East Anglian Bee Forum 2016

This took place on Wednesday 14th September 2016 and was held in the Arkenstall Centre, 7 Station Road Haddenham CB6 3XD.

Those who attended were:

Gill	Brewer	Bedfordshire
Wally	Thrale	Bedfordshire
John	Rayner	BFA
Jay	Anderson	BFA/Rutland
Chris	Evans	Cambridgeshire
Amber	Slamaite	Cambridgeshire
Jim	McNeil	Essex
Jan	Nichols	Essex
Jean	Smy	Essex
Jim	Funniss	Leicester
Eddy	Gadd	Lincolnshire
Gary	Bowler	Norfolk
Paul	Metcalf	Norfolk
Mike	Thurlow	Norfolk
Graham	Wrenn	Norfolk
Richard	Davies	Peterborough
Jane	Corcoran	Suffolk
Jeremy	Quinlan	Suffolk
Kevin	Thorn	Suffolk
Stuart	Grant	West Norfolk & KL
Barry	Thrower	West Norfolk & KL

Keith	Morgan	RBI Eastern Region
Giles	Budge	Fera
Karen	Phillips	Fera
Nigel	Semmence	NBU Contingency Officer
David	Bonner	SBI
David	Burns	SBI
Fred	Daynes	SBI
Peter	Folge	SBI
Paul	Horton	SBI

Keith Morgan opened the meeting welcoming all; 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 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 (10^2 copies).
Mechanical/topical/ Cuticular (10^6 copies).
Faecal/oral (10^{10} copies.
Glandular secretions, pollen, mandibular and hypophrangeal glands. Not detected in honey or royal jelly.


CBPV

Symptomatic - individual bees may have 10^{15} 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 appear to be as susceptible as workers.

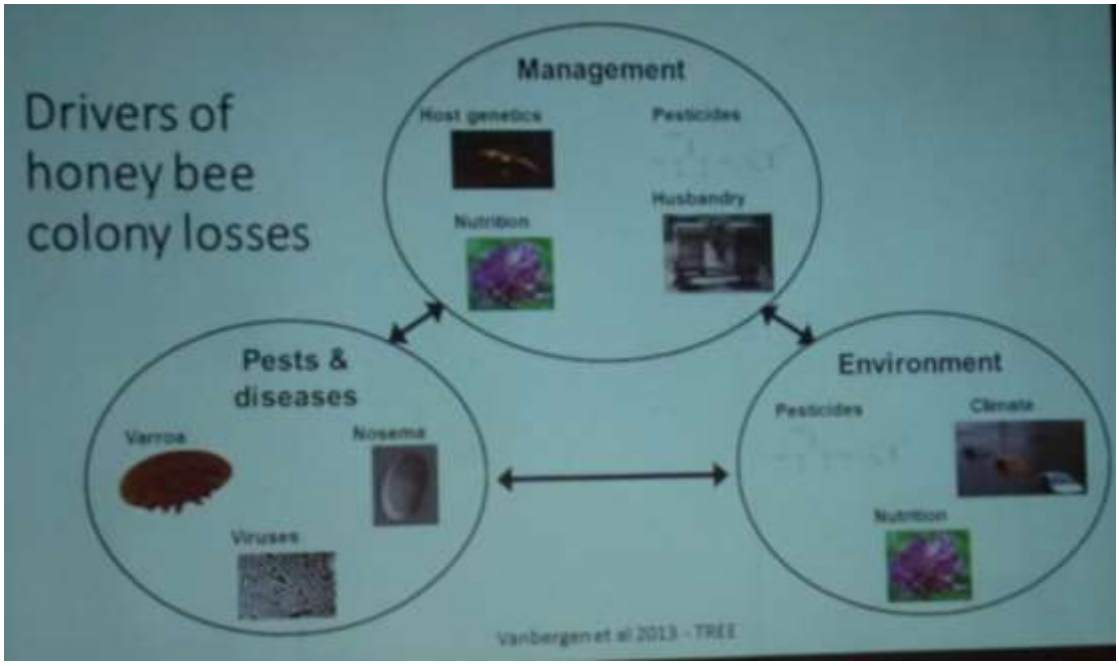
It is found in ants (Celle et al 2008); 1,000x more virus in ants than in dead bees. Could there be a putative association with forest, eg Black Forest?

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* & *carnica* all susceptible. Buckfast?
- Several associated factors including confinement, environment, ants . . . . .

'Gender-bender' bacteria that kill only males?

Drivers of Honey Bee Colony Losses



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 thre 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 ⅓ 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 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 is 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.

Post meeting note: On 20 Sep, it was announced that an Asian Hornet had been found in Tetbury, Gloucestershire: https://www.gov.uk/government/news/asian-hornet-identified-in-gloucesters.

Keith Morgan then gave the Eastern Region figures.

	2015	2016
Apiary visits	1080	735
Colony inspections	6607	4019
EPS inspections	368	379

	AFB		EFB	
E Region County	**2015**	**2016**	**2015**	**2016**
Beds	0	0	0	0
Cambs	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
Current beekeepers	6,257
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.