to take a share and that you have been able to increase the number and health status of your bees. It will be interesting to see whether we have been able to make up last year's winter losses during this summer and it is vital we prepare our bees well for the forthcoming winter period.

David Aston, NDB,
BBKA Chairman

Cover photos: Main images: Roger Cullum-Kenyon and Tim Lovett; Top right: Julie Tenney; Middle: John Chandler; Bottom: Dr Richard Bache.

Disclaimer: Opinions expressed in articles in BBKA News are those of the authors and do not necessarily reflect those of the BBKA.

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In the Apiary

Winter preparations are now upon us and we should all be doing our best to ensure our colonies have enough winter stores and are large enough to survive the winter ahead, as Margaret Murdin describes.

By now most of us will have removed our summer crop of honey and the colonies will be making serious preparations for the coming winter. In some parts of the country the bees will still be foraging on Himalayan balsam but try to resist the temptation to remove this honey as a late crop because any stores the bees bring in now should really be theirs.

Do your bees have enough winter stores?

It is necessary to check the amount of stores in and around the brood nest and ensure that each colony has about 20kg of stores as honey and/or sugar syrup. If the colonies need feeding this should be done as early as possible this month to give the bees enough time to evaporate the water and fill their larder before the weather turns cold and they cluster. Use thick syrup and a large feeder so that as many bees as possible can take it down rapidly.

Our bees should store the food we give them rather than turn it into brood. Ideally the workers will have cut the queen's food intake and she will have reduced her laying. She will not stop altogether, but the brood nest will be much smaller. Ideally, as new workers emerge, their vacated cells should be filled with stores. A large amount of late brood can be a problem because the workers must use precious stores as an energy source to keep the brood nest at a temperature of 35°C. Also, if the weather turns very cold suddenly, the colony will cluster and this brood will be neglected.

The bees will also be building up their 'fat bodies' as an internal food store for both winter and spring use. The colony uses few stores in the winter so really we are doing our spring feeding now, in the autumn.

Is your colony big enough to overwinter?

The other thing we must consider is the size of the colony because large colonies usually overwinter more successfully than smaller ones. We could think about uniting smaller colonies, but first we must consider why they are small. They may be nuclei that we have been building up or perhaps they are colonies that have failed to thrive or have an elderly queen. It is vital that we understand why the colonies are small before uniting them and our hive records should help. You can see why it is important to keep accurate

records. Perhaps the colonies are small because they are diseased so we must test them by taking the usual sample of thirty older bees and checking for nosema and acarine. If they are clear and there are no signs of foul brood or varroosis then they are safe to unite.

You can unite smaller colonies or, if they are healthy you can try to take them through the winter as nucleus colonies to be built up in the spring. If you do wish to unite colonies then they must first be moved next to each other. Remember bees can be moved less than three feet or more than three miles otherwise they will

return to their original location. You can move them a couple of feet every few days until they are adjacent. Then, using your records, decide which queen you wish to keep. Perhaps one is more defensive, produced less honey, or kept trying to swarm. It depends what colony traits are important to you.

Remove the queen you do not intend to keep. Open the queen-right hive and place a sheet of newspaper directly on top of the brood box. You can hold it in place with a spare queen excluder if necessary. Make a few small holes in it with your hive tool and place the brood box with the now queenless colony on top. Replace the queen excluder, the super, the crown board and roof. Leave the colony for at least a week and you should see what looks like chewed newspaper coming out of the entrance.

If you are worried that the queen may not survive in the combined colony then you can keep the discarded queen in a small nucleus until the colonies have fully merged. After a week or ten days you can open the combined colony and rearrange the brood nest and stores and estimate the feeding

requirements for winter. You can then be confident that you have a colony of healthy, well-fed bees that should overwinter successfully.

And now is also the time for planting those spring bulbs so that the successful overwintered colony has crocus and snowdrop pollen as a protein supplement next spring.



Start preparing for winter now; you cannot tell how harsh or long it will be so make sure your bees are in their best possible condition before the weather turns colder. Photo by David Wootton.

**Margaret Murdin, Master Beekeeper,
Ormskirk and Croston BKA**

Chairman's Day and the BBKA Vision

In order to evolve to meet future needs BBKA Trustees have been discussing its vision for the coming years and how it might need to adapt to meet future challenges.

The BBKA Trustees want to work more closely with Area Associations on all aspects of their responsibilities and, for some years, the BBKA Forum has been used as a sounding board for discussion between Trustees and Area Associations. This year we are replacing the BBKA Forum with a Chairman's Day on 14 September at the National Beekeeping Centre. It is hoped that the meeting will be attended by key local policy makers within associations who, perhaps, will create a better conduit for idea flows between the BBKA Trustees and Area Associations.

We are in a period of substantial change that affects all aspects of the work of the BBKA. These changes have put enormous pressures on a charity with our limited resources. A topical example is the issue of neonicotinoids about which the BBKA was being pressured to express its stance. The Trustees' long gestation period was necessary to enable a considered view, based on exhaustive analysis of the scientific data before declaring our position, but the consequence was increased credibility with the wider public and policy makers. Other examples include the way we manage our bees, the support and influence we receive from the general public and BBKA funding. Also, public relations skills are becoming a more significant element of our armory. While the Trustees are expected to meet these challenges and formulate the most effective solutions, it is imperative that they are shared with the membership.

The BBKA needs a focused, five-year plan, and has begun by establishing its vision and mission statement (see above), which together encapsulate the published strategy document announced in *BBKA News* in August 2012. The two statements will help both existing and future Trustees to focus and manage our limited resources, both financial and manpower, on the best outcomes for the goals of our charity. The brain-storming that created the mission statement involved identifying keywords for each of the clauses (coloured differently) and further evaluating these in terms of what is needed ('Needs') to achieve this and how this can be done ('Means').

The BBKA vision: A Britain Buzzing with Honey Bees

The BBKA mission statement:

BBKA to create a **thriving honey bee population** achieved by **better skilled beekeepers**, working with an **informed public** and supported by a **responsible agro-industry** to the benefit of the environment and people.

How best to achieve the BBKA vision?

Thriving honey bee population

Keywords: Biology, health

Needs: Food – forage; shelter; water; good health and disease control

Means: Research – practical solutions; good government policy; investment and public support

With an informed public

Keyword: Communication

Needs: Identification/ recognition of the honey bee; education about honey bees' habitat, lifecycle, biology, needs; relevance to the wider environment and people; public appreciation of their value; identification of the target audience and appropriate messages for each group: general public, politicians, gardeners, environmentalists, retailers, NGO links, kindred organisations, BBKA membership

Means: Website; social media – Twitter, Facebook; shows/exhibitions; lobbying; BBKA publications; literature; PR – media: radio, TV, film, press, statements; supporter schemes; talks – local and national; internet – YouTube, links, etc

With better skilled beekeepers

Keyword: Skills

Needs: Knowledge; practical expertise and trained beekeepers (therefore, training)

Means: Structured learning; training programmes; mentoring; apprenticeship; scholarships; facilities/resources; measurement system [exam] and member communication

With a responsible agro-industry

Keyword: Stewardship

Needs: Develop and implement safe agri-practice, which will benefit honey bees, i.e. hedgerows

Means: Influence agronomic practice; ensure correct stewardship of pesticides; regulator influence – national and EU; research result analyses; change the behaviour of horticultural workers – both in the professional and amateur trade

What will be the benefits of undertaking to achieve the BBKA vision?

- Food – through improving food webs involving humans and all wildlife in the natural world
- Pollination – providing food security in an economical way
- Bio-diversity improvements and/or maintenance
- Improved landscape and habitats
- Healthy honey bees – leading to good yields of hive products such as honey, wax, propolis, pollen, royal jelly; promoting the craft, community and sustainability of the honey bee.

What will be discussed at the Chairman's Day?

The BBKA operational plan has been developed from the vision and the mission

statement. This is intended to help the Trustees and staff manage and achieve its declared objectives. Progress in meeting the 2013 operational plan will be discussed at the forthcoming Chairman's Day. Financing of the BBKA activities will be a key discussion topic because the financial resources available to the BBKA means that we may have to rely more on external funding rather than funds received from members' capitation fees.

The BBKA is keen to make the Chairman's Day a success and to further improve its communication with members and learn about what they wish the BBKA to do on their behalf. Please make sure your association will be represented on the day.

Martin Tovey, President

Climate Change in the UK and Beekeeping

Is our climate changing? Is this affecting beekeeping? These are questions that you may have asked yourself in recent years. Some evidence gathered to help answer such questions is presented below along with some suggested implications of this.

“Things are going to have to change around here, if you want them to stay the same”, a line read recently which resonated about climate change and beekeeping. We beekeepers love what we do, especially the way it is part of the natural world, but that natural world is changing and beekeepers need to respond to those changes to ensure that the welfare of bees and the benefits we accrue from them continue.

The climate at its simplest is just the average weather, and is expressed in terms of a variable over time and space (examples of these are temperature or rainfall; decades or centuries; locale or county). Descriptions of climate are applied to regions, for example the British Isles experiences a mid-latitude maritime climate of mild winters and warm summers with rainfall around the year. We all know that the weather in the UK over the last few years has given us extremes of floods, droughts and cold, but how these specific weather events relate to overall climate change is not the topic here. What concerns us is climate change that has already been

average UK temperature has risen by about 0.3°C per decade as measured in thirty year climate averages. Changes in rainfall over this period have also been observed but trends are less clear and regional differences are apparent. Similar changes are seen in the length of the growing season over the same period. Further information is available online from the UK National Climate Information Centre at <http://www.metoffice.gov.uk/climate>.

The effect of this climate change on the UK has been to advance the onset of natural events such as plants appearing, flowers opening and insects emerging, and to change the habitable range of many species. This area of study is called phenology, and there are many examples which could be used to illustrate phenological changes in the UK (see <http://www.naturescalendar.org.uk/>). The bee-friendly horse chestnut, *Aesculus hippocastanum* is a good example, with flowering now occurring on average 25 days earlier than it did in the 1960s and 70s; see Figure 1. The effect on bees and other insects is that while there may be

a longer season for activity as there are more days where the temperature threshold for flying is reached, availability of pollen and nectar may no longer coincide with colony build-up. However, there is little research in the UK on the effect that this had on the timing and amount of honey harvesting.

Evidence derived from the diary of a Rutland beekeeper, who had presumably never heard of ‘climate change,’ over the period 1940 to 1968 shows that there was a correlation between the average spring temperature and the date when the super was put on a hive, although the data are ‘noisy’ because of many other factors which affect this event. Analysis shows that over this period there was a long-term trend of an advance in the date on which the supers were put on to the hives, but again with a lot of variation in the data due to other non-climatic factors which influence the event (See Figure 2).

There is also research from Poland on climate in relation to both the date of the spring cleansing flight and of honey harvesting. Interestingly, the start of cleansing flights appears to be influenced more by the temperature of the previous autumn than by that of the current spring. In the USA there is ongoing research on climate and the amount and timing of honey production, which is available online at

<http://honeybeenet.gsfc.nasa.gov/index.htm>.

So what does this mean for the future?

What changes can be expected in British beekeeping over the next thirty years under continued climate change? Firstly, there are the seasonal changes that directly affect bees similar to those seen and described above. The effects of these could be a longer June gap, a longer laying season for queens, a change in swarming patterns,

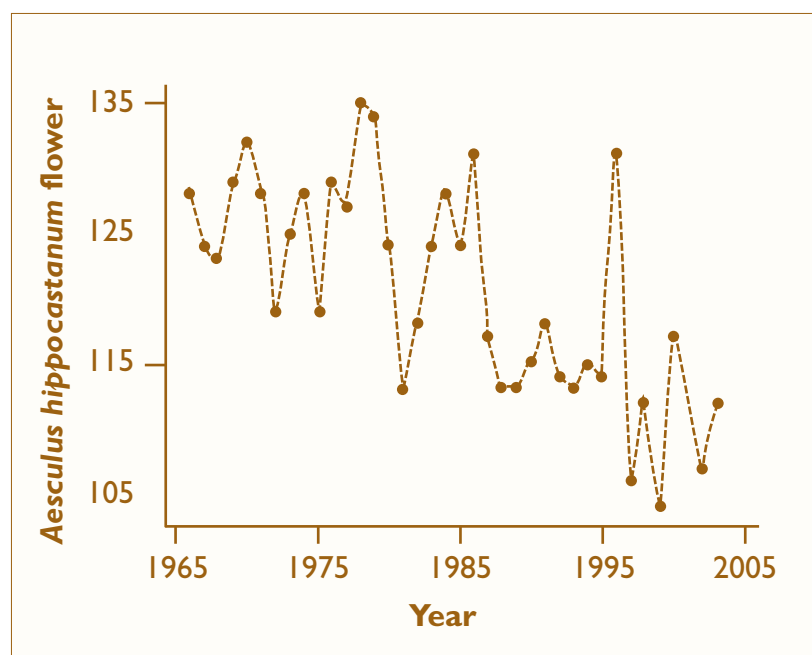


Figure 1. Flowering date for the horse chestnut, *Aesculus hippocastanum*, in central England. Vertical axis is the day flowering was observed, and is numbered from the start of the year; horizontal axis is the year of observation. Figure courtesy of UK Phenology Network.

observed in the UK, its effect on natural systems, in particular bees, and further possible changes in climate and what they might mean for future generations of beekeepers.

There are good observations of the UK's weather and climate starting in the late 19th century for both rainfall and temperature, while more recently there are also records for sunshine hours and length of growing season. Since the middle of the last century the

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changes in foraging with changes in flower availability, changes in lifecycle due to a shorter over-wintering period, further advances in spring activity, and changes in winter survival due to changes in winter activity (more winter activity means a greater food

requirement). There will also be impacts on bees from changes to natural variability within the climate, with possibly more extreme events such as floods, heat waves and droughts occurring. Then there are the effects of climate change on other natural systems such as pests, parasites, their spores and disease vectors, which may affect bee vitality. There are changes to the natural world concerning the synchronicity of events (will some flowers be opening too early for bees?) or impacts on crops (loss of vernalisation) and threats from the spread of (to us) previously unencountered pests and diseases. Lastly, there will be changes to human or managed systems in response to climate change which may impact upon the world of beekeeping such as growing different agricultural crops either for the crops' climate suitability or for a different end-use e.g. bio-fuels.

Climate change observed to date has had a small, but clearly noticeable, effect on bees and beekeeping in the UK which implies that the impacts of future projected changes may be increasingly significant. They are difficult to describe fully because of multiple interactions and secondary effects, but things are certainly going to change around here.

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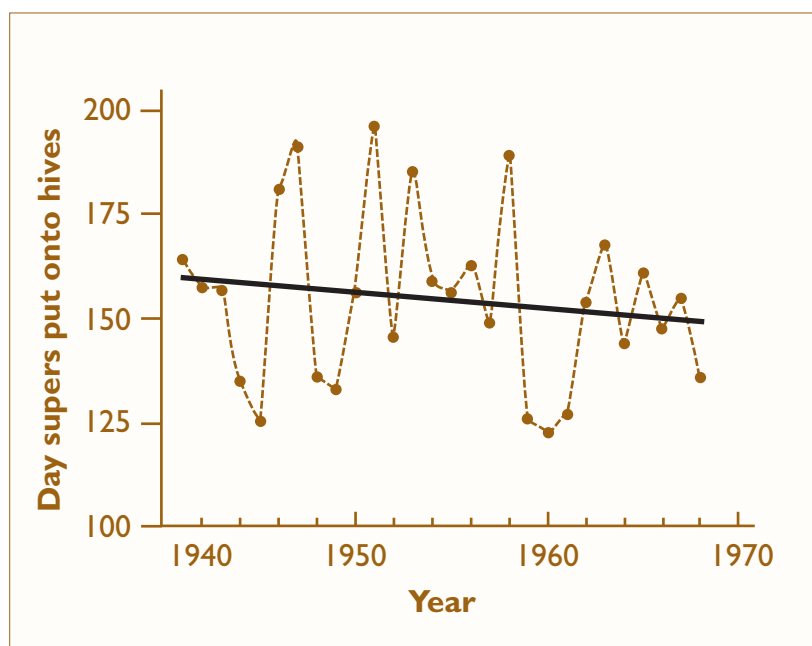


Figure 2. Plot of the day from start of the year that the supers were put onto hives (vertical axis) for certain years (horizontal axis) over the period 1940–1968. The thick black line is the trend line showing an advancing date with time. Figure courtesy of UK Phenology Network.



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Hive Ventilation

There is much myth and misleading information concerning hive ventilation. I blame no one but the un-enquiring beekeeper who accepts without question what he is told. Unfortunately, bad 'received wisdom' seems to prevail. The object of this article, from Ken Basterfield, is to explore the realities.

Feral colonies

These have been about for millions of years and certainly they have survived without man's intervention. The prehistoric 'wild wood' was very real, only having been cut down by man for farming and fuel within the last few millennia. For our western honey bee, *Apis mellifera*, wild bee nests have predominantly been decay holes in the boles of trees, few other protective structures being available. These nest sites would have been of their choosing not ours, and this should inform us of their desires when we seek to impose our wishes on them.

How big would these preferred natural nest holes have been? It is race-related of course, but Seeley and Morse¹ have described some interesting research on cavity volumes and entrance sizes that bees would naturally choose. The figures come out as a preferred volume of 20–80 litres along with an entrance opening of about 16 square centimetres. This quite closely correlates with modern crownboard feed hole areas and also with reduced entrances.

The natural nest environment

Firstly, the bees would not have survived and proliferated if the natural nest had not provided protection from rain and water ingress. The swarm scouts would have seen to this when the nest site was chosen. Big trees, with suitable decay holes, act as a big damper on temperature and humidity fluctuations.

Humidity would have been relatively stable and, likewise, to some extent, the nest cavity temperature. In essence, a large mass of wood around the nest would smooth out diurnal and seasonal temperature changes; it is a good thermal insulator and a large thermal mass which does not heat and cool rapidly, (just think of the early Canadian settlers in their thick walled log cabins surviving -40°C winter temperatures).

Seeley and Morse¹ also found that natural entrances were likely to be at the bottom of the nest and top ventilation non-existent. However, the water vapour produced from respiration in the nest would have been absorbed into the timber, an effect similar to top ventilation.

Modern hives

Just compare the natural nests with our thin-walled hives. The latter offer great convenience to us beekeepers, but do little smoothing out of water vapour levels through absorption, nor do they reduce hive temperature fluctuations because they have poor thermal insulation. The minor difference in single-walled hives' timber thicknesses is pretty irrelevant in this context. Look up thermal resistance and U-values and do the calculations to convince yourselves.

It is a good job then that our bees can manage their hive/nest environment in spite of us. But how do they do this and how do we, by our decisions, help or hinder them? Although some people scoff at WBCs, they are in fact the best of our timber hives for wintering. The double walls with an air gap provide better heat insulation and water shedding. There is evidence emerging that polystyrene and polyurethane foam hives may be better still for wintering, but ventilation is still necessary. The choices we make in relation to top and bottom ventilation of modern hives can influence the bees' workload and ultimately their chances of success.

Ventilation

Bees are very good at accurately sensing the immediate nest environmental conditions and controlling these. By and large in the active season bees can ventilate the hive by fanning their wings to reduce:^{2,3}

Relative Humidity to ~45%
Temperature to 35°C +/- 0.5°C
Carbon Dioxide to 0.1–4.3%

Clustering and consumption of food can raise the levels of all three of these variables. The bees do not have the option of fanning when in a tight cluster in the cold of winter and consequently it is worth us considering whether we should give them different ventilation aperture sizes in summer and winter. Indeed environmental control is actively undertaken by bees in the summer, and this is somewhat passive in the cold of winter. A number of competing practices are promoted now in relation to where and how big these apertures should be. Some are more style than purpose, more fashion than function. It is only when

we try to understand what the bees' need that we can come to an objective decision on what we can best do for our bees. It is very helpful to refer to wild or natural nest conditions, i.e. the ones that bees would choose for themselves.

Top ventilation methods

- ❑ Open feed hole in the crown board and mesh protected ventilation holes in the side of the roof,
- ❑ Raising the crown board on matchsticks in the winter,
- ❑ Top quilts of hessian, old carpet or polystyrene with or without the feed hole covered.

Bottom ventilation methods

- ❑ Full width entrance, with or without mouse guards,
- ❑ Reducing entrance blocks to, for example, 100mm wide by 7mm high openings,
- ❑ Open mesh floors.

And any combination of these could be applied to the hive in any season!!! So, can you see that this discussion could be very wide ranging? Since winter will soon be upon us I will cover winter ventilation now and come back to summer ventilation at a later date ready for next summer.

Winter ventilation

In the depth of winter a good sized cluster consumes about 6oz (160g) of honey per week, I know this to be true because I have measured it on a scale hive. Contrary to popular opinion water vapour is lighter than air and naturally ascends. That is why the clouds, being cooled and condensed water vapour, are usually up in the atmosphere and not on the ground. Ask any glider pilot, rising unstable moist air helps provide the thermals that he climbs on. Some water vapour is used in the nest directly to convert open honey to the more digestible 50% water content. The rest, we hope, is removed by convection, keeping the hive free from mould and condensation.

Carbon dioxide (CO₂) is heavier than air and descends. Water vapour and CO₂ are both released by the bees when honey is metabolised, generating heat to keep the cluster warm. To a thermodynamicist; a bee is a heat engine in itself, just like your car's



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Norman Robbins May 2013

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engine, and hydrocarbons and oxygen are taken in, with water and CO₂ being emitted along with liberated heat.

In a winter cluster, for the outer bees to continue to cling on, the cluster's surface temperature must be at least 8°C. This is likely to be above the environmental temperature. Thus, the heat generated by the cluster must achieve this surface temperature and thermal convection currents created will carry air up the sides of the cluster. Warm air wants to go upwards and water vapour assists it, CO₂ wants to go down, but it is probably carried upwards in the stream of convected air movement. This upwards convection of stale air draws in fresh air from the bottom of the hive, sweeping out the damp air and helping to keep the inside relatively dry.

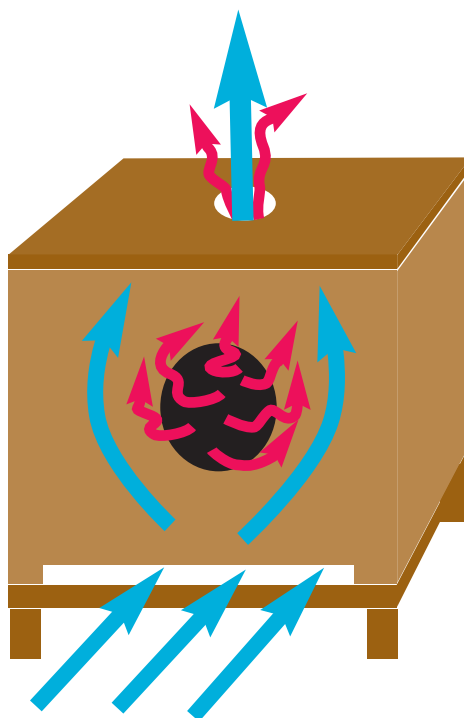
Propolised feed holes

I also need to deal with the myth of open feed holes being propolised and closed up by the bees. I have never seen this, but if a perforated mesh were to be placed over the feed hole then that would be propolised, although from a different stimulus. Keep the mesh off. I have seen occasional curtains of propolis at the entrance to reduce airflow in winter.

I think, from the foregoing, the point that top ventilation apertures are necessary when the bees are clustered has been made. Likewise, for a top outflow there must be a bottom inflow of air. Ventilation apertures are therefore needed at the top and bottom in winter. But how big should these apertures be?

How much heat and how much air movement?

There is a prevalent myth of gales of air rushing up through the hive with top ventilation and a supposed need for top quilts to stop this happening. Since 6oz of honey is equivalent to less than 5 oz of wax in energy terms we can use this to demonstrate the 'candle burning for one week' analogy. Here is the 'Blue Peter' test; a candle rolled from a sheet of foundation is about 2oz (8 sheets to the lb). How hot does the rising air feel with your hand above the burning candle? It is not very hot you will find, and it will only burn for about three hours anyway. Around three candles is the equivalent of one week's honey consumption, but made to burn for seven days, not just three hours. You would have to use the tiniest of wicks for the tiniest of flames for these candles to last the week. So there is not much rising air from the cluster and neither is it very hot.



You can prove the upward air flow from the cluster is of the lightest zephyr by very gently lifting the roof from the wintering hive, put your nose to the open feed hole in the crownboard and you will detect two things, the tiniest of slightly warm upward airflows and, hopefully, the lovely scent of a living winter cluster, sweet and resinous. So much for the gale, then!

The important thing is to avoid condensation and mould growth in the hive. To achieve this the convected water must stay in its vapour form all the way to the roof vents. And to achieve this it needs to stay warm. A cold roof will condense vapour into water and the roof will get wet. A roof built with good insulation is best, keeping the air above the crownboard warm until it exits the roof vents. A closed quilt merely condenses and absorbs the water since it cannot escape. Would you like to wear a wet vest on your back all through the winter?

A further point to note is that the air flow rate is dominated by the small aperture



Top: Upturned roof, showing the side wall vents (arrowed). Left: Diagrammatic sketch of the ventilation process. The winter bee cluster (black circle) generates heat (red arrows), which creates rising convection currents, drawing in cold air (blue arrows) through the entrance hole over the cluster. The rising, stale air, containing some water vapour, is released from the hive through the crownboard feed hole and roof vents, thereby ventilating the hive. Below left: The hive body with a raised floor to keep the bottom dry, full width mouse guard, and entrance block, and on open feed hole in the crown board. Photos by Ken Basterfield.

area of the crownboard feed hole in this airflow system. This is just like the throttle on your car controlling the air flow into the engine almost irrespectively of how large an air filter area you have upstream on the inlet tract of your engine. You should have guessed by now where I am going. If the feed hole in the crownboard is sufficient and dominant, why would we need a massive inflow area at the bottom of the hive? We do not, and that is why open mesh floors are not necessary for successful wintering. Neither do we need closed quilts on the top stopping the natural convective ventilation.

My own practice is to use solid floors all through the season. Reducing entrance blocks are used for protection against robbing, and they winter with full-width mouse guards. Hive top is with an open crownboard feed hole, two x one inch vent holes in the roof protected with mesh and 18mm weather and boil-proof (WBP) ply for the roof insulation. Birch ply is a better insulator and cheaper than Far Eastern. The whole lot is covered in 0.8mm galvanized steel sheet. It has served my 150 colonies for forty years. Proof enough for me.

Ken Basterfield, NDB

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Formation of the New Bradford Beekeepers' Association

Established in 1878, Bradford BKA, a once successful beekeeping group, had by the 1980s seen its membership dwindle. With fewer members willing to serve on the committee it was suspended from Yorkshire BKA and remaining members joined neighbouring branches.

The initial stimulus for forming a new Bradford BKA was provided when Bradford University approached Yorkshire BKA to train some of their staff and students in beekeeping and to help them establish an apiary within the university campus. Encouraged by the success of this apiary and the support of the university, the new association came into being. Seventeen interested people attended the first meeting in September 2010. This key group of activists comprised four experienced beekeepers, ten who had kept bees for just a year and three who wanted to start keeping bees. Luckily one of these members was the then national training coordinator for BBKA, one is a talented webmaster and one is a highly skilled networker within the local business community. The other founder members have both the talents and enthusiasm to make things happen.

Since these first meetings the association has blossomed and membership now stands at 65. The group has been so successful that it now runs its own equipment supplies depot to help people meet the costs of setting up their new hobby. The association has continued to hold winter meetings at the university and has entertained a series of excellent speakers of county, national and even of international renown. At the end of 2010 it was decided at a meeting that we now needed our own apiary site for training our growing membership.

Searching for an apiary site

Using various contacts the committee started approaching companies in and around Bradford as well as the local councillors in an attempt to find a suitable, safe location for our apiary where we could also train new beekeepers. After many offers and just as many disappointments the parks department of Bradford council asked if we would like to look at a site they thought might be suitable for our needs. So at the beginning of 2011 we were shown

the site; a bowling-green and club house. This was now surplus to requirements and the site was falling into disrepair.

The site comprised two greens and the club house. Fencing and hedging surrounded the site, which also had its own car park. It was perfect, and the rental deal offered by the council was well within our budget. Quite a lot of work was required to bring the place to a standard that we could use for summer meetings and a training apiary. We would keep our ties with the university and use their facilities for winter lectures. The 'hut' would now provide somewhere to store some of our equipment and a small library. We also decided that we would like to make an area of the hut available for honey extraction, so we have built and equipped it with custom built or loaned equipment.



We have had funding and help from many local companies with materials for the various projects being freely donated or at substantially reduced costs. Members also donated equipment, expertise and time to bring the apiary to the point where we were able to have a grand opening and we are now fully ready for training and promoting beekeeping in Bradford. We have run a few training courses for members and for a few of the companies that have sponsored us. We have had two businesses take up training and they now have hives on their own land; these are M&S and the Yorkshire Building Society.

The opening was on Thursday 16 May 2013 with officials and dignitaries from the Bradford area being invited. On the day the weather proved itself to be in favour of beekeeping; the sun shone and Lady Lynne Morrison conducted the official opening.

After the site was officially declared open there was a lunch and 'guided tours'



Teaching at the apiary (above), kitting up ready for a training day (below, left) and the extraction room (below). All photos courtesy of Paul Seage and Joelle Trousdale.

of a hive for those who were interested. This offer was eagerly taken up by all our guests and we were able to inspect all hives and allow all guests to experience the joys of beekeeping. One headmaster returned to his school and ten minutes later four other teachers appeared and asked if they could take a look inside a hive. Luckily there was still one hive left to inspect and they were also given the treat.

All the official guests left the event thoroughly satisfied, having had a great day and the opportunity to see what we have achieved and, of course, the bees close up. They also took away with them a small bag with a memento of their day; a

hand-made beeswax candle, a small jar of Bradford honey, a brief history of the association and our vision for the next five years and beyond. Then, in the evening, we had a BBQ for the whole association and partners to see how the site had been transformed from the original derelict bowling club to a thriving apiary.

Our vision for the future

Our vision for the future is to increase the capacity of the apiary to accommodate larger training courses and to raise awareness in primary school children and teachers. We also want to become self-sufficient in bee and queen production at the apiary and to develop our extraction facilities and make them available to other associations. And lastly, we want to see the number of members increase in a manageable way.

Paul Seage, Chairman, Bradford BKA



Flower Power

September! Either the satisfying harvest of the hard work in the vegetable garden throughout the year or a period of sad reflection that the projects planned for 2013 have not been achieved — for yet

In September we enjoy a good range of *Helianthus* species as many of them flower in early autumn. The most striking is the common sunflower (*H. annuus*) which can grow to over three metres high. In some

European countries fields of sunflowers are grown commercially for the seeds and the oil they contain. I always grow a few plants for fun and for the seeds which garden birds, especially tits and goldfinches, will eat straight from the plate-sized flowers. You need to check before you buy sunflower seeds that you have the ones that produce seeds, because some modern varieties are bred to be sterile. All types of bees and many other insects visit



Above: *Helianthus*; Right: *Monarda*;
Far right: *Eupatorium*.
All photos by David Aston.

another year! September can, however, be a wonderful month of warm, mellow autumn days that enable our honey bees to add to their overwintering stores. Alternatively, it can be chill, wet and windy, which does not help anyone.

Beekeepers and gardeners were expecting a bad summer after the slow, cold spring this year when many plants were at least a month behind their normal flowering times throughout the UK. Then, suddenly at the beginning of June, our gardens exploded into vibrant colour and the temperature went up and up, and the lawns were too dry to cut. This has scorched cereals and reduced the yields of both agricultural and horticultural crops.

Usually a spell of very hot weather shortens the length of time that some plants will produce nectar and pollen and certainly throughout July bees were working very hard, perhaps in anticipation of a shortage of forage in the autumn months. When the weather cools some summer flowering plants can continue to yield nectar and pollen until the first frosts, these include Himalayan balsam, borage, hebes, heathers and late varieties of ceanothus.



the huge heads for nectar and pollen although the pollen lacks some essential amino-acids necessary for bees.

If you have the space for a tall background plant a very good choice is a species from the genus commonly called *Eupatorium*, a statuesque plant. Most of them are hardy and bear dense clusters of small tubular blooms in white, pink and purple which flower over a long period from late summer into autumn. They are worked by bees for both nectar and pollen. The wild species, *E. cannabinum*, which prefers a moist habitat is often found by streams and attracts butterflies such as painted ladies and red admirals.

Monarda, also called bee balm (*Bergamot* spp.), has ragged flower heads consisting of a number of individual two-lobed flowers with very long flower tubes. In some species only long-tongued bumblebees can access the nectar unless it has risen high enough in the flower tubes for shorter tongued bees to gain access. Short-tongued bumblebees can make holes at the base of the flower to access the nectar, and honey bees can also use them. Other *Monarda* species (e.g. *M. punctata*) have shorter tubes. *Monardas* come in scarlet, pink, purple and white which are stunning. They are useful for gardeners as the blooms have a long flowering period and they are reliable.

A useful and attractive annual from the Boraginaceae family is *Nemophila*. There are several species, patterned in white, blue and purple including *N. insignis* and *N. maculata*. They can be sown over a long period and a late sowing will flower into October. The plants are compact and low growing making them suitable for rock gardens and edging borders. Bees visit them mainly for nectar but pollen is also available.



Globe artichokes (*Cynara cardunculus*) are usually grown for the table and the flower head is removed before the petals open; they have an interesting and unusual taste once you have got to the edible part. When they are left to grow on as a garden flower they are a very attractive addition to the flower border, but need quite a lot of space. Like many other members of the Asteraceae family they are attractive to bees, especially to honey bees. Try a few plants next year and see how you and your bees like them.

Dr Sally Bucknall

Bees and Trees

I feel I am fortunate because most of my working life has been spent around trees; caring for them, learning about them, learning from them, watching them and selling them. It has given me an appreciation of the wider natural world and how we all, plants, humans, creatures great and small, interact and how we all need each other if the delicate balance of our world is to be maintained.



Alnus glutinosa foliage (above) and catkins (right).

It seems to me that nowhere is the fragility of this balance more acutely highlighted than when we examine the role and place of the honey bee. Of course, it is not usually until we hear about a matter on the television, internet or in newspapers and magazines that we begin to appreciate its seriousness, and so often it seems to me important situations are sensationalised into virtual soap operas. We have seen this recently in the arboricultural world with the dramatisation of ash dieback and oak processionary moth, to name just two recent problems with which we have to deal.

On the plus-side, however, at least it draws our attention to such matters and makes us aware of the possible consequences. Dire warnings have been posted about the production of our food if bee numbers continue to decline. No-one can predict the future with any certainty, but surely it is common sense to encourage bees and other pollinators. My colleagues and customers would tell you that I have long been a supporter of bees. I tell them that if we all do just a little bit for their cause by planting a few bee-friendly trees, under-planted where possible with other bee-friendly shrubs and flowers, then I firmly believe that together we can make



quite a difference in the bees' favour.

I appreciate I am currently 'preaching to the converted' and that many of you will understand the value of trees to bees. Bear in mind for a moment though that in a world which is gradually warming up (and I know some think otherwise) planting trees

Mespilus germanica flowers (below) and fruit (opposite).



makes sound sense from a human viewpoint because they provide shade, which in turn keeps our environment cooler, and give a wealth of other benefits which we may take for granted. Woods provide micro-climates which are generally cooler in summer and warmer in winter than the 'outside world', and therefore help to maintain an equilibrium and harmony.

That good old British native the common alder, *Alnus glutinosa*, is a good source of early pollen and also plays host to a wide range of wildlife. It grows into a medium size, conical tree, which is tolerant of virtually all soils and air pollution, and it can even put up with its roots being waterlogged for several weeks at a time. I love its winter catkins, and it is a good choice for low maintenance areas or wildflower meadows. Trees do not get much tougher than this, as Masterchef's Gregg Wallace might say!

The medlar, *Mespilus germanica*, is a fabulous tree with a spreading habit and is



Other bee-friendly plants include:

Amelanchier lamarkii

Corylus avellana

Crataegus laevigata Pauls Scarlet

Crataegus monogyna

Malus in variety*

Prunus in variety*

Pyrus in variety*

Sorbus in variety*

* Not the double varieties; bees do not work these

perfect even for smaller gardens, where it would make a wonderfully gnarled centrepiece. It has great character, with its attractive, large white flowers up to 5cm across offering pollen and nectar in May and June. The curiously shaped fruits it produces in autumn should not be picked until frosts return and they have to be 'bletted' or left almost to rot before they can be appreciated with a glass of port. Something of an acquired taste, so I think I shall stick with a Cox's Orange Pippin.

Few trees are more dramatic than the tulip tree, *Liriodendron tulipifera*. This is strictly one for the largest gardens, as it is a fast grower and can reach a height of twenty metres or more. Deep rooting and wind resistant, the tulip tree does well in most reasonably fertile soils. The large, cup-shaped flowers are a great source of nectar for bees during June and July and I am told very fine honey is produced by bees, which collect nectar from its blooms.



Liriodendron tulipifera.

available. It forms a dense, oval habit and produces its masses of spring flowers that open pink and turn white, providing both pollen and nectar. The young leaves emerge coppery red and then harden to green by late spring before they turn vivid red in autumn. *Amelanchier arborea* Robin Hill is a very good choice for residential areas as it provides plenty of interest with virtually no maintenance. Being such a small tree, it can be placed much closer to buildings than most others. There are very few trees which offer a superb floral display in spring and glorious autumn leaf colour but this is one of them.

I hope this brief run-through of a few of my favourite trees will have encouraged you to plant one or two for yourself and autumn is a good time for tree planting, for as well as being bee-friendly they are beautiful and there can surely never be enough beauty or bees in our world?

Julie Tenney, Barcham Trees

the RHS unflatteringly terms them) fruits in the autumn. I love the pinkish spring foliage of this rather elegant tree, which needs a position in full sun.

June berry, service berry and snowy mespilus are just three of the common names for *Amelanchier arborea*, which is a good choice for acidic soils. The North American selection, Robin Hill, is the finest



Amelanchier arborea Robin Hill.

Free Trees for Bees

The Woodland Trust is giving away free trees for bees to schools, community and youth groups.

Each spring and autumn the Woodland Trust supplies free tree packs to community groups, schools and youth groups across the UK. Packs enable groups to plant more trees, woods, copses and hedges in the shared spaces of their local areas. Helping support small-scale woodland creation, they complete our range of woodland creation offers.

The tree packs are available in a **choice of three sizes**; small — **30 trees**, medium — **105 trees** and large — **420 trees**. They come in a choice of themes; small copse, small hedge, wildlife, year-round colour, wild harvest, wetland and wood fuel.

They are designed to help groups choose the right species mix for their local area, and to appeal to the different motivations groups have to plant trees.

To secure a pack you must contact the trust before 13 September 2013 through: www.woodlandtrust.org/uk/communitytrees



Koelreuteria paniculata. All photos by Barcham Trees plc.

Following on through July and August, Pride of India, *Koelreuteria paniculata*, with its masses of small yellow flowers, held in panicles, provides a good supply of nectar, followed by lantern-shaped (or 'bladdery' as

Reader offer:

Barcham Trees offer BBKA members a **discount of 10%** off the purchase of their trees if BBKA members quote the following codes when ordering:

BBKA10: 10% is taken off members' price; **BBKA20/12:** 10% will be donated to the BBKA



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Pollen in Honey

Examining honey under the microscope can reveal a surprising amount of information about which flower types the bees have visited, the likely country of origin of the honey and, sometimes, even the method of extraction. Read on for a fascinating insight from John Chandler into the things that can be found in honey.

As a beekeeping microscopist one of the most interesting and useful services that you can provide for other members of your association is to be able to analyse honey samples. This is usually in answer to the questions: "Can I call this lime honey?" or "Will I be OK if I sell this as Moorland Honey?" or "is it good enough to be sold as Heather Honey?" You should be able to provide some form of answer, although there are many cases where things are not straightforward.

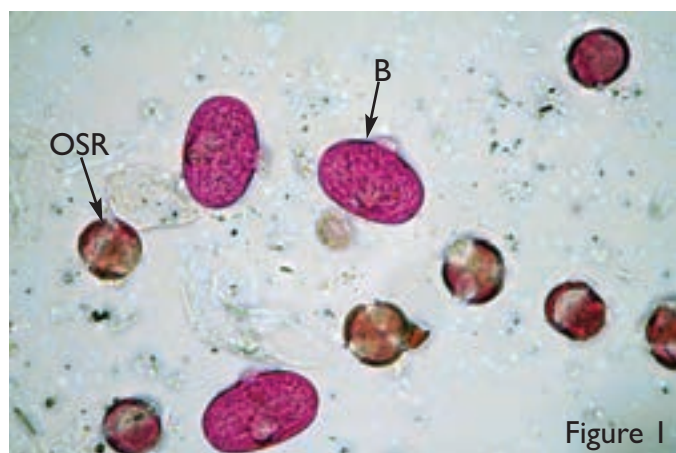


Figure 1

Figure 1 is a photograph showing oil seed rape (OSR) and field bean (B) pollen in a sample of honey from Lincolnshire and was labelled as 'Spring Blossom Honey'. It was a delightful honey to taste, but neither the bean pollen nor oil seed rape pollen were in such profusion that one could label it with confidence as a monofloral honey. Merely counting pollen types and working out percentages is not sufficient to label honey. You also need to take into account the problem of over and under representation of those pollen types in the honey sample and the effect that this will have on the percentage of nectar from the different floral sources.

The melissopalynologist (the person who studies pollen in honey) should be able to recognise a lot more than just pollen. An example is this Greek honey (a sample of which is shown in figures 2 and 3) from the slopes of Mount Olympus. It has provided me with many hours of seeking out strange objects that you would not normally find in most UK honey! The sample shown in figure 2 contains heather and clover pollen accompanied by a large serpent-like fungal spore (arrowed). Other types of spore were present as shown in figure 3; this is a type of *Alternaria* (arrowed). A large component of this honey was honeydew (see BBKA News, June 2013). From the honey analyst's point of view the number of pollen grains in the sample was low and there were soot particles (from forest fires) and algae present as well.

In African honeys, soot particles are quite common because the method of extraction often involves heating over an open wood fire. The honey may well have been gathered from wild bees as well as from hives. To show what is meant by the large number

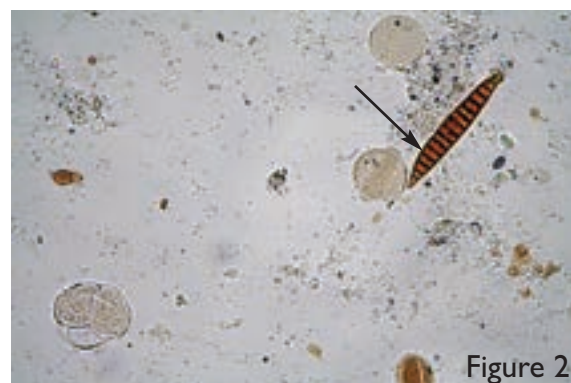


Figure 2

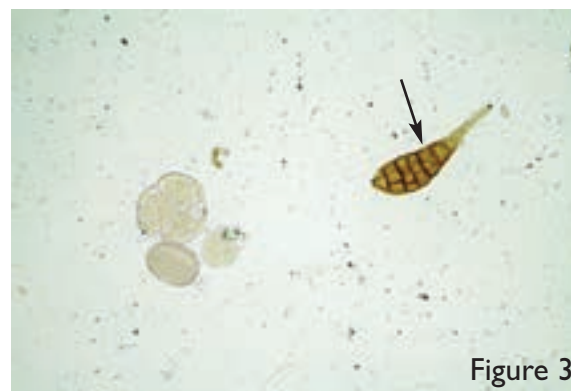


Figure 3

of pollen grains that may be present in a honey sample, look at figure 4 below of pollen from mangrove swamp honey in the Gambia. The large pollen grain in the picture is *Acacia dealbata*, which according to Rex Sawyer (*Pollen Identification for Beekeepers and Honey Identification*) is never found in British honey. It is common in tropical and sub-tropical honeys. Besides a large amount of mangrove pollen, there is a plumose hair and a mass of what might be algae.

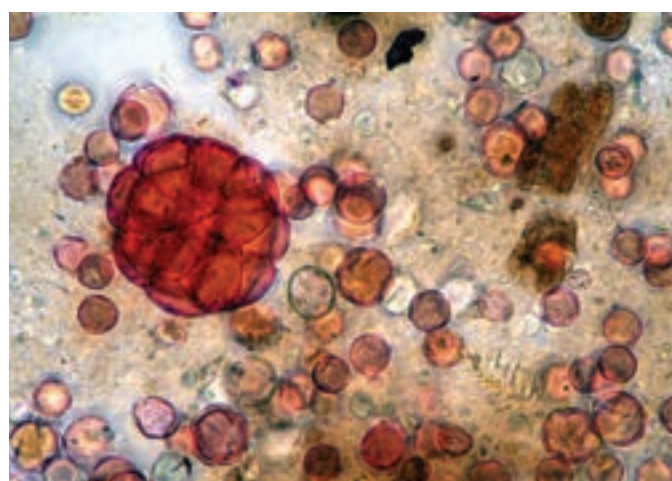


Figure 4



Figure 5

The strangest objects I have found associated with pollen, though not in honey, are nematode (N, arrowed) worms as shown in figure 5, presumably feeding on this corn cockle pollen. If anyone discovers such a beast in honey it will be a first!

The strange objects do not end with just animal and vegetable examples. I idly turned over to the polarising lens on my microscope and was stunned to find the sample of Mexican blossom honey contained a lot more than it said on the label (see figure 6). The left hand photo, viewed under non-polarised white light shows pollen, including *Acacia dealbata*, but in the right hand photo taken under polarised light, it is clear that there are a large number of quartz or feldspar crystals (the largest are indicated with white arrows). These are all in the 15/20 micrometre (or under) size bracket and are likely to have been taken up with the nectar as bees visited

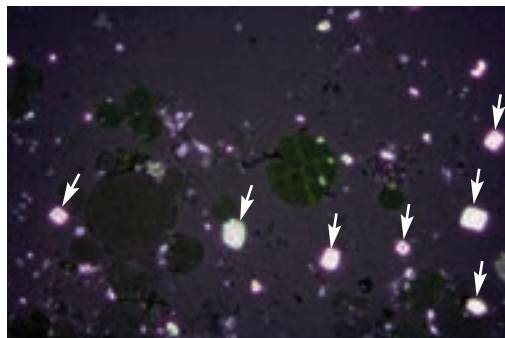
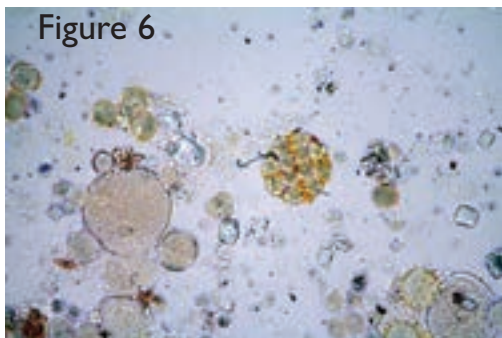


Figure 6

depending on the amount of *Leptospermum* (manuka) pollen present. Nowadays, manuka is given an (NPA) Non-Peroxide Activity number from about 5 up to 25. This indicates the levels of antiseptic or antibiotic chemicals present excluding peroxide. Incidentally, an NPA number as high as 25 may well indicate that the honey has been overheated. This would also probably correspond with a high HMF value. HMF or HydroxyMethylFurfural results from the breakdown of fructose with an

flowers. These particles could well be volcanic in origin. The same sort of particles fell out of the sky onto my car in March 2010. Feldspar crystals from the Icelandic volcano of March 2010, gathered from the surface of the car are shown in figure 7, viewed under polarised light.

I like to collect honey pollen from a wide range of sources. Figure 8, below, shows pollen from Yemeni sidr tree honey; reputedly one of the world's most expensive honeys and much sought after in Saudi Arabia. The best quality honey costs about £100 a jar (40 dinars / lb). It has an almost toffee-like consistency and has a rich, lavish and buttery flavour.

In the local supermarket I came across a jar of honey selling for a little over £25. It was, of course, manuka honey from New Zealand. This was at one time sold as silver and gold manuka

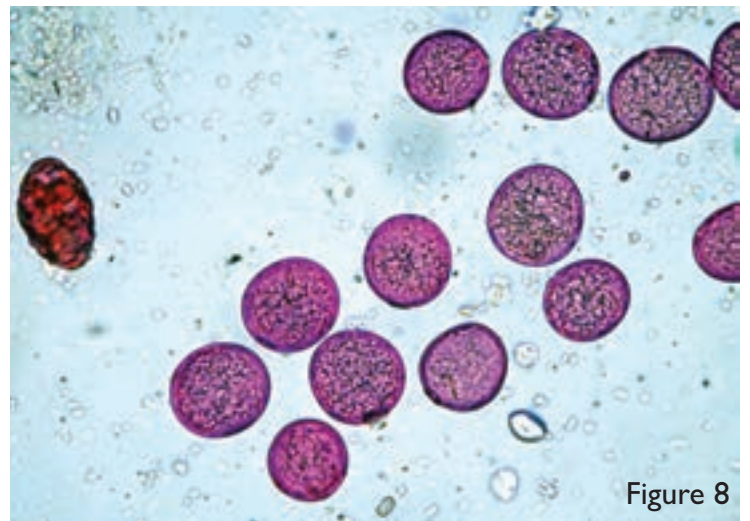


Figure 8

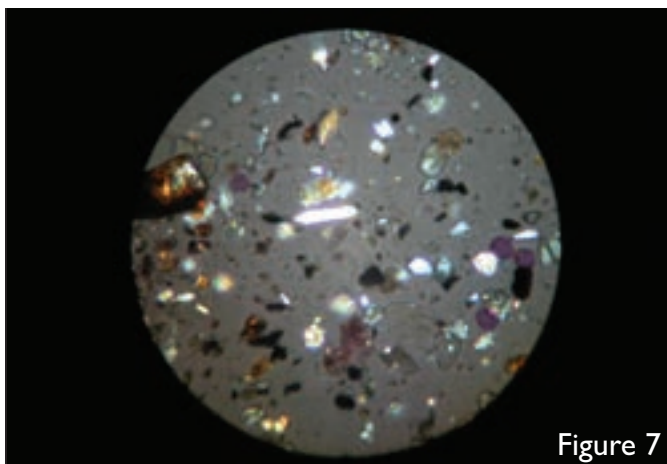


Figure 7

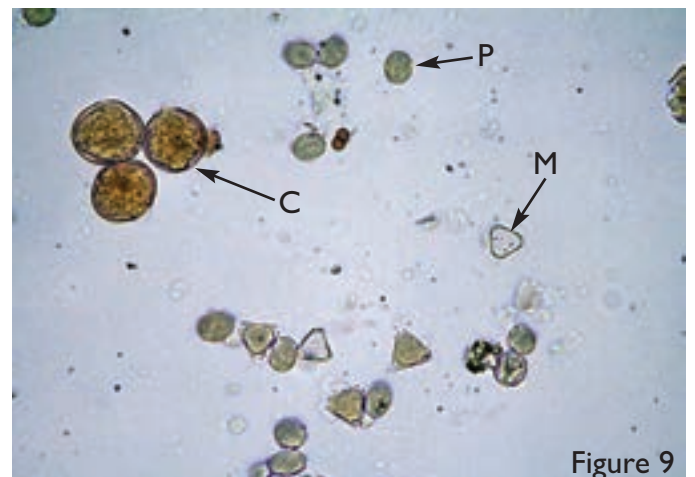


Figure 9



Figure 10

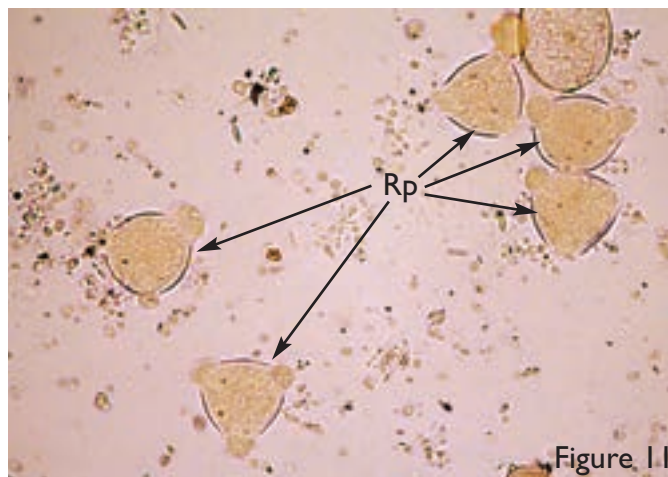


Figure 11

acid. The process naturally occurs over time and the breakdown of fructose to HMF is speeded up with increased temperature.

There are three types of pollen in the photo shown in figure 9 obtained from a sample of the manuka honey. The triangular grains are manuka (M), the large round grains are clover (C) and the small oval ones are protea (P).

Another photo (figure 10, above), from the same sample, shows *Acacia dealbata* (A) along with the other expected types of clover (C), manuka (M) and protea (P).

Chinese honey has had a bad name in the recent past because of the large amount of antibiotics that have been detected in it. Chloramphenicol and streptomycin were used to treat foul brood and the levels reached the point where it was banned from the EU and the USA. Chinese acacia honey is sold worldwide and a sample of the acacia honey pollen is shown in figure 11. The grains shown in this Chinese acacia honey are *Robinia pseudoacacia* (Rp in figure 11), the false acacia or black locust tree. This plant has become quite popular in gardens including England and can cause confusion when found in British honey.

I still maintain that the finest honey in Britain comes from the Yorkshire moors and dales! Full strength fresh heather honey is ambrosia; far more enticing than the Mount Olympus variety! The characteristic tetrads of heather pollen (H) can be seen in figure 12 (the left hand panel is taken at low magnification and the right hand panel is at higher magnification).

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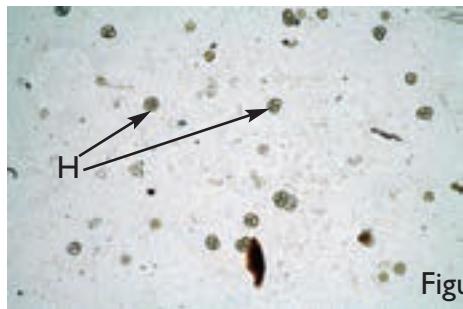


Figure 12



higher magnification in figure 15 below are the compound grain of *Acacia dealbata*, mimosa or wattle (AMW) and one of the *Eucalyptus* (E), either gum tree or myrtle. This was sufficient evidence for the 'Trading Standards' to carry out their own investigation. The 'farmer' concerned received a warning about labelling and the dangers of buying honey at the farm gate from travelling salesmen.

'Gambian Flower Honey' with large triangular pollen grain, as yet still not positively identified, and the inevitable *Acacia dealbata* (A) type are shown in figure 13. The round grains are *Julbernardia* (J) and very common in African honey.

Be prepared to find the unexpected! The photo shown in figure 14 below is a sample from honey that I was asked to analyse by a very experienced honey judge whose suspicions had been

On another occasion, I was asked to look at two samples of honey from beekeepers in a neighbouring county.



Figure 15

They had invited a Trading Standards Officer to a meeting of their association to talk about his work in relation to honey. He asked if any members would like to have their honey professionally analysed. There were a few volunteers who provided some jars, which with one exception passed professional scrutiny. The one jar that did not pass muster was one of only six of this particular honey. The beekeeper was fairly new to the craft and does not produce enough honey to consider selling. This was lucky for him because the public analyst considered that this honey was partly of foreign origin and it should not be sold as 'local honey'. The beekeeper was incensed and asked me to have a look at the honey.

I had to agree with the analyst that there were some very 'un-English' pollen types present and that the honey resembled an Eastern European 'Acacia' honey, as can be seen from the photos in figure 16, opposite. The analyst had spotted the presence of *Eucalyptus* (photo C) and the signs that this contained honeydew (D and E fungal spores, arrowed, and debris), but more importantly I spotted the obvious *Robinia pseudoacacia* pollen of the false acacia or black locust tree (photos A and B). There were comparatively few pollen grains which is another indicator of honeydew honey, but I did find some common garden plant pollens such as pansy (F) and thistle or chrysanthemum (G).

The beekeeper was determined to find a local source of some of these plants and discovered that there had been a nursery within two kilometres that had sold exotic plants and there was still a grove of *Eucalyptus* trees growing there. The present owner said that his trees were alive with bees when the trees were flowering. To cut a long story short the analyst has apologised for implying that the honey was partly of foreign origin, but the search is still on for a false acacia tree which was sold at the nursery before it closed! There is currently an advert in the local parish magazine asking for information leading to the identification of a false acacia

aroused by the strange taste. It was being sold at a farmers' market under the simple label of 'Tree Honey'. The impression given was that it was local honey and indeed the farmer had this honey for sale at the farm under the 'local honey' banner, but there was no 'country of origin' indication on the label. It was obvious from a cursory examination that the honey was in part of semi-tropical origin. Australia, China, South America or even the Mediterranean area were all possible candidates. The pollen grains shown at a

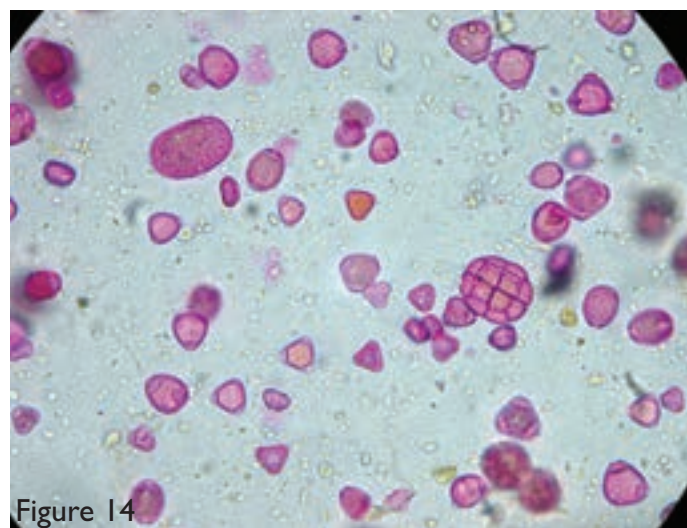
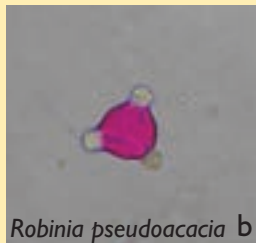


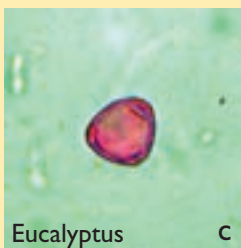
Figure 14



Robinia pseudoacacia a



Robinia pseudoacacia b



Eucalyptus c



d



e



Pansy f



Thistle/
Chrysanthemum g

Figure 16

tree. Reward: A jar of honey to the lucky finder! **

So honey is fascinating stuff when you get it under the microscope. You never know what will turn up. With a little practice and experience you can be of great help to your association and, who knows, every now and again you may be asked to put on your Sherlock Holmes hat and solve a sticky problem.

All photos were supplied by John Chandler, Harrogate and Rippon BKA.

John Chandler,
Harrogate and Ripon BKA

**Since writing this article I have received the information that there are at least two *Robinia pseudoacacia* trees within a mile or so of the apiary site. The parish magazine came up trumps. Beekeepers in the north Lincolnshire area should be warned that strange pollen may appear in their honey. If their honey is analysed they should be prepared to provide the location of these 'foreign' pollen sources. Should there be a county or even national register of such plants?

Recommended reading

Some books that are worth reading on the subject include:

Sawyer R. *Honey Identification*, 1981, Cardiff AP; now reprinted by Northern Bee Books.

Sawyer R. *Pollen Identification for Beekeepers*, 1981, NBB.

Kirk W. *Colour Guide to pollen loads of the Honey Bee*, second edition, 2006, IBRA.

Chandler J, Rennison D. *Pollen Identification*, CD Rom (for Sawyer), released in 2005, HRBKA.

Hodges D. *Pollen Loads of the Honey Bee*, 1984, IBRA.



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Feeding Bees Fondant

I read the excellent article on winter feeding in the August 2013 issue of *BBKA News* with interest. I noticed that it only mentioned feeding syrup. I have not used syrup for some years. I became aware that bakers' fondant was available in 12.5 kg (33 lbs) boxes and decided to try this as a feed for my bees. It is also available as a commercial fondant at a higher price.

The advantages of fondant are that it can be fed to the bees throughout the winter; it does not spill, leak or go bad.

Way, way back I recall my father getting me to make some candy, which is the old name for the same material. Seven pounds of sugar, half pint of water and two hours later I had some candy with most of Saturday morning gone as well. At that time beekeepers used to give candy as a New Year's present to their bees.

Fondant is made for the confectionary trade; it is used on iced buns and similar. It is 95% sugar plus water and a trace of glycerine. It is available from bakers' requisite suppliers; my local store is always willing to supply beekeepers with single boxes. I now buy ten boxes at a time with a small discount, but some retail outlets will charge much more for small quantities. The present price is around £15 per 12.5kg box. Sugar now costs about £1 per kg so the sugar content of the fondant costs about £12.50. I feel that the additional £2.50 is an acceptable cost to cover the conversion of the sugar into fondant.

One box is generally too much if you have one or two colonies. As a service to our members I pack it into plastic boxes, each containing 700 grams (1½ lbs), which I take to meetings during the winter and spring.

I have Langstroth hives, all my nucs are half this size and all my crown boards are half size. The crown boards are flat on one side and have 1" x 1" wood strip around the other side. For feeding I fill the deep side with fondant and place it fondant side down over the frames. Each half board will hold between 2 and 3 kg (4½ to 6½ lbs) and depending on the colony it can last from several days to three weeks. Placed directly on top of the frames the fondant can get stuck to the top bars. To avoid this I put a wire queen excluder over the top bars and the fondant over this. This last winter my three colonies had six half boards each. They all came through the long winter. It is important to remember that if fondant is above the feed hole in a crown board the bees may not leave the cluster in cold weather.

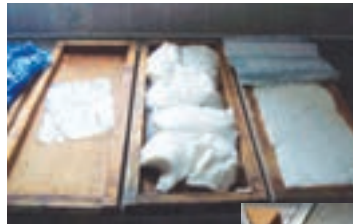
One very big advantage of using fondant is that the bees will take it right through the winter period. If syrup is fed late the bees cannot process it and it may ferment. Fondant is hygroscopic, like honey, and it will attract moisture in humid air. For storage it should be wrapped in plastic film or boxes. On occasions the bees will draw all the water from the fondant and it goes like concrete. However, just spray thoroughly with water and the bees will use it

up. Also, bees in the winter cluster will be producing water and carbon dioxide when they are consuming food; this water is available to help them use the fondant.

Years ago I read of a beekeeper who had placed a colony on weighing scales. He checked the weight each week and produced a graph of food consumption. From September the loss was a few ounces each week. As the queen's rate of egg laying increased so the food consumption went up. This is why colonies die out during March and April. The large quantity of brood needs a large quantity of food to maintain its progress. This information has remained with me ever since. Please make

sure you remember as well; it will save you some colony losses. Look after your bees and feed them well.

Paul Mann,
Chairman of Bournemouth and Dorset South BKA



Top photo shows half crown boards; middle photo shows the small packs of fondant and bottom shows fondant being cut using a decorators' scraper. All photos by Paul Mann.

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Patterson's Page

Roger Patterson argues that for successful beekeeping, observation and a good knowledge of the basics are paramount.

I recently gave a short talk and demonstration at a local BKA where I mentioned that two of the most important things in beekeeping are to understand the 'basics' and observe what is happening in the colony. The 'reading' of a colony is something that will be learnt with experience; you cannot be taught it and you cannot learn it from a book or a screen. The key, as with brood disease, is to know what is normal. If there looks to be a problem, there usually is. The more observant beekeeper will immediately spot a problem, but you still need to know what it is likely to be so you can remedy it and that is where the teaching comes in.

At a demonstration, how often do you hear: "Where's the queen"? or "Is she marked"? as the first questions, as if they are the most important. Of course the queen is important, but there is a lot to see when inspecting a colony and I am sure many beekeepers miss a lot of signs. I think the 'basics' are very important and these include the life cycles, the swarming process and disease recognition. These can be learnt outside the apiary and will give you the knowledge to understand what you may see that is different in a colony. You will be confronted with a possible problem instantly, and the thinking will need to be done 'on the hoof' so there will be no consulting a book or searching online with a hive open.

In my view, observation should start when you are some distance away from the hives. Have a look at the activity at the entrance. Compare the colonies; how are they flying? Is one not flying well? Are the bees not as active as you would expect? Make a mental note and you can often see the answer inside.

Returning to the original point, with an illustrative example. There were two colonies in the apiary of a beginner, one Warré hive and one National. A glance at the entrance of both told me that there were problems with both colonies and it needed a reasonable amount of knowledge to understand what had happened. On a warm sunny day there was little flying activity and the bees were just walking about the entrance. We opened the Warré first which was only on one box. We gave it a full inspection and found four queen cells, all sealed. The queen had been laying quite well, but the colony was quite small, not totally filling the box and there were few drones. There were some eggs, though not many and we could not find the queen. The bees in the National were only on about five frames (some of which were shallows) and quite weak. There was no brood at all, two recently emerged queen cells and no emergency cells, but we saw a virgin queen.

As a beekeeper, whatever your experience, you need to work out what has happened in cases like these and then decide how to deal with them. In the Warré hive, four queen cells is a bit of an

odd number, too many for supersedure and too few for swarming, so it could have been either. Having seen similar situations over the last few years, my feeling was they were supersedure, but it was considered they had swarmed a day or so earlier. Colonies swarming on what appear to be supersedure cells has become quite common in the last few years. In the National hive I think the queen had started to fail, so supersedure cells were built, then the queen had stopped laying and 'disappeared' when it was too late for emergency cells to be built, leaving the supersedure cells to emerge. Both of these situations are difficult to understand unless you know the 'basics'.

We are coming up to the time when local BKAs are preparing their beginners courses. I have no wish to influence those who run courses, but I would like to see observation given more importance than it is. Although it is difficult to teach how to read a colony, I think there is a case for encouraging the beginner to observe bees more closely. When inspecting a colony, you learn that there is a little more to it than just looking for 'Hooper's Five'.

During a week or so in May I had several emails from people wanting to have a colony of bees in their garden to 'help them out'.

When I pointed out they need care and suggested they come along to see inside a beehive, the interest stopped. I got the impression something had triggered off this activity, but do not know what. As beekeepers I think we all need to deal with these requests and a little explanation is likely to do more good than a dismissive reply. I think we need to tell enquirers that obtaining bees then abandoning them is likely to do far more harm than good. Beekeepers need knowledge and understanding and their bees should not be the subject of short term attention. There is a greater awareness and concern about bees, but we need to deal with it in a responsible way. I have given talks to non-beekeepers for a long time and the level of knowledge now is far greater than it was ten years ago. I gave a talk at a local parish meeting on the day the EU voted on neonicotinoids and I was asked several questions on that. Even though it had not reached the newspapers yet, the audience was telling me what had happened!

I have been doing a lot of work on Dave Cushman's beekeeping website, www.dave-cushman.net. Can I ask all beekeepers to check that there is a link from their own BKA website and if not to arrange it please? I am happy to do a reciprocal link too. It is reckoned to be one of the world's most comprehensive beekeeping websites and is a useful resource for all. Perhaps those who run beekeeping courses can add it to their list of information sources, as there is now a lot of material for beginners.

Roger Patterson, Wisborough Green BKA,
roger-patterson@btconnect.com



Take a good look at the hives in your apiary and observe the bees' behaviour each time you visit them. Photo by David Wootton.

The Use of Authorised and Non-authorised Veterinary Products

There appears to be some confusion about the use of some hive cleaning products currently available on the market. Here at the National Bee Unit (NBU) we recommend that beekeepers only use authorised veterinary medicinal products which are presented for the treatment or prevention of disease. Products which claim to have that function must be authorised in accordance with the Veterinary Medicines Regulations (VMR) before they can be placed on the market. A list of UK authorised veterinary medicines can be searched on the Defra Veterinary Medicines Directorate's (VMD) product information database which is available on the VMD website at the following link: <http://www.vmd.defra.gov.uk/ProductInformationDatabase/>.



*The application of MAQS (Mite Away Quick Strips) placed on top bars.
Photo by Jasen Learner.*

There are certain products on the market that are labelled as hive sanitizers, cleaners or similar wording. Cleaning and sanitisation products should be used strictly for the cleaning of hives and should not be applied directly to the bees, but rather to the hive or hive equipment. In the majority of cases, these products are not authorised as veterinary medicinal products within the UK and therefore no formal testing for quality, efficacy and safety of the product may have taken place. Therefore, there is a danger they might be ineffective and harmful to bees, the beekeeper and the environment. Should residues from some of these ingredients be

found in honey intended for supply to consumers it may lead to the VMD taking enforcement action.

Authorised veterinary medicinal products are assessed by the VMD for the efficacy and quality of their ingredients, the release rate of the chemicals and the synergistic effects (how they react with other substances in the hive) that the products may have on a colony. Authorised products are also checked for their safety to the environment and the user. If you believe a product is being misused or marketed incorrectly you should contact the VMD, who is responsible for policing unauthorised products. At the NBU we strongly recommend that you use authorised, proven products to treat your bees; if you are in any doubt you should check for the product on the above link or contact your local NBU inspector or the NBU at York.

The VMD intends to review those products on the market which claim to be hive cleaning or sanitising products, to ensure they are not marketed in breach of the VMR. If you are a company that markets hive cleaners or sanitizers and require further information on the marketing of non-medicinal products, this can be found in *Veterinary Medicines Guidance Note Number 1 Controls of Veterinary Medicines* on the VMD website: <http://www.vmd.defra.gov.uk/pdf/vmgn/VMGNote01.pdf>.

Jason Learner,
National Bee Unit and the Veterinary Medicines Directorate



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The Advanced Beekeeping Course

I have just returned from a week at the Advanced Beekeeping Course at York, run by the National Diploma in Beekeeping (NDB) Board and, after the twelve hours' sleep that were necessary to recover, I felt inspired to write about my experiences!



Photos by Dr Richard Bache, Somerset BKA.

The original, and still the main, aim of the course is to train people towards the National Diploma in Beekeeping examination. The course tutors all have this qualification — the highest in beekeeping — and they are all experts in their field.

Anyone working towards this level of beekeeping is eligible for a place. Several people on the course this year had passed every one of the BBKA examinations, but several others had not. One or two people had not taken a single exam, but had equipped themselves with considerable beekeeping knowledge by some other route. There is no pressure to take the NDB examination, indeed people are advised as to their preparedness, since it is a very time-consuming and expensive procedure for the NDB Board. Recently, the examination has been held every second year, with between two and four people taking it.

The course is held at the Fera headquarters at Sand Hutton near York, where the National Bee Unit (NBU), the hub of government beekeeping research and intervention, is based. This is a beautiful place to work; the grounds, as well as the surrounding area, are good for studying bee-plants, and the course makes full use of the excellent training facilities. The NBU is thus a repository of a lot of beekeeping experience, and has around two hundred colonies providing a huge resource for the hands-on training during the week. The main purpose of the NBU's colonies, we discovered, is research.

The course has a different programme in alternate years, but over two or three years it covers all the aspects of beekeeping in its widest context. This includes reading the bees; bee-handling and various manipulations; disease inspections; queen-rearing; and microscopy for anatomical understanding, disease diagnosis and pollen analysis. This year we saw a set-up to study foraging area behaviour and another for the introduction of queens.

The accommodation is usually in student halls of residence; this year at Askham Bryan, an agricultural college outside York. The food is always good, and the day usually ends at the local pub, where

researching some aspect about which they previously knew little. All the presentations this year were excellent, interesting and thought-provoking. Questions are invited from the audience (this year there were often many) after which one of the tutors is charged with giving constructive but critical feedback; something which most of us rarely have an opportunity to receive. This, as you can tell, makes for a long day. Some ended after 8pm, and we were rarely away before 7pm making the pub seem even more appealing! A gathering of twenty beekeepers from all around the UK means a lot of gossip and anecdotes!

It is a thrilling and stimulating week for someone who wants to progress in their beekeeping, challenge their ideas and test their knowledge. Where else will you have the chance to spend a week delving into every aspect of beekeeping with some of the most experienced and knowledgeable beekeepers in the country?

Apart from exhaustion, the main effect of the course is exhilaration. Once again I have



the talk covers all sorts of topics, but usually drifts back to beekeeping! As always, talking to others is a good way to extend your experience of beekeeping.

The week

All the course participants arrive on the Sunday and settle in, ready for an early start the next day. The day begins with breakfast at 7.30, after which we share cars to drive to Fera. The programme starts with a lecture or demonstration from one of the tutors, after which the onus is on us to develop what we have been told, or repeat what we have been shown. The activities are varied, with lectures followed by a microscopy session after which we go outside to do beekeeping or botany. Lunch in the excellent Fera canteen is followed by another set of sessions. After a sandwich tea, it is over to the students to present their 'mini-lectures'. The title for each of these is given to each of the students two or three weeks in advance of the course, so that there is time to prepare, but not too much time! The titles seem to be chosen to stimulate thought and provoke the student into



become aware, in the nicest possible way, of my limitations as a beekeeper and the gaps in my knowledge. Crucially, I have been encouraged by the week's experiences to work at those gaps in my knowledge. The course leaves you with a desire to learn more, albeit with the realisation that, however much you learn, there will always be a lot you do not know!

Further details of the course and the other activities of the NDB Board are available on their website, www.national-diploma-bees.org.uk

Pete Sutcliffe, Cheshire BKA

A Funny Thing Happened at the Apiary

Each year the BBKA sponsors the National Honey Show essay class and BBKA News publishes the winning entry. However, in 2012 there were several interesting entries and this is one of them. It also won a first prize at the Nuneaton Festival of Arts and perhaps it will inspire you to enter the National Honey Show 2013 essay competition. The title for the 2013 National Honey Show essay class is My Definition of a Successful Beekeeper.

Have you got a 'swarm from hell' story? I guess most beekeepers have, the way anglers brag about 'the one that got away'. Mine is a three-day epic.

It was the afternoon of a summer Sunday — 2011 style, not like the 2012 wet weekends. The family had maxed out on country pursuits at The Three Counties Show on Saturday and spent another day on our feet at Gardeners' World Live. By late

afternoon, everyone else had gone their separate ways, yet there was still heat in the day and time to enjoy it. So, time to make it up to the tomato plants at the allotment. Oh, and to say goodnight to the bees while I was there — I have a bee-house with a couple of hives on my allotment too. Chores complete, I walked away, with the contentment of a job well done, and savoured the warmth still coming up from the flagstones.

I still don't know what made me look up, there certainly wasn't a sound to draw me, but my eye caught the plum tree on the neglected plot next door. I studied two fake swarms on two different branches. Chuckling to myself, I went closer for a better look — how had they done it? Looked a bit like the legs of tights filled with muck. 'Nice try, guys,' I'd tell them, 'Highly realistic. Only thing that gives the game away is the overkill. If you'd settled for one fake, it would have been so much more believable.'

Only they were not fakes. Two swarms, one tree, right next door to my apiary. Serenely glistening golden in the last of the sun. Absolute textbook swarms — except that there were two of them. Both decent sized — not 2012 teacupful.

I thought through how to handle this, limiting my options as I walked; they weren't my bees, but try telling that to the more gloomy allotment holders. It had taken me three years to get approval to bring the bees here and although most now regarded them with affection, there were still some waiting with a little smugness, to be stung. They were not my bees, but as swarm coordinator, try telling that to other swarm collectors on a Sunday evening. So, I had to do this without an audience and I had to do it without help, didn't I? Nothing else for it, was there?

So, home for some kit, planning as I drove; my swarm box was ready packed — a bit like a midwife really, waiting for the call — but perhaps reinforcements were called for. To this day, my mum still doesn't know she was originally destined to have secateurs for her birthday, but red and shiny, new in their own holster, anvil secateurs with ratchet action were diverted to a higher purpose. Literally.

Heights are a bit of a *bête noir* for me — I start wobbling three steps up the stairs. At this point in my swarm collecting career, I had managed to gloss over it by sticking to the ones I could reach from the ground. Fortunately though, I thought I had a solution. Fed up of quivering every time I changed a light bulb I had mulled this over in the past; from repairing the garage roof

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to putting up picture frames, a girl alone needs confidence in her equipment. I had invested in a clanging banging aluminium shapeshifter; from extending ladder to sturdy stepladder, to stair-painting platform, with only a trapped finger if I was lucky.

When I had seen the monster in the store, I had been mightily impressed. This could do everything I would ever need for working at height with poise and assurance — it even had a stabilising bar. Which turned out to be its biggest drawback when I got it home and put it together. The stabiliser incorporated a massive oxbow shape at the base of the ladder, which in theory, can be adjusted to allow for uneven surfaces. However, in practice it has a catch fiercer than Arkwright's till in 'Open All Hours'. It made the monstrosity almost as wide as it was tall and downright unwieldy to manoeuvre along hallways — and into cars. It went in, nevertheless — after I had taken out a couple of seats and used a few powerful curses. 'Horses sweat, gentlemen perspire and ladies gently glow?' Sorry, I was definitely sweating, and there was still the other kit to fit in around it. Swarm boxes, smoker, nuc box, hive ... there were, after all, two swarms to re-home. I did not need to pack this much gubbins when I travelled with a tiny baby.

Fortunately, the allotment — my next obstacle course — was only a ten-minute drive away. Getting the kit out and manipulating it across an untended wilderness was even more of a challenge than packing it in the first place — if you have seen the Navy Field-Gun Competition at a Royal Tournament, you'll have a feel for it. I took a few minutes to light the smoker and check the kit. Then there was nothing else for it but up the stepladder and out of my comfort zone. Despite all the advertising hype, it swayed first one way and then the other with each step up, but I soldiered on manfully, pruning away a clear route to the swarms. I worked out which one to take first for minimum disturbance, then planned my moves. Only to find out that neither of my capacious swarm boxes would fit at the top of the ladder. So, I needed one hand to hold the swarm branch, one for the secateurs, and one for the box ... hmm. Working above my head, I needed the box at about chin-height, so that when I cut through the branch I only had a short way to lower it into the box. I do not often say this, but, fortunately, being a woman, my bosom became a handy shelf to wedge the box with. I just had to put up with the contortions needed to keep sight of the working area.



The one that got away. Photo by Julia Wallis.

Things went surprisingly smoothly for a while and I got the first swarm into the box then onto the ground without too much commotion. The same technique should have worked for the second swarm, but at the last minute, the box caught on the top of the stepladder and I ended up wearing a 'suit of bees'. So did the ladder. They were not happy. By the time I had brushed myself and the ladder down, a goodly quantity of bees were back in the tree. So I chopped off a bit more branch. Then a bit more. Fast running out of reachable tree, I moved to plan B; I decided to take the first swarm to my Atherstone apiary, then come back for the second after it had time to settle into the box. When I arrived back I found bees in the box, bees on the ladder, bees in the tree — and failing light. Gingerly hiding the ladder in the long grass, I retreated to fight another day.

With a full day's work ahead, I got back to the allotment at five. Five in the morning! 'Is it light then?' colleagues later asked. At the loss of yet more plum tree, I got the majority of this bigger swarm into the box before time ran out. I tore home to get cleaned up and put in a full day before returning to the challenge.

June it might have been, but all was not sweetness and light. By Monday evening, cauliflower clumps of cumulonimbus clouds were gathering and the first drops fell before I had the new hive put together. Have you ever tried to light a smoker in the rain? By the time I gave in, the sky looked

like the end of the world was nigh, the clouds were sucking away the last of light, and I was soaked to the skin. I covered the box of bees with an empty compost sack and retreated once more. My one consolation was that the dire weather meant that no one so far had seen the swarms or my efforts.

Tuesday dawned — if not bright, at least early — and I climbed into a bee suit still clammy from the previous night's drenching. Nasty. Still, uncomfortable as it was, the bees' transference to their new home was fairly straightforward and I made it to another day at work with most colleagues unaware of my moonlighting. The bees were still there that evening when I went back to feed them. There is little I find more relaxing than watching bees industriously going about their chores, so, yes, I stole a while to 'stand and stare'.

'All's well that ends well' came to mind as I walked off self-satisfied — but a year later, a funny thing happened at the apiary.

"What's that then?" asked my neighbour, pointing to the plum tree on the still derelict plot. There, in the spot where I had struggled last year, was a new palm-sized fragment of deserted wild comb. The one that got away. Disappointment or lucky escape? You decide.

Julia Wallis,
Nuneaton branch of Warwick BKA

Bee Diseases Insurance Ltd Implements eReturn for its Member Associations

Following requests from member associations, Bee Diseases Insurance Ltd (BDI) has developed its new eReturn to enable treasurers to update BDI with their member information electronically. This will give local associations a number of benefits including:

- The ability to generate BDI receipts electronically and email them to their members.
- Allowing a standard spreadsheet that many associations store their membership records on to be uploaded automatically to the secure BDI system.
- Allowing assistant treasurers and other authorised branch officials access to the data.

The system, information about which has been sent to treasurers recently, is



available to all member associations commencing with the BDI spring 2014 return. A series of introductory training sessions are planned over the next few months for treasurers to get involved in the system, which will give BDI more accurate

and up-to-date information but has primarily been set up to ease the workload to and expense of member associations in producing and posting their receipts.

BDI recognises that some treasurers do not have access to a computer or the internet and may wish to continue to use the existing system. This is not a problem; the use of this new system will be voluntary and the existing three-part BDI Certificate of Insurance will continue to be available.

If you are interested in knowing more about the system, you are invited to look at BDI's new website www.beediseasesinsurance.co.uk for further information or to contact the eReturn team by email on ereturn@beediseasesinsurance.co.uk

Martin Smith, BDI President

Calling All Young Beekeepers

As you may have seen from earlier articles, the English team at this year's International Meeting of Young Beekeepers (IMYB) had an outstanding result, coming fourth and gaining experience by having exposure both to other young beekeepers and to beekeeping in another country. They also had a very enjoyable time.

The IMYB is open to young beekeepers who are aged between 12 and 15 on 1 January of the year of the competition and entries have to be submitted by March. Last year a selection process was held and the team of three plus a reserve had a training day to sharpen their skills.

For 2014 we would like to extend the selection over a longer period to give more young beekeepers a chance of joining the team. It is impractical to get large numbers to Stoneleigh for a one-off selection and so we would like each area association and divisions/branches to see if they have any young beekeepers likely to meet the criteria, and select the best for onward selection.

Candidates must be available for a long weekend, probably in June 2014, and some selection and training days earlier in the year. In terms of beekeeping the candidates must have passed their Basic Assessment and must be happy to handle bees on their own. Of course, higher level assessments and module passes or even attending courses leading to these qualifications will be of benefit.

The BBKA will cover the costs of travel and accommodation is provided by the organisers. The only costs are UK travel to selection and training days, and to the airport if selected. The team

will be accompanied by an adult team leader.

The IMYB in 2014 is scheduled to be held in Poland, but fear not, most of the event is held in English and so language is not a problem. The format changes each year, but in general the competition will consist of some bee handling, a written set of questions, some plant identification and identification of microscopic images of bees. The social side seems also well developed and all of this year's team seemed to have a very enjoyable and exhausting time.

Can any young beekeeper who is interested, please contact their local association as a starting point so that the local selection process can start?

I would like all area associations to take this opportunity to promote beekeeping in young people by running local selection events over the winter. A list of all interested and selected young beekeepers needs to be with me by the end of January 2014 to allow time for selection of the final team. This will allow time to get the team entered as well as having time to arrange some training days. I will determine the information required for the list and circulate it at a later date.

If you have any queries on this please contact Julian Routh on Julian.routh@bbka.org.uk

Julian Routh, Education and Husbandry Committee

On the Bookshelf: A Sting in the Tale

A Sting in the Tale

David Goulson

ISBN: 9780224096898

256 pages

Publisher: Random House Group Ltd

This delightful book is a genuine 'good read'; it is entertaining but contains a lot of information put across in a very light and digestible way. The author, Professor Dave Goulson, formerly of Stirling University, has now moved to Sussex University; prior to this he worked at Oxford. His name will be known to many as the founder of the Bumblebee Conservation Trust (BBCT). The book was featured on BBC Radio 4 in their 'Book of the Week' slot, where I first heard of it and I immediately rushed out to buy it.

The book is not a text book or a field guide and has no illustrations or keys for identification of bumblebees, but is a series of essays on various topics about bumblebees and the countryside. I was particularly attracted by the introduction, which gives an account of Dave's childhood as he was influenced by the wonderful Gerald Durrell book *My Family and other Animals*. Dave's equivalent was a rural spot in Shropshire and he describes his various bizarre and often disastrous attempts to collect, keep and 'save' animals. By the time he started university he had already realised how modern farming was having adverse effects on the habitat of many species of animals.

The account of the life of bumblebees is fascinating and revealed a number of facts I did not know. For example, I am aware of cuckoo bumbles, but I did not realise that queens may often invade nests of their own species, fight with the incumbent queen, and, if she wins, she will take over the nest. Dave suggests that this may be a behaviour of queens that emerge later than other queens and cannot find a suitable nesting site.

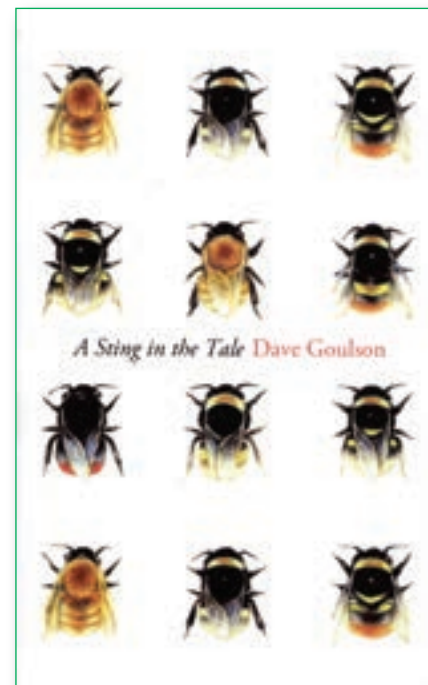
The book gives a valuable insight into how complex and frustrating biological research can be as Dave gives a number of amusing accounts of how he and his students attempted to solve such questions as 'why do bumblebees have such a variation in size with small bees remaining in the nest and larger bees doing the foraging'. Another chapter, with the wonderful title 'Comfrey and smelly feet', recounts how they studied how bees mark flowers to indicate whether nectar is still present. For those who might think academics have a good life travelling to New Zealand, Salisbury Plain and the Hebrides just to count flowers and watch bees, the details of the amount of work is revealing. None more so than the description of the much-publicised, recent re-introduction of the short-haired bumblebee to Dungeness. This is covered in detail and shows the frustrations and years of work that lay behind the eventual release of queens from Sweden and not New Zealand as first envisaged.

Dave also covers the controversial topic of the widespread use of commercially raised bumblebee nests for the pollination of tomatoes and raspberries. He covers this in some detail

and highlights the fact that until recently the commercial *Bombus terrestris* bumblebee was a different subspecies to our native one and this has caused great concern on various aspects; one being the possibility of importing disease.

I enjoyed reading this book immensely, but was slightly irritated initially by the mystifying use of often contrived common names instead of the correct Latin names. I often puzzled over what the bee was as the common names are confusing. I then discovered a table right at the end giving the common and Latin names where the author says he thinks scientists may be annoyed by this but he favoured this too much Latin! This, however, is a minor quibble over an excellent book which I highly recommend.

Pam Hunter,
Master Beekeeper, FLS. FSoBiol.



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What is the NDB?

Origins of the National Diploma in Beekeeping

The Second World War demonstrated how vulnerable these islands were in terms of food security. Post war planning focused on remedying these deficiencies and agricultural extension (training) services were either expanded or established in most counties as Agricultural Colleges. Beekeeping was seen as an essential component of the training that these colleges provided, particularly in relation to effective crop pollination. It was therefore decided that County Beekeeping Lecturers (CBLs) would be appointed to work alongside their agriculture, horticulture and forestry colleagues to improve beekeeper knowledge and skills.

The necessary lecturer qualification at the time was a National Diploma, e.g. the National Diploma in Horticulture, so the National Diploma in Beekeeping (NDB) Exam Board was established in 1954 to train, examine and certify qualified beekeeping lecturers for the posts. The NDB qualification sits above all the beekeeping association qualifications and the BBKA Master Beekeeper qualification is seen as a necessary entry qualification prior to taking the NDB exam.

Representation

The Board consists of representatives from a wide range of organisations and together they form an impressive amalgam of expert knowledge in beekeeping and education. Although all the National Beekeeping Associations are represented on the Board, the NDB Board is entirely independent of those organisations.

Current roles for NDBs

Privatisation of the Agricultural Colleges in the early 1990s led to

straightened times with colleges having to earn revenue wherever they could. Lucrative leisure activities such as 'equestrian activities' and 'turf management' came to dominate the scene and one by one CBL posts were extinguished through lack of income to the colleges for their beekeeper training. The NDB Board survives with many of their NDB qualified members active as authors, trainers and opinion formers in all beekeeping spheres, both national and international.

Educational activities

The Board has two major education functions:

- The one week Advanced Beekeeping Course (see page 26).
- The two-day husbandry skills and knowledge development Short Courses. Those planned for autumn 2013 are below.

The fee is £75 per student per course due to a generous subsidy from the Fera Healthy Bees Plan. This includes all consumables, course handouts, refreshments and a light lunch on both days.

Short Courses

Sept 9, 10	Brood Diseases	Bob Smith	Kent
Oct 13, 14	Anatomy & Dissection	Dan Basterfield	Devon
Oct 18, 19	Microscopy	Bob Smith	Kent

I will tell you more about the Advanced Course and the Short Courses in October *BBKA News*.

**Ken Basterfield, NDB,
BBKA Trustee**

BBKA Correspondence Courses

It will soon be time to prepare the bees for winter and then we will be in the 'bee-less months'! To pass those cosy nights by the fireside many people turn to reading about bees and perhaps think about taking some BBKA modules. The reasons for doing this are many but knowledge can help us all manage our bees better and get more enjoyment in doing so.

Embarking on a course of study on one's own can be a daunting task, especially if it has been some years since you last sat in a classroom. How will you know what to cover? How will you know what the examiner wants? The former is easy as all syllabi and assessment details can be found on the BBKA web site at http://www.bbka.org.uk/learn/examinations__assessments. You can also buy past papers to see what the questions are. Turning this into a cohesive study plan can still be difficult, but help is at hand! The correspondence course has a team of very experienced and qualified tutors who have all been through the system, and many set and mark the assessments. They will work with you and guide you to successful and succinct answers.

If you sign-up for a course then you get your own personal tutor and a pack of question papers. The papers are not like

the actual assessments, but are a structured learning tool that will guide you through the subject. You work through each paper in turn and once one is completed you send it to your tutor who will check it through. They do not mark it, but comment on your answers in a positive way and suggest areas of improvement and sources for research. Each tutor makes a commitment to work with you for the duration of the course and to turn your papers around within ten to fourteen days. After completing all the papers you will have covered the subject matter to the depth required by the assessment and only then it is time to turn to the past papers and finally revision.

Some people like to work in a team, which can be great fun as you discover how others tackle their studies and aspects of beekeeping. A study group needs to 'elect' a person to co-ordinate the application and submit the group's papers. Only one fee is payable but you can only submit one answer per question per paper. See August *BBKA News* for more about Study Groups.

Are there course restrictions?

You must start your studies within three months of signing up and complete your studies within the year or there about. Submit papers singly and only submit one

set of answers for checking. You must submit your last paper with plenty of time before you plan to take the assessment, although you might like to study on a correspondence course solely for the pleasure of learning more about bees.

What about beginners?

There is a basic course which is aimed at those wishing to prepare for having some bees or those in their first year studying for the basic and, maybe, getting bogged down with the plethora of information in the 'many books'. The course obviously cannot teach the practical skills, that is the role of local associations and their teaching apiaries.

In summary there is a correspondence course to help you get started; the Basic. Others to prepare for the seven modules and also for microscopy which covers the theory behind its construction and use in beekeeping. Details of all courses and an application form can be found at http://www.bbka.org.uk/learn/distance_learning/correspondence_courses. Finally statistics show that correspondence course students are generally successful and over 50% gain distinctions or credits.

Bob Gilbert,
Correspondence Course Co-ordinator
E-mail: bbkacourse@aol.com

Business Corner

New Treasurer Appointed

The BBKA Executive is pleased to announce the immediate appointment of Shena Winning to the office of BBKA Treasurer, in place of Michael Sheasby who continues as Chairman of Finance until his retirement next January. The appointment is subject to formal ratification at the next BBKA ADM.



Shena Winning

Shena is a chartered accountant, a qualification she gained in 1981. Her career has been in senior financial roles in the retail sector and, since retirement, in non-executive director and trustee positions in the not-for-profit sector. Her husband is a beekeeper and she is seeking membership of her local beekeeping association. Shena can be contacted at treasurer@bbka.org.uk

Michael Sheasby, BBKA Trustee

Archbishop Becomes Patron of Bees Abroad

Justin Welby, the Archbishop of Canterbury, has become a patron of Bees Abroad, a charity seeking to reduce poverty in developing countries worldwide through beekeeping. This is particularly appropriate as he has a long association with helping to relieve poverty in developing countries. Justin Welby's first experiences of poverty in developing nations came during his gap year when he taught at a school near Mount Kenya. Then in his business career he made many visits to conflict-torn areas where he used his financial, commercial and reconciliation skills.



Justin Welby, Archbishop of Canterbury

John Home, Chairman of Bees Abroad

Bringing Things Up To Date

For a number of years the BBKA has maintained a Directory of Speakers and Lecturers to assist associations in finding speakers for their meetings. As the years roll on, some of our speakers cease to be able to continue and we need to put time and effort into updating the directory.

The Education and Husbandry Committee has recently contacted all

associations to seek recommendations of who to include. We are also including demonstrators in the revised directory. However, speakers, lecturers and demonstrators will only be included in the list if they have been given two independent recommendations and, to maintain standards, we will randomly invite associations to provide feedback about the speakers they have engaged.

If there is a speaker or demonstrator that you have found communicated well with your association, then this is an opportunity for you to share your experience by recommending that person for others to enjoy. Please do so through your local association secretary who has recently received a nomination form to return.

Ian Homer, BBKA Trustee

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Imported Bees

Readers are reminded of the BBKA's policy to discourage the importation of queen bees and colonies from outside the UK. Prospective purchasers should satisfy themselves of the origin of bees offered for sale.

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Your Letters



Bees in London

I read the article in June's *BBKA News* 'Are There Enough Flowers to Support London's Bees?' with some dismay.

The whole premise of the article is undermined by a basic arithmetical error in the figures used for the estimated number of hives in Central London.

BeeBase does not, as the authors of the article state, indicate that there are 608 apiaries within 10 square kilometres of Central London. The figure given by BeeBase is for a circle of 10 kilometre radius, which equates to 314 square kilometres ... an area over 30 times greater than stated. This gives a hive density of 0.03 per acre rather than 0.9 — a thirty-fold reduction in the hive density quoted.

Judy Earl,
for and on behalf Harrow Beekeepers

In Response

After publication of this article it was realised that an error was made in the units of the data given for the number of hives in the Central London area. The corrected figures are given here:

Recent data from Bee Base, a register of apiaries maintained by the UK's National Bee Unit (NBU), shows that in five years, from 2008 to 2013, the number of beekeepers in Greater London tripled from 464 to 1237 and the number of hives doubled from 1677 to over 3500. As of June 2013, within a 3 km radius of Covent Garden in Central London the NBU has 87 apiaries registered. With an average of three per apiary, this is 261 hives. However, as beekeepers are not legally required to register their hives with BeeBase, the NBU suggests adding 25%. Taking 25% unregistered this would give 11.6 hives per km². At radiuses of 5 and 10 km, the densities are 9.4 and 7.5 hives per km². This is much greater than, for example, in Brighton (5.6 hives per km²), West Sussex (1.2 hives per km²), or England and Wales as a whole (0.9 hives per km²).

The authors apologise for this oversight.

Dr Karin Alton and Mark Patterson

Hive Stands

As a beginner beekeeper concerned with environmental issues, I would like to offer the following advice. Rather than using wooden hive stands, ask your local dairy, bottling company etc for some spare bottle crates, as they make excellent hive stands. They are sturdy (made from girders) and aerated, and so recycled are a great way to protect our planet.

I asked our local AG Barr, who are the makers of 'Iron Bru', if they could donate a few crates. They kindly agreed and I now have two new hive stands. Remember ask nicely, I'm sure local companies can help you out.

Kevin Timmins, Manchester BKA

Heather Honey

I was interested to read Tony Jefferson's article on heather honey in August 2013 *BBKA News*. He confirms standard advice that bell heather honey, which flowers mainly in July, can be extracted normally by centrifuge and ling heather, which flowers mainly in August, needs to be extracted by squeezing or scraping the comb or loosening the thixotropic honey before centrifuging.

In my experience the two flower types often flower simultaneously. I took two hives to Dunwich Heath in Suffolk in mid July 2012 and left them there for six weeks. There seemed to be about equal bell and ling heather. Studying the flowers on occasional visits the bees seemed to have a strong preference for the former. Each colony filled two National supers, which were easily extracted by centrifuge in the normal way. The honey in the jar did not have the jelly-consistency of ling heather. I conclude that on this occasion at least the bees prefer bell to ling.

Giles Youngs, Suffolk BBKA

Diary of Events

September 2013–March 2014, Manchester BKA. Cover the BBKA Microscopy Certificate, 6 Sats, at Manchester Grammar School. Info: John Charlton 0161 962 2284/ johncharlton151@gmail.com.

6 September. Dorset Convention. Stratton Village Hall, Stratton, Dorchester. Broad range of lectures. £20 (£15 Dorset BKA members) including lunch and refreshments. Tickets and details: Carole Brown 01308 456210 or secretary@westdorsetbees.org.uk

6–8 September. Midlands and South West Counties Convention. Herefordshire BKA (host). Three Counties Hotel, Hereford. Lectures, workshops, Bishops Palace Garden visit and pollination lecture. Details and booking: www.mswcc.org.uk

7–8 September. Bristol Honey Festival at University of Bristol, Botanic Garden, BS9 1JB. Honey show with 17 classes and prizes. Details: www.bristolhoneyshow.co.uk; e-mail showsec@bristolbeekeepers.org.uk Tel: 0117 9244836.

7–8 September. Harper Adams University. Summer School; see August *BBKA News*, page 32 for full details.

28 September. Institute of Northern Ireland Beekeepers Gathering and Honey Show at The Guildhall, Derry/Londonderry. Cost: £25. Speakers: Dewy Caron, Dr Giles Budge, Dr Jim Loughrey. Details: www.inibeekeepers.com

29 September. Training sessions for study group leaders. Warwickshire. See August *BBKA News*, page 32 for further details.

5–6 October. Hampshire BKA Open Honey Show, Sir Harold Hillier Gardens, Ampfield, Romsey SO51 0QA. For more information contact pippabarker@aol.com or 01730895368.

24–26 October. 2013 National Honey Show, St George's College, Weybridge. Lectures, workshops, trade and educational exhibition. See <http://www.honeyshow.co.uk> for more.

2 November. South Devon Beekeepers Convention at The Ariel Centre, Totnes TQ9 5JX. Details: www.devonbeekeepers.org.uk

16 November. Sussex BKA Annual Convention, Uckfield Civic Centre TN22 1AE. £25. Details at www.sbkaconvention.org.uk or Harold Cloutt 01424 838302; email: info@sbkaconvention.org.uk.

16 November. Hampshire BKA Autumn Convention, Sparsholt College, Sparsholt, Winchester SO21 2NF.

4–6 April 2014. BBKA Spring Convention at Harper Adams University, Newport, Shropshire.

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