Swansea & District Beekeepers Newsletter
Gwenynwyr Abertawe a'r Cylch

Go compare that!

My thanks to Nicola for the photo, taken at the 75th Anniversary Summer School.

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Editor: D. Salkilld

Some Notes from the 75th Anniversary Summer School.

The WBKA 75th Anniversary Summer School was held at Aberystwyth University on the weekend of 13th, 14th and 15th July and about 12 of us from Swansea & District attended the series of lectures and workshops available. There was much of interest and much to learn, too much for a single newsletter, so I intend to spread these notes over a couple of newsletters.

In these articles I will attempt to put some of the points that caught my attention, some of which are new thoughts and some we are already aware of which stand repetition.

The speakers included Professor Robert Pickard, Professor Francis Ratnieks, Professor Thomas Seeley (U.S.A.), Dr. Mike Brown, Margaret Ginman, Dr. Mairi Knight, Carys Edwards, Irene Power, Wally Shaw and Eric Verge. Over the course of the three days, workshops on various subjects were run. Our own Stephen and Nicola ran three workshops on microscopy. Other sessions were on wax, cosmetics and bee health. There was also a trip to the Eva Crane Collection in the National Library of Wales.

I'll start with **Prof. Tom Seeley** and his talk on how a swarm of bees choose a new home site, but first a few notes about the methods he uses in his experiments. Firstly he takes a small colony of about 4,000 bees and, with his team, spends a couple of days marking each and every worker bee with a coloured, numbered disc on its thorax and a colour painted on its lower abdomen. With these markings, each individual bee can be identified.

These experiments were done on an island, some 10 k off shore, too far from the mainland for the bees to fly there. The island had no trees so they had to choose one of the sites offered by Prof. Seeley. The available nest sites offered were three boxes of different sizes and at other times, boxes with different size access holes. Prof. Seeley's assistants were posted at each of the locations where they counted and identified each bee that visited the various sites.

The dances were recorded by video camera trained on the swarm cluster, so that their dancing patterns could later be studied in the laboratory.

Prof. Seeley told us of one glitch where a swarm took off and settled, not in one of their boxes but in the chimney of an old cottage on the island. Some smoke persuaded them to move out and a mesh cover was put on the chimney. Obviously, those bees hadn't been following the experiment properly.

The results were very interesting. The bees seemed to prefer a nest box approximately the size of a National brood box, preferably south facing, with an entrance hole about 20mm diameter, large enough to enter and small enough to defend if necessary. Scout bees visiting the various sized boxes took about 30 minutes to survey the inside, a thorough examination indeed.

The bees seem to instinctively know a good nest site and dance accordingly, the dance being done on the outside of the swarm cluster. A great site got a vigorous dance, a lesser site a less vigorous dance, and a poor site a lacklustre dance. Consensus can take several days until the bees decide on a preferred option. One remark by Prof. Seeley, which amazed me, was that the bees didn't visit alternative sites.

When a site has been chosen it was marked with pheromones to help guide the swarm there.

Prof. Seeley estimated that in a swarm of 20,000 bees, only about 200 to 300 bees scouted for a new location.

On a related subject, Prof. Seeley indicated that not all scout bees looking for a site, found one. He also suggested that a bait hive should ideally be 100m to 200m away from the parent hive and as high up as possible because in the wild, they prefer a site high in a tree. Useful tips for us hobbyist beekeepers.

Moving on to a talk by **Prof. Francis Ratnieks**, on Varroa, one of a series in his Sussex Plan for Bee Health, he has looked at the available treatments for varroa and gave the following comments:

Apistan, which dropped out of favour when mites developed resistance to its main ingredient, pyrethroids, is beginning to be used again as a varroa treatment. Where it has not been used as a treatment on a hive for the last 5 years, it was found to be 58% effective. When used on the same hive 4 months later was 33% effective.

Oxalic acid, first some background ~ it occurs naturally in foods such as carrots, 0.5%; parsley, 1.7% and spinach 0.97%. Varying doses from 2% up to 4% were tested, applied via dribbling, spraying and sublimation (vapour). Oxalic acid, when dribbled onto the hive or when sprayed onto the combs of bees is 95% – 96% effective. In his tests, sublimation was found to be the most effective and can be used at the lower doses. Spraying caused some bee mortality. Vapour treatments caused no mortality and the colonies treated this way were found to be stronger 4 months later.

Drone trapping, he found, was simply not effective. Oxalic acid is 5 times more effective. This can be seen on his LASI (Laboratory of Apiculture and Social Insects at Sussex University) website.

Testing for efficacy was done by counting mites in a scoop of bees before treatment, then, after treatment, taking another scoop and counting again.

Sublimation was found to be the best treatment in all respects. Treating a colony twice, at an interval of about ten days was found to give a 99.5% kill. Prof. Ratnieks pointed out that sublimation does not touch any mites in sealed cells, and as up to 80% of all mites are in sealed cells, treating when with sealed brood present isn't effective. His solution was to scrape any small patches of sealed brood away, a day or so before the treatment.

From his observations, Prof. Ratnieks noted that December is the month with least brood present, usually a patch no larger than the size of a hand. According to him, this is the best time for treatment as there are the least number of sealed brood cells to deal with.

Egg laying gets underway in earnest in early January.

In talking to him after the lecture, I asked if sublimation was effective if administered from beneath a varroa mesh floor, rather than putting the unit through the hive entrance. The answer was that it was just as effective. My concern with putting the vaporiser into the entrance is that brace comb built down from brood frames gets in the way and can be melted into the oxalic acid crystals.

On Saturday morning, we were treated to another lecture by **Prof. Seeley**, entitled "The Bee colony as a Honey Factory". In the lecture he looked at the division of labour between foragers and the receiving bees. These need to be in perfect balance for the most effective collection and storage of nectar. To meet these needs the bees have developed a series of 'dances' to indicate to others where effort is needed or not needed.

We all know about the waggle dances, the figure of eight and round dances done by workers to communicate the location of forage to their sisters, but this is only one of their options. Bees also communicate with tremble, shaking and beep signals.

One of the surprising statements made by Prof. Seeley is that bees sleep!! It comes from his video study of bees in observation hives where the technology enabled them to see exactly what was going on.

He indicated that the workers could be split roughly into three groups, nurse bees, receivers and foragers. The nurse bees always have tasks to do but the others sometimes find time to rest when there is no forage to collect or store. During this time they can go dormant and appear to sleep, hanging onto the comb, often by one leg.

The shaking is done when forage is found and bees need to be recruited. Shaking them wakes them up and gets them active again. A worker literally grabs a sleeper and shakes her abdomen.

Perhaps I should have mentioned that foragers don't put their nectar directly into storage cells but pass it on to receivers near the hive entrance. These receivers then put the nectar into cells, which incidentally give the nectar a second dose of enzymes.

Regarding the quality of forage, I had always believed that receivers unloaded those foragers who brought in the best quality nectar. Not so. Prof. Seeley, on his remote island, put out two feeders, one with high quality syrup and the other with low quality syrup. Again, all bees were marked individually and monitored both at the feed stations and at the hive. The receivers were seen to unload all foragers equally, regardless of quality.

And now to our front page photo!! The after dinner speaker at the Gala Dinner on Saturday evening was Wyn Evans, the opera singer, Radio Wales and Classic FM presenter, better known for the 'Go Compare' advertisement, who spoke about his career in opera and in advertising. For Swansea members, the highlight of the evening was when he, led us all singing Happy Birthday to Nicola, whose birthday happened to fall on that Saturday. Many Happy Returns Nicola.

This article will be continued in the next Newsletter. D. S.

The Gower Show.

Once again, it was a wonderfully successful Gower Show. Plenty of people came into the marquee, it was a fine sunny day, the quality of exhibits was very good and there was lots of interest for show visitors. Attractions included microscopy, run by Stephen Davies and Nicola Oulton; hive equipment from Ian Robert's Old Castle Farm Hives; the Bee Experience with Martin Davies and his crew; the Children's Quiz run by David O'Carroll; Children's Colouring run by Maxine Sewter; Candle Rolling run by Jean Salkilld and Karen Bown; Honey Sales run by Ed. Lyons and his team, and the old favourite Observation Hives, crewed by our Society members. Yes, there was plenty of interest for the many, many visitors who came into the marquee.

This year's Honey Judge was Bernard Diaper, who awarded the 'Best in Show Award' to Emyr Jenkins, of Glanamman, for his beeswax candles in Class 14. With this award, Emyr also won the coveted 'Blue Ribbon', awarded jointly by the National Honey Show and the BBKA. Well done Emyr.

This year's display was of skeps, which had been made earlier this year at the course organised by Gerti. Some of them were 'work in progress', giving the public a chance to see the raw materials used and construction methods. Our thanks to John Gale who made a special shelf to display them.

Our thanks have to go to Gill Lyons for the work of pulling it all together and making it all run so smoothly on the day. Behind the scenes, there was a lot of hard work and effort involved to achieve this. Our thanks also go to Gill's sub-committee team and all who helped in set-up, in stewarding and particularly to those who entered exhibits. Without this help, it would not have been the success that it was. My apologies if I've missed anyone's name out, it was a busy day. Thank You All for your help.

Our Judge, Bernard Diaper wrote;

"It was again a pleasure to visit the Gower with my wife Shirley who carried out the judging of the domestic classes.

The standard of the exhibits in the honey classes was very high resulting in my only being able to identify one item where better filtering was required. The overall presentations of exhibits was very good although clearly a little extra time in allowing the honey to stand to allow the bubbles to come to the surface before bottling would help.

Unfortunately, several exhibits in the light honey class should have been entered in the medium class resulting in their being eliminated as out of class and on one exhibit the two jars were not an identical pair, with different colour. The medium honey class was well supported with 17 exhibits and all very well presented. The first place was a beautiful honey with very good flavour and aroma and excellently prepared. There were only three exhibits in the dark honey class and they had clearly all been exhibited previously

There were 8 frames in the "frame for extraction" and this was perhaps the hardest class to judge with the quality and standard of exhibits being so good.

All of the prize-winning exhibits were excellent with the winning candles being given the "Best in Show Blue Ribbon". All of the cakes, jams and preserves were again very good.

The standard of exhibits being so good clearly reflects on the fact that members have been learning and from the teaching given.

May I congratulate members on the quality of exhibits and encourage them to send exhibits to the National Honey Show in London at the end of October where they would be well placed."

Bernard Diaper National Honey Judge.

Forthcoming Events

September
Tuesday 11th Talk, "Preparing for Winter", by Stephen Davies at The New Lodge Social Club, 7.00 p.m.

October
Tuesday 9th Talk, "What the Exam Qualifications Are", by Stephen Davies, at The New Lodge Social Club, 7.00 p.m.

Saturday 20th Second Skep Making Workshop, contact Gerti to book a place.

November
Tuesday 13th The Society Honey Show at The New Lodge Social Club. More details later..

December
Saturday 1st Christmas Dinner at the Rake & Riddle.

January 2019
To be advised.

February
Tuesday 12th The Society's A.G.M. at the New Lodge Social Club, Gorseinon, 7.00 p.m.

The Asian Hornet Action Team has produced a leaflet, which is attached to this newsletter. Please read it carefully and note its advice, remember, this is the time of year that Asian Hornets 'hawk' beehives.

More About Bees by Tom Davies.

Now that our weather has come back to its normal pattern and the grass has greened up again, my bee garden is almost smothered in bumblebees, quite a few wasps about, but I have not seen any honeybees at all.

The Gower Show was a great success, and from time to time, almost impossible to move about. I think our tent was the equal of any tent there.

What impressed me was the number of you that came along prior to showtime, to help in things needed to be done to get the tent ready. You deserve a vote of thanks for your help.

The standard of exhibits was good, a mix of light and medium honeys, and no doubt gave our Judge, Mr. Diaper, a quite difficult job in finding winners in these two classes.

The candle class is popular these days, and much nicer than I was able to make. Whenever I did anything with wax something would go wrong and I would have some kind of blip. Getting wax off the cat's fur is not easy!

All in all, 2018 started badly but made up for it with a nice spell of sunshine. When I asked about honey yields, it appeared to be fairly good, so I hope you all got a fair crop.

More next time ~ Tom.

Egyptian Bee Keeping.

In the last newsletter I said that there would be an article on Egyptian beekeeping in this issue, however, with so much to report from the Gower Show and the 75th Summer School, my plans changed slightly and that article will now appear in a future issue. Don't worry, Egyptian beekeeping hasn't changed much in 4,000 years, so another couple of months won't hurt.

D.S.

Tracking Asian Hornets

An interesting development in tracking Asian hornets was reported in the Daily Telegraph on 5th July, following a successful trial in Jersey and in Southern France by a team from the University of Exeter. They found five previously undetected Asian hornet nests and were able to destroy them to protect nearby hives.

Using miniature radio tags, tied to the hornets with sewing thread, they were able to accurately pinpoint the hornet nests. The radio tags were supplied by a British company, Biotrack Ltd, and were the smallest available.

This is good news for beekeepers as it provides a positive method of locating the nests once a hornet has been caught. The article showed a photograph of a hornet with a radio tag attached.

It brings to mind a study, done some years ago, whose purpose was to observe honey bee's flight patterns as they foraged, achieved by attaching tiny antennas to their backs and tracking them by radar. The recent research on Asian hornet tracking was published in the journal 'Communications Biology' and was co-authored by Prof. Juliet Osborne, of Exeter University's Environmental and Sustainability Institute.

Symbiosis

Roughly defined as the interaction between two different organisms to the advantage of both, in our case, bees and flowers.

Back on 10th March, an article in the Daily Telegraph looked at this in some detail. For plants, pollen carries the male genetics and for bees, is a high protein food for larval feeding, however, if a bee takes too much pollen, this can be bad news for the plant.

Needless to say, plants have developed mechanisms whereby the bees can get some, but not all, of the pollen. According to the article, one mechanism is by offering nectar to divert the interest of bees away from pollen, and hiding the pollen so that it is difficult to collect but ends up being picked up anyway as the bee brushes against it. has to push under the upper lip where the anthers and stigma are located. This basic design deposits pollen on the bee's back where it can't easily be removed. As the bee enters the next flower, it deposits some of this pollen onto the stigma.
Examples include horse chestnut, digitalis, etc. Here the bees land on the lower lip and

Are Lime Trees Addictive / Narcotic to Bees?

When the season is just right, the lime trees across the road from my apiary are full of bees, but are they addictive / narcotic in some way? This belief has been around since the 16th century. An article appeared in the Daily Telegraph on 26th May, investigating the suggestion and looking at the instances of dead or dying bees found under lime trees. It noted that they were usually bumblebees,

not honeybees. It asked if the belief that lime trees can harm bees was true, after all. The article went on to conclude that lime nectar contains caffeine, which persuades the bees to return to the flowers, even if they offer little reward. The relationship between the tree and the bees may look like one of benign cooperation, but in reality, lime trees are using caffeine to ensure that bees continue to visit their flowers. As the article said "to trick bees into continuing to visit empty flowers may be one of the weapons in a long running struggle". It's a case of slightly biased symbiosis.

The Fake Manuka Supply

As reported in the Daily Mail on 31st July, some 10,000 tons of Manuka honey is sold worldwide each year. The problem, it seems, is that New Zealand produces just 1,700 tons of Manuka!

The health food company, Holland & Barrett, has now said that it will send samples from every batch it sells for analysis to confirm that it is genuine Manuka honey. Good for them.

This honey can sell at enormous prices and, as with any commodity, there are rogues out there who will try to make a swift profit by diluting or adulterating it, or passing different honey off as Manuka.

My thanks to those who sent me these interesting press cuttings.

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"When Bees Were Bees" by Tom Davies

In the July 1930 edition of "Gleanings in Bee Culture", there was a report by a Mr. A. V. DuChane, who had visited a place called Honeyville, 23 miles from Los Angles, owned by a Mr. A. C. Mayer, who was running a very successful retail honey business.

At that place, Mr. Mayer had built a very impressive honey sales building for roadside callers. It also included displays of bees and honey products.

Two kinds of honey were sold, orange or sage. Both were sold separately, not mixed, and Mr. Mayer had retailed an average of 350 tons of fine honey a year for the previous six years.

In addition, Mr. Mayer sold off some hundreds of gallons of honey that did not come up to his extra high standards of retail sales, at wholesale rates to various concerns.

Mr. Mayer did no advertising, instead he would send off samples of his honeys to people, and his business has grown and grown.

Mr. Mayer had at that time quite a few apiaries in Southern California, and queen rearing yards, these taking up most of his time. So for his extensive roadside sales, he delegated a Mr. Q. Merrigan, also a very competent beekeeper as well as an able retail sales manager.

More next time, Tom

P.S. Sage honey kept for ten years by Mr. Mayer had not granulated.

The deadline for articles / items for the next issue is **19th October.**