Every conceivable piece of equipment a beekeeper would ever want, and then some ........  ApiExpo 2013
## Divisional Meetings
### January & February 2014

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<th>Date</th>
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<tr>
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<td>Harlow</td>
<td><strong>Annual General Meeting</strong>&lt;br&gt;How are your bees? What to do to keep them alive. Kings Church, Red Willow, Harlow CM19 5PA</td>
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<td>10 January</td>
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<td><strong>Annual General Meeting</strong>&lt;br&gt;- The Link, Rainsford Road, Chelmsford CM1 2XB</td>
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<td>22 January</td>
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<td>7.30pm</td>
<td>Saffron Walden</td>
<td>‘Successful Queen Introduction’ Robert Pickford&lt;br&gt;- Thaxted Guildhall CM6 2LA</td>
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<td>31 January</td>
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<td>Braintree</td>
<td><strong>Annual General Meeting</strong>&lt;br&gt;- Constitutional Club, Braintree</td>
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<td>Harlow</td>
<td>Spring Preparation — David Tyler &amp; Danny Nicoll Kings Church, Red Willow, Harlow CM19 5PA</td>
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<td>Saffron Walden</td>
<td><strong>Annual General Meeting &amp; Dinner</strong>&lt;br&gt;- Dunmow Day Centre, Great Dunmow CM6 1AE</td>
</tr>
<tr>
<td>19 February</td>
<td>Wednesday</td>
<td>7.30pm</td>
<td>Saffron Walden</td>
<td>‘Nasty Nosema - how it affects your bees and how to recognise and treat it’&lt;br&gt;- Thaxted Guildhall CM6 2LA</td>
</tr>
<tr>
<td>22 February</td>
<td>Saturday</td>
<td>7.30pm</td>
<td>Braintree</td>
<td><strong>Annual Dinner</strong>&lt;br&gt;- Constitutional Club, Braintree</td>
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Cover Photograph and those in the Apimondia Report on pages 4, 5 and 6 by Clive de Bruyn:
Joy Hooper

Joy was a member of Southend Division, Boreham Art Club and the Womens’ Institute and died in hospital after a fall. She painted in water colours and oils, and was keen on her herb garden.

She supported Ted in all his beekeeping activities in Essex and travelled with him all over the UK when he gave talks.

I first met Joy and Ted when the Rev. Ost at East Hanningfield had a garden meeting in 1963; subsequently attending many County meetings with them. After Ted’s retirement, as Beekeeping Instructor for Essex and based at Writtle college, Joy moved to Great Yeldham with him and then later back to a bungalow in Boreham to be near Jeanette, one of their two daughters. Each week Sylvia and I would join Joy and Ted at the Queen’s Head for a meal, drink and conversation.

Our condolences go to their family.

A Service of Remembrance took place at Boreham Church on Tuesday 10 December 2013 with many beekeepers in attendance followed by a service at Chelmsford Crematorium.

Geoff Mills
EBKA Hon. Life Member

Joy Hooper and Ted Hooper OBE

(Photograph from Clive de Bruyn)
For those who don’t recognise the heading I am referring to the XXXXIII Apicultural Congress. *Apimondia* is an amalgam of two words; *api*, (honey bees), and *mondia*, (the world). It was set up in 1897 as the **International Federation of Beekeepers’ Associations**, to promote scientific, ecological, social and apicultural development. One way of achieving this has been to organise international Congresses in alternating years. My first was in 1981 at Acapulco since when I have attended 16. The Congress I am talking about now took place last year in Kiev, capital of the Ukraine.

At Congresses, beekeepers, scientist, honey-traders, legislators, workers in the third world and technicians meet to talk, listen, and learn from one another. Despite the easy access to information via the Internet, I feel there is still a need to meet with people face to face. I look forward to the chance to discuss beekeeping affairs with acquaintances from other lands, some of whom I have met at previous events in other countries. Essex was represented. I shared accommodation with Dave Blackwood from Southend. Dave and I arrived before the congress so we had a few days in which to explore the capitol prior to registration. This is a good strategy that we have adopted from previous congresses. After the Congress I spent some time with Paul Harper an ex-Epping Forest member. I also bumped into the EBKA Chairman and his wife the Examination Secretary. (Richard and Jane Ridler).

The number of delegates attending the Congress exceeded 8000. This caused a “chaotic scenario” during registration. At the first session of the General Assembly, which I attended, it was announced by the Secretary General that Apimondia is now looking to find a professional body to help run congresses in the future. Also at the general assembly, in a true democratic tradition, Apimondia policy was discussed as well as electing the management committee.
The Congress programme was divided into three parts: Scientific, Exhibition, Tourism. The theme of the congress was “Beyond the hive: Beekeeping and Global Challenges”. This message was reiterated at the opening ceremony by Gilles Ratia, President of Apimondia, who stated:

“The scientific programme would explore the potential of beekeeping in addressing global problems. In today’s world beekeeping science must reach beyond the narrow scope of its field and take an active part in searching for ways to solve the key problems which mankind faces today: environmental pollution and exhaustion of natural resources, poverty and social inequality, cultural barriers, pandemics, and diseases of human civilization”

There were lectures covering several different areas of beekeeping under various commissions: Apitherapy, Bee Biology, Beekeeping for Rural Development, Beekeeping economy, Pollination, Bee Health, and Beekeeping Technology. It is not possible to attend every talk because there are numerous presentations going on simultaneously. Poster session alone featured achievements of more than 500 scientists. In all, there was more than 650 speakers giving over 1000 talks (many presented more than once). I am still steadily working through my notes.

Congress is also a place for commercial interchange. API Expo invites exhibitors from many fields: equipment manufacturers, producers, honey traders, bee products, veterinary laboratories and bee-related health care products. A new innovation this time was an area set aside for local artists and craft workers to demonstrate their skills. I came away with a number of Objet d’arts. Since the Apimondia in Dublin (2005) there has also been an opportunity for show enthusiasts. There were prizes for hive products, publications and even a honey queen.
For relaxation and socialising away from the more intense experiences there were educational excursions and cultural evenings organised. There were also visits to local apiaries and honey processors. Following the congress a number of one and two day technical tours were available. From past experience I know that such excursions do not have enough beekeeping content in them for my taste. I also thought that they were somewhat overpriced, so I did my own thing.

The Ukraine, one of Europe’s most important beekeeping nations, has a long tradition of beekeeping. Some of the hives used seemed particularly alien and cumbersome compared to how bees are housed in Essex, but it is a brave man who would criticise someone else’s beekeeping technique unless they have toiled a year with another person’s smoker, veil and hive tool.

My interest was particularly aroused by the revelation that in 1814 Petro Ivanovych Prokopovych, Ukrainian naturalist, inventor and man of genius devised the first frame beehive in the world, preceding Langstroth by 35 years (Langstroth patented his hive in 1852).

In the closing ceremony it was stated that there were five basic problems facing beekeepers:
- Abnormal bee mortality rates in certain regions.
- a troubling increase in industrial adulteration of honey, royal jelly and pollen
- stricter regulations, especially those decreed by the EU
- the constant increase in production costs undermining beekeeping enterprises

Hives?
Admired for the craftsmanship. Not that the bees could care. Blanket boxes perhaps?

3 storey Proyatelenko hive
Note the combination of cold way and warm way frames in the same hive.
• there is a shortage of young beekeepers - a risk for the future of the whole beekeeping sector

This might seem a long way from what you do in your apiary, but in the world we now live in it is important that these problems are discussed and brought to the attention of everyone. Hopefully individual solutions do exist and the challenge for all of us united under the Apimondia umbrella, is to see them put into place. The next Apimondia is set for South Korea in 2015, followed by Turkey in 2017. I would be great to see more Essex beekeepers there.

There is plenty of further information available through the internet. I must confess that the eulogistic report given in the Official Apimondia Web release, claiming that the 2013 congress was the greatest event in beekeeping history, does not agree with my judgement.

EARS Update

The first research project part funded by EBKA is finished and we are making proposals for another with our partners in EARS (East Anglian Research Studentship). Here is a recent interview between Wally Thrale of the Bedfordshire Beekeepers with Rickarda Kather who carried out the research.

The aim of the project was to find out how Varroa deceives the bees in our hives enabling them to cohabit. As part sponsors we have a copy of the full text of the research paper but for copyright reasons it cannot be put on our website or circulated, if you would like a personal copy please email chair@ebka.org.

Wally: What do we know about Varroa that we didn’t before your research?

Ricky: It is well documented that honeybees use odour extensively to recognise other individuals around them, for example to distinguish between house bees and foragers. A bee’s odour consists of around thirty compounds, some of which signal which colony it belongs to and others
what task it performs inside the colony. Before EARS, it was known that Varroa mites mimic the honey bee odour to stay undetected inside the hive. But little was known about how Varroa does this. As a result of the EARS project, we now know that Varroa changes its odour every time it moves onto another bee to match its odour. This change happens within twenty minutes of settling on the bee and is complete within two to three hours. The EARS research also showed that Varroa does not produce the odour itself, but rather that its skin, or so-called cuticle, soaks up the bee’s odour like a sponge. This is a very clever strategy, which allows Varroa to quickly adjust its odour if needed without much effort. Varroa mites are able to do this from the day they are born and do not produce an odour of their own. One final experiment is being analysed at the moment to investigate whether Varroa’s skin can be forced to take up compounds that would make it stand out amongst the bees. This would be particularly interesting for the potential development of anti-Varroa treatments.

**Wally:** How will this research be used?

**Ricky:** Well, thanks to the EARS project we now have a greater understanding of how bees recognise each other inside the colony and this knowledge can also be used by scientists working on other insects such as stingless bees. So, several research teams across the world will benefit from this research. However, for honeybees, the results from EARS will be evaluated and used by the world-wide honey bee research community elsewhere in the world to look at further research possibilities. The whole Varroa issue is like a jigsaw; this research provides a piece of the jigsaw. The more research that is carried out the greater our understanding. There is an ancient Chinese quotation, ‘know thine enemy’; the more we know about Varroa the better we will be able to control it.

**Wally:** What were the best and worst parts of the project?

**Ricky:** For the bad bits - surprisingly around eighty percent of the time things don’t work. For example, problems with equipment breaking down, poor weather or lack of mites for experiments. Also, the beekeeping season is short which restricts the research period. The upside is that working with
bees is so fascinating – their complexity is almost unique within the animal kingdom. The intellectual challenge this provides is a great motivation. Bees continue to amaze us with their abilities.

**Wally:** What are your plans for the future?

**Ricky:** At the moment I'm looking at either staying in honey bee research or advising policy on research matters. Currently there is a need for more interaction between scientists and policy makers and making the policy process more effective.

**Wally:** Will you continue keeping bees after EARS is complete?

**Ricky:** I enjoy working outdoors and have really taken to beekeeping. A stipulation of the project was that I would be trained in various aspects of beekeeping by the industry partner, i.e. the Associations. So I have visited many beekeepers and spent time with bee inspectors and bee farmers, experiencing the whole spectrum of beekeeping. So hopefully I am now a competent beekeeper and will keep a couple of hives when I finish work on EARS.

**Wally:** How many presentations and talks have you given during the four years?

**Ricky:** Over the course of the project I have given talks to around twenty local associations. In addition I have attended five conferences – one each in USA, Canada, Copenhagen and two in the UK, where on four occasions I presented my research.

**Wally:** One final question. What is the biggest threat facing beekeeping today?

**Ricky:** Well ... if another exotic pest found its way into the country it would make beekeeping extremely difficult. We must be on our guard and look out for these pests. We are just about coping with Varroa; we certainly don’t want another pest!

Finally, I thanked Ricky for all her work and time she has given to beekeeping groups.
Takeley Primary School is one of a tiny number of primary schools which has proven that bees and beekeeping can be used successfully to help educate even the youngest of our children.

The project started in 2012 when Kim Griffiths (one of the teachers) felt that keeping bees would be an excellent addition to the work that the school was doing about growing and eating better food. That year four members of staff attended beginners’ classes run by the Saffron Walden Division of the EBKA. Richard and Jane Ridler who ran the sessions had already agreed to mentor the school and to be on hand to give practical support if needed (which was essential for the project to progress).

During the practical sessions the Takeley Buzz Club, as it became known, went to Penny Learmonth’s apiary in Felsted. Observing and working the hives was inspirational and with Penny’s help the group were able to set up their first hives. This was more complicated than it should have been as the school was moving its site and so at first the bees settled on the edge of a local farmer’s field until they could be moved to their final home at the new school in 2012. Money was raised through various grants to enable the school to buy essential equipment and the Saffron Walden Division lent us our first hive.

Children joined the Buzz Club during the spring term of 2013. The older children were invited to join, although numbers needed to be restricted because of the supervision that was needed. Six children volunteered and began learning the basics of bee keeping just as the adult members were attending second year beekeeper’s classes. The children showed a huge enthusiasm for bee keeping and as well as staying for after school sessions. They talked about the bees in assembly explaining to
The other children in the school that the bees would soon be arriving on the edge of our playing field. The school held a ‘Bee Day’ in the summer term of 2013 when all of the children were encouraged to wear black and yellow and many local beekeepers gave up their time to come into school and share their expertise. The children had a marvellous day and were given an opportunity to look at the school hives, watch the bees in observation hives, cook with honey and learn about bees and their importance to our environment. Several children came from a primary school in Charlton in London on that day to share their experience of keeping bees which was interesting as this school had provided us with the original idea and had kept bees for several years.

On the first day of the summer holidays, most of the Buzz Club gathered with nervous trepidation but ready to see the fruits of their hard work, as we prepared to extract our honey. It was an incredibly exciting time and the children stayed at the school for hours. They were able to try the honey for the first time. Parents who arrived to collect their children soon discovered that nobody wanted to go home so they were able to help as well! Parents also had the chance to be involved with the bees over the summer holidays as they were invited inside the school’s purpose built bee enclosure so that they could begin to see why their children were so excited about bee keeping.

Returning to school in September meant new classes and challenges for the children but the Buzz Club kept the same children so that these children could see their first year to an end. The school held a competition to design the label for the honey and over fifty entries were received. The adults and the children from Buzz Club finally chose an entry by a boy in Year 2 which captured the impact of honey at our school perfectly. Once
the honey had been bottled and the labels applied then all we needed to do was sell it. Demand far outstripped supply and so anyone who managed to receive one of our jars of honey understood that they were very lucky indeed. Since the jars have been sold there have been many compliments on the quality of the honey as well as requests to put their name down for a jar of honey in 2014.

We consider ourselves to have been very fortunate. We could not have done this project without the on-going help of Richard, Jane and Penny. Neither could we have kept bees without the help and support from the staff, parents and pupils at the school. We are very proud that we are one of the few local schools which keep bees and perhaps our only regret is that we didn’t do it earlier!

Do Bees Sleep?
Conclusion to the articles in the October and December 2013 issues

Following on from the research carried out by Ava Eban-Rothschild and Guy Broch which was summarised in the October and December issues of The Essex Beekeeper, further research has shown the effect upon honeybees of sleeping and importantly, the effects of deprivation of sleep.

Research by Lisa Beyaert, Uwe Greggers and Randolf Menzel in Berlin published in August 2012 — ‘Honeybees consolidate navigation memory during sleep’, examines the honeybees need for a good nights rest.

Sleep is known to support memory consolidation in animals, including humans. Does consolidation of novel navigation memory in honeybees depend on sleep? Foragers were exposed to a forced navigation task in which they learned to home more efficiently from an unexpected release site by acquiring navigational memory during the successful homing flight.

This task was quantified using harmonic radar tracking and applied to bees that were equipped with a radio frequency identification device (RFID).
The RFID was used to record their outbound and inbound flights and continuously monitor their behavior inside the colony, including their rest during the day and sleep at night. Bees marked with the RFID behaved normally inside and outside the hive.

It was found that bees slept longer during the night following forced navigation tasks, but foraging flights of different lengths did not lead to different rest times during the day or total sleep time during the night.

Sleep deprivation before the forced navigation task did not alter learning and memory acquired during the task. However, sleep deprivation during the night after forced navigation learning reduced the probability of returning successfully to the hive from the same release site. It is concluded that consolidation of new navigation memory is facilitated by night sleep in bees.

Another article detailing the research by Guy Bloch, Erik D. Herzog, Joel D. Levine and William J Schwartz - ‘Socially synchronised circadian oscillators’ – published by the Royal Society in June 2013 includes observation of the honeybee, with its complex natural society and clear division of labour. Analyses at the ‘group’ level of circadian organization is expected to generate a more complex, but ultimately more comprehensive, view of clocks and rhythms and their impact upon the behaviour of honeybees.

Daily rhythms of physiology and behaviour are governed by an endogenous timekeeping mechanism (a circadian ‘clock’). The alternation of environmental light and darkness synchronizes these rhythms to the natural day–night cycle.

Underlying mechanisms have been investigated using singly housed animals in the laboratory, but, most species ordinarily would not live out their lives in such seclusion. In their natural habitats, they interact with other individuals, and some live in colonies with highly developed social structures requiring temporal synchronisation.

Social cues may thus be critical to the adaptive function of the circadian system, but interpreting their role and the responsible mechanisms has so far proven elusive.
The 2014 season is the time for the third of the Skills Workshops provided by the County, to support the development of our more experienced members. It will be based on the BBKA General Husbandry Assessment but will not be confined to those who want to take the test. It is a significant step up from the Basic Assessment, but has essentially the same practical requirement – just a more comprehensive and detailed workout of beekeeping!

The course will be timed in March, April and May, beginning with a weekend Introductory Day with Graham Royle NDB. There will follow 3 evening sessions with Essex members who have the General Husbandry qualification. Graham will return for another day’s workshop running through some ‘mock assessments’. If you would like to join this course, please write to me at jane.ridler@uwclub.net and also let your Divisional committee know you have applied. We will again try to get a good spread of applicants through the county. This time we are hoping for some extra funding from BBKA!

I have had a good response to my November article about Theory classes. From the requests made, the best fit programme will be a short course of 4 evening sessions for Module 1 - Honey Bee Management.

It’s always easiest to start at the beginning! These will be run on Wednesday evenings in Great Dunmow during February and March (leading up to the Module exam on 22nd March for those who wish to take it). Please contact me jane.ridler@uwclub.net if you would like to join us.
Who’s who and how to contact them

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