Romford Division

Dates for the Diary

Committee Meeting: Tuesday 27th September 2022, 730pm. Maybe via Zoom or in person.

Next Meeting: Thursday 1st September, 20:00

Topic: Hive Insulation

Venue: Zoom

Speaker: Derek Mitchell

Honey Bees collecting water from the edge of a pond, Photo: Pat Allen

AUGUST Beekeeping Notes

I hope your bees are surviving this hot weather. Will it continue through August? Make sure they have water available at all times.

August is a good month to do a dedicated disease inspection. Shake the bees off each frame and inspect the brood very carefully. If you go to the Bee Health Day you will see how to do this and know what to look for. If anything does not look right, contact your mentor, or one of our Disease Liaison Officers (Jim McNeill, Paul Wiltshire) for a second opinion. Do **not** leave it!

This is also a good month to combine colonies if you have too many to overwinter. Remember, both colonies must be healthy. Move them close together before you start. Decide which queen you will keep and remove the other one. Read up on the procedure before you begin.

Remove your honey crop by the end of the month, but do not take all the honey. Plan your varroa treatment if you are using any. At the end of the month assess the stores and get ready to give them their winter feed. You will need to bring the stores up to about 25kgs for winter. A standard brood comb can hold 2.5kg.

Don't forget, the floor insert must be **in** while feeding, treating, or monitoring, otherwise out.

Pat Allen

Courses

Bee Health Day: EBKA has arranged a Bee Health Day for **11th August**. You received an email message about it which may have gone into your junk mail box - please check it out. Sue Richardson also sent a message. Though this is short notice it is a good opportunity for the **Beginner Beekeepers especially** to get first-hand information about bee diseases and how to deal with them. Spaces are limited so, If you have not already booked your place, please get on and do it straightaway. We cannot give you this information locally as special licenses are required for the Bee Inspectors to carry comb with live disease.

Pat Allen

Romford Honey Show.

Hopefully you are all enjoying a good beekeeping season. Its time to think about exhibiting in this years show, why not give it a try? It's a great experience and you may even win a cup or two! Schedules will appear in next months newsletter. There will be something for everyone, even those without any honey.
Saturday 15th October
Ascension Church, Collier Row. RM5 2BA

Angela Mander

Mating biology of honeybees, Jim Vivian-Griffiths (Master Beekeeper)

Jim lives in Monmouth and has his hives on 2 acres of land. He and his wife are both Master Beekeepers and work together on their beekeeping hobby.

He posed two questions - "why do honeybees put themselves at risk?" and "why do the queens fly alone?" which is much more dangerous for her. The answer is she mates while still flying and by doing this it is more likely that she will mate with drones that are not from her own hive, thereby avoiding interbreeding.

For the worker and the queen the cell starts off the same, the egg is fertilised in both cases. Larvae is identical to begin with then the worker is fed 140 times on a changing diet, but the queen is fed ten times as much in 12 days.

Drone development requires pollen in the hive to feed them, they start going out in about 36 days and must be flying before you try to raise a queen.

Jim spoke about observations made over time;

Early observations were made by Aristotle, (384-322 BC) who wrote the History of Animals and observed the bees closely. He thought the queen was a male and was called a King.

Virgil (70-19 BC) thought that bees were chaste and did not mate to reproduce, but collected their young in their mouths from leaves and sweet herbs.

Luis Mendez de Torres (16th Century) recorded that the queen lays all the eggs, whether they become queens, workers or drones. He still did not realise the queen was female, and still thought that the queen did not mate, but he did believe in clipping the queen's wings to prevent swarming.

Charles Butler (1560-1647) wrote the first book in English about Beekeeping, this was in 1609. His book remained a guide to beekeepers for 250 years. He stated that the colony was governed by a queen and not a King Bee.

Janscha (1775) noticed that the queen returned from mating with sperm in her sting chamber. But thought it was acting as a mating plug.

Francis Huber (1792) was a Swiss naturalist and discovered the queens had to fly from the hive to produce workers.

In the 1940's and 1950's American scientists found out about colour phenotypes (individual traits) being different on worker bees.

The honeybee Queen mates with multiple drones, which makes them more resistant to disease and increases the chances of the colony having a long life, it also avoids interbreeding which can result in a fifty percent drop in fertility.

The virgin queen will come out of the cell and fight the old queen if she is still in the hive, the virgin queen can sting and kill the old queen. She fights off any royal sisters who are emerging at the same time, she will sting them all as they try to free themselves from the cell. When a rival emerges the fight begins, the winner is the queen who grabs the base of the bee with her mandibles and stings. It is a very quick fight.

The queen needs to mate with 12-15 drones, if the queen has not mated enough the worker bees send the queen back out to mate again. The queen goes to the Drone Congregation Area to be mated where the drones start chasing the queen as soon as she arrives. This is an enormous subject and Jim gave us an interesting insight into mating biology of the honeybee.

Jilly Speakman-Bell

National Honey Monitoring Scheme (NHMS)

As keen beekeepers I'm sure that you are familiar with the National Honey Monitoring Scheme?

https://honey-monitoring.ac.uk/

If you haven't heard of the scheme this is their mission statement:

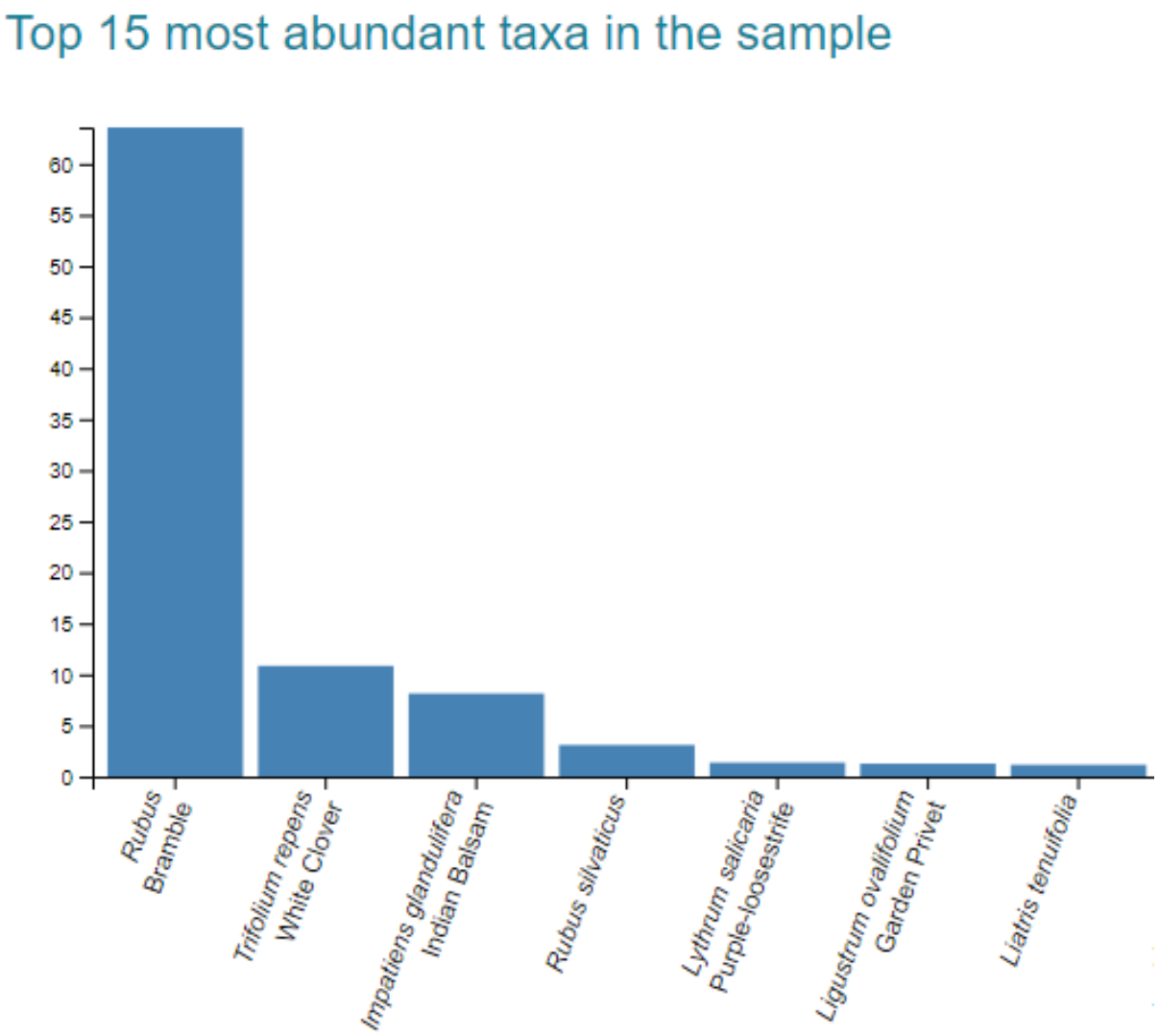
With the help of beekeepers we would like to collect honey samples from across the UK and continue to do this for many years. These samples will analysed using advanced DNA barcoding techniques to identify the species of plant pollen present. This will tell us what bees are feeding on in different parts of the country and at different times of year. This information will help us identify possible threats to the floral resources of pollinating insects.

I've been sending in samples of my honey from my Apiary in Wickford for the last 3 years, but hadn't been selected for DNA analysis, until now. Just last week I received the breakdown of the honey that I sent in for 2021, the results are absolutely fascinating, and quite a revelation! The report itself requires some translation from "Botanist/Scientist" to English, I'll include the notes here but you may want to skip the next two paragraphs

We provide an estimate of relative abundance of each species (or higher taxonomic levels) present in a honey sample, based on the quantity of DNA fragments present. Although the ordering of plant species by this measure is likely to be representative of honey composition, molecular technique are not directly equivalent to traditional microscopy based upon melissopalynology. Estimates of relative abundance from molecular techniques are not directly equivalent to traditional pollen counts. No pollen coefficient values have been applied and therefore these data cannot be used for honey verification purposes.

Plant identification using DNA barcoding of honey samples is reliant upon sequencing a small, specific area of DNA. These are then compared to a large database of reference sequences to identify the likely plant species present. Accurate identification to a very fine taxonomic level is not always possible, particularly for some groups (E.g. Brassicas).

I know, its enough to bring on a headache! The NHMS provide a graph showing the "top 15 most abundant taxa". Bramble was incredibly high in my samples, then a step down to white clover and Indian (Himalayan) Balsam, everything else seemed to be almost at a trace level, the graph on the next page shows part of the graph.



If you'd asked me what I thought was in my honey I wouldn't have even thought to say bramble?? The results are also interesting as it shows what we already know, "weeds" are incredibly important to bees. As I keep my bees not far from the Town I was also surprised to find that there were only 47 taxa (plants) detected, I would've expected much more, but I have a theory on the results. The collection process is to fill two test tubes with both honey and wax (see photo on the next page). You are supposed to collect from your oldest and newest honey. We all recall that 2021 was an awful year for Beekeeping, I suspect that the oldest sample wasn't from spring but rather mid summer as I was feeding the colonies well into May, and in moving super frames around I may have picked two frames from the same time of year. Some of the plants aren't a surprise, I grow borage in my garden for the bees, and my neighbours have a monster eucalyptus tree. Within half a mile of me is Europe's largest memorial park, and I regularly help to remove rubbish and the invasive Himalayan balsam from the river banks that run through it (see photo on next page).

A full breakdown of the 47 detected plants is on page 6. If you are considering signing up there's something really important I haven't yet mentioned, its completely free!

Graeme Ellis

Honey Jars

Many of you will have previously ordered your honey jars through Jean Smye, and will be aware that she has stepped down from running the bulk order, with Sue Simpson taking on the challenge! Having previously helped with the sorting I can tell you that it was back breaking work in often intense heat. This years order wasn't quite as big as normal, but from talking to Sue we think that was a combination of people stock piling and a poor honey yield in 2021. I'm pleased to report that the pick up from Canewdon was quick and easy. The jars are from the same supplier, Freeman and Harding so are of good quality.

Graeme Ellis

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Websites:
https://ebka.org

https://romfordbeekeepers.org

National Honey Scheme, Full breakdown of the 47 plants detected in my honey,

Species scientific name	Common name
Rubus	Bramble
Trifolium repens	White Clover
Impatiens glandulifera	Indian Balsam
Rubus silvaticus	
Lythrum salicaria	Purple-loosestrife
Ligustrum ovalifolium	Garden Privet
Liatris tenuifolia	
Veronica stenophylla	
Borago officinalis	Borage
Oxalis articulata	Pink-sorrel
Veronica albicans	
Ceanothus oliganthus	Hairy ceanothus
Brassica rapa	Turnip
Humulus lupulus	Hop
Galega officinalis	Goat's-rue
Lotus	Bird's-Foot-Trefoil
Trifolium pratense	Red Clover
Helenium autumnale	Sneezeweed
Rubus idaeus	Raspberry
Hydrangea macrophylla	
Allium senescens	
Rapistrum rugosum	Bastard Cabbage
Scorzoneroides autumnalis	Autumn Hawkbit
Picris echioides	Bristly Oxtongue
Hydrangea paniculata	Panicled hydrangea
Crepis capillaris	Smooth Hawk's-beard
Hesperocyparis arizonica	Arizona cypress
Eucalyptus	
Melilotus	
Brassica oleracea	Cabbage
Ligustrum lucidum	Tree Privet
Rosa odorata	
Bellis perennis	Daisy
Berberis	
Fuchsia	
Veronica	Speedwell
Origanum vulgare	Wild Marjoram
Tamarix hohenackeri	
Oenothera hexandra	
Magnoliopsida	Dicotyledons
Jacobaea erucifolia	Hoary Ragwort
Allium sphaerocephalon	Round-headed Leek
Helenium	
Epilobium ciliatum	American Willowherb
Myosotis sylvatica	Wood Forget-me-not
Luma apiculata	Chilean Myrtle
Allium ampeloprasum	Wild Leek