

THE ESSEX BEEKEEPER



The art, science and mystery of skep making, photo by Paul Abbott
This photo gained 3rd prize in the 'Colour Print, not close-up macro' section at the National Honey Show

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Essex Beekeeper's Association

The Essex Beekeepers' Association is a registered charity whose object is to further the craft of beekeeping in Essex.

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The views expressed in these articles are those of the authors and do not necessarily represent the views of the EBKA.

January 2013 and February 2013

- 3 Jan. *Thursday 7.30pm Harlow* at Kings Church Red Willow. Divisional AGM.
- 11 Jan. *Friday 8.00pm Romford* Chadwick Hall, Main Road, Gidea Park RM2 5EL. Divisional AGM.
- 17 Jan. *Thursday 8.00pm Epping Forest* at Chingford Horticultural Hall Larkshall Rd, London E4 6NH. Divisional AGM.
- 23 Jan. *Wednesday 7.30pm Southend* at Women's Institute Hall, Bellingham Lane, Rayleigh. Divisional AGM.
- 24 Jan. *Thursday 7.30pm Colchester* at Community Centre Langham (please note change of venue) Divisional AGM followed by a honey tasting session.
- 25 Jan. *Friday 7.00pm Saffron Walden* at Dunmow Day Centre, Annual Dinner and Divisional AGM.
- 25 Jan. *Friday 8.00pm Braintree* Constitutional Club CM7 1TY. Divisional AGM.
- 26 Jan. *Saturday 2.00pm Malden and Dengie Hundred* at Mundon Victory Hall. Divisional AGM.
- 28 Jan. *Monday 7.30pm Chelmsford* at Link Hall, Methodist Church, Rainsford Road, Chelmsford CM1 2XB. Divisional AGM followed by a discussion on 'The Season we have just been through'. (Note this is the 4th Monday rather than the usual 3rd Monday of the month).
- 1 Feb. *Friday 8.00pm Romford* Chadwick Hall, Main Road, Gidea Park RM2 5EL. Open forum chaired by Jim McNeill.
- 7 Feb. *Thursday 7.30pm Harlow* at Kings Church Red Willow. Spring management.
- 19 Feb. *Tuesday 8.00pm Saffron Walden* at Thaxted Guildhall CM6 2LA, 'Beekeeping in Tropical Africa' Talk by Richard & Jane Ridler.
- 21 Feb. *Thursday 8.00pm Epping Forest* at Chingford Horticultural Hall Larkshall Rd, London E4 6NH. Film night.
- 23 Feb. *Saturday 7.30pm Braintree* Constitutional Club CM7 1TY. Annual Dinner.
- 27 Feb. *Wednesday 7.30pm Southend* at Women's Institute Hall, Bellingham Lane, Rayleigh. Kathryn Lwin from 'River of Flowers' will be explaining how they have planted urban meadows connected by 'pollination streams' within London and advising us on the feasibility of setting up such a scheme within the Southend area. www.riverofflowers.org.
- 28 Feb. *Thursday 7.30pm Colchester* at Langham Community Centre. 'Getting ready for the season' forum.

**County Pheromones
Richard Ridler (Chairman)**

January is the month for divisional annual general meetings. Whilst I know many of you think of these as boring and stay well away I ask you to consider two points. Members of divisional committees give their time and effort to organise events and activities for all of you throughout the year, they need you all to express your views on what you want from your division and they deserve your support at AGMs. We have literally hundreds of members who have joined EBKA in the last three years, whilst many are contributing to managing the association there are plenty more opportunities for others to help too. So please go to your divisional AGMs and if you are not already doing so please do consider offering to help with the running of your division. My very best wishes to you all for a successful 2013.

Saffron Walden Teaching/Training Classes

February 26th	Tuesday	Part 1
March 12th	Tuesday	Part 2
March 26th	Tuesday	Part 3

Theory Classes for Beginners
6.45—8.30pm
with Jane and Richard Ridler, followed by

Discussion Classes for Second Year Beekeepers 8.00—9.15pm
at Thaxted Guildhall CM6 2LA

**EBKA Annual General Meeting
Saturday 2nd March 2013**

Venue: Room E06, Lordship Road, Writtle, CM1 3RP

Yes, it seems ages away, but please put this date into your diary now!

The AGM itself, starting at 2pm, will not take very long, and then there will be a refreshment break, laid on by Epping Forest Division. After the break, there will be a speaker, **Graham Royle**, to give us a talk about the *Honeybee under the Microscope*.

Graham is an excellent speaker and his photographs are amazing. Let's make sure there is a large turnout for this event. It will be an enjoyable social occasion as well as a great opportunity to meet members from other parts of Essex. Bring your partners and children – they will love the pictures too. Everyone is welcome.

I AM allergic to bee stings By Andy Sivell

Andy Sivell is a journalist, copy writer and magazine publisher. He got his first colony and took up beekeeping in 2010. He maintains a blog, [Diary of a Nervous Beekeeper](http://www.beekeepingadvice.co.uk), which can be found at www.beekeepingadvice.co.uk

In July 2010 I took up beekeeping. Exactly two years later I was stung for the first time. A week later I was stung for only the second time, and a week after that the third. Then things got a little weird. Not until a whole *eight hours* had passed following the third sting did I experience a reaction. Of course, the first two stings hadn't gone unnoticed: both hurt and there was some localised swelling. But the third sting was different. A half day after being stung in the foot, and not inconvenienced to the extent even of having to give up mowing the lawn or push around a wheelbarrow (dammit), my head suddenly registered that something was wrong. I had difficulty breathing. I wheezed my way through a sleepless night and by morning discovered that my right pedal extremity had been replaced by a hairy pink inflatable. I'd had what appeared to be an allergic reaction. Perhaps more alarmingly, barely 24 hours later I'd also received a clear instruction from my doctor to give up beekeeping.



My subsequent plea for advice on whether or not I should continue generated a record number of comments from fellow beekeepers. All were positive. The overwhelming majority advised me not to give up. Many included accounts of readers' own, similar reactions to bee stings. Some included detailed information about medication, and a few suggested novel remedies, such as placing a copper coin on the sting, or heating the affected area with a hair dryer.

For a while I did nothing. Nor did I go anywhere near the bees. Then I did what most people in receipt of an unwelcome medical opinion do: I went and got a second medical opinion. It echoed much of the advice I'd already received via this blog: carry on but be sensible, upgrade my bee suit, always have someone check overalls for stray bees before disrobing, and have medication on stand-by. The one area in which my two doctors were in complete agreement, however, was that I should attend an allergy clinic for further tests.

Now, as it happens, one of the leading allergy clinics in the country is just up the road from me in Cambridge. So early last month I presented myself at the reception desk of the catchily titled 'Clinic 2a' at Addenbrooke's Hospital.

I was welcomed by a succession of nurses, all of whom had apparently been schooled by call centre staff. Each one introduced themselves by their first name, which I immediately forgot, and regularly punctuated their sentences with mine, presumably lest I forget that too. None could resist cheerily informing me that every customer that morning had been a beekeeper.

Eventually I was introduced to a slightly more senior-looking nurse, whose name I again forgot, but whose step-by-step description of what I was about to experience left an indelible impression. Taking my right forearm she wrote the numbers one to ten down it in biro, before pricking the skin surface next to each number with increasing dosages of, first bee, then wasp venom. I was then invited to wait in the office next door for 20 minutes, to see whether there was any reaction.

'Seeing whether there was any reaction' involved one of the first nurses coming back and measuring the inflammation around each pin prick with what looked like one of those plastic widgets hardware stores sell to gauge the size of wood screws. I could tell that she was disappointed. Clearly I wasn't inflaming well. She disappeared and came back with more bee venom, before adding an eleventh dot. Twenty minutes later I was ready to gnaw my arm off. The sensation took fully 24 hours to subside.

Clearly we'd established that I'm not very quick on the uptake. More to the point, we'd apparently also put beyond doubt that I was allergic to bee venom. The nurses were all delighted. As a reward, I was going to finally meet a doctor.

The specialist who saw me was a dead ringer for a former girlfriend, which was a little unsettling as she looked like the girl I dated 20 years ago, whereas I now look like a balding guy in his late forties. It didn't help that when it came to taking the inevitable blood sample my needle phobia meant that she insisted on holding my hand. That just felt plain wrong.

The existence of my allergy seemed to interest her far less than the time it took my head to register an assault upon my extremities. I had, since being referred, incurred a fourth bee sting on my big toe. That time I had removed the stinger using a credit card and taken the prescribed Fexofenadine Hydrochloride (antihistamine) and Prednisolone (steroid), all within five minutes. The subsequent absence of *any* reaction at all had been as much of a surprise as a relief. Twenty-four hours later I couldn't even locate the puncture wound.

When I relayed this to my doctor she seemed almost put out, and promptly instructed me to delay taking any form of medication next time, "just to see" whether in my case delayed reactions were the norm. (They are. A fifth sting saw my hand inflate like a pink washing-up glove after 12 hours).

Notwithstanding the unlikelihood of my keeling over on the spot when next assaulted by *Apis iratus*, I was judged a suitable candidate for 'desensitisation' therapy. Next summer I'm to report to Addenbrooke's Clinic 2a every week for an 11-week course of treatment. Still, with all those other beekeepers around I shall be in good company. I wonder if Cambridgeshire Beekeepers' Association has an Addenbooke's division yet?

**EBKA 132nd Annual Conference
'Beekeeping in the 21st Century'**

Hosted by Harlow Division

Saturday 10th November 2012

Stewards Academy

Over 130 Delegates from all around Essex and surrounding Counties attended what was a very successful day.

The aim of the Conference was to provide 3 different types of Lectures:

Technical:

John Hendrie provided a very interesting and detailed Lecture on the Senses of the Honey Bee, both within and outside the Hive, by explaining and comparing differences to humans and human senses.

Practical:

Terry Clare explained genetic & other causes with regards to Swarming and how with this understanding we can recognize, control and utilize this phenomenon.

General and Background Information:

Mike Brown, Head of the National Bee Unit, provided a comprehensive overview of the Unit's Role in protecting the Honey Bee and carrying out work on the Government's Bee Health Programme for Beekeepers in England & Wales.

These lectures were supported by 8 separate Stall Holders who filled the Venue with a good variety of merchandise.

Stewards Academy supplied all the fantastic amenities we required with Catering Staff working hard and providing everyone with very good hot food.

Feedback from Delegates, Lecturers and Stall Holders has been extremely positive and welcoming.

Harlow Division would like to say a very big thank you to everyone who participated in helping to make this a very successful and enjoyable Conference.

Beekeeping Tips No. 22
Inspection of colonies
By Pollinator

As taught by Clive de Bruyn and Ted Hooper, when we had professionals teaching us at Writtle College, there are five things to be considered each time we open a hive for inspection of the colony.

These are:

1. Has the colony sufficient room?
2. Are there eggs and is the queen present and laying a good brood pattern?
3. Are there sufficient stores?
4. Is the colony building up normally in the Spring; and are there any queen cells?

Is there any disease and mite damage present?

No.1: Using the National hive as a model (Scale up for larger sizes). During the months from October to March colonies should have the full use of a deep brood chamber and a super (known as one and a half), without a queen excluder. In October each colony should have had somewhere around 20 kg of stores comprising sugar and honey. At the first inspection, in early March, you may find the queen has been laying eggs in the shallow, as the brood nest tends to expand upwards, because of the warmth, rather than sideways. In the brood chamber you will find outside deep frames full of pollen and sealed stores (some granulated). To make room for the queen to lay eggs, in these unladen deep frames with honey and pollen, scratch the honey cappings with your hive tool as that encourages them to move this honey into the shallow frames, or to use it. Insert the queen excluder between the boxes; making sure the queen is in the deep box. (For further help see Bee Tips no. 13). Replacing with drawn empty frames can reduce the number of frames, full of pollen. Some of these can be used in other colonies that are short of pollen.

No.2: A good brood pattern is one where the inner part is hatching or hatched or even re-laid and the remainder is solid sealed brood. There should be few empty cells amongst the sealed area and if there is this may be due to a failing queen not laying a viable egg. Around the outside of the sealed area will be found many cells containing a single egg in each. The sealed area should be flat ... raised cappings would indicate unfertilised eggs and drones within, indicating the failure of the queen to fertilise each egg. That is to say, a failing queen.

No.3 A Standard deep (DN4) full of sealed stores on both sides will weigh

roughly 2 kg. From this the weight of other areas of stores may be estimated, and the total stores assessed. It is a good idea to lift one side of the hive so that in future you know what weight corresponds to these known stores. Stores should be adequate to last until the next inspection and this depends on the weather, the size of the colony and the type of honeybee. Experience is the main guide and 3 kg of stores for a ten days inspection routine is a useful starting point.

No.4 Any colony building up slower than others in the apiary is suspect. Look for disease and call the bee inspector, or your mentor, if there's anything suspicious. If it is a small colony (less than five seams between frames) then a hatching brood frame may be moved from a stronger colony, after shaking the bees off, to boost it.

No. 5 Disease can be a problem and slowness to build colony size may be attributable to nosema. Symptoms are defecation on the comb if very bad. Firstly, defecation may show on the front outside wall of the brood chamber where yellow streaks are the giveaway signs.



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**'Green Brain' project to create an autonomous flying robot
with a honey bee brain
Press release from Sheffield University**

Scientists at the Universities of Sheffield and Sussex are embarking on an ambitious project to produce the first accurate computer models of a honey bee brain in a bid to advance our understanding of Artificial Intelligence (AI), and how animals think.

The team will build models of the systems in the brain that govern a honey bee's vision and sense of smell. Using this information, the researchers aim to create the first flying robot able to sense and act as autonomously as a bee, rather than just carry out a pre-programmed set of instructions.

If successful, this project will meet one of the major challenges of modern science: building a robot brain that can perform complex tasks as well as the brain of an animal. Tasks the robot will be expected to perform, for example, will include finding the source of particular odours or gases in the same way that a bee can identify particular flowers.

It is anticipated that the artificial brain could eventually be used in applications such as search and rescue missions, or even mechanical pollination of crops.

Dr James Marshall, leading the £1 million Engineering and Physical Sciences Research Council (EPSRC) funded project in Sheffield, said: "The development of an artificial brain is one of the greatest challenges in Artificial Intelligence. So far, researchers have typically studied brains such as those of rats, monkeys, and humans, but actually 'simpler' organisms such as social insects have surprisingly advanced cognitive abilities."

Called 'Green Brain,' and partially supported with hardware donated by NVIDIA Corporation, the project invites comparison with the IBM-sponsored Blue Brain initiative, which is developing brain modelling technologies using supercomputers with the ultimate goal of producing an accurate model of a human brain.

The hardware provided by NVIDIA is based on high-performance processors called 'GPU accelerators' that generate the 3D graphics on home PCs and games consoles and power some of the world's highest-performance supercomputers. These accelerators provide a very efficient way of performing the massive calculations needed to simulate a brain using a standard desktop PC – rather than on a large, expensive supercomputing cluster.

"Using NVIDIA's massively parallel GPU accelerators for brain models is an important goal of the project as they allow us to build faster models than ever before," explained Dr Thomas Nowotny, the leader of the Sussex team. "We expect that in many areas of science this technology will eventually replace the classic supercomputers we use today."

Green Brain's researchers anticipate that developing a model of a honey bee brain will offer a more accessible method of driving forward our knowledge of

how a brain's cognitive systems work, leading to advances in understanding animal and human cognition. "Because the honey bee brain is smaller and more accessible than any vertebrate brain, we hope to eventually be able to produce an accurate and complete model that we can test within a flying robot," said Dr Marshall.

"Not only will this pave the way for many future advances in autonomous flying robots, but we also believe the computer modelling techniques we will be using will be widely useful to other brain modelling and computational neuroscience projects," added Dr Nowotny.

Alongside this, the research is expected to provide a greater understanding of the honey bee itself. Because of their role as pollinators, honey bees are vital to many ecosystems, yet their declining population in recent years has given scientists cause for concern. Green Brain's modelling could help scientists to understand why honey bee numbers are dwindling and also contribute to the development of artificial pollinators, such as those being researched by the National Science Foundation-funded Robobees project, led by Harvard University.

The article can be found at

<http://www.shef.ac.uk/news/nr/green-brain-honey-bee-model-sheffield-university-1.212235>

The Many Uses of a Snelgrove Board
Part 4a—Strategic considerations and some innovative uses.
By Wally Shaw

This article first appeared in Welsh Beekeepers Association Newsletter, Autumn 2009 edition. It is reprinted here courtesy of its Editor and with the co-operation of EBees.

Introduction

The previous parts of this series of articles have described the main ways that a Snelgrove board can be deployed in colony management. Some of the uses are determined by the beekeeper having a definite objective in mind, the most common example being the raising of a new queen for a colony because the existing one is nearing the end of her useful life. Another related objective is to change the strain of a colony with undesirable characteristics by making it raise a new queen using eggs or young larvae from a more desirable stock. By using a Snelgrove board this latter operation can be accomplished almost seamlessly, keeping the existing queen in her job until her replacement is up and running, so that little honey production is lost. A Snelgrove board can also be used as a means of small-scale queen raising; isolating part of the brood from the queen thereby causing the split to make emergency queen cells and using frames with cells on them to 'seed' nucs that have been populated by bees (surrogate carers) from another hive.

However, the mainstream use of a Snelgrove board is for either swarm prevention (Method I – used to split colonies pre-emptively before swarm cells are produced) or swarm control (conventional artificial swarming or Method II – used when queen cells are present in a colony). The main objective of beekeeping (for most people) is to produce an optimum crop of honey from their hives. The way in which the swarming behaviour is managed is the main determinant of honey production that is under the control of the beekeeper – things like weather are not.

Swarm Control and Honey Production

Virtually all swarm control methods involve some loss of honey production but this must be weighed against the loss that occurs if a colony is just allowed to swarm, the prime swarm makes good its escape and so do any cast swarms. If this entirely natural sequence of events is allowed to proceed unchecked, most of the honey production will be lost. The following management options are listed in order of their increasing impact on honey production.

No swarm control - the colony goes the whole way through the season without attempting to swarm. This is the option most likely to realise the maximum honey production potential of the hive. The likelihood of a colony **not** attempting to swarm during the season are greatly increased by good comb management; ensuring the queen always has room to lay and there is plenty of space for the storage of honey.

Pre-emptive swarm control – splitting the colony before any queen cells are produced (eg. Snelgrove’s Method I, described in Part 2) comes next. If this operation is carefully timed in relation to anticipated nectar flows and the **quantitative balance of the split is nicely adjusted***, there will be little loss honey production. There can even be a slight increase if the split is made early in the season and results in two fully-functioning colonies by the time of the main flow. Pre-emptive splitting is certainly a good option for bees that are to be taken to the heather or have access to some other late nectar flow. Uniting the splits can be used to produce a large colony with lots of brood and headed by a young queen in anticipation of the flow.

Re-active swarm control - doing no swarm control until queen cells are produced and then applying some method of artificial swarming (see Part 3 of the series). The two colonies produced by an artificial swarm will inevitably produce less honey than two colonies produced by a pre-emptive split but the **‘wait and see what happens’** or **‘sitting on the fence’** strategy does allow the beekeeper to get maximum production from those hives that actually go through the whole season without attempting to swarm. This strategy, using re-active swarm control as and when required, is basically gambling on the chance of a colony not attempting to swarm at any time during the season. Like all gambling, you win some and you lose some, but this is not entirely a game of chance. Experienced beekeepers have some idea how likely their colonies are to swarm and there are warning signs in the colonies themselves if you are looking carefully. The only thing the beekeeper can not control is the weather and, in western Britain, this is a major factor in the initiation of swarming.

Waiting until swarms emerge – hoping to catch and hive them before they disappear into the wild blue yonder. This is a chancy strategy, requiring great vigilance but can be enhanced by the use of catch or bait hives which hopefully attract swarms to hive themselves. If things are not to go from bad to worse, the beekeeper still has to determine which colony has produced the swarm, open the hive and destroy all but one queen cell, if cast swarming is to be avoided.

Doing nothing at all - apart from adding enough supers and hoping for the best. If the colony does not swarm a good crop of honey will be produced. If it does swarm and then cast swarms then there is little hope of any honey surplus.

Which Strategy is Best?

You are not catching me on that one! If I really knew the answer I would be much too clever and important to be writing articles for you lot. Seriously though, it is a choice (a balancing act) between a) no swarm control but good comb management, b) pre-emptive swarm control by splitting colonies, and, c) re-active swarm control. All three strategies have a place in the beekeeper's management repertoire. I still have plenty to learn about this aspect of beekeeping and I will let you know when I have any firm conclusion – if ever!

* Just to explain what I mean by the phrase the **'quantitative balance of the split is nicely adjusted'**. When a colony is split to prevent initiation of the swarming process you are attempting to revert the existing brood nest to a less mature state. You are doing this by the removal of brood and nurse bees. The existing brood nest (still with the queen in place) now, not only has more room for her to lay, but fewer nurse bees to look after the brood. The result is a brood nest in a state of development similar to that which existed earlier in the season when the colony was still building. The question is how much brood and nurse bee removal is enough to prevent the colony from attempting to swarm for the rest of the season? I do not know the answer and that is where your skill and judgement as a beekeeper comes in. With some colonies the removal of 2-3 frames of brood and bees will be enough whilst other colonies may need the removal of a whole box – and, in some cases, even that may not be enough. The only rule I can give you is, that if you are going to put the removed frames on a Snelgrove board, it has to be a viable number and I would suggest that about 6 deep frames or 8-9 shallow frames is about right. Because by using a Snelgrove board you have warmth coming up from the colony below, you could probably get away with fewer frames but it is best to err on the safe side. Defence may be the critical issue for the split and it is good practice to adjust the degree of opening of the door on the Snelgrove board accordingly. With a small split quite a small opening will suffice until more bees have emerged from the brood and the new colony has got its act together.



Worker honey bee (*apis mellifera*) collecting nectar: photo by Paul Abbott. This photo gained 3rd prize in the 'black and white' section at the National Honey Show.

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Varroa mite on drone pupa: photo by Paul Abbott.
This photo gained 2nd prize in the 'Colour Print, close-up or macro'
section at the National Honey Show