# Beetalk December 2013

General info and news about bees

**Hello and welcome.**

**Beetalk is a compilation of news from across the bee keeping word.**

**Its not affiliated to any beekeeping group so you wont get things like the next meeting and what we are doing and such like.**

**I hope that the articles provided will be useful to anyone interested in the a rewarding hobby and in some way we also hope that you may gain some pleasure in reading some of the article that are included.**

**Also I intend to include articles that may be helpful to anyone new to this wonderful hobby.**

**Being based in Lancashire it would be great for any contributions from Beekeepers from the county. But as stated above, please nothing about your association or group.**

**Hope you enjoy. And to everyone of our readers. Have a great Christmas and all the best wishes for the coming year, both in health, wealth and happiness, and may your beekeeping year be a great one.**

**Michael Birt (Editor)**

**If you have any articles that you think may be useful to have included in Beetalk.**

**Please e-mail them to the editor**

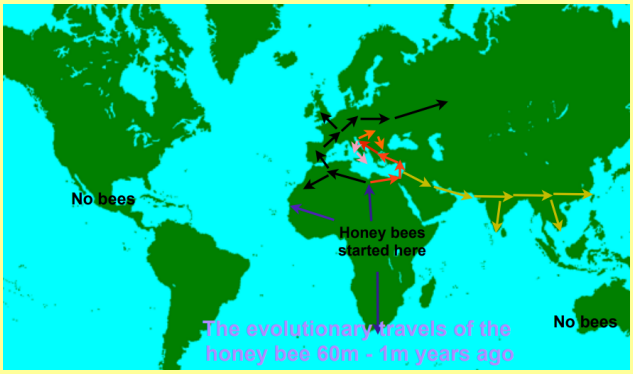
**at**

**birt_192@hotmail.co.uk**

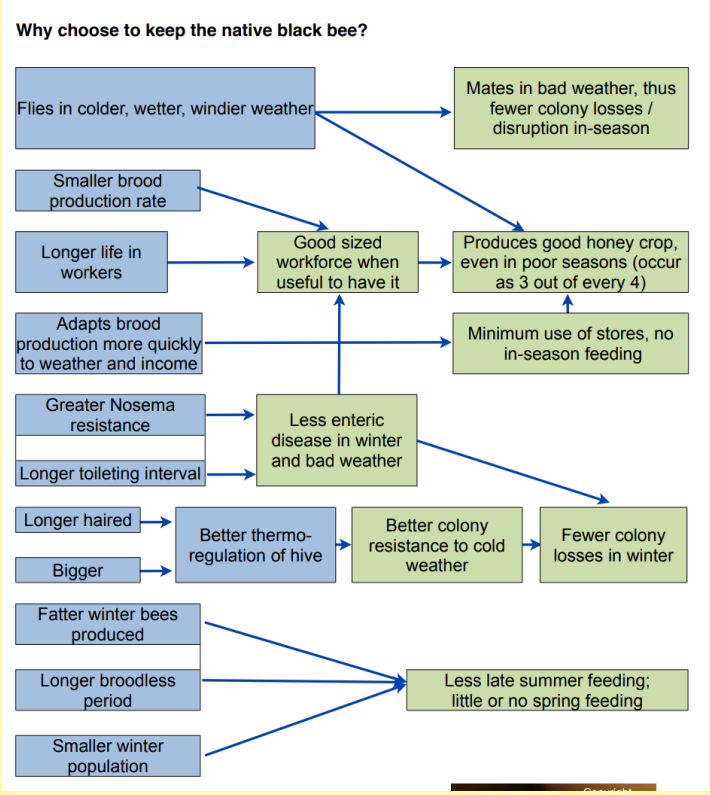
# The native black bee

## Where did the honey bee come from?

The black bee, *Apis Mellifera Mellifera* evolved from the bee which turned left when it hit the Mediterranean and then turned right up via Spain, into Northern Europe and finally Russia where it was stopped by the Urals. All other races of honey bee evolved from the bees which turned right at the Mediterranean including the various non-native bees found in the UK today




The native British honey bee The black bee has been in the UK since the end of the last Ice Age 10,000 years ago and has evolved since then to survive in our cold and wet climate. It suffered one of the periodic reverses caused to all honey bee races in the 1920s. It was never allowed to recover to its former numbers. This was because of the continual and heavy importation of the other major evolutionary strands of the honey bee from east of the Alps; mainly the races with which we are now familiar: the Carniolan, the Italian, and the Caucasian. These interbred with the black bee (and each other) and progressively mongrelised it (and themselves) except in areas which the incomers did not reach.



## *PART TWO OF THE BIG ADVENTURE*

Last month we left our swarm hanging in a cluster just waiting for some-one to collect it, but what if no-one comes? What do the bees do next?

They have filled up with honey to last them for a little while, but they have an urgent need to find a new home in which to establish themselves, for the queen to start laying and for the workers to start building up stores so that they can survive the winter.

The ideal new home is a cavity a reasonable distance from the parent colony, say 500-600m, ideally about 40 litres in volume, facing south, with a small entrance well off the ground and near the bottom of the cavity.

Traditionally this would have been a hollow tree, but at least in urban landscapes these tend to be few and far between, so the bees have to settle often for man-made cavities and these frequently require compromise. So chimneys, cavity walls, lofts, bird nest boxes (which are too small), compost bins (often with an entrance at the top), sheds, even dog-kennels (entrance much too big) are all pressed into service.

How do they find them? Usually scouts start looking even before the swarm leaves the hive, and there is a practical point here: if you have your hives in the garden and see bees nosing around your eaves and suchlike places, this is often an indication that a swarm will issue in a day or two.

Finding a suitable cavity This is one of the most amazing events of a colony's life and is a fascinating process. Scout bees, which are older, more experienced bees, survey the area and usually find a number of suitable sites.

Once the swarm has clustered the scouts will communicate the direction and distance of each site to the swarm by performing the waggle dance on the surface of the swarm. Individual scouts will assess a cavity by crawling/flying round the outside and inside and by flying backwards and forwards across the space inside.

They will also mark the cavity with Nasonov pheromone. Presumably the individual bee is able to make some kind of decision as to the suitability of the site and this is really quite extraordinary.

Once a scout bee has returned to the swarm and danced it will then 'keep quiet' and will very rarely visit another site, so there is no comparison going on. As a result of the dance, other bees will go to the same cavity and assess it, coming back to dance.

The cavity which 'wins' will be the one for which a number of bees are dancing and this will be influenced by the enthusiasm of the dancers in recruiting followers. It appears that there is a 'quorum' of bees numbered at 10-15, and once this number is dancing for a particular cavity, that is the one that will be chosen.

This is again a compromise between speed and choice of the best site although the best site is not always the one chosen, as that may only be discovered too late in the process to influence the decision, or the scout bee(s) involved may not be able to recruit sufficient followers. Lift off Once the 'decision' has been made on the location of the new cavity, the swarm must be mobilised ready to move there.

The scout bees are the main movers and shakers  Warwickshire Beekeeper September 2012 Have you checked out the new website yet? WB now available to read online www.warwickshirebeekeepers.org.uk Sign in: beekeeper Password: 44561382 here – literally.

They start to push through the swarm, piping as they go, and this starts vibrations in the swarm, causing the temperature to rise. Piping usually starts about 1 hour before lift-off.

Once the piping bees detect that the outer layer of bees has reached 35o C, which is flying temperature, they begin buzzing runs, just as they did before the swarm left its original home.

Eventually this excitement results in the swarm lifting off, about 10 minutes after buzzing runs started. The job of the scout bees now is to guide the swarm to its new home. Moving in The swarm, once airborne is guided by the scout bees who have visited the site. Remember that only a few bees have been there.

They will fly in the direction of the cavity, but they will also fly backwards and forwards through the swarm, spreading a pheromone trail from their Nasonov glands. It is vitally important that a queen is present and releasing her pheromones and, without these, the swarm will either break up or will return to its original site.

Once the cavity is reached the bees will start pouring in, many remaining near the entrance to fan Nasonov pheromone to attract in any stragglers.

With the arrival of the queen, the swarm disappears very rapidly and the big adventure is over.

The whole swarming process has been controlled by various pheromones, dances, vibrations and piping and undoubtedly we have a lot more yet to discover. All that now remains is for the colony to start building comb, which they do very rapidly, so that the queen can lay the eggs which will become the next generation.

Foragers will be dispatched to bring in food and, providing the conditions are good, the colony will rapidly build up in readiness for the winter.

# Adventures of a returning Beekeeper

Some of you may remember that my bees had to go into "care" when I developed an allergy to bee venom. "Foster Mum" Celia Davis and daughter Sarah have been incredible, looking after them as their own while I underwent desensitisation. I can't thank them enough and am very mindful that they couldn't have gone to better carers. Time has dragged on a bit as first of all I broke my ankle and missed an entire season and then I spent last year attending Solihull Apiary to gradually get used to beekeeping again and most importantly, make sure I suffered no horrible reactions to stings. There is a 20% failure rate on the desensitisation programme and my Consultant told me that I wouldn't know if it had worked or not until I experienced a real sting so the first one was bound to be a very interesting experience, to put it mildly. Happily, all was well, I've now had two or three stings with no dreadful consequences and so finally my bees are coming home! Beekeeping friend Graham helped me put some screening up to encourage them to fly over my head and I as ready for them as I'll ever be. Then my friend Ann phone me to say she thought she had bees in her compost bin and would I see what I could do. As luck had it, Richard Barham was around and he went with me to help, especially if we had to tie them onto frames.

The problem. As it turned out we couldn't see any brood so we treated them as a swarm and scooped as many of the bees we could into my travel box plus all the comb. A very small swarm but good for me to practice on I thought. We watched for a while as they gradually settled and walked into their new home in time honoured style. I called round later and drove them very carefully home, fed them and generally tried to make them feel welcome. Sadly, they didn't like "chez Simkin" apparently because when I checked on them a couple of days later they had gone, leaving just two poor lonesome pals hanging around the entrance looking puzzled. When Richard heard what had happened he very quickly supplied me with one of the many swarms the branch have been collecting this year. I think it was a case of any spare equipment in the area he know about got pressed into use! This lot have stayed and we are all getting used to having bees in the garden again. A couple of days ago my younger stepson was very kindly clearing a patch of ground near the apiary while I was working in my office. Next thing I heard was, "Tre, I've been stung"! Oh heck. And mine come back tomorrow…..

# A Wonder Cure – Honey and Cinnamon Powder ?

Honey is a 'magical' food substance which does not rot or spoil and can, in most circumstances, be used without side effects.

Taken in the right dosage as a medicine it is even safe for diabetic patients. Since earliest times it has been used as a medicine, and many sources claim that a mixture of honey and cinnamon cures most diseases.

Although not always based on rigorous proven research the following are some of the health issues it is claimed can be treated with honey and cinnamon.

## Heart Diseases and Cholesterol

To reduce cholesterol in the arteries make a paste of honey and cinnamon powder, spread it on toast and eat regularly for breakfast. Daily consumption it is suggested also relieves loss of breath and strengthens the heart beat for those with heart problems. In America and Canada, various nursing homes treat patients with honey and cinnamon to revitalise the arteries and veins that lose their flexibility and get clogged as you grow older. Two tablespoons of honey and three teaspoons of cinnamon mixed in tea water, as a daily drink it is claimed will reduce the level of cholesterol in the blood by 10 percent.

## Arthritis

Taken twice daily, morning and night, one cup of hot water with two spoons of honey and one small teaspoon of cinnamon powder may assist those with arthritis. In research conducted at Copenhagen University, patients were treated with a drink comprising one tablespoon honey and half teaspoon cinnamon before breakfast. The research found that within a week, out of the 200 people treated, 73 patients were relieved of pain, and within a month, many of the patients who could not previously walk or move around because of arthritis started walking with less pain.

## Colds and Influenza

Those suffering from common or severe colds should take one tablespoon lukewarm honey with 1/4 spoon cinnamon daily for three days. This may cure most chronic cough, cold symptoms, and clear the sinuses. A scientist in Spain has also identified that honey contains a natural 'ingredient' which kills influenza germs.

## Bladder Infections, Digestion and Stomach Complaints

Drinking two tablespoons of cinnamon and one teaspoon of honey in a glass of lukewarm water will it is suggested destroy germs in the bladder. It is also claimed that honey taken with cinnamon cures stomach ache and also may relieve stomach ulcers. Cinnamon sprinkled on two tablespoons of honey taken before food relieves acidity and assists digestion of the heaviest of meals.

## Immune System

Daily use of honey and cinnamon may strengthen the immune system and protect the body from bacteria and viral attacks. Regular consumption of honey may also strengthen the white blood corpuscles to fight bacterial and viral diseases. Longevity Many people believe that tea made with honey and cinnamon, when taken regularly, arrests the ravages of old age. Four spoonfuls of honey, one spoonful of cinnamon, and three cups of boiled water make a delicious tea. Drink a quarter cupful three to four times a day to keep the skin fresh and soft, and arrest the effects of aging.

## Pimples and Skin Infections

Make a paste of three tablespoons of honey and one teaspoon of cinnamon, and apply this paste on the pimples before sleeping, and wash the next morning with warm water. If done daily for two weeks the pimples should heal. Applying honey and cinnamon in equal parts to affected skin areas may cure eczema, ringworm and all types of skin infections.

## Weight Loss and Control

Twice daily in the morning one half hour before breakfast on an empty stomach, and at night before sleeping, drink honey and cinnamon boiled in one cup of water. If taken regularly, it is claimed this will reduce the weight of even the most obese person. Drinking this mixture regularly may also prevent fat accumulation in the body.

## Tiredness and Fatigue

Recent studies have shown that senior citizens, who take honey and cinnamon are more alert and flexible. Half a tablespoon of honey in a glass of water and sprinkled with cinnamon, taken twice a day, early in the morning and in the afternoon at about 3:00 pm when the vitality of the body starts to decrease, increases the vitality of the body

## Question - Can I leave supers full of honey as stores for bees over Winter?

As with many things in beekeeping there are different opinions about doing this and whether it is a good idea. However, wild bees would certainly keep stores of honey for the Winter, so why not leave supers with honey for our domestic bees ? Of course it may be considered expensive, because the honey has not been extracted for other uses, and for many beekeepers that is the primary aim.
Some people also believe there is an undesirable risk of losing your bees due to starvation because the honey may granulate / crystallise and they cannot fly out to obtain water to break down the solid honey. But the risk of crystallisation also applies to other stores such as sugar solution, and if the honey is correctly capped by the bees it should be okay. If the outside air temperature is too low (that is to say, below 10°C) the bees will not be able to forage for water that will be needed to breakdown any crystallisation. Additionally, honey has more trace elements than concentrated sugar syrup and may require more cleansing flights to avoid the likelihood of defecation in the hive and the spreading of disease.
Mike Hill recommends that you put the super below your brood box, then the stores are available if necessary, (the bees may even move it up to where they want it), and they are more likely to be found in the brood box in the Spring. If you do leave a super on for Winter you must of course remove the queen excluder to ensure that the queen is not left behind in the cold as the colony moves to find stores. Remember to achieve the generally recommended 40 lbs (22 kg) of stores required for the Winter, at 5 lbs (2.2 kg) per BS brood frame requires eight to ten frames of honey. So a full super of honey provides a good quantity of stores and may guarantee sufficient stores for your bees. Adam Darling of Norfolk BKA (as reported in the August edition of BBKA News), also recommends placing the super under the brood box, without a queen excluder, and considers this practice may have a number of advantages The bees are nearer the top of the hive compared to placing a super over the brood box, so it is warmer during the Winter because it will reduce draughts. It also means that the seams of bees can be seen more easily during oxalic acid cleansing in December / January, so the correct doses can be administered. In his experience the supers are generally empty in the Spring at first inspection and can be removed without brood for later use. Also there may be less need for feeding in the Spring because of the availability of stores, and the 'warmer configuration' and will help Spring build up. The downside may be that the bees will move the honey around after the super has been placed underneath, but in early October there is time for them to do this if they wish.
So what are the conclusions: ● Placing a super under the brood box may have a number of advantages. ● Correctly prepared and capped honey has provided satisfactory stores for wild bees during the Winters over many thousands of years. Because harvesting the honey was never my reason for beekeeping, leaving honey supers over the Winter is therefore a practice I have, and will continue to undertake.

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## A Mesh Woodpecker Guard

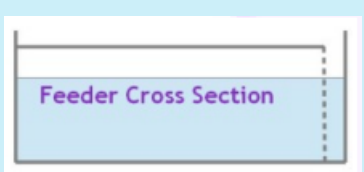
Not impressed with unruly rolls of chicken wire? Not convinced about wrapping your hive in plastic film? Here is an adaptable alternative. This guard uses panels of galvanised mesh, secured to each other with plastic garden vine twist clips,.to create an adaptable cage. The mesh size itself need be no more than 25 mm x 25 mm and easy to use flat panels (to suit National hives) of 0.6 m x 0.9 m size can be bought for about £3 each from DIY suppliers. Slightly wider panels will be needed for WCB's. The mesh can cost less if bought in rolls, but it will then need to be un-rolled, flattened and each panel cut to size to use as described here.

Components For a single National hive you will need: ● 5 mesh flat panels (as described above) ● A pair of heavy duty pliers or side cutters to reduce the size of one of the panels. ● About 50 plastic twist vine clips. Assembly With cutters, clip 30 cm off the 0.9 m length of one of the mesh panels, leaving a panel 0.6 m x 0.6 m in size. Layout all the panels on the ground with the square panel in the centre and the 4 long panels radiating out from each of its sides. With the clips, link adjacent edges of the panels at every 6th square. At each square panel corner, 1 clip can link it and 2 adjacent sides. Raise the ends of two adjacent long panels to be vertical and similarly apply clips along the length of the meeting long edges. Repeat with the 3rd and 4th sides. Customising By this stage, a number of options can be followed to adjust the guard to a particular hive. If the top of the hive is less than 0.9 m above the ground, you could choose to have the guard free standing on the ground and secured in place with tent pegs or similar if needed. If the height of your hive exceeds 0.9 m, the top panel of the guard could either be directly supported by the roof, or by bricks or blocks placed on the roof, creating a gap to prevent Mr Woody attacking the roof cladding! More height can be added by attaching, with plastic clips again, extra cut lengths of 'skirt' to the side panels. You will already have an ~ 30 cm off cut from the top panel, and an additional 0.6 m x 0.9 m panel can be cut into three more equal lengths of ~30 cm. Side panels can be shortened, either by cutting to length, or folding the required amount back on itself. Either unfold later to increase height, or re-attach off cuts with clips. If the hive has a protruding landing board, a corresponding section of the front panel can be cut out, or cut and folded back to suit, ensuring that the lower most separated section remains securely clipped to its two adjacent side panels Use Invert the complete assembly and place over the hive and position the guard so there is a gap around the hive of about 5 cm. This should be enough to prevent Woody's beak reaching the hive sides, but not so large that he could get up from below, between the mesh and the hive, if the guard does not reach fully to the ground. For winter hefting or feeding, the entire guard is easily lifted off for access. Storage When no longer needed, the flat panels can be easily unclipped from one another and stacked neatly until next required. No more bulky bundles of chicken wire to have to stuff away somewhere or unravel again this time next year.

## A Simple Home Made Feeder

I am sure I am not alone in finding myself needing one feeder more than I had…..and needing it now. It set me thinking as to what I could mak and although my first attempt fulfilled the immediate need, I was certain that I could design a more simple method of construction - and I woul like now to share with you the result of that re-design. The starting point was a feeling, one I am sure is not unique to me, that surely the pile o saved, empty, ice cream containers deserved some form of re-use. The starting point for the design was therefore that the 2 litre tubs would hol a reasonable amount of feed, but clearly bees fare very badly when faced with the equivalent of an Olympic sized swimming pool. Therefore I needed to provide a way they could walk down to the liquid and, indeed, be able to walk back up. The solution was to provide an access gap on a mesh 'wall' one bee-space away from the container side. I had a stock of wire mesh, (varroa flooring obtained from TheMeshCompany.com a £2.80 per sheet), so armed with tin-snips I fashioned a piece starting with a rectangle the width of the inside of the top of the tub and around 50 mm taller than the tub. The tubs are always tapered, so the next step was to trim both sides of the mesh at an angle so that it fitted inside the tub tightly enough to prevent passage of a bee, ie gaps of 1-2 mm. The piece of mesh was then bent at 90 degrees to be slightly shorter than the height of the tub. The aim was to ensure that the vertical section was touching the base when the horizontal section was level with the lid. Next the lid of the tub required some minor surgery, cutting across from one side to the other, removing the lip and around 1 cm of the flat face. The mesh was prepared for fixing by making 4 cuts in the horizontal face from the edge to the fold, easing one up, the next down and so on. The mesh was fixed by simply sliding the mesh onto the new edge of the lid. The mesh will stay in place by friction, but to prevent it slipping I simply stapled through both the mesh and plastic. That was it, job done. One ice cream tub, small piece of mesh and ten minutes yields one feed er Later I had a nuc that needed feeding, for which I had a 50 mm eke, thus I needed a small feeder……oh, what to do? Yes, I made a small ver sion of the same design, but this time I used an empty container from a Chinese take-away (I bet you also have plenty of those too!) Hope this helps those of you who also enjoy DIY of all forms.

### Pictures

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## September Tips

**Checklist September is the month when you need to start preparing for Winter.**

1. Feed your bees. Feeding needs to be completed before the end of the month allowing the colony to process off the excess water. Generally the recommended stores required for the Winter is 40 lbs (22 kg), and a BS brood frame contains 5 lbs (2.2 kg) of stores, so your bees require at least eight to ten frames of store. Colonies also require ample pollen to survive Winter successfully, especially to rear brood. Ensur that your bees have access to good quality pollen crops both at the end of the season and early in the following season.

2. Check the bees are disease free. Take samples and test for Nosema.

3. Check your hives are in sound condition, waterproof and well ventilated.

4. Protect your hives from vermin - fit mouse, and where necessary woodpecker guards. The queen will gradually stop laying and drones will b thrown out therefore the colony size will begin to shrink rapidly. ● Check your colonies are 'queen-right' - the brood nest may not be large, bu there should still be some eggs, larvae and sealed brood. ● Unite weak but healthy colonies before treatment and feeding. ● Colonies with old queens should be 're-queened' by uniting with a nucleus containing this year's queen, or by introducing a new queen in a cage. ● A late queen cell should be left alone, as the colony may be superseding their queen. ● Guard against robbing and the ingress of mice by reducing the hive entrance. ● If wasps are a problem place wasp traps. ● Use your bees to clean extracted frames by returning them to the hive above the crown board then, after scraping, put them away in a secure container for the Winter. ● Monitor the varroa fall, and where necessary treat with thymo

## What is honey?

Whilst the principle raw material of honey is nectar collected from flowers, what about describing its actual composition. Yes, it is sugar plus some essential oils, traces of minerals and water, but unless you studied, and can still recall your chemistry, biology or domestic science subjects, you may well struggle to even appreciate that it involves glucose, fructose and sucrose… whatever they are. So let's try to get down to basics. Sugars are carbohydrates, comprised of Carbon, Hydrogen and Oxygen molecules, described by the number of sub□units contained. Glucose … is a monosaccharide ($C_6H_{12}O_6$) meaning a 'single sugar unit'.

The most common sugar found in nature it can occur on its own or in combination with other sugars to form larger molecules, such as sucrose. Although it doesn't taste sweet, starch is made up entirely of long chains of glucose, and glucose itself tastes slightly less sweet than sucrose as it doesn't bind as tightly to the sweetness receptor in the human mouth. Fructose … known as fruit sugar, is also a monosaccharide, but not as common as glucose in nature. It's much sweeter than either glucose (or sucrose) and can be found either on its own or in combination with other sugar units.

A major difference between fructose and glucose is that our cells require the hormone insulin to cause them to take up glucose from the bloodstream, but when we eat fructose, our cells can absorb it without insulin. Sucrose… known as table sugar, is a disaccharide made up of glucose and fructose linked together ($C_{12}H_{22}O_{11}$).

When we consume sucrose, we must first digest it into glucose and fructose before we can absorb the constituent components into the bloodstream. From there, our cells take up glucose and fructose to burn them for energy or store for later use. There are other disaccharides, that can make up over 7% of honey's composition; maltose, kojibiose, turanose, isomaltose and maltulose. In addition, there are medium sized carbohydrates known as oligosaccharides that contain more than three simple sugar subunits, often made of mono and disaccharide. Some nectars are mostly sucrose, some are evenly divided among sucrose, glucose, and fructose, and some are mostly fructose.

Once the bee draws nectar up through its proboscis, the liquid passes through the oesophagus into the honey sac where glands secrete enzymes into it that work to break down starch into 13 smaller chains of sugars and sucrose into its constituent glucose and fructose molecules. By the time the foraging bee reaches the hive, the nectar has less sucrose and more glucose and fructose than it did originally, and is more dilute because of the bee's saliva. In the hive the task is to concentrate nectar to the point that it will resist bacteria and moulds and keep until needed. Microbes normally feed on sugars, but they are killed if the sugar concentration is high enough for osmotic pressure to draw moisture out of their cells.

Honey ripening involves both evaporation and the continuing work of bee enzymes. The disaccharide sucrose is converted almost entirely to glucose and fructose, because a mixture of single unit sugars is more soluble than the equivalent amount of sucrose. Higher concentrations provide a more compact supply of energy and a more effective defence against spoilage. Anti microbial action is also the function of an enzyme that oxidizes glucose to form gluconic acid and peroxides.

Gluconic acid lowers the honey's pH, and the peroxides act as an antiseptic. More mysterious are several enzymes that actually synthesize long chain sugars, some of them very rare, in small quantities. In addition to all this sugar chemistry, ripening honey also undergoes complex changes in colour and flavour. So far, upwards of 200 different substances have been identified in honey, and there are certainly others yet to be discovered.

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Canadian Bee problems

Loretta Yates said she knew she had a "sweet mess" on her hands at her home in the small southern Ontario community of Varney, located more than two hours northwest of Toronto, when a crack in the ceiling started oozing honey last week. "I guess with the cracked ceiling in the kitchen and the honey dripping on me — that was [the] time to get help," she said. Loretta and her husband Kevin soon discovered the 1 1/2-storey house they live in with their 22-month-old son had a few unexpected guests: 80,000 bees nesting in two colonies in the first-floor ceiling.

Kevin Yates said he first noticed something strange around a week ago when he spotted a "blanket of bees" hovering in a thick swarm outside the kitchen door. They wanted in," he said. He didn't realize they were trying to do what thousands of the pests had already done — sneak into the ceiling. They couldn't get in, he explained, because it was already full of bees.

He said it wasn't long after that honey began to slowly drip from newly emerged cracks in the living room and kitchen 14 ceilings, while a cascade of the sweet liquid even blew a light bulb after filling it half-full of honey. "Every hour honey would seep down to the ground on the floor," Yates said, adding he saw no bees leak down into the house along with the honey and that nobody was stung during the affair. Apparently the cou□ples' insurance company declined their request for help, saying the insurance policy didn't back them for bee infestations. And a pest control company couldn't promise to get the bugs out for good, Loretta Yates said.

That's when she called beekeeper David Schuit, who with three other employees of Saugeen Country Honey on Monday took down the living room and kitchen ceilings and scraped the honeycomb loose. It took them about six hours to get the job done, at a cost of around $1,500, her husband said.

## How to collect a swarm??

Not an official RBKA method or a technique for the faint hearted, but Stuart Hobbs and his wife employed an innovative way to retrieve a swarm from one of their hives. Richard saw the swarm go and could see it heading high into a nearby Chestnut tree, where they were well out of reach by the usual means. But undaunted he waited for them to settle and with his shotgun ready, and his wife standing by with a camera and a cardboard box used for catching swarms, he shot through the branch just above the swarm. The tree branch and swarm came tumbling down and his wife placed the box over them as they landed. The bees were mostly still in a large cluster on the branch and did not have time to disperse. They gradually moved off the branch and into the box, eventually joined by the stragglers. At dusk Stuart housed them back in an empty hive, where they now seem to be happily staying, none the worse for their adventure.

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Wasps et al

They were as late arriving as everything else this summer, but they finally made up for it. The wasps have arrived. Placing a simple wasp trap close to your hives will alleviate the problem, but be sure to fill it with cheap jam solution and not honey or sugar solution, or you will drown your own bees. There are numerous ideas on the subject, but piercing the top of a jar which has been half filled with a jam solution is the easiest and cheapest. Ensure that the hole is just enough for a wasp to squeeze through. Too large and it will find its way out again.

**Editor.**

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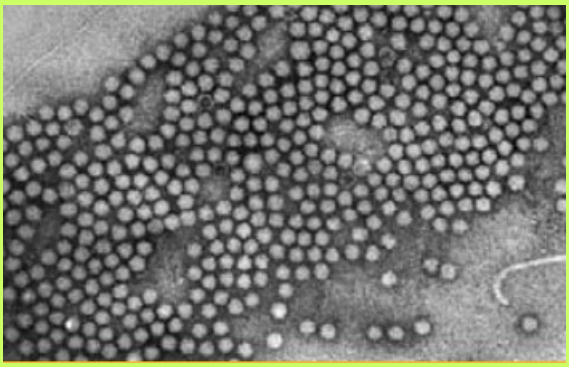
## Fruity lamburgers

It must be summer soon, mustn't it? Our barbecue has languished in the shed for most of the last few months, sadly underused. A home-made burger is a wonderful thing, with so much more flavour and texture than a shop-bought slab of compressed mince. These burgers are adapted from a fantastic tagine we discovered last year (hint: double the recipe, use cubed lamb, instead of mince, top up with a bit of water and slow-cook it in a casserole dish). A while ago we were given a burger press from Lakeland. I admit to sneering at it at first, but it's great: the burgers hold together much better. A word on cooking: burgers work better if you're patient. Aim to only turn them once during cooking – that way they're less likely to disintegrate and fall, depressingly, into the coals. Ingredients (makes four) • about 10 blanched almonds • 8oz (250g) coarse lamb mince • ½ red onion, finely chopped • 1 garlic clove, crushed • 1" ginger root, grated • ½ tsp cinnamon • 1 tsp ground coriander • about six stoned prunes and four dried apricots, soaked in hot water for 1hr then drained and chopped • grated zest of ½ orange • 1 tablespoon runny honey Directions Heat a little oil and fry the almonds, stirring constantly, until they turn golden. Cool, then chop them. Mix all the ingredients together thoroughly, season with salt and pepper, press into burgers and grill or barbecue. Serve in a bun or in pitta breads, with minty yoghurt

## Honey bee viruses

Viruses have until quite recently been largely ignored in honeybees, in contrast to humans and farm animals. Norman Carreck worked for many years at Rothamsted research facility in Hertfordshire with Dr Leslie Bailey, an expert on bee viruses. When starting their work, they acquired a powerful electron microscope (EM) to look at whether bees carried viruses. The first to be identified was called chronic paralysis virus (CPV, pictured below). We now know of a number of honey bee viruses, including CPV, acute paralysis virus (APV) and sacbrood, none of which are good news for honey bees. Viruses are some of the most basic living organisms. They generally have an outer protein coat, encasing a core containing RNA or DNA genetic material. Various detection techniques are used by scientists: • symptoms/signs: e.g. bees infected with deformed wing virus have deformed wings. • microscopy: most viruses don't have any outward symptoms, so we use electron microscopy, which is sensitive, but expensive and tricky. Additionally, many viruses look the same down a microscope, so identifying a particular virus can be problematic. • serology (studying fluids): specific, reliable and simple, so can be used for detection. Not fast, not cheap and not sensitive. • DNA/RNA analysis: sensitive, specific and reliable, but not fast, not cheap and not simple! 30 years ago bee viruses were not thought to be particularly important, and were viewed as a chance observation, without any serious disease consequence for the honey bees. But when Varroa destructor arrived in UK in 1990s the interest and importance of viruses increased as researchers found that the mite is a host carrying viruses. Dr Bailey at Rothamsted had found an association between viruses and other bee parasites (e.g. Nosema) and an association with the black queen cell virus. So did the viruses account for the disease features of Varroa's effects on the honeybee? Dr Brenda Ball, a research colleague of Dr Bailey, analysed Varroa-colonised bees using serology techniques. A number of viruses were detected – in the UK, around 55% of bee colonies had filamentous virus present; CPV was found in about 5% of UK and 10% of dead bees in Varroa-colonized bees in Germany; APV was found in 80% of German colonies heavily infected with Varroa. It became clear that Varroa was a host for viruses. In April 1992, beekeepers in Devon first reported Varroa in UK colonies, and there was a dawning realization that fruit crops would be at risk if all the bee pollinators died. Carreck went down to Devon and collected dead bees on the edge of Dartmoor for about a year. Lots of mites were found with dead brood. Upon examination, he found many instances of slow paralysis virus (SPV), which causes death in about 12 days. Over the next year or two many bees were to die in South of England from SPV transmitted via heavy infestations of Varroa. Norman then investigated whether the timing of infection affected mortality, conducting experiments at Rothamsted in bee-tight nylon mesh cages (fed with sugar syrup and pollen).



He found that uninfected bees in such a cage died in 50–60 days in summer and 260 days in winter, as normal, but in those infected at emergence from the brood comb died in only 12–15 days in summer and 180 days in winter. If infected as adults they appear to have a greater resistance and can live a normal lifespan, even though they have as many viruses as those that died very early. So, decreasing Varroa infestation will decrease the brood infection rate, which will in turn decrease mortality. There has recently been much discussion of colony collapse disorder (CCD), where bees in seemingly healthy colonies suddenly all die. A number of viruses have been found in such colonies, including Israeli acute paralysis virus, Kashmir bee virus and APV, although those viruses have also been found in colonies which have not collapsed. Iridoviruses and microsporidia such as Nosema may also be linked with CCD, but the situation is as yet unclear. Norman concluded his fascinating talk by stating that, although we now know quite a lot about viruses infecting bees, in many areas there is still much to be discovered, and we just don't know how many viruses are linked to bee diseases.

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## On my travels;;;;;;;;;;;;;;The Harston skep puzzle


If, like me, you have ever headed south out of Cambridge via the village of Harston, you may have noticed that at the far end of the village there is the village sign post visible to the passing traffic. Well, I was in my car on my way to one of our bee improvement group (BIG) sessions at Melbourn, and for some unknown reason (I may have been caught in traffic just opposite) I paid more close attention to the three images on this sign. One of the images is clearly a painting of a traditional straw bee skep. I have got as far as doing a little bit of digging into the archives at Cambridge Central library and I read that many years ago there used to be a large collection of skeps kept in Harston – I suppose a sort of early commercial apiary for honey production perhaps? I don't know where exactly in Harston the apiary was located, by whom it was owned, or anything else. I would be delighted to receive more information. Also, if anyone has made some interesting bee-related observation (bee-spotting?) I would be very pleased to hear from you.

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*Below is our simple advice on honey labelling. For more detailed information - go to the website of the Food Standards Agency. www.food.gov.uk*

*1. The Word "HONEY" is required.*

*2. The weight must be on the label - we will ensure it is the legal size and format.*

*3. You can specify the area where the honey is produced. For example, Lincolnshire, Forest of Dean, Scottish Borders.*

*4. You can specify the type of honey. For example, Heather, Borage. The honey must be at least 75% of that particular type.*

*5. If you are selling the honey, you must have your name and address on the label. It does not need to be complete but you should be able to be found from the information.*

*6. If you are selling the honey through a third party, you must have a lot number.*

*7. New for 2003 You must have a best before date on the jar. We suggest 2-5 years from now.*

*8. New for 2003 You must have a country of origin on the jar. For example - Produce of England, Product of Scotland, Harvested in Wales. Adding the country to the end of your address is not acceptable.*

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