

# Brighton & Lewes Beekeepers



## Newsletter November 2015

BRIGHTON AND LEWES DIVISION OF THE SUSSEX BEEKEEPERS ASSOCIATION  
[www.brightonlewesbeekeepers.co.uk](http://www.brightonlewesbeekeepers.co.uk)

### Next meeting - Nov 18th, Mollie Bonnard

**M**ollie will tell all about getting the best presentation for showing honey. Even if you don't show your honey, come and learn to present your honey for sale or for the table. Usual time usual place.

### Last meeting - Candle making, October 21st



**C**elia Rudland was the speaker at the first of the winter sessions. Those who have heard Celia speak before will know that she is a speaker of the first order. Once again we were treated to an excellent evening's entertainment. I have to use the pun "much light was shed on the subject. The topics ranged from gathering the wax, its commercial value, melting, handling and safety aspects. Other topics included moulds commercial and DIY versions, wicks and dipped candles.

Celia and her husband David (former regional bee inspector) run course on candle making and can be contacted on [enquire@east Surrey bees.co.uk](mailto:enquire@east Surrey bees.co.uk) or tel: 0208 6607753. Next course I think is in February.

As ever the evening concluded with tea/coffee and cake. Thanks to Heather for looking after the kitchen – the chocolate cake was superb.

All in all a very worthwhile evening well attended and enjoyed by all.



### New verroa treatment

**A** new verroa treatment is now available, detail of which can be found on the website below. I have heard no reports regarding this treatment to date. If any one uses this treatment it would be good to hear your experiences. Please write up and let me know your results.

Here are the details as sent to me by Norman Dickinson.

Api-Bioxal, a veterinary medicinal based on oxalic acid, has now been approved by the Veterinary Medicines Directorate (VMD) as a treatment for Varroa.

This gives UK beekeepers access for the first time, to a fully registered oxalic acid product.

Now available on their website with full details and instructions at link: [http://cornishhoney.co.uk/product\\_info.php?cPath=92\\_34&products\\_id=532](http://cornishhoney.co.uk/product_info.php?cPath=92_34&products_id=532) (copy and paste)

## Amanda advises



The bees should all be tucked up for winter now. The hive roofs are covered in falling leaves. I have finished all my feeding and put a bit of insulation under the roof in case we get the promised El Niño hard winter. The weather is likely to be too cold now for them to process syrup properly (it will ferment over winter), so any not taken down should be removed and the feeders cleaned and put away. A small colony at Grassroots was very reluctant to take the syrup from a rapid feeder so I transferred it to a contact feeder unfortunately this did not work either. This means they did not get their full winter allocation. I shall have to monitor their weight by hefting (lifting one side then the other to estimate the weight) through the winter and may have to give them fondant in the spring. They also have health problems so may not make it through the winter. A shame, as in May this year they had 4 supers on and were earmarked for breeding, but then they all showed signs of Chronic Bee Paralysis Virus and went downhill rapidly. All the rest have sufficient stores to last until March at least. I do not like feeding fondant. The ivy seems to have produced well in October so they should be well stocked. Mine are still bringing in lots of pollen so there will be plenty of protein for the new brood later in the winter.

To minimise the risk of dead bees blocking the entrance, I remove the wooden entrance block when putting on the mouse guard. Keep checking the holes are clear. I checked the floor on one in October and found a dying Queen there. I was of course very anxious but a week later I found brood and I think it was a supersedure with the old Queen removed early, usually I have mother and daughter over winter. I hope she managed to mate properly as September/October is rather late. A nucleus had no brood but a hatched queen cell and one or two adult drones and were grumpy,

knowing it was too late to mate I was all ready to merge them but a final check revealed my old marked queen. I am not sure why she is no longer laying though. A week later when dusting they were much better tempered so I hope they are now happy with their queen. I will have to keep an eye on those two colonies.

I did my Autumn varroa check using icing sugar in late October and although a couple dropped only 1 mite, two dropped 330 mites each, the rest less than 170 but it means I still have a bit of dusting to do as I prefer them to get down to single figures. Back in 2012, those which dropped over 200 at this time did not survive the hard winter. Last year 2 with over 200 mites survived with lots of dusting; one of them dropping 500 gave me endless trouble this year, never expanding and getting through 4 queens before finally beginning to recover in August. I almost wish I had dumped them this time last year, but I suppose the experience was useful to find out just what they can stand. With lots of care, dusting, requeening, comb changing, they will pull through but take a year to do it.

Catch up on cleaning and check stored supers etc for wax moth. I shall be going through all my records and make a provisional plan for the colonies next year, to be confirmed when I see how big they are in the spring. I hope to see you at the SBKA Convention on November 28th.

## Sweet deceit From an article by Stephanie Pain in New Scientist, 25 April 2015, 42-45

**From Gerald Legg (our regular New Scientist reader)**

In 401 BC, 10,000 Greek mercenaries were returning home after being at war in Persia. On passing through Colchis they gorged themselves on honey they stole from beehives. Several thousand soon fell into a stupor – acting like “intoxicated madmen, as if under a spell” (Xenophon, historian and soldier). They had no knowledge of the ‘mad honey’ made by local bees. In 65 BC a similar fate befell troops of the Roman general Pompey’s army when they ate honeycombs strategically placed by their enemy – resulting in the soldiers being slaughtered. Mad honey was being used as a chemical weapon. Mead made from such honey was drunk by Olga of Kiev’s (later a Saint) Russian enemies 5000 of whom were then massacred. Ivan the Great’s forces adopted a similar strategy in 1489 when they left huge vats of toxin-spiked mead in their camp and then returned to slaughter 10,000 Tartar troops who had stopped to drink it.

‘Mad honey’ owes its potency to toxin present in the nectar. Pliny identified rhododendron (*Rhododendron ponticum*) as the source of mad honey, delicious but

dangerous in the hands of those who knew its powers. Dozen of plants are recognised to have toxins in their nectar. Nectar is a reward for pollinators so why risk repelling or even killing them? A paradox which is now being understood in terms of how clever plants are in manipulating their pollinators for their own ends.

It was thought that nectar was just a sugary liquid, but on close analysis has revealed many ingredients, some of them potentially harmful: alkaloids, terpenes, iridoid glycosides, phenol-based molecules and more. Do they just leak into the nectar or have a purpose? There is good evidence that they are there for a good reason.

As an example, caffeine, that substance that perks you up. At least 15 genera of plants produce caffeine primarily as a defence against insects, or so it was once thought. Caffeine tastes bitter to insects, including bees, and they find it repellent, but they still visit caffeine laced nectar of coffee and citrus plants. As it turns out the level of caffeine is too low for them to taste, yet given the choice and bees will choose the caffeine nectar over nectar with none. It has now been found that caffeine acts as a drug, influencing the bee’s mind like

it does ours. Give bees caffeine honey and three days later they remember the scent. It produces massive improvement in long-term memory by intensifying how the bee's brain reacts to information from its antennae, where smells are detected. Remembering the scent means that bees are more likely to return to the same plants and bring other members of the colony along – benefit for the plants. Flowers with caffeine-laced nectar have been shown to receive significantly more pollen.

Messing with a bee's mind to encourage fidelity isn't the only way in which plants harness their toxic assets to improve the odds of pollination. Tobacco plants use nicotine to alter the foraging behaviour of pollinators. Nicotine is highly toxic and used to ward off caterpillars, leafhoppers and other enemies. Studies have demonstrated that carpenter bees, which like nectar but don't pollinate, are repelled by the nicotine honey. Hawkmoths and hummingbirds that pollinate this species find the taste repellent too. That, it turns out, works in the plant's favour.

Wild tobacco spikes its nectar with benzylacetone, a powerfully attractive scent molecule. The scent lures pollinators; the nicotine cuts their visits short, leaving more nectar in the flower to attract new visitors. This chemical carrot-and-stick strategy results not just in the production of more seeds but also in greater movement of pollen between flowers on different plants. The result is a healthy mixing of genes and a greater capacity to survive challenges such as a changing environment.

Flowering plants have famously evolved ingenious, often extravagant, features to enlist the services of specialist pollinators. Could this explain the nectar of the common rhododendron, the source of mad honey? Work on the invasive *Rhododendron ponticum* in Ireland (the species is native to southern Spain, Portugal, and Turkey to Georgia) has shown that the flowers are visited almost exclusively by bumblebees, with occasional visits from solitary bees, flies, ants and wasps. Honeybees very rarely near them. The nectar is rich in nerve poisons called grayanotoxins. This has no apparent effect on worker bumblebees. Mining bees show short-term symptoms of malaise, lying on their backs with their legs in the air but recover later. However, honeybees die within hours. In honeybees

and humans grayanotoxins hold open the sodium channels present in all nerve and muscle cells, so that neurons keep firing until they are fatigued. In the bees, this leads to palpitations, paralysis and death. Why it doesn't happen to bumblebees is not known; like other drugs some animals are more susceptible than others.

It seems that grayanotoxins have helped to forge a relationship between rhododendrons and bumblebees. Rhododendron flowers are large, and conceal their nectar in a tubular fold in the back petal. But hairy bumblebees make better pollinators and pick up pollen easily which they do not groom-off and so transfer it to the next flower they visit. Honeybees living in the plant's native range appear to have evolved resistance to the poisoned nectar so in Turkey they produce 'mad honey'.

Honey might also offer something more than nutrients. New research suggest that some flowers can be pharmacies as well as food stores, and that some insects might seek out toxic nectar for its medicinal properties.

Many plants produce antimicrobial compounds that help suppress microorganisms that consume sugar but they could also stave off disease. Flowers are busy places, like an airport, with insects visiting and depositing pathogens that can be picked up by other visitors to the infect the plant. It is suspected that some nectar toxins could reduce the spread of insect diseases. Recently gelsemine, an alkaloid in the nectar of yellow jessamine, *Gelsemium sempervirens*, has a therapeutic effect on bumblebees by reducing the parasite *Crithidia bombei* load in the gut of the bees by 65 per cent. This parasite spreads via faeces deposited on flowers and in the nest, shortens the life of both individual bees and colonies. Other nectar toxins have been shown to have similar effects in reducing parasites.

However, there could be a darker side. Some pollinators feed on nasty nectar with no ill effects, but other insects may be harmed or even killed. 'What's one bee species' medicine may be another bee's toxin' says Lyn Alder of the University of Massachusetts. The list of toxic nectars grows making ecologist wonder if this could be contributing to the complex issue of the global decline in pollinators.

## Equality for beekeepers

In an earlier newsletter I published a photo of a man covered in bees. Here's a picture of a brave lady risking all, showing off her bees.





# Divisional Diary 2015/16

**Indoor meetings** 7.15 for 7.30pm on the 3rd Wednesday of the month, (October to March) at St. Thomas's church hall, Lewes unless otherwise stated. Members are invited to arrive early and assist in putting out chairs. Admittance £1 which will include tea/coffee, cake/biscuits Non-members are welcome.

## Programme

### Indoor meetings

October 21st – Candle making– Celia Rudland

November 18th – Preparing honey for show– Mollie Bonard

December 16th – Dave Cushman and his website - Roger Patterson

January 20th – AGM – Using Nucs – David Rudland

February 17th – 8mm of Nothing– Bob Smith

March 16th – Blossom to Honey Jar– John Hendrie

## Dates for your diary

October 29-31 National Honey Show, St Georges College, Weybridge

November 28 SBKA Annual convention

The Brighton and Lewes Division of the SBKA cannot accept any responsibility for loss, injury or damage sustained by persons in consequence of their participation in activities arranged.

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### National Honey Show Representative

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### Committee Members

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## Contributions to our newsletter

Contributions to the newsletter (max 900 words) can be sent preferably by email to the editor see Officer panel above for details Photos etc. for the website should be emailed to our webmaster, see panel above.

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