

THE ESSEX BEEKEEPER



Inside a hive roof - the work of a leaf cutting bee
Photograph by Jean Smye

Monthly Magazine of the Essex Beekeepers' Association

*Registered Charity number 1031419
Furthering the Craft of Beekeeping in Essex*

No. 601

www.essexbeekeepers.com

**January
2015**

Divisional Meetings

January & February 2015

8 Jan	Thursday 8.00pm	Harlow	Annual General Meeting - Kings Church, Red Willow, Harlow CM19 5PA
9 Jan	Friday 8.00pm	Romford	Annual General Meeting - Chadwick Hall, Main Road, RM2 5EL
15 Jan	Thursday 7.30pm	Epping Forest	Annual General Meeting - Chingford Horticultural Hall
19 Jan	Monday 7.30pm	Chelmsford	Annual General Meeting - The Link, Rainsfird Road, Chelmsford
21 Jan	Wednesday 8.00pm	Dengie 100 & Maldon	Annual General Meeting. The Norton PH, Cold Norton CM3 6JE
22 Jan	Thursday 7.00pm	Colchester	Annual General meeting and Social Evening. Langham Community Centre. Light buffet provided, please bring drink & glasses. Note earlier start time.
28 Jan	Wednesday 7.30pm	Southend	Annual General Meeting - WI Hall, Bellingham Lane, Rayleigh
30 Jan	Friday 8.00pm	Braintree	Annual General Meeting - Constitutional Club, Braintree CM7 1TY
31 Jan	Saturday 7.15pm	Saffron Walden	Annual Dinner - Dunmow Day Centre, Great Dunmow
5 Feb	Thursday 8.00pm	Harlow	'Gardening for Bees' - planting the most beneficial flowers in the garden for bees. Kings Church, red Willow, Harlow CM19 5PA.
6 Feb	Friday 8.00pm	Romford	tbc
16 Feb	Monday 7.30pm	Chelmsford	tbc
19 Feb	Thursday 7.30pm	Epping Forest	'Swarm Control' - Chingford Horticultural Hall
25 Feb	Wednesday 7.30pm	Southend	Herbaceous Borders at Hyde Hall.
26 Feb	Thursday 7.30pm	Colchester	Tbc - Langham Community Centre

Dates for your diary:

135th Annual General Meeting of the Essex Beekeepers' Association

**The 2015 EBKA AGM is to be held at
2pm on Saturday 14 March**

**in Room EO6 at Writtle College, Lordship Road,
Chelmsford, CM1 3RP**

**Following the AGM, Andrew Beer,
a beekeeper and former partner of a City law firm will give a
talk on "Bees and the Law"**

BBKA Module Study Group

Module 3 'Honey bee Pests, Diseases and Poisoning'

After such a good response to the November Module 2 Theory classes, we'll be tackling Module 3 in February/March. This syllabus, which concentrates on health and diseases of bees, is theory which every beekeeper should know. The short course of 4 evening sessions will be run on Tuesday evenings in Great Dunmow on **24th February and 3rd, 10th and 17th March** (leading up to the Module exam on 21st March for those who wish to take it).

Please contact me jane.ridler@uwclub.net if you would like to join us. If you wish to take this or any other BBKA Module, the fee is now £25 and the closing date is 10th February, so forms should be with me at least a week beforehand. The cost of the Study Group will depend on numbers, but is very reasonable indeed!

Jane Ridler, Exam Secretary

**2015 EBKA Conference - Saturday 31st October 2015
Orminston Rivers Academy
Southminster Road, Burnham-on-Crouch CM0 8DD
Tickets and further details will be announced shortly
by Dengie 100 & Maldon Division**

Winter Feeding

Your bees should all now be tucked up, with mouse guards placed, and some form of defence against badgers and green woodpeckers in situ. Take away tubs are excellent for winter feed, simply because it can be seen if replenishment is needed, without disturbing the bees.



A lot of people have trouble making fondant. You can buy it, but making it is simple, and you know that there are no unwanted additives.

Add 300 ml of water to each 1 kg of sugar in a pan, dissolve all sugar and bring to the boil, stirring regularly. The time that you have to boil your mixture will depend on the power of your hob, but your main aim is to reduce the moisture content. Trial and error will give the desired results. I boil mine for 4 minutes only. Remove from the heat, and then stir constantly while the mixture is cooling. This is to ensure the smallest crystal size, which will make the fondant more creamy, and therefore more easily workable by the bees. Keep stirring until the mixture starts to turn milky and thickens noticeably. (NB not setting, but maybe thinking about it). Pour or ladle the mixture into your take away tubs. 2 kgs of sugar will fill four tubs. When the bees need fondant, they will consume one of these containers per. week. The inverted feed tub should be placed on the top bars of the brood chamber, or if you want minimum disturbance, above the feed hole in the crown board.

Please remember that the likelihood of bees starving at this time of year is far less than in the early Spring. When the weather is warm, they are eager to forage and there is no food available. Furthermore, their winter stores will be extremely depleted.

Courtesy of Somerton & District BKA via *ebees*

East Anglian Bee Forum

Held at The Arkenhall Centre, Haddenham CB6 3XD
on 17th September 2014.

Keith Morgan (Regional Bee Inspector, Eastern Region)

Reports of the season were that, with the exception of North Norfolk where the season had come to an end at the end of May, all had had a good year.

The big news was that the Small Hive Beetle had been found in SW Italy; this was important because there are imports of bees from Italy. Checks of imports of package bees had found EFB in at least one of them. The very recent BBC TV programme *Penguins on a Plane* also covered the import of package bees from Italy.

On 1st October 2014, most of the NBU would be transferring to the new Animal and Plant Health Agency, an agency of some 2,000 inspectors. Administration and the diagnostic and research arms would become Fera joint ventures with partners as yet unknown. As far as beekeepers are concerned, there would be no change. Nor would there be any re-locations - the NBU remains at Sand Hutton. The idea is that law enforcement remains a government activity but activities that might generate a profit become independent.

Statistics for the Region.

Beekeepers: 5,662. Colonies: 27,986. New beekeepers: 545; of these only 218 registered themselves. E Region inspectors had visited 1,264 apiaries (1,071 in the Region) inspecting 7,925 colonies (7,174 in the Region). Exotic parasite checks had been made at 84 apiaries.

There were three successful Disease Days in Lincs, Herts and Essex but at West Norfolk & King's Lynn, turnout was very disappointing. Some sessions were on weekdays. New beekeepers are enthusiastic but it is the old ones who really need the training since inspectors find 99.9% of cases of disease. The observation colony at the Norfolk Show died a few weeks later from AFB!

In Essex and Cambridgeshire beekeepers joining or re-joining are told that their name will be passed to the NBU; it would be good if other associations operated in the same way. Bedfordshire is considering doing the same.

County	Colonies inspected	EFB	AFB
Norfolk	1427	61	50
Suffolk	470	14	0
Essex	1441	8	6
Herts	905	11	0
Beds	49	0	0
Lincs	2095	32	0
Cambs	410	1	0
Leics	234	0	0

Foul brood 'National League Tables'

County	EFB
Norfolk	61
Lincs	32
Dorset	29
Somerset	29

County	AFB
Norfolk	56
Cornwall	12
Essex	6
Avon	6

Most of this information is already available from BeeBase. There would be much less foul brood if beekeepers melted down old comb and employed barrier management.

The NBU is beginning to 'type' infections so can discover which 'family' it belongs to and where it is likely to have originated. Destruction is more often the preferred option.

Varroa.

Due to the warm winter, levels were high throughout the season. Beekeepers seemed not to know when to start treating. There were a large number of deformed bees and colonies on the verge of collapse. **Generally, beekeepers were treating too late.** More training is required; we need to re-emphasise how varroa numbers increase exponentially.

Medicines. Only those approved in the UK may be used; others approved in other EU countries may be imported by a vet . It is the law that beekeepers maintain a record of all medicines administered. A copy of an appropriate record sheet is available from BeeBase. Bee Disease Insurance is considering whether it should refuse a claim if the record could not be produced.

The DASH scheme for Bee Farmers means they are encouraged to be more self-reliant so far as disease identification is concerned.

Six Seasonal Bee Inspectors have passed their City and Guilds Level 2 Award in Bee Health Management and Safe Use of Veterinary Medicines

Asian Hornet - 2014 Update (Gay Marris, National Bee Unit)

Our response plan is to look out for it and attempt to prevent its establishment. Posters and information are available. It has yellow legs, a black abdomen and is 2.5 - 3.0 cm long. After hibernation, queens raise brood. When this first brood emerges, relocation is common. When the availability of insect prey begins to decline, sexuals are produced and thousands of mated queens overwinter. Dark dry places are sought for hibernation.

They predate preferentially on honey bees as they home. There is significant damage from the direct taking of bees in flight; indirect effects are stress and disease spread. They also eat other insects and carrion. The huge nests are in tall trees and buildings. They are strong fliers and derive from a single mated queen imported with bonsai pots in 2003/4. They are now also Spain, Portugal and Italy, progressing at 100-200 km/year. The rate in South Korea, where co-incidentally they arrived at much the same time, has been only 10-20 km/year. In South Korea, there has been significant damage to bees. In a single apiary, 50 out of 300 colonies were destroyed.

[Editor's queries - were these *Apis mellifera* or *Apis cerana*? 300 colonies in a single apiary?]

In 2010, on behalf of the Non Native Secretariat, the NBU was commissioned to study: how likely was this hornet to arrive? How likely was it to establish here? How likely would it be to spread? What would be the effects of it?

Potential for arrival. Certainly it could fly the Channel; flimsier insects are blown over. Hibernating queens could arrive in wood or wood products, in man-made goods, in soil (potted plants or trees), in fruit or flowers or on vehicles; the likelihood of it arriving with an import of bees is thought to be very small. Many imports of these items come from China where it originates. The overall potential for its arrival is estimated to be **VERY HIGH**.

Potential for establishment. It has no competitors or significant natural enemies. The overall potential for its establishment is estimated to be **VERY HIGH**.

Potential for spread. **VERY HIGH** and rapid.

Likely impacts. Economic and social - it stings but these are rarely lethal. There have been only six deaths in France over ten years - no significant increase in deaths from hymenoptera. They like eating bees so there would be an effect on pollinators. They are likely to replace other wasps and hornets.

Prevention of establishment.

Traps can be effective but it is most important that the traps are designed to catch only these hornets as collateral damage from catching a wide variety of other insects can be significant. Traps should be checked frequently and non-target insects released. Beekeepers, of whom there are 35,000 in England and Wales, are likely to be the first to notice its arrival. Report should be made to: ***alernonnative@ceh.ac.uk***.

115 sentinel apiaries have been established - further volunteers would be welcome. Asian hornet traps have an entrance reduced to 7 mm and are fitted with 5 mm escape holes. The majority of nests are above 10 metres on trees or buildings; there is a plan to fire a killing chemical into nest entrances but this is difficult! It is not yet a notifiable pest so the NBU has no power of access. There had been two field contingency exercises in the past year.

The Asian Hornet is now included in the monthly Biosecurity Briefings to Ministers but there has to compete with all the other such threats - and there are many.

Contingency Planning for the Small Hive Beetle

This is the responsibility of Andrew Cuthbertson who regretted he was unable to come so the presentation was given by Gay Marris.

It is native to sub-Saharan Africa and there it is not a pest. It is now in the USA, Canada and Australia. On 11th September it was found in SW Italy in a university apiary bait trap.

It has a wandering phase which may last up to 48 days. It pupates at temperatures down to 5°C - this is the UK average winter soil temperature. While research continues into control methods, entomopathogenic fungi and nematodes both look promising

**Anyone finding what they suspect to be a
small hive beetle should freeze it and
send it to the NBU.**

Notes by Jeremy Quinlan and Sandra Gray.

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Write for our new list in December

Sick bees may be nursed by doctors!

They are among the most industrious creatures on the planet, but honeybees still struggle when they're ill. Once a disease takes hold inside a hive, the bees can become sluggish and disorientated and many may die. Now it seems honeybees may have a way of helping to keep their workforce healthy — by employing bees that feed "medicinal honey" to other members of the hive. A group of worker bees called "nurse bees", if they are infected with a parasite, selectively eat honey that has a high antibiotic activity, according to Silvio Eler and his colleagues at the Martin Luther University Halle-Wittenberg in Halle, Germany. These bees are also responsible for feeding honey to the larvae and distributing it to other members of the colony. So it's possible they are the hive's doctors, prescribing different types of honey to other bees depending on their infection. If that is true, it could be a big part of how bees fight disease.

In Eler's study, nurse bees infected with a gut parasite called *Nosemaceranae* were given a choice of honeys. Three were

made from the nectar of plants - black locust, sunflower and linden trees - while a fourth was honeydew honey made from the secretions of scale insects or aphids. Each of the honeys was known to have antibiotic activity. Bees with greater levels of infection tended to eat more of the sunflower honey, which had the strongest antimicrobial activity. It reduced the level of infection in the bees that ate it by 7%, compared to the honey from the linden trees. "Honeys are full of micro-nutrients, alkaloids and secondary plant compounds that are good for both bees and humans alike," says Mike Simone - Finstrom of North Carolina State University in Raleigh. One study suggested they can increase the activity of honeybees' immunity genes, boosting their ability to fight disease.

A separate study by Eler's group suggests that different honeys are effective against different diseases. While sunflower honey is good at preventing the growth of bacteria that cause American Foul Brood in bees, it is less effective against bacteria associated with European Foul Brood. However, linden honey was more effective against these bacteria.

Bob Gilbert - Warwickshire BKA

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Protecting biodiversity and ecosystems at home and abroad

Environment Secretary Elizabeth Truss is launching the National Pollinator Strategy to support bees and other pollinators that are vital for fertilising plants, so they produce fruits and seeds. Organisations such as Network Rail, Highways Agency and the National Trust which manage more than 800,000 hectares of land in England have signed up to the National Pollinator Strategy, and pledged to take actions such as planting more bee-friendly wild flowers and allowing grass to grow longer. Environment Secretary Elizabeth Truss said: ‘As much as one third of the food we eat is pollinated by bees – from apples and pears to strawberries to beans. We now estimate the value of insects pollinating our crops and plants amounts to hundreds of millions of pounds. That’s why we are doing everything we can to help them thrive. Not everyone can become a beekeeper, but everyone from major landowners to window-box gardeners can play their part in boosting pollinators’.

Defra is setting up bee hives on the roof of their building in London; supermarkets, including Waitrose and Co-op, have been distributing bee-friendly flower seeds to their customers. Motorway verges, railway embankments and forests will be used to create bee and insect friendly paradises as part of the major new strategy to protect the 1500 species of pollinators in England. Defra has also announced the first ever wild pollinator and farm wildlife package, which will see more funding made available to farmers and landowners that take steps to protect pollinators through the new Countryside Stewardship Scheme. More information about how everyone can help pollinators is on the *Bees Needs* website.

Published: 4 November 2014

From: Department for Environment, Food & Rural Affairs

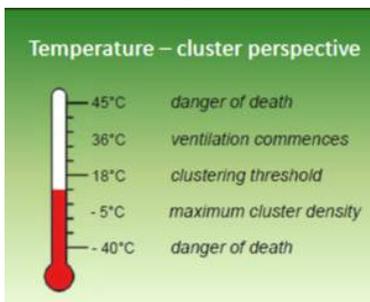
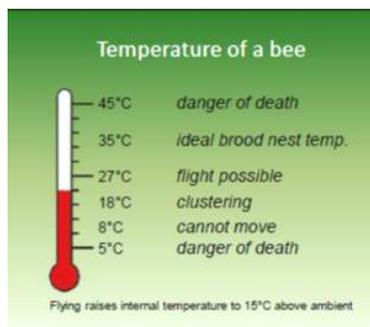
The Rt Hon Elizabeth Truss MP

What is the Temperature of a Honey Bee ?

Well it depends. It depends on which temperature we are talking about, and what is the role of the bee that we are considering. For example there are specialist bees in the hive called 'heater bees' who use the power of their muscles to generate heat. They decouple their wings so the muscles run at full power without moving their wings, and this allows them to raise their body temperature extremely high. Their body temperature can reach up to 44°C - nearly 10°C hotter than a normal bee. In theory they should cook themselves at this temperature, but somehow they are able to withstand this high temperature. The picture indicates some of the key temperatures for an individual bee.

Note that above 45°C and below 5°C bees are likely to die, so the cooling and heating activities of the bees within the hive are very important as the outside weather temperatures change. Bees need a body temperature of 35°C to fly effectively, although flight is possible at 27°C. Bees flex their muscles to raise their pre-flight temperature.

Flying activity increases their body temperature by 15°C. Bees can forage over a 30°C air temperature range, because of their ability to regulate the temperature of their flight muscles, by 'shivering' to generate heat and evaporative cooling through their head and mouth. Optimum temperature for the brood is 34 — 35°C and bees control this by thermoregulation. When the air temperature dips below 12-14°C bees inside the hive form a well defined cluster around the queen. As the outside air temperature decreases this 'winter cluster' becomes tighter and more compact. At -5°C the cluster achieves a maximum density. When bees form a cluster the temperatures within the cluster vary. However, the temperature within a 'winter cluster' remains remarkably warm regardless of the outside air temperature. The bees at the core of the cluster shiver their flight muscles to maintain a



temperature of approximately 18-32°C, while the outer mantel layer of bees maintain a temperature of between 9-14°C. Above 36°C the bees will start to ventilate to reduce temperature. They can manage to survive even when temperatures fall towards -40°C, much lower than an individual bee can survive.

Report by Graham Pooley of an excellent presentations by Dan Basterfield at the recent Surrey BKA Training Day

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