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THE ESSEX BEEKEEPER



Is this the ultimate method of moving a colony ?

Story on page 4 - photographs by Helen Hardwicke

Monthly Magazine of the Essex Beekeepers' Association

Issue No. 626

February 2017

Furthering the Craft of Beekeeping in Essex

Registered Charity number 1031419

www.ebka.org

Divisional Meetings Diary dates for February & March 2017

2 Feb	Thursday 8.00pm	Harlow	'Spring Preparation' with David McCorkindale. Kings Church, Red Willow, Harlow CM19 5PA
2 Feb	Thursday 8.00pm	Romford	Tba Chadwick Hall, Main Road, Gidea Park RM2 5EL
7 Feb	Tuesday 7.30pm	Saffron Walden	'Nucleus Colonies & Nucleus Boxes' - Robert Pickford. Thaxted Day centre, Vicarage lane, Thaxted CM6 2RL
15 Feb	Wednesday 7.30pm	Dengie 100 & Maldon	The Oakhouse, High Street, Maldon CM9 5PR
16 Feb	Thursday 7.30pm	Epping Forest	AGM recommencement. Beekeepers workshop. Chingford Horticultural Hall
20 Feb	Monday 7.30pm	Chelmsford	Tba - The Link, Rainsford Road, Chelmsford CM1 2XB
22 Feb	Wednesday 7.30pm	Southend	'Watchout! - Exotic pests'. Asian Hornet, Small Hive Beetle, etc. - Bob Smith NDB. WI Hall, Bellingham Lane, Rayleigh SS6 7ED
23 Feb	Thursday 7.30pm	Colchester	Tba Langham Community Centre, School Road, Colchester CO4 5PA
25 Feb	Saturday	Braintree	Annual Dinner - Constitutional Club, Braintree CM7 1TY
2 March	Thursday 7.30pm	Harlow	Tba Kings Church, Red Willow, Harlow CM19 5PA
2 March	Thursday 8.00pm	Romford	'Swarm Control' - Pat Allen. Chadwick Hall, Main Road, Gidea Park RM2 5EL
16 March	Thursday 7.30pm	Epping Forest	'Queen finding and Swarm Control' - Chingford Horticultural Hall
20 March	Monday 7.30pm	Chelmsford	Tba - The Link, Rainsford Road, Chelmsford CM1 2XB
21 March	Tuesday 7.30pm	Saffron Walden	'From Wax to Candle' - Richard Ridler. Swards End Village Hall, Radwinter Rd, Swards End CB10 2LG
22 March	Wednesday 7.30pm	Southend	'How to Shine with your Beeswax' - Jean Smye. WI Hall, Bellingham Lane, Rayleigh SS6 7ED
24 March	Friday 8.00pm	Braintree	'Swarm Collection and Rehousing' - Stuart Mitson & Sam Pilgrim - Constitutional Club, Braintree CM7 1TY

NOTE TO ALL DIVISIONAL SECRETARIES

Please notify Jean by the 4th of each month of your meetings, Jean Smye - jsmye@sky.com

Who's who and how to contact them

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Just before it rains, bees are extra busy

The research, which involved attaching RF trackers to three hundred individual honeybees to track their movements and behaviour, suggests bees are very good at detecting atmospheric changes, such as that of temperature, pressure, and humidity that often come along just before changes in weather are likely to occur.

Just before a rainy day, honeybees were found to spend more time flying around outside the hive, looking for nectar and pollinating plants, but on days following rainfall, when it would be perfectly sunny outside, bees were a bit lazier and stayed around at the hive longer. On sunnier days, honey bees would spend less time outside the hive foraging, and would return to the hive earlier than they would on days just before it rained.



This behaviour also suggests honey bees are excellent preparers and know when to take advantage of flowers and food gathering before rain makes that difficult. While it is raining they also use the time they have to process the resources they have just collected. In these ways, even when a long period of bad weather is due, honey bees try to ensure their survival.

Source: *Insect Science via New Scientist and Ipswich & East Suffolk BKA*

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Vacancy for the EBKA General Treasurer

At this year's AGM in March, Bob Manning, the current Treasurer will come to the end of his term of office and there will be a vacancy to fill this important role.

The position requires a member with an understanding of accounting procedures and with experience in dealing with accounts to the level of producing an annual set of accounts. Experience of charity accounting an advantage. A working knowledge of computerised accounting systems would also be a requirement.

If you wish to be considered for this role or require further information, please contact Bob Manning on **01708 760770** or email edwin.manning@virginmedia.com



2017 DATES FOR YOUR DIARY

The EBKA AGM

is to be held at 2pm on **Saturday 18 March**
in Room EO6 at Writtle College, Lordship Road,
Chelmsford, CM1 3RP

The Ted Hooper Memorial Lecture

is to be held at 2pm on **Sunday 2 April**
at the Coach House, Marks Hall, Coggeshall CO6 1TG.
The speaker this year is
Professor Dave Goulson of the BumbleBee Trust

Eco - hive 2016 ?

Helen Hardwicke - Chelmsford Division

After the interesting talk on bee space at the last EBKA conference and discussion of the various types of hive - a new type was recently brought to our attention!!

When a member of our boat club decided to replace the wheels on his boat trailer, he had a nasty shock. On lifting the protective board he was met by a number of flying insects and retreated rapidly – wasps or bees? This was related to us at a dinner on a Saturday evening and on Monday husband Roy went to investigate.



What he found was a live colony of honey bees in residence which he undertook to remove. The tyres have been transported to our garden, and re-assembled, where the colony is awaiting spring and weather warm enough to transfer them to a more conventional hive.

I don't think the woodpeckers, which are currently doing our hives a lot of damage, would make any in-roads here. However, the 'supers' are a tad heavy so not for beekeepers with bad backs!



The bees though obviously had all they wanted here – a top entry under the covering board and a clean, dry ventilated space in which they could build and maintain comb and defend against most intruders except perhaps the human kind.

A colony actually eats very little during the early winter months, only about half a pound a week if it is cold. It used to be customary to give the bees a Christmas present of a block of candy, but the end of January/early February is usually quite early enough, as that is when the queen really starts laying again, and food consumption goes up increasingly sharply.

Candy (fondant) is not an ideal winter food, as it needs water to dilute it before the bees can utilise it. Luckily, even if they can't fly because of the cold, there is usually enough condensation available inside the hive. Sometimes the bees eat their way to one end of the hive, and then get stuck there if the weather turns very cold, as they cannot pass the foodless gap in the middle of the hive to reach the stores at the other end (isolation starvation). The bees have to be in contact with the food at all times when it is cold. A block of fondant will give them that bridge. We once had a four frame nuc that escaped the feeding programme and it was fed fondant continuously from November until March, when the weather was warm enough to feed syrup. They went on to build up well, so I know from experience that it can be a life saver, even if its not ideal!

How do you feed fondant? It usually comes in 12kg boxes, and the easiest way is to cut off a two inch slice. This will weigh about two to two and a half pounds, and is thin enough to fit over the feed hole, underneath the roof. If you want to use a thicker slice, an eke will be needed to accommodate it. (your shallow Apiguard eke is ideal). Covering the fondant with cling-film stops it drying out, whilst letting you see when it needs replacing. (Don't be surprised if the cling-film disappears into the hive and eventually comes out of the front door, that is just bees being tidy!) You can also put the fondant into the clear plastic boxes that Indian take-aways come in. The bees don't mind vindaloo fondant, you can easily see when they need replacing, and it solves the cling-film problem.

Monthly Work for February. (Very generally - it will be dependent upon actual weather conditions at the time)

Bees should be flying on several days this month, and the water carriers and pollen collectors will be busy. On a mild day, watch at hive entrance to see that all looks normal. An inactive colony may have died. Check, and if so, close it up or remove it from the apiary to prevent robbing. If the crown board or roof are very damp, change them on a mild day. This is where open mesh floors are a great help as they allow better ventilation than solid floors. Top up the fondant if needed.

Judith Rowbottom - Harrogate & Ripon BKA - via ebees

Researchers observing honey bees caught by a spider noticed that the bee extrudes its sting and releases a drop of venom. The bees' venom contains volatile alarm pheromones, which serve to call and attract nest mates for help. They wondered whether the plant might be taking advantage of this kairomone.

Preliminary experiments showed that honey bees under simulated attack are highly attractive to the flies. The researchers then showed that the floral scent of *C. sandersonii* is comparable to volatiles released from honey the bees when under simulated attack. Some of these shared compounds are strong attractants for these insects which lures the flies into the plants' trap flowers.

Courtesy of Reigate Beekeepers Association—via ebees

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East Anglian Bee Forum 2016

This took place on Wednesday 14th September 2016 and was held in the Arkenstall Centre, Haddenham CB6 3XD.

Essex was represented by Jim McNeill, Jean Smye and Ian Nichols, with others from Bedfordshire, Cambridgeshire, Rutland, Leicestershire, Lincolnshire, Norfolk, and Suffolk. The 'Ministry Men' included: Keith Morgan, Giles Budge, Karen Phillips and Nigel Semmence, with the Seasonal Bee Inspectors – David Bonner, David Burns, Fred Daynes, Peter Fogle and Paul Horton

Keith Morgan welcomed all and he invited each to say who they were and what sort of a season their bees had experienced.

He listed the **Disease Days** that had been held with the county BKAs across the region and invited bids for more in 2017.

He described **DASH - Disease Awareness Scheme for Honey Bees** - an initiative with the Bee Farmers that, after accreditation, allows them on finding brood disease to deal with it themselves using shook swarm or destruction, not the anti-biotic, OTC. Experience had shown that the scheme enabled the bee inspectors to concentrate on disease areas. Two more accreditation days are planned for October 2016. Those accredited will be audited after three years. So far, the scheme seems to be successful.

Chronic Bee Paralysis Virus.

A talk by Dr Giles Budge, FRES, Crop & Bee Health, Fera Institute for Agri-Food Research and Information, Senior lecturer, Newcastle University.

CBPV is a very interesting RNA virus; the particles are anisometric (asymmetric) 30 - 60 nm long, 20 nm wide. Craig Venter (the man who first sequenced the human genome, his own) in his 2004-2006 Global Ocean Sampling Expedition circumnavigation found nothing like it. Chevin *et al* 2015 found it has only 2 RNA fragments (like small chromosomes) and 7 putative genes. The genome was sequenced by Youssef *et al* 2015. Its details were first reported by Bailey 1980 (*one of Dr Budge's heroes*); in 1983 he classified it in two types:

Type 1: trembling wings and bodies, flightless - and

THINGS TO DO IN SPRING - Supplementary Feeding.

In an ideal world, the bees should have been left with enough honey, or given sufficient sugar syrup the previous autumn, to see them safely through the winter and spring. Unseasonably mild weather, such as we have had recently, keeps the bees more active than usual, and consequently, stores may run low in the New Year.

Any deficiencies in stores in early spring will have to be made up for with candy (fondant), as sugar syrup is thought to excite the bees too much whilst they are clustering and the added moisture causes problems when regular cleansing flights are impossible.

Type 2; black, hairless, sometimes known as black robbers / little blacks / etc, often with nibbled wings. There are cases of mistaken mis-identification with ABPV, KBV, IAPV, pesticide poisoning and acarine (crawling bees)

CBPV	Poisoning
Circling	'Zapped fly' syndrome
Trembling	
Inability to take off	
Hairless	
Dark	
Shiny	
Many dead bees (up to 50 mm deep)	Few dead in hive
Many dead outside entrance	Few dead outside entrance
Few dead across apiary	Carpet of dead across wide area



Transmission. There is no evidence of Varroa involvement.

Injection (10² copies).

Mechanical/topical/Cuticular (10⁶ copies)

Faecal/oral (10¹⁰ copies).

Glandular secretions, pollen, mandibular and hypopharyngeal glands. Not detected in honey or royal jelly.

Symptomatic - individual bees may have 10¹⁵ copies.

May be present in all life stages.

Global prevalence.

Every continent. Denmark 4%, France 28%, Uruguay 47%.

In the UK: Rothamsted 4.8%, mainly sick colonies: 16%, random: 0.7% (Budge). Spatial distribution: mainly south and west. Occurrence: early summer. In the UK, reported to be associated with Nosema. Queens

Pollinating a Flower that Smells Like a Bee Under Attack

A new discovery takes plants' deception of their pollinators to a whole new level. Researchers reporting in *Current Biology* found that the ornamental plant popularly known as *Giant Ceropegia* fools certain flies into pollinating it by mimicking the scent of honey bees under attack. The flies find the smell attractive because they typically dine on the drippings of honey bees that are in the clutches of a spider or other predatory insect

"These flowers have a complex morphology including trapping structures to catch pollinators, temporarily trap, and finally release them," says Stefan Döterl of the University of Salzburg in Austria. "Flowers of this plant mimic alarm substances of western honey bees to lure food-stealing flies as pollinators. Flies are attracted to the flowers, expecting a meal, but instead of just finding an attacked honey bee, they are temporarily trapped in the non-rewarding flowers and used as pollinators."

About four to six percent of plants, including the fly-pollinated genus *Ceropegia*, are pollinated by deceit. They engage in false advertising by appearing to offer a reward, such as pollen or nectar, a mating partner, or an egg-laying site. The new study is among the first to describe a plant that achieves pollination by mimicking the scent of an adult carnivorous animal's meal.



This photograph shows a dead honey bee being eaten by a spider and food-stealing kleptoparasitic flies.
Photograph - *Journal of Current Biology*

The flies are known as kleptoparasites, and they feed on honey bees eaten by spiders.

Researchers wondered how these flies were finding the dead honey bees. The drop of venom that is visible at the tip of the bee's sting is the clue to how they do it.

Keith Morgan then gave the Eastern Region figures.

	<u>2015</u>	<u>2016</u>		
Apiary visits	1080	735		
Colony inspections	6607	4019		
EPS inspections	368	379		
<hr/>				
<u>E Region County</u>	<u>AFB</u>		<u>EFB</u>	
	<u>2015</u>	<u>2016</u>	<u>2015</u>	<u>2016</u>
Beds	0	0	0	0
Camb	0	2	0	3
Essex	0	3	0	0
Herts	0	1	0	0
Leics	1	1	5	4
Lincs	1	15	5	27
Norfolk	4	30	0	24
Suffolk	0	2	0	22
Rutland	0	0	0	0
Totals		54		80

National totals:	
Hereford	29
Lincs	27
Norfolk	24
Devon	23
Suffolk	22

Number of current beekeepers	6,257
Number of Colonies	30,910

Authorised Varroa treatments are:

Apistan, Bayvarol, ApiLifeVar, Api-Bioxal, Thymovar, MAQS, Apitraz and Hopguard is awaiting registration.

Eastern Region Research Student

Finally, Wally Thrale said he appreciated that some county BKAs were unwilling to say whether they would support an EARS3 project until they knew what the project was but with Brexit, it was not clear what government support would be available.

Report by Jeremy Quinlan - Ipswich & East Suffolk BKA

appear to be as susceptible as workers.

It is found in ants (Celle *et al* 2008); 1,000x more virus in ants than in dead bees. Could there be a putative association with forest, e.g Black Forest?

Summary

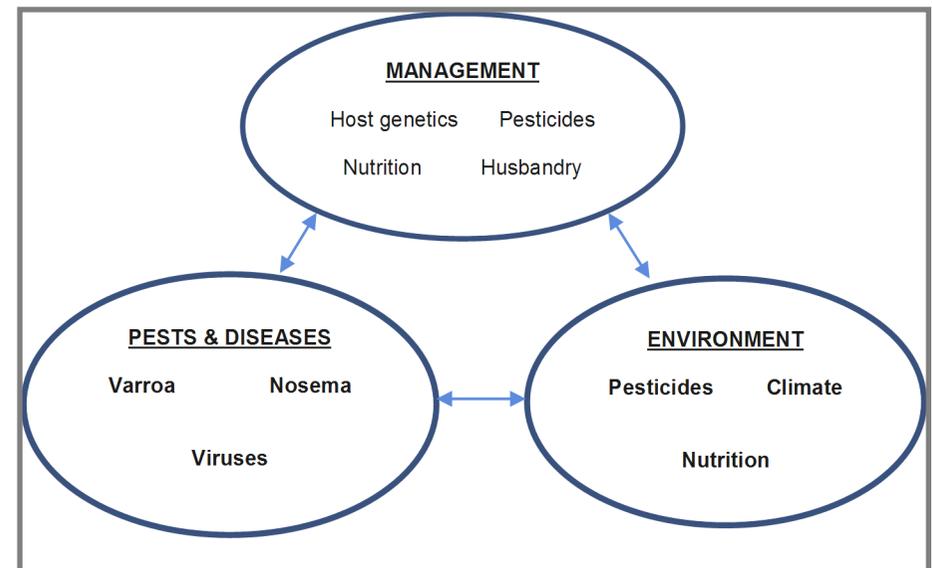
- Chronic bee paralysis virus is an unusual RNA virus difficult to study
- CBPV causes individual and colony level mortality
- Global distribution with apparently higher prevalence in May/June.
- Associated with *Nosema ceranae* and putatively more common in the South?
- Transmission can be mechanical, faecal/oral or injection.
- All life stages and castes can be infected with the virus but many needed.
- *Apis mellifera ligustica*, *mellifera* and *carnica* all susceptible. Buckfast?
- Several associated factors including confinement, environment, ants

.....

'Gender-bender' bacteria that kill only males?'

Drivers of Honey Bee Colonies Losses:

(Vanbergen *et al* 2013)



In Dr Budge's opinion, these are – in reverse order of importance:

10. Nosema.

- 9. Pesticides:** particular attention has focussed on neonicotinoids and so Dr Budge mainly looked at the literature surrounding this class of insecticide:
- Realistic field experiments in Sweden found no impact on honey bees but impacts on other pollinators (solitary bees and bumblebees).
 - A Swiss field experiment using half a field dose found honey bee queen sperm from spermatheca reduced and the resulting queen success reduced.
 - Soil testing has shown neonicotinoids still in soil and wild flowers 2-3 years after use. 43% positive in soil after 3 years. 58% *Imidacloprid* still in wild flower pollen but not OSR. Honey bees exposed by collecting non crop pollen but levels low. Strongest impact was *Imidacloprid* class.
When neonicotinoids used, farmers were using $\frac{1}{3}$ fewer sprays – so need to consider farming benefits as well as environmental costs.
- 8 Genetics** (12,942 queens imported from Europe). In an experiment that considered local versus imported genotypes, the local bees lived 20% longer (Buchlar et al 2014).
- 7. CBPV see above).**
- 6. EFB.**
- 5. AFB.**
- 4. Wasps.**
- 3. Varroa and DWV.**
- 2. Weather.**
- 1. Management** – beekeeper's experience and actions, or lack of any.
- Beekeeping winter losses linked to experience. 22% under 2 years; 13% 10+ years.

Nigel Semmence, the Contingency Planning and Science Officer, NBU, then spoke about exotic Pests (not *Tropilaelaps*, which is unlikely).

Small Hive Beetle

Noted for a citrus aroma - from the yeasts it carries. It was found in Italy (Cantabria) in 2014; a 20 km radius ban on movement was imposed and a 100 km area of 100 km was monitored. 1,000 apiaries were checked and in 60 beetles were found. In any apiary where it was found, the policy was total destruction with compensation.

In 2015, it was found in a further 29 apiaries. Two sentinel apiaries were infected twice. In 2016, 4 sentinel apiaries were found infected.

Should SHB be found in the UK, the policy is eradication and containment with the destruction of all contact colonies. The policy is that there would be no compensation other than that provided by Bee Disease Insurance. Once established, the policy would be routine control using beetle traps and, possibly, nematodes.

Current NBU actions include contingency planning, a ban on imports from Italy, monitoring risk points, EPS (Exotic Pest Species) inspections and the establishment of sentinel apiaries in high risk areas.

Asian Hornet

This has an orange band on its abdomen and an orange face. There have been many reports of sightings of it from the public but, fortunately, so far, all have been false.

It is thought to have entered France in 2004; it has spread 60 km a year and reached the Channel Islands in 2016. It is thought to be able to fly 40 km/day and to prefer an urbanised habitat. It is unusual in setting up first a primary then a secondary nest with 70% re-locating - to a better prey area. Colonies average 400 workers, max 1,742 and produce 200 queens, max 563.

Beekeepers have experienced 50% losses because the bees won't fly, rather than because many bees taken. It is hoped that there are signs of inbreeding. There is little point in trapping workers.

What we can do:

Learn about them

Register your apiary on BeeBase.

Put out traps for queens from February.

Report any Asian Hornet seen with a photo to alertnonnative@ceh.ac.uk.