



Beetalk

Newsletter of The Blackburn and East Lancashire Branch of
The Lancashire & North West Beekeepers Association
June 2013 www.blackburnbeekeepers.com Registered Charity

COMMITTEE MEMBERS CONTACT DETAILS for 2013 SEASON

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Philip Ainsworth . Hon. Treas. 0771 3161480 email philipainsworth@btconnect.com
Vici Winstanley. Hon.Sec. 07827292844 email vicicoaffee@yahoo.co.uk

MEMBERS SERVICES

Bayvoral - Apiguard - Oxalic Acid -
Thymol - Fumidi'B'

These Chemicals for treating bees can be obtained from:
David Bush Phone 01200 - 428152
Dave will have them available at beekeeper's meetings.

LIBRARY

There is an extensive range of books on all
aspects of beekeeping that can be borrowed from the
Association library.

Please contact

Brian Jackson on 01535 634503

MEMBERSHIP

REGISTERED MEMBER. Subscription for the 2013 season will be £30.00

PARTNER MEMBER. This is for partners of registered members living in the same household wishing to keep bees and includes full insurance cover. However they will not receive their own copy of BBKA news. Subscription will be £20.00

COUNTRY MEMBER. This is for people who do not keep bees, but wish to receive BBKA news and attend branch meetings etc. This class of member does not include any insurance cover. Subscription will be £12.00

IMPORTANT INSURANCE NOTICE

Under the new constitution, prompt payment is essential. Basically, payment will be required by the 31st December each year as insurance is now based on the current years membership. New and lapsed members insurance cover will not start until six weeks after paying their subscription.

For insurance purposes subs will need to be promptly, otherwise you will not have third party insurance

SUBS SHOULD BE PAID TO PHILIP AINSWORTH HON. TREASURER Phone 07713161480

Address ::::: Phil Ainsworth Riverside Cottage Potters :Lane Samlesbury Preston PR5 0UE

Association Swarm Catchers.
For the 2013 season

A small charge is made to collect swarms to cover expenses which is up to the discretion of the individual collector.

BLACKBURN, DARWEN, ACCRINGTON, MELLOR, PRESTON and
ROSSENDALE
AREAS

Karen Ramsbottom.
Telephone 01254722514
E-mail:: john.rammy@ntlworld.com

CLITHEROE AND SURROUNDING AREAS

[John Zamorski](mailto:John.Zamorski@wanadoo.co.uk)
Telephone **01200-427661**
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BURNLEY, NELSON AND SURROUNDING AREAS

Alistair McLean 07815049283 AlistairMcLean@ymail.com

Victoria Winstanley. 01282-701692 vicoaaffee@yahoo.co.uk

Ellen Howarth. helen@waltonhowarth.co.uk

Please feel free to ring any of the above in your area and they will do their best to sort out the problem.

Swarm collectors will not come out to Bumble Bees and Wasps
problems

FUTURE BRANCH MEETINGS

July Meeting. **Sunday July 21st 2013 @ 2pm** Salmesbury War Memorial Hall.Cuerdale Lane
Salmesbury, Preston PR5 0XD

Honey extraction and preparing for show

August Meeting **Sunday August 18th 2013 @2pm** Salmesbury War Memorial Hall.Cuerdale Lane
Salmesbury, Preston PR5 0XD

Winter Preparation (Practical)

September Meeting **Sunday September 22nd 2013 @2pm** Brian Jacksons, Lower Lane House Farm Cowling BD22
0LX.

Association BBQ.

We will, where possible open hives so bring along your protective clothing just in case.

DISCLAIMER

The views expressed in any of the articles in 'Bee Talk' represent the personal opinions of the Contributors and in no way should they be regarded as the official opinions or views of the 'Lancashire & North West Beekeepers Association' nor of our local Branch of this association 'The Blackburn & East Lancashire Branch'

For Sale **Protective Clothing**

- 1.Cotton Bee Protective Boiler Suits all sizes a bargain at £20 each
- 2.Net Veils that need to be fitted onto a hat at £3 each
3. Box of thin but very strong gloves at £3 for a box of 50 pairs

**These are available by ringing Bob Fulton on
01254-772780**

3. Available from Early March 2012 Fitted Veil at £15.
- All in all if you buy the protective Suit, Veil and Gloves you will have yourself fully protected at a cost of £35 compared to something like £85 to £100 from other suppliers.

Sugar and Candy

20 kilo Buckets at £12

10 Kilo Buckets at £6

1 Kilo Bags at 60p

Candy Sticks at 30p per stick

These are available by ringing David Bush on

01200-428152

UK Honey Labelling Regulations

Below is our simple advice on honey labelling. For more detailed information - go to the website of the Food Standards Agency. www.food.gov.uk

1. The Word **HONEY** is required.
2. The weight must be on the label - we will ensure it is the legal size and format.
3. You can specify the area where the honey is produced. For example, Lincolnshire, Forest of Dean, Scottish Borders.
4. You can specify the type of honey. For example, Heather, Borage. The honey must be at least 75% of that particular type.
5. If you are selling the honey, you must have your name and address on the label. It does not need to be complete but you should be able to be found from the information.
6. If you are selling the honey through a third party, you must have a lot number.
7. New for 2003 You must have a best before date on the jar. We suggest 2-5 years from now.
8. New for 2003 You must have a country of origin on the jar. For example - Produce of England, Product of Scotland, Harvested in Wales. Adding the country to the end of your address is not acceptable.

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From EH Thorne's online catalogue 2010 - other sources are available



What's in the Honey Pot

A few snippets of news and information that may be of use to you

Editorial



Our membership secretary reports that several members' email addresses no longer work and emails are bounced straight back at him by the "mailer-daemon". If you've been feeling neglected by your Association lately, please check that we have your correct email address. You can rectify this problem, if it applies to you, by emailing

What a start to the year, wind, rain, cold, winter losses around 40per cent.

At the time of writing this editorial which is the end of May, its only 10C outside, raining and blowing a gale. Not sure what its all about, is it global warming, is it a natural cycle of climate as it must be understood that we are still coming out of an ice age which could take another 1000 or more years to complete.

It's a very good job that we have a group for beginners and inexperienced beekeepers to fall back on, otherwise it would be very hard for them to carry on, so keep on coming to the meetings and keep in touch with your mentor and if you have not got one, get one .

Lots of things going on with the education side of the club with Module 1 course is starting on Wed August 21 for 12 weeks leading up to the exam on November 9th. Anyone who wants to join the group can contact our education officer and get all the details. Steve Ganner was going to do some training at the association apiary at Salmesbury , but has had to cancel due to health reasons, but will be starting up when he is fit and well, which I hope will be speedy for Steve.

Our branch open day will take place at Samlesbury Hall on Sunday 23 June from 11am to 4pm. We are hoping to set up on the lawn in front of the hall (wet weather plan is inside) and have a variety of displays planned, including candle rolling, honey tasting, wax and wax products, tools of the trade..... Details can be found later in Beetalk. Please support this day as it's a good day for the club and a chance to meet the committee, mentors and other members of the club.

I have put the honey show results from last year into Beetalk, although late being sent, it's a reminder to get yourself ready. Lets get some great exhibits into the show and maybe knock some of the usual winners off their pedestals, which I am sure they would not mind it happening.

So lets hope that the season gets better, your bees do OK and by the time the next Beetalk comes along in September, you will have lots of hney and your bees will be ready for going into the winter months.

Best wishes to you all

Michael

Meet some of the Committee for 2013



John Zamorski (Chairman)



Brian Jackson (Vice Chairman)



Vici Winstanley (Hon Secretary)



**Phil Ainsworth
(Hon Treasurer)**



**Caroline Coughlin
(Honey Show Secretary)**



**Janet Murray
Education Officer**



Bob Fulton. Committee Member



David Bush. Committee Member



Alistair McLean. Committee Member



**Helen Howarth Committee
Member**



Juli Scott. Programme Secretary



**Michael Birt.
(Webmaster and Beetalk Editor)**

Honey Show Report for 2012

The 2012 Annual Branch Honey Show took place at Samlesbury War Memorial Hall, on Sunday 7th October and was a resounding success.

The Judge was Mr. Dennis Atkinson (Senior Judge) from Garstang, who was delighted at the quality overall, number of exhibits and the high caliber shown. His comments will help to improve the standards of both the exhibits and of our branch Honey Show in the future and it was flattering that he stated that the standard of exhibits was very high.

There were 134 exhibits from 25 entrants, (an increase on 2011 with more exhibits than ever).

During the show, Graham Royal spoke about “Apis through the looking Glass” and members attended the fascinating lecture in the Main Hall at Samlesbury War Memorial Hall.

There was a selection of stalls where beekeeping accessories, equipment, and chemicals could be purchased, along with an area for the association library where books could be borrowed.

The winners of each class were as follows :-

Class	1	Light Honey	Alistair McLean
	2	Medium Honey	Bob Fulton
	3	Dark Honey	No Entries
	4	Ling Heather Honey	No Entries
	5	Naturally Crystallized Honey	David Barrett
	6	Soft Set Honey	No Entries
	7	Honey Gathered in 2012	Tony Houghton
	8	Novice Class	John Henwood
	9	“Blacked Out” Jar (Best Taste)	David Barrett
	10	Frame of Honey Comb	Chris Carey
	11	Beeswax Cake	John Zamorski
	12	Beeswax Candle	John Zamorski
	13	Wax Craft Exhibit	Helen Haworth
	14	Mead	Bob Fulton
	15	Honey Fruit Cake	David Bush
	16	Honey Fudge	John Zamorski
	17	Honey Desert	David Barrett
	18	Photographic Print	Vici Winstanley

The Ken Preedy Memorial Cup for the “Best Exhibit in Show” was awarded to the winner of the very competitive and exacting Class 13 for Wax Craft Exhibits, which was won by **Helen Haworth**.

The Challenge Cup was awarded to **John Zamorski** for the “Most Points in the Show”. Besides the 3 classes he won, John was also awarded 2nd place in 5 other classes and also a 3rd place.

The Ken Gaiger Education Shield for the “Best Results in the Basic Beekeeping Examination” has now been confirmed by the BBKA as **Janet Murray** and will be announced and awarded at the AGM in November.

The Ken Gaiger Memorial Trophy for the “Most Improved Beekeeper” which will again be announced and awarded at the AGM in November is **John Henwood**.

Congratulations go to all of the winners, and thank you to all of the exhibitors for the time and commitment put into showing, as the Branch Honey Show would not be possible without your continued support.

Special thanks must go to Alistair McLean & Vici Winstanley for policing the exhibition room and for preparing and serving the refreshments on arrival and after Graham Royal’s lecture, before our judge Dennis Atkinson presented the certificates and prizes to the winners. Thanks must also go to Phil Ainsworth who was steward to the judge and for helping to set up the rooms and tidy up after we had all finished using the facilities at Samlesbury War Memorial Hall.

Once again, congratulations to all of the successful prize winners.

Caroline Coughlin
Honey Show Secretary

Annual Dinner

Friday 22nd March arrived and so did the snow. I was getting emails from people who thought they may not make it and also telephone calls. The venue was the Calf's head at Worston and when I contacted them they were very helpful and would be happy to change the date if needed. However, after ringing around, we managed to get twenty participants. Brian and Margaret Jackson had no chance of getting to us because they had three foot drifts on their road and even the snow plough could not get through.

When I arrived, the hotel had laid out a large table for us all to sit round in a separate area. Once everyone had arrived and claimed their seats the meal was served. Service was very good and the staff were really helpful. Looking around all I could see were empty plates at the end of each course. I know Lynne and I really enjoyed our choices and it looked like everyone else did.

First prize in the raffle, a lovely bee teapot, was won by Vici and I think there were a few disappointed people including me. Thanks to everyone who donated prizes.

It was a lovely evening and I think everyone enjoyed it. The venue was very good and I would like to think we would go there again next year. Please let me have your feedback so that I know.



Monthly Meetings

The last two meetings, April and May were held in the lecture room at Towneley Hall in Burnley. There were around 40 members at the April meeting where John Zamorski gave an explanation of the problems David Rayner was facing with the Black Bee project because of the poor weather. The basics of preparation for nuclei to raise queens was demonstrated, but members informed that the likelihood of grafting at the next meeting was low. John went on to demonstrate a method of keeping the Varroa levels down without the use of chemicals while doing swarm control. Michael has put the details of this method on the website for you all to look at. The May meeting was supposed to be actually grafting larvae into the cells but as was expected, the availability of no suitable larvae meant it had to be called off.

Modules

Module 1 course is starting on Wed August 21 for 12 weeks leading up to the exam on November 9th. Taking the exam is optional but doing the course is an excellent way to improve knowledge about general honeybee management.

The Venue is the Pavilion, Sawley road, Grindleton, Lancs. Time 7 - 9 pm. Price £40

The study group for Module 5 (honeybee biology) will be starting on Tues 20 August for 12 weeks. Time, venue and cost to be notified. There will be a small charge to cover the cost of the correspondence course.

Unfortunately the Hygiene course has not had the support necessary to be able to book for this year but we will look at it again next year.

Branch Open Day

Our branch open day will be held on Sunday 23 June in the grounds of Samlesbury Hall, it will be the first open day to be held at the site of our newly established club apiary. Our plan is to present displays about our beekeeping activities and to be on hand to chat to visitors about what we do and why.

Plans are coming together. We hope to interest prospective beekeepers, gardeners, cooks, crafters, children and more. There will be picture displays, displays of our equipment, what we can do with wax, recipes with honey, an observation hive, a virtual hive and honey tasting. We hope to get visitors involved with candle rolling and there will be plenty of puzzles and colouring for children.

We need volunteers to help chat to visitors and it doesn't matter if you are new to beekeeping or have done it for years. If you think you can spare an hour please let me know. We will be there from 11am until 4pm. If you have any photos of your beekeeping or anything relating you think might be of interest please email them to me. I would particularly like to show photos from members – we've all got a few pictures we really like so let's show them off.

Juli Scott

baznjuli@btinternet.com

07941 691216

Tip for Beetalk

If you use the colored spacers at the tip of your frames, put a different colour along each side. That way, if you are a bit Doolallee like me, especially if I am passing the frame to someone else to look at, you are unlikely to put the frame back in the wrong way.

Steve Ganner

Bits and Bats

Regarding courses at Sam Hall. Just to keep you up to speed, I have had my operation on my foot and as I told the committee ages ago, I am unable to get to the Sam Hall apiary until the earliest Monday 24th June so, much as I would like to organize, I can't comment on any courses sorry. I am even struggling to get to mine because I can't drive
Regards Steve

Branch Open Day – Sunday 23 June

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Juli Scott

baznjuli@btinternet.com

07941 691216

A tip if the cheaper non Hoffman frames are being used and the coloured spacers are fitted to the lugs: Sometimes, especially if working with a partner, you pass a frame to him/her for them to inspect, or if you place them on the floor, heaven forbid - When the frame is handed back to you and it's been twisted and turned half a dozen times, you think, damn-which way does it go back in the hive. At some time, we've all done it!

BUT- If you put for instance, all yellow spacers on one side and green on the other side, you can't go far wrong.

Steve

I heard of lady who left a worker drone colony to die out and wondered how many do the same in spring without thinking. If at the beginning of the season you find yourself with a colony with a drone laying worker, don't be too hasty to write the colony off. Put a feeder on it straight away and keep it ticking over.

If your 2nd colony is strong and has eggs, it's likely that it won't have drones so early in the season.

If you think that your 2nd colony will stand it, take a frame of eggs and put it in the drone hive and it may just produce a queen for you and give you back your colony. And I emphasise the "may"

Tip for Beetalk

If you use the coloured spacers at the tip of your frames, put a different colour along each side. That way, if you are a bit Doolallee like me, especially if I am passing the frame to someone else to look at, you are unlikely to put the frame back in the wrong way.

Steve

Basic Class Member with Janet our education officer



THE BLACK BEE AND WHY I FEEL WE SHOULD MAKE AN EFFORT

Do we continue to import the foreign bees / queens with all the viruses that come with them?

The Native Bee, *Apis mellifera mellifera*, still exerts a dominant influence over most of the British Isles in spite of the continuing importation of foreign races, owing to its better adaptation to the British climate. It has proved itself able to cope with great changes in climate and other environmental factors, a capability which may be of critical significance in time to come. It has a genetic inheritance different from those of other races; indeed it may possess genes unique to these islands, that is, not even possessed by Continental strains of *Apis mellifera mellifera*. On this consideration alone it should be worth preserving as a gene bank. It is well adapted to survive in a harsh climate. It is thrifty in its use of stores; brood rearing is reduced when the nectar flow is interrupted. It forages over longer distances than the Italian bee and can make better use of meagre food resources. It will be observed foraging both earlier and later than *A m ligustica* and will fly in dull and drizzly weather which would keep Italian bees indoors. It may also be that mating can take place at lower temperatures than in the case of the southern races. Although less prolific than Italians, the workers live longer and there is a higher ratio of foraging bees to hive bees. The wintering capabilities of the Dark bee are excellent; although colony size is at all times moderate and the winter cluster is small, heat is conserved by the tightness of the cluster and the large bodies and long overhair of the bees. The "winter" bees of the northern race have the ability to retain faeces in the gut for long periods, due apparently to a greater production of catalase by the rectal gland in Autumn. They are thus less dependent on cleaning flights. They are also less likely to be lured out of the hive by bright winter sunshine than Italian bees. Italian bees have from time to time given spectacular results in honey production particularly in the South of England and during the warm summers which typified the early part of the 20th century. There is no evidence that the Native Bee is on average inferior to the imported bee in honey yield and it is likely to prove superior at times and in places where forage is less plentiful. Many beekeepers have found that honey production has increased when they have changed over to *A m mellifera*. It is certainly better equipped for surviving "hard" winters, cold springs and wet summers. The only other European bee which might adapt successfully to our climate is the Carniolan, but the total replacement of the whole of our honey bee population by Carniolan bees cannot easily be envisaged. The piecemeal importation of Carniolan bees could only perpetuate and make even worse the present unsatisfactory situation. Far better to stop importing all foreign bees and concentrate on a general improvement of our honey bee stocks by large scale selective breeding from the best of our native colonies. The foregoing information provides evidence that the ecotype of the Dark bee which, over the past 10,000 years has evolved in any particular area, should be best able to withstand the extremes of climate in that area and, with proper management, be more economically viable than other bees adapted to places with a very different climate. It is the experience of people who keep the Dark bee in this country that the bee will produce surplus honey every year, even when the summer is so cold and wet that bees of foreign origin have to be fed sugar to keep them alive. This is a consequence of their character of moderate brood production throughout the active season with their compact pattern of brood and always a reserve of stores. A quick reduction of breeding activity in response to adverse weather conditions results in a lower consumption of food. These characters, together with a population of long living worker bees, provide an optimum number of foragers ready to take full advantage of any short nectar flows during periods of unsettled weather. There is at such times a high ratio of potential foragers to brood, in contrast to the more prolific and thriftless imported bees in spring, as is the case with Italian and other imported bees.

The physiological reasons for the survival of the Dark bee in severe winters are given by Ruttner (1988) :-

- Efficient thermoregulation of the brood nest...
 1. The Dark bee has the largest body of the whole species with greater metabolic heat production by individual bees when required.
- The Dark bee has the longest abdominal overhairs of the European races. The colony forms a 'winter cluster' when the air temperature falls to 2C. The bees which form the outer layer tuck their heads inwards and the abdominal overhairs interlock from bee to bee, insulating the cluster like the fur of a mammal.

- In late summer, perhaps because of the diminution of brood rearing, the amount of bipterin in the larval food is greatly increased and 'winter bees' are formed, in which protein and fat accumulate in the 'fat bodies' in the sub-dermal layers of the abdomen. These bees are still physiologically 'young' in spring and so can act efficiently as nurse bees. It is therefore not necessary to produce brood in the depth of winter in order to have nurse bees in spring, as is the case with Italian and other imported bees.
- There is an increase in the amount of another enzyme, catalase, which enables the rectum to retain greater quantities of faeces during winter. Such bees, confined for long periods in winter without the possibility of a cleansing flight are less liable to develop dysentery. It has been shown that southern bees taken to a cold climate do not increase their production of catalase.
- The Dark bee has a longer period without brood in winter and consequently consumes less food, with a reduction in the accumulation of waste products. The more efficient thermoregulation also reduces the intake of food which is needed to maintain temperature within the cluster.
- The Dark bee has a greater resistance to Nosema

Despite all the above facts about the suitability of this bee for our climate and the testimony of those who have had experience of both native and foreign bees, there are still the cynics who pour scorn on the efforts to conserve and improve the native bee. They claim that a 'modern' bee is now needed that can cope with the environmental changes taking place as a result of agricultural practice, eg, the oil seed rape crop, cereal 'deserts' and other major changes such as global warming that may be imminent. These people should take note that the Dark bee is the most adaptable of all the honeybee races, its territory of natural distribution ranging from the Mediterranean coast of France to Southern Scandinavia (and in the care of man as far north as the Arctic Circle) and from the humid and largely temperate climate of the Atlantic seaboard of Western Europe to the extremes of severe cold and dry heat of central Russia as far east as the Urals. There are also regional ecotypes within the British Isles with differing patterns of development and behaviour that enable us to choose a bee 'tailor made' for any changes in bee forage either in time or scale that may be imposed on our countryside by economical or political pressures.

It is also claimed that modern beekeeping needs a more prolific bee with a large brood nest. This is based in part on the apparent ability of large colonies to gather a larger crop of honey in a good and sustained nectar flow than smaller colonies. Whilst it is true that a large colony of any one strain of bee will usually produce more honey in these circumstances than a smaller colony of the same strain, it does not necessarily follow that a large colony of a prolific strain with a large brood nest will do better than a strong colony of a less prolific strain with a smaller brood nest. (You may have to read the last sentence a few times to follow that!) Indeed, as has been mentioned earlier, the opposite is frequently true in the average conditions in this country.

It's my belief that the efforts to promote the increase of our native Black Bee, such as those being made at Towneley Hall by Dave Raynor et al are well worthwhile and need the support from all beekeepers.

Steve Ganner

Nanoparticles Made From Bee Venom Can Kill HIV



Earlier this week we reported on the remarkable news that a Mississippi-born baby was cured of HIV. Now, as if to show the disease that its days are truly numbered, researchers from Washington University School of Medicine in St. Louis have shown that nanoparticles infused with a toxic bee venom can kill HIV. The researchers hope to take this new compound and develop a vaginal gel that can prevent the further spread of the disease.

The key to this discovery, which was made by Samuel A. Wickline and his team at Washington University, involves **cytolytic melittin peptides**. Melittin is found in bee venom, and it has the fortuitous trait of being able to degrade the protective envelope that surrounds HIV.

For the experiment, Wickline's team prepared free melittin and melittin-loaded nanoparticles and set them against various strains of HIV (CXCR4 and CCR5 in particular). The researchers then showed that melittin, when delivered in these large and free accumulations, can make life miserable for the disease.

Moreover, these melittin-loaded nanoparticles left the surrounding cells unharmed, which bodes well for the development of a topical vaginal virucide. But this didn't happen by accident. The nanoparticles were endowed with a kind of filter that prevents healthy cells from coming into contact with the toxin. HIV, on the other hand, is small and it sifts through these filters, thus exposing it to the toxin.

Unlike other approaches, which work to prevent HIV from replicating, Wickline's technique involves the degradation of the virus's structure.

"We are attacking an inherent physical property of HIV," said Joshua L. Hood through a university statement, and a co-author of the study. "Theoretically, there isn't any way for the virus to adapt to that. The virus has to have a protective coat, a double-layered membrane that covers the virus."

Interestingly, the concept behind the melittin nanoparticle approach could conceivably work against other diseases, including hepatitis B and C.

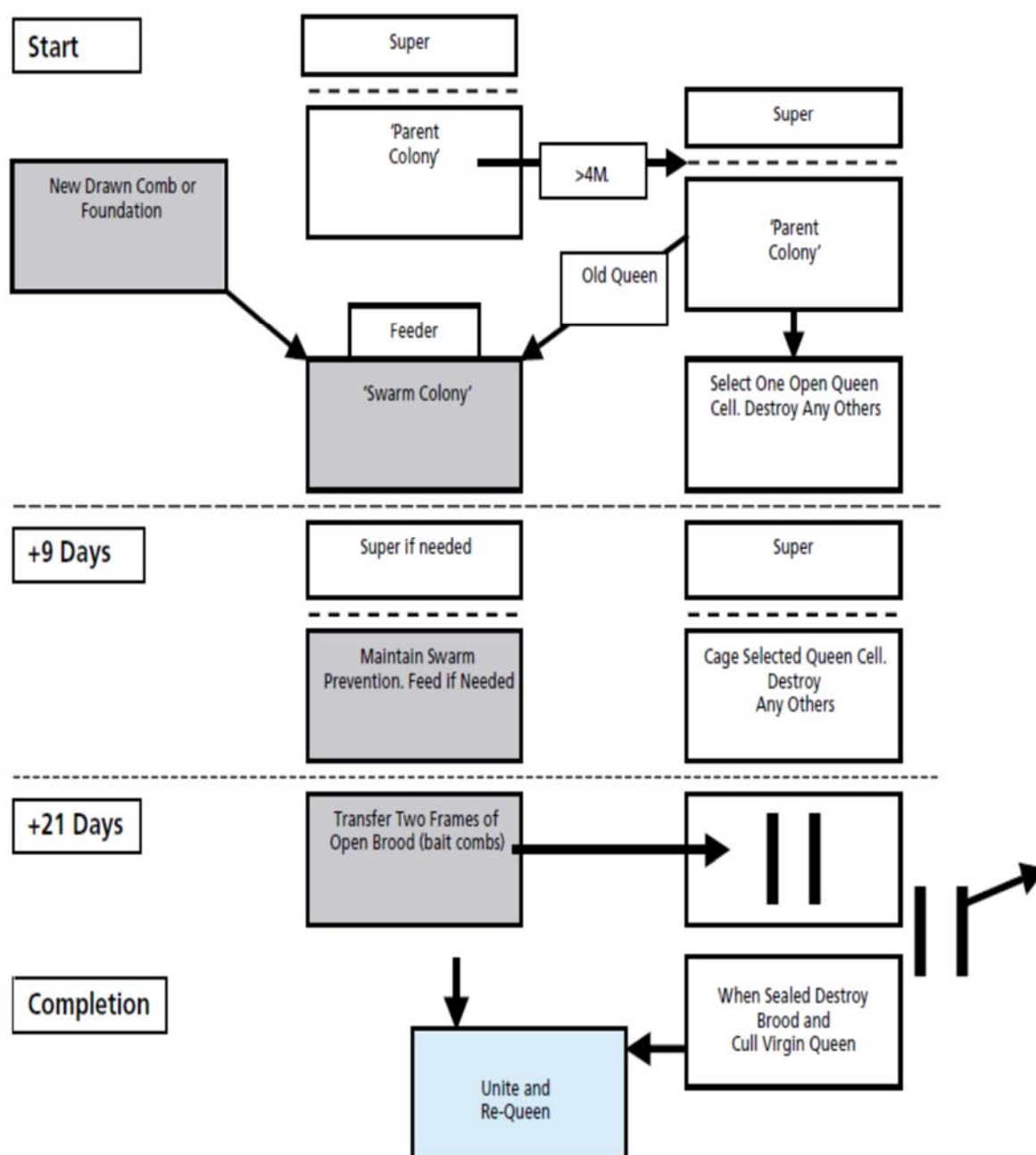
Eventually, the topical gel could be combined with a spermicidal contraceptive and act as a kind of two-in-one double-whammy. But for now, the researchers say that the nanoparticles are safe for sperm, and will initially be intended for couples who are trying to conceive.

And as for the study itself, it's the first proof-of-concept that the therapeutic and safe application of a nanoparticle-mediated compound can combat HIV-1.

Source: Washington University.

You can read the entire study in *Antiviral Therapy*.

Figure 31: Diagram illustrating the control of *Varroa* using an 'Artificial Swarm'



Artificial Swarm for Varroa control

This is a method you can use if you do not want to use any treatments. It is only suitable to use this during the swarming season. When you find your colony is preparing to swarm and is producing queen cells, move the brood box away from the original stand at least four metres away. Place a clean replacement brood box on the old stand containing clean new drawn comb. At this stage it is best to place a queen excluder under this brood box to prevent the swarm from absconding. Find the queen in the original box and place her on a comb in the new box on the old site. All the flying bees will return to this site to join her. Place a feeder on top and ensure you keep it topped up until the colony becomes established. Once the queen is laying well the queen excluder can be removed.

The original brood box on the new site now needs to be checked. Remove most of the queen cells but leave at least one for the bees to care for. This should be an open cell with a nice grub in it and should be in a suitable position for you to put a cage over later. Seven to nine days later, before any queen cells have hatched, go through this colony again and thoroughly check for queen cells. Destroy all these except the one you chose. Place a queen cell nursery cage over this cell and close up. This cage will allow the virgin to hatch and the bees can care for her but she cannot get out to mate. The bees will happily accept they have a queen and will not start to produce laying workers.

Twenty four days after you first split the colony, all the brood in the virgin queen colony will have hatched and the *Varroa* mites will be desperate to find cells to go into to breed. Go to the original colony which is queen right and remove two frames of Unsealed Brood and place these in the brood less colony. The mites in here will enter these cells and when both frames are capped they can be removed and destroyed. The virgin queen should now be removed from this hive and a new queen introduced. If you do not have a new queen, the colony can be re-united with the original stock.

If you do have a new queen, at the end of the season the old queen can be culled and the colonies united to go into Winter with a young queen.

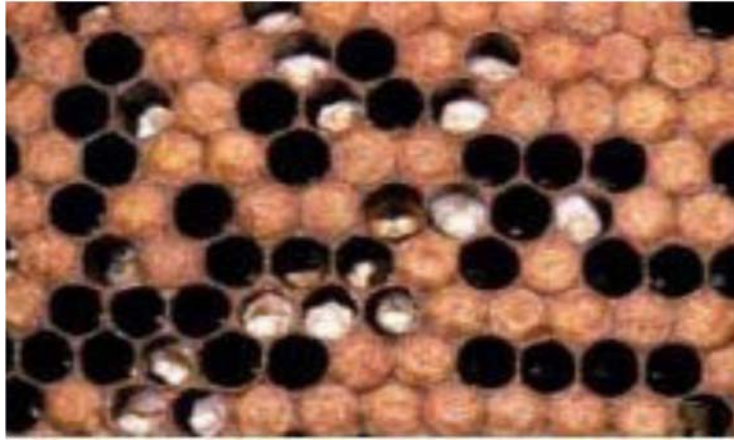
A bee covered in morning dew.

Now that's what I would can something else.

Editor



Chalk Brood



Chalk brood is a fairly common non-notifiable disease of honeybee brood and is caused by a fungus *Ascosphaera apis*. The fungus grows through the bodies of infected larvae sending fine vegetative thread-like growths into the larval body tissues, eventually overcoming and killing the larvae after its cell have been sealed.

It is not regarded as a serious disease in normal circumstances, its effects on the colony being only slight. It is generally present in the majority of colonies at some point in time and can be present in its spore stage without affecting the colony. A vigorous colony will usually control any infestation by removing infected larva but in severe cases, treatment by either queen replacement or replacement of foundation might be advised.

With thanks to Shropshire Beekeepers Association

Intelligence, Sleep And Memory – *Bee logistics*

With Thanks to Nottinghamshire BKA's Newsletter, Courtesy of eBees

Intelligence

Research has provided insight into some stunning cognitive capabilities for such a tiny brain, as well as some especially fascinating anecdotes that liken bees to humans. For example, just like the human capacity to recognize faces, honeybees show the ability to discriminate between two different human faces. A major feature of this trait in humans is that it breaks down when the face is inverted 180°. This same feature was observed in honeybees. Further, bees can count up to four objects when they are encountered sequentially during flight. It appears that bees can navigate to food sources by maintaining a running count of prominent landmarks that are passed en route, provided this number does not exceed four.

Sleep

Children often ask what bees do at night, wondering if they are always busy doing something, or if they too idle sometimes in front of the TV. We know from ancient times that the sleep of the labourer is sweetest. Accordingly, honeybee foragers are among the first invertebrates for which sleep behavior has been described. Foragers have strong circadian rhythms; they are active during the day and sleep during the night moving through three sleep stages. However, young bees exhibit sleep behavior consisting of the same stages as observed in foragers yet pass more frequently between the three and stay longer in the lightest sleep stage. These differences in sleep architecture represent evidence for plasticity in sleep behavior in insects. The harder they work - the sounder they sleep!

Memory

During evolution, honeybees have developed sophisticated sensory systems and learning and memorizing capacities, essential mechanisms that do not differ drastically from those of vertebrates. To forage successfully, a bee has to learn and remember not only the colour and shape of flowers that contain nectar and pollen, but also how to get to them. Since the species of flowers that are in bloom in the morning are likely to be replaced by a different species at a different location in the afternoon, the bee has evolved an impressive ability to learn and memorize local features and routes, as well as the time of blooming, quickly and accurately. Thus, having found a nectar-bearing flower at a particular time on a particular day, a forager can remember the task and the time at which it was completed, and visit the flower at the same place and time on the following day. The time sense of the honeybee can modulate their response to a local stimulus according to the time of day. Honeybees can learn scents or colors in a time-linked process and remember them in a 24-hour cycle. Circadian systems permit organisms to measure time for adaptively significant purposes. Bees synchronize their behavior with daily floral rhythms, foraging only when nectar and pollen are at their highest levels. At other times, they remain in the hive, conserving energy that otherwise would be exhausted on non-productive foraging flights.

The processes of learning and remembering are undoubtedly more sophisticated in primates and mammals than in insects, but there seems to be a continuum in these capacities across the animal kingdom. The abilities of an animal seem to be governed largely by what it needs in order to pursue its lifestyle, rather than whether or not it possesses a backbone. The properties of learning and memory in insects have been shown to be well suited to the requirements of the tasks that they have to perform. Honeybees can plan their activities in time and space, and use context to determine which action to perform and when.

Secrets of the honey bee bite

A previously unknown honey bee defence weapon against Varroa and a potential new natural anaesthetic for humans.

Researchers have discovered that honey bees can bite as well as sting and that the bite contains a natural anaesthetic. The anaesthetic may not only help honey bees fend off pests such as wax moth and the parasitic Varroa mite, but it also has great potential for use in human medicine.

The surprise findings discovered by a team of researchers from Greek and French organisations in collaboration with Vita (Europe) Ltd, the UK-based honey bee health specialist, will cause a complete rethinking of honey bee defence mechanisms and could lead to the production of a natural, low toxicity local anaesthetic for humans and animals.

The natural anaesthetic that has been discovered in the bite of the honey bee and measured at the University of Athens is 2-heptanone (2-H), a natural compound found in many foods and also secreted by certain insects, but never before understood to have anaesthetic properties. Independent tests have verified Vita's findings and the potential of 2-heptanone as a local anaesthetic.

As a naturally-occurring substance with a lower toxicity than conventional anaesthetics, 2-heptanone shows great potential.

Until recently, research seemed to indicate that 2-heptanone was either a honey bee alarm pheromone that triggers defensive responses, or a chemical marker signalling to other foraging bees that a flower had already been visited. Vita's results contradicted these notions.

The new research clearly shows that 2-heptanone paralyses small insects and mites bitten by bees for up to nine minutes. Somewhat like a snake, the honey bee uses its mandibles to bite its enemy and then secretes 2-heptanone into the wound to anaesthetize it.

This enables the honey bee to eject the enemy from the hive and is a particularly effective defence against pests, such as wax moth larvae and Varroa mites, which are too small to sting.

Dr. Max Watkins, Technical Director of Vita (Europe) Ltd, said, "We are very excited about our findings on at least two levels. Firstly, the revelation that honey bees can bite enemies that they cannot sting confounds some existing ideas and adds significantly to our biological knowledge. Secondly, the discovery of a highly effective natural anaesthetic with huge potential will be of great interest to the pharmaceutical industry eager to develop better local anaesthetics."

In laboratory neurophysiological trials in the School of Biology of Aristotle University in Thessaloniki (Greece), 2-heptanone was found to have a similar mode of action to Lidocaine, the dominant local anaesthetic used in humans and other mammals.

2-heptanone is found naturally in many foods such as beer and white bread and is so safe that it is permitted as a food additive by USA regulatory authorities. 2-heptanone therefore offers considerable potential as an alternative to Lidocaine.

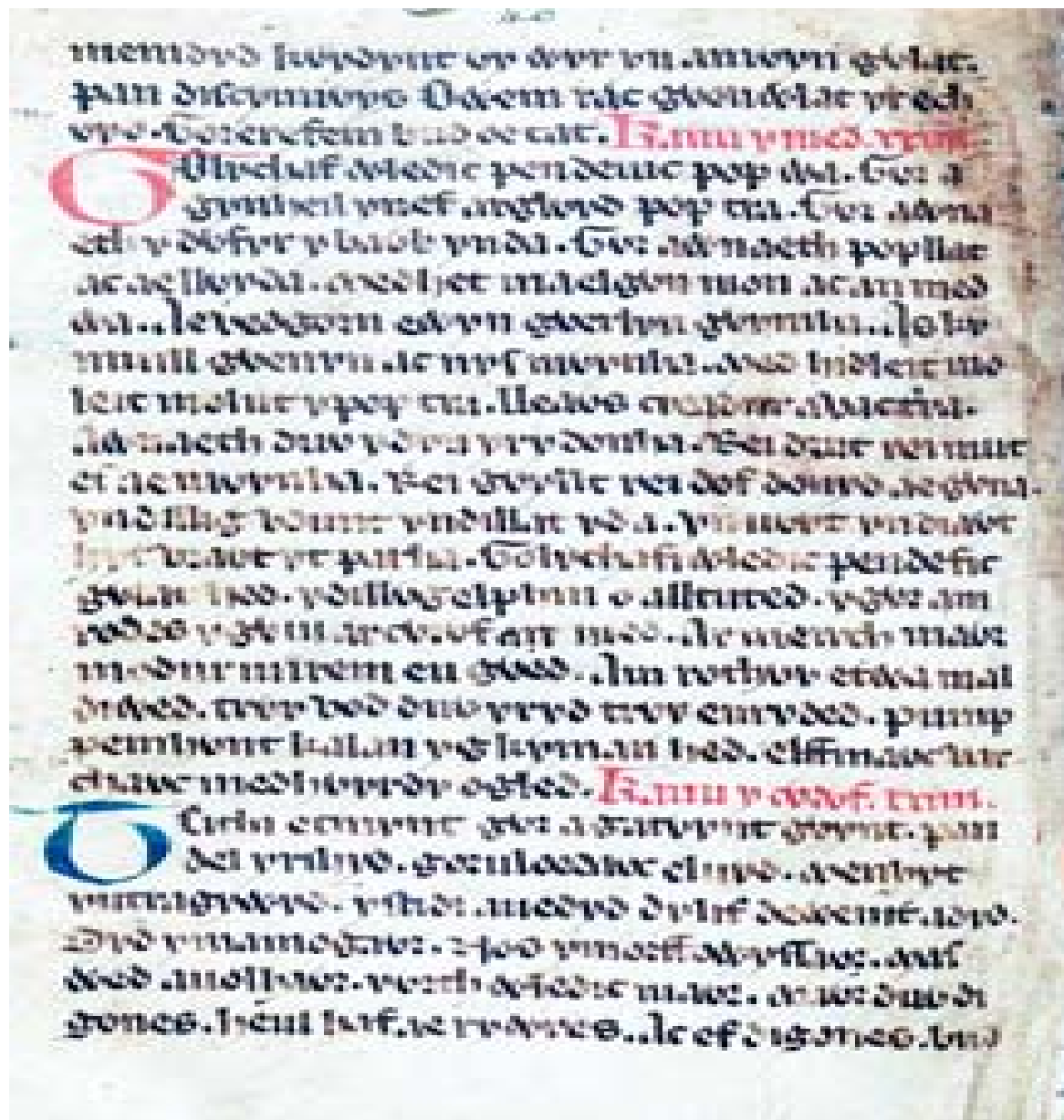
Very recent laboratory research using mammalian cells in the USA, has confirmed Vita's expectations that the anaesthetic could be as effective on humans and mammals as it is on insects and mites.

In considering the biological impacts of the findings, Dr. Alexandros Papachristoforou, a Vita researcher, said: "It is amazing that this second line of honey bee defence has gone undetected for so long.

Beekeepers will be very surprised by our discovery and it is likely to cause a radical rethink of some long held beliefs. It will probably stimulate honey bee research in many new directions. For instance, many beekeepers have spoken of the 'grooming' behaviour of honey bees in helping to control Varroa populations. This grooming behaviour can now be interpreted as biting behaviour."

Dr. Papachristoforou described how the unexpected properties of 2-heptanone were discovered: "We were investigating wax moth control. Wax moths are a serious honey bee pest, whose larvae consume wax and pollen, often completely destroying honeycomb. When exposed to 2-heptanone, which is produced naturally by honey bees, the wax moths appeared to die. However, on closer inspection, we realized that the wax moths were merely anaesthetised for a period of one to nine minutes. This was quite unexpected, so our scientific team set up a series of rigorous experiments to find out what was really happening and came up with our remarkable discovery."

A medieval tale of Mead



Kanu y Med (Song of Mead), from the Book of Taliesin, which contains poems originating in the 10th century.

I will adore the Ruler, chief of every place,
 Him, that supports the heaven: Lord of everything.
 Him, that made the water for every one good,
 Him, that made every gift, and prospers it.
 May Maelgwn of Mona be affected with mead, and affect us,
 From the foaming mead-horns, with the choicest pure liquor,
 Which the bees collect, and do not enjoy.
 Mead distilled sparkling, its praise is everywhere.
 The multitude of creatures which the earth nourishes,
 God made for man to enrich him.
 Some fierce, some mute, he enjoys them.
 Some wild, some tame, the Lord makes them.
 Their coverings become clothing.
 For food, for drink, till doom they will continue.
 I will implore the Ruler, sovereign of the country of peace,
 To liberate Elphin from banishment.
 The man who gave me wine and ale and mead.
 And the great princely steeds, beautiful their

The Cape Honeybee

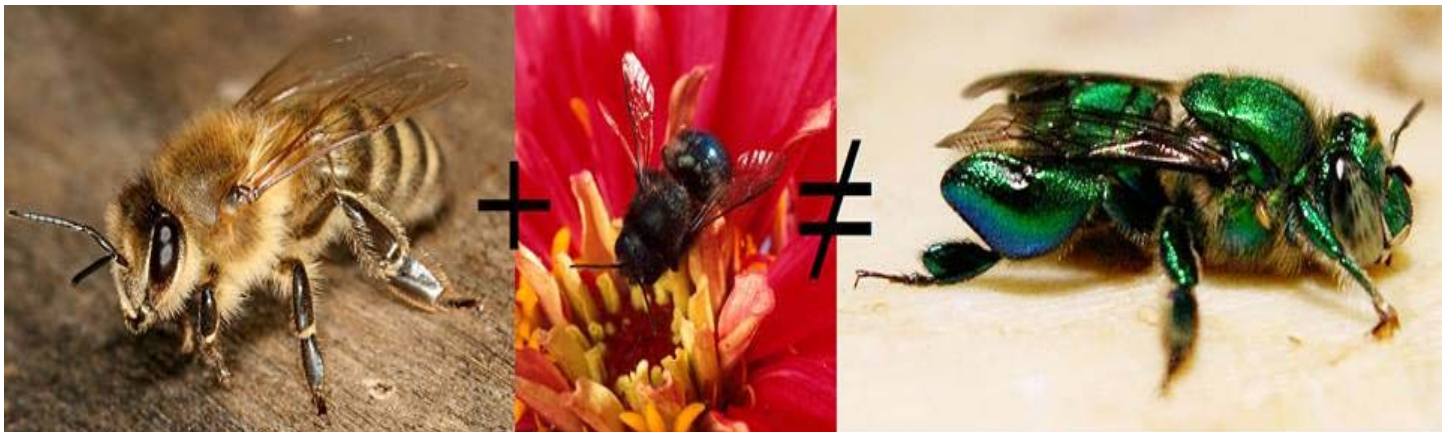
We are always saying that when colonies lose their queen and have no brood to rear another, the colony is doomed unless we take action to introduce another queen. Did you know that *Apis mellifera capensis*, the Cape Honey Bee, when a colony is deprived of its queen, a laying worker appears within a few days which, for a period, is able to lay predominantly diploid worker eggs. From these eggs true queens capable of being mated can be raised, re-establishing queen rightness in the colony. In South Africa this race of bee has workers which have both fully activated ovaries and a pheromonal bouquet similar to that of a queen.

Such workers(pseudo queens) can suppress ovary activation in other workers and prevent further queen rearing in the colony.

However, don't get any ideas about importing any to Britain. They have been known to invade a host colony, replace the queen and take the colony over. In the early 1990's this resulted in the "Capensis calamity"; the collapse of tens of thousands of honeybee colonies in apiaries throughout South Africa.

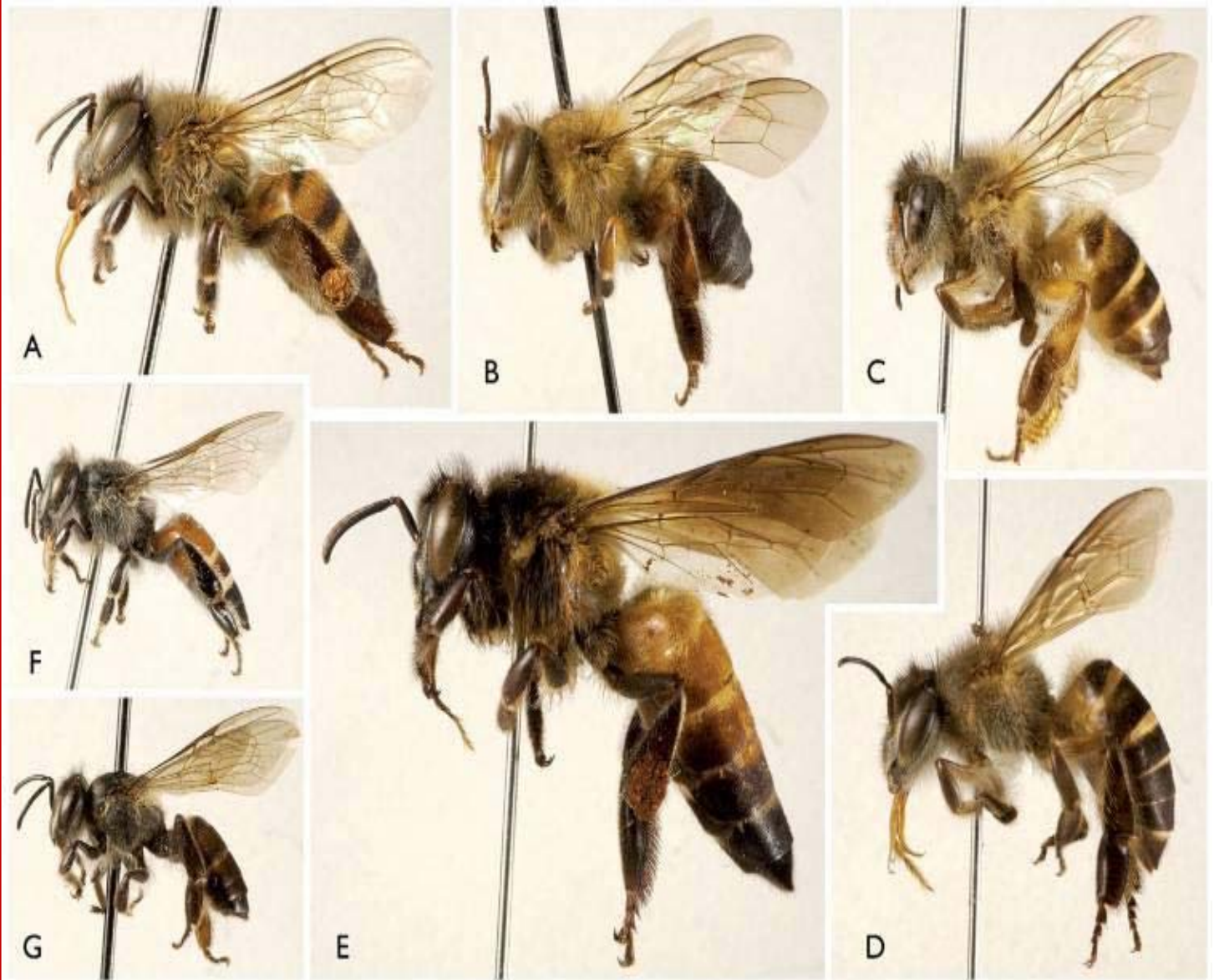
Theoretically, it would take only one capensis laying worker introduced into any local honey bee population found on this globe to change it forever.

Steve Ganner



Sherlock Holmes, the fictional character, is known to have retired from detective work to become a beekeeper, and even write a book about beekeeping (see "His Last Bow" or "Reminiscences of Mr. Sherlock Holmes" 1917 and other books by Sir Arthur Conan Doyle). In the modern television version known as 'Elementary', in the 2013 season finale episode 'The Woman/Heroine' Sherlock, also a beekeeper, reveals he has crossed *Apis mellifera* with *Osmia avosetta*, and the resulting hybrid he names as a new species in honor of Dr. Joan Watson, *Euglossinia watsonia*. *Osmia avosetta* is a mason bee species (a solitary bee) which nests in the ground using flower petals as nest materials - this behavior was discovered at the same time separately in Turkey and Iran. Euglossine bees are known as orchid bees, because the male bees pollinate orchids. Euglossine bees as a group contain solitary and social behavior. The biology behind the male bee's collection of orchid 'perfumes' is still a mystery.

Authors Laurie R. King and Michael Chabon also have continued the thread of Sherlock Holmes/detectives as beekeepers. Beekeepers do benefit from a keen eye and an attention to detail. But the science of hybridizing these species is pure fiction!



Honey bees of the world

Seven or more honey bee species (*Apis* spp.) share the planet with us. Human cultural interactions with them are diverse too!. This is an image of 'Modern honey bee diversity (all bees are workers and to the same scale)'.

- A. *Apis mellifera* Linnaeus
- B. *Apis koschevnikovi* Enderlein
- C. *Apis nigrocincta* Smith
- D. *Apis cerana* Fabricius
- E. *Apis dorsata* Fabricius
- F. *Apis florea* Fabricius
- G. *Apis andreniformis* Smith

Human cultures also care for non-*Apis* bee species such as leafcutter bees, mason bees, carpenter bees, stingless bees, etc. for pollination or honey/wax. There are over 20,000 bee species on the planet.

Flight Of The Bumble Bee Is Based More On Brute Force Than Aerodynamic Efficiency.

In recent years scientists have modelled how insect wings interact with the air around them to generate lift by using computational models that are relatively simple, often simplifying the motion or shape of the wings.

"We decided to go back to the insect itself and use smoke, a wind tunnel and high-speed cameras to observe in detail how real bumblebee wings work in free flight," said Dr. Richard Bomphrey of the Department of Zoology, co-author of a report of the research published this month in *Experiments in Fluids*. "We found that bumblebee flight is surprisingly inefficient – aerodynamically-speaking it's as if the insect is 'split in half' as not only do its left and right wings flap independently but the airflow around them never joins up to help it slip through the air more easily."

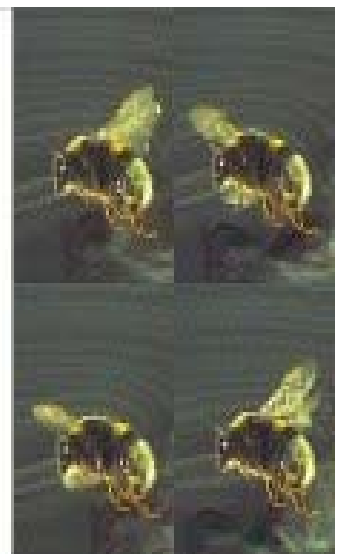
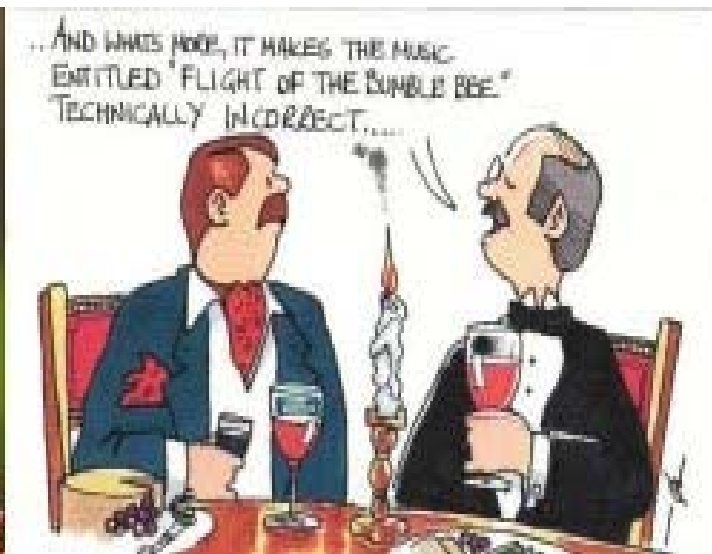
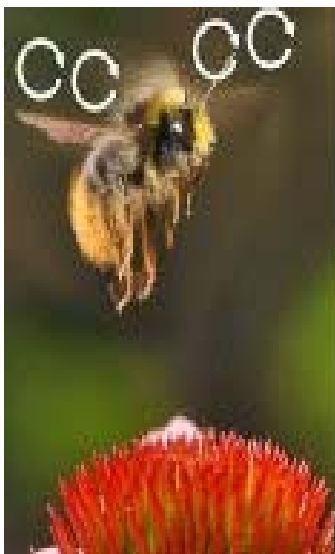
Such an extreme aerodynamic separation between left and right sets the bumblebee [*Bombus terrestris*] apart from most other flying animals.

"Our observations show that, instead of the aerodynamic finesse found in most other insects, bumblebees have adopted a brute force approach powered by a huge thorax and fuelled by energy-rich nectar," said Dr Bomphrey. "This approach may be due to its particularly wide body shape, or it could have evolved to make bumblebees more maneuverable in the air at the cost of a less efficient flying style."

Professor Adrian Thomas of Oxford's Department of Zoology, co-author of the report, said: "a bumblebee is a tanker-truck, its job is to transport nectar and pollen back to the hive. Efficiency is unlikely to be important for that way of life."

Observing insects in free – as opposed to tethered – flight is a considerable challenge. The Oxford team trained bumblebees to commute from their hive to harvest pollen from cut flowers at one end of a wind tunnel. They then used the wind tunnel to blow streams of smoke passed the flying bees, to reveal vortices in the air, and recorded the results with high-speed cameras taking up to 2000 images per second. From these images the team were able to visualize the airflow over flapping bumblebee wings.

The old myth that "bumblebees shouldn't be able to fly" was based on calculations using the aerodynamic theory of 1918-19, just 15 years after the Wright brothers made the first powered flight. These early theories suggested that bumblebee wings were too small to create sufficient lift but since then scientists have made huge advances in understanding aerodynamics and how different kinds of airflow can generate lift.



Beginners Mistake!

During the course of clearing a super for extraction, I naively thought I could approach my hive at night and the bees would be asleep. I drove up to the hive leaving my lights on to see what I was doing and pulled on my suit. I neither zipped the hood nor pulled my gloves on, believing the bees to be asleep! I removed the super without rousing too much interest from the bees other than a mild humming noise, so I guessed it would be quite easy to then remove the clearing board and replace it with the old crown board. At this point a tremendous roar erupted and an angry mob set about making their position on nocturnal bee keeping quite clear. So I guess the lesson to learn is, whilst everyone is at home, it's dark and cold, don't try to break in – you are likely to be met with a hostile reception.

Relaying the story later to another member, I hear that Petar Bogunovic uses a red light at night with good effect. So Petar, any advice on working at night with a "red light"?

World Apitherapy Day



世界蜂針研究天

Día Mundial de la Apiterapia

اليوم العالمي للعلاج بمنتجات النحل

Мировой день апитерапии

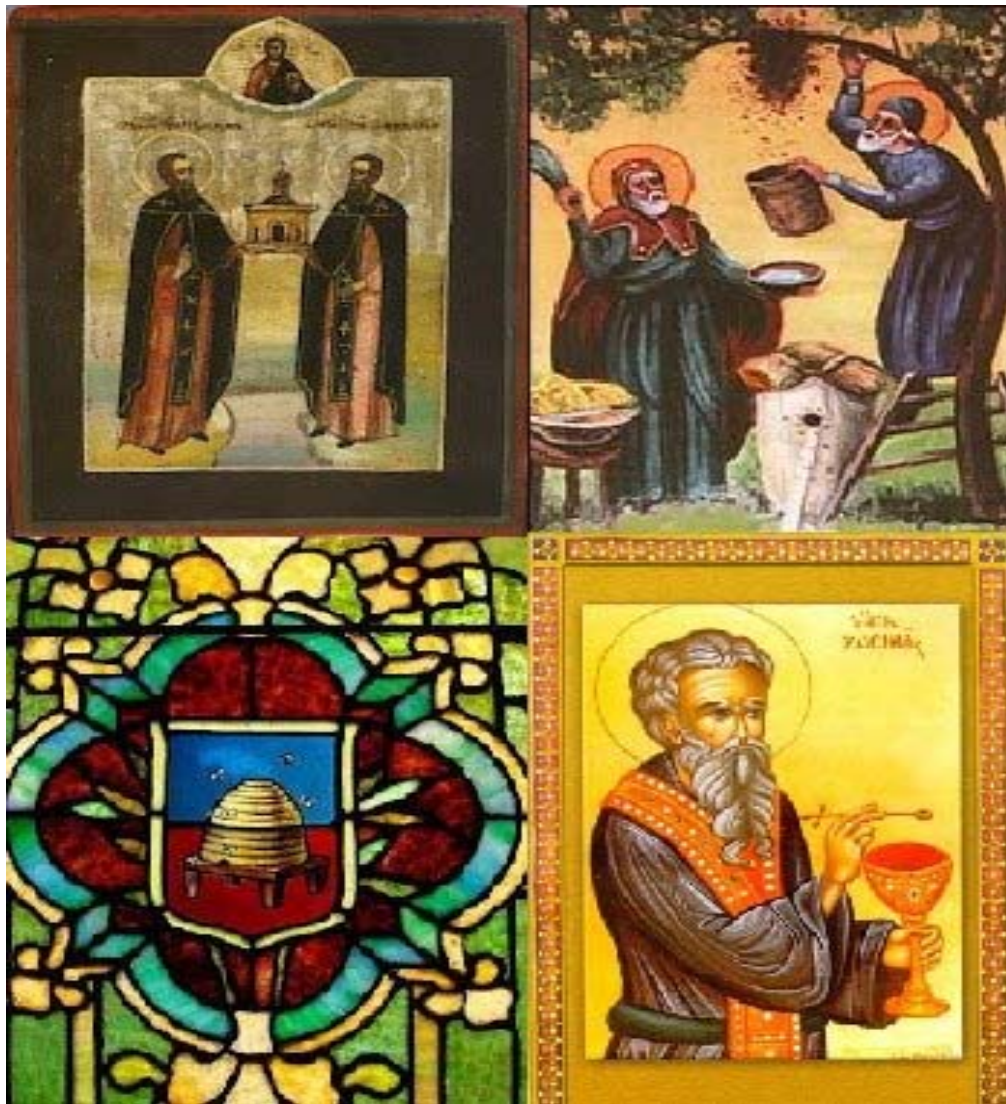
Journée mondiale de l'apithérapie

March 30 was the annual celebration of "World Apitherapy Day," an event designed to enhance international understanding of the therapeutic use and health benefits of bee products.

Apitherapy is the use of bee hive products such as honey, propolis, bee-collected pollen, beeswax, drone larvae extract, bee venom, and royal jelly to maintain good health and in the treatment of a variety of medical conditions.

(Propolis is a resinous substance collected by bees from plants and trees and is used to coat the inside of the beehive and the honeycomb cells with an antiseptic layer. Royal jelly is a substance produced by young worker bees and fed to queens.

March 30 was chosen for World Apitherapy Day because it is the birth date of Dr. Philipp Terc (formerly Filip Tertsch), the first scientific researcher to investigate the medical uses of 'apitoxin,' or bee venom. Terc was born on March 30, 1844, in Praporiste, Bohemia (Czech Republic).



Saints Zosima and Savvatiy - patrons and protectors of bees, and beekeeping. Bottom right is Saint Zosima.

Saint Zosima and Saint Savvatiy: patrons and protectors of bees and beekeeping - commemorated on April 17. Saints Zosima and Savvatiy are honored saints among members of the Russian Orthodox Church, especially in the northern regions of Russia. They are regarded as saints and miracle workers. Many miracles were witnessed when people prayed to them. People even call Saint Zosima "beehives." People also resort to the saint in diseases. A lot of hospital temples are dedicated to him, testifying to the great healing power of prayers by St Zosima of God.

Honey Spice Drizzle Cake

(Lesley Cunnane's prize winning cake recipe) from Stratford-upon-Avon & District BKA November 2010 Newsletter, Courtesy of eBees

Ingredients

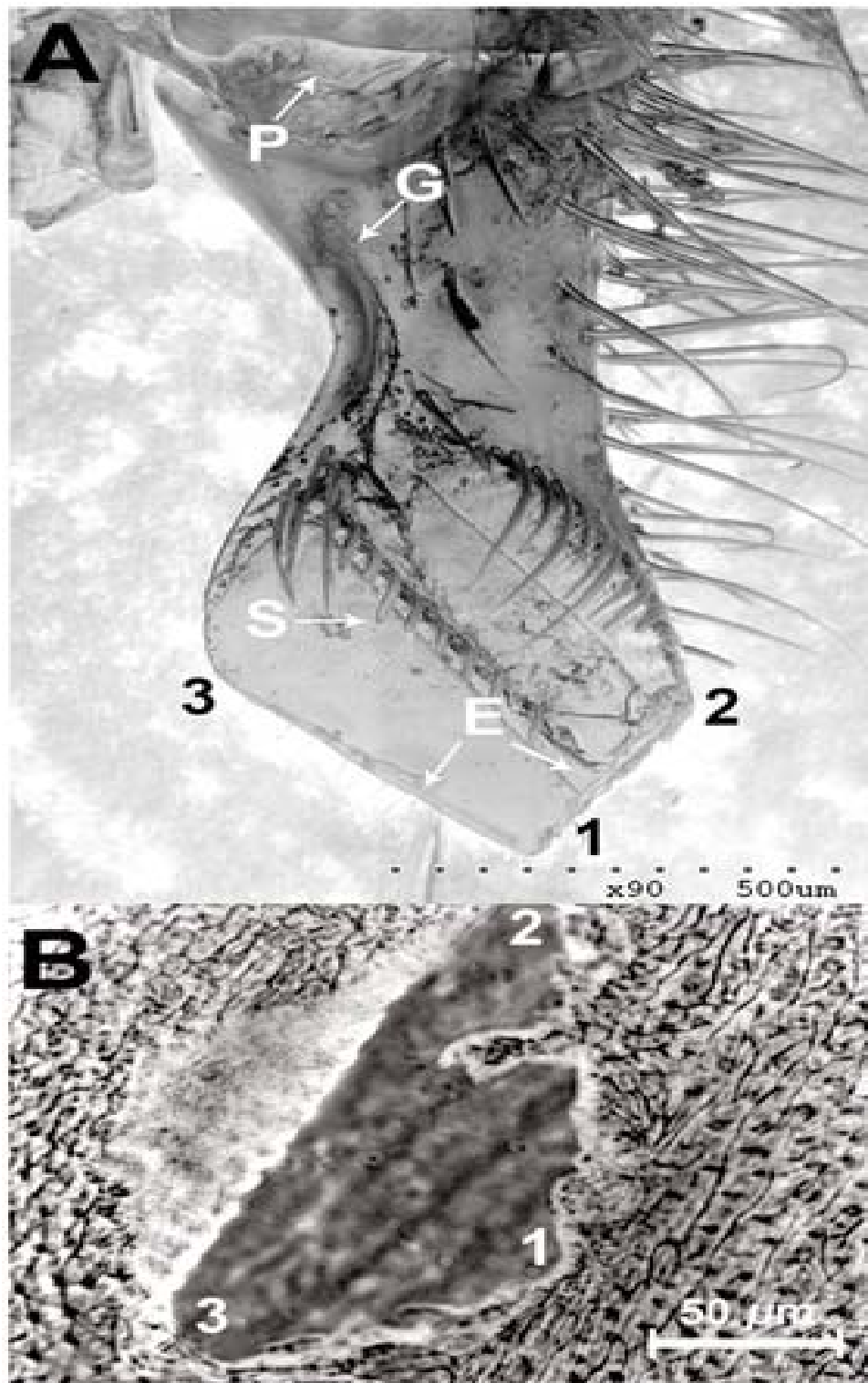
250g clear honey 225g butter 100g soft brown sugar 3 large eggs – lightly beaten 300g self-raising flour 3 teaspoons mixed spice

Topping

2oz icing sugar 1 tablespoon clear honey Hot water – 2 to 3 teaspoons

Method

1. Cut butter into small pieces and put into a saucepan with the honey and sugar. Melt over a low heat and then boil gently for one minute. Remove from the heat and cool for 20 mins so that the eggs don't cook when added to the mixture.
2. Add the beaten eggs and beat until mixed.
3. Add the flour and spice and mix well. Put in 7-inch greased and lined cake tin and bake for 50 minutes to one hour at 160°C until a skewer comes out clean.
4. Cool slightly in the tin before turning out onto a wire rack.
5. While the cake is still warm mix the topping/icing ingredients together and drizzle over the cake



When honey bees bite, they can release a chemical, 2-heptanone, in which show potential for developing a new local anesthetic with medicinal uses.

Image from:

Papachristoforou A, Kagiava A, Papaefthimiou C, Termentzi A, Fokialakis N, et al. (2012) The Bite of the Honeybee: 2-Heptanone Secreted from Honeybee Mandibles during a Bite Acts as a Local Anesthetic in Insects and Mammals. PLoS ONE 7(10): e47432. doi:10.1371/journal.pone.0047432

Image info:

Figure 2. The honeybee mandible and the result of biting wax moth larvae.

a) SEM scan of a honeybee mandible. P, the pore from which 2-H is secreted; G, groove; S, spikes; E, edges.

b) the opening created in a wax moth larvae exoskeleton after a honeybee bite. 1, 2, and 3 are parts of the mandible that

penetrate the corresponding points on the wax moth larvae exoskeleton.

doi:10.1371/journal.pone.0047432.g002

How many of the new beekeepers have heard of Bee Boles The shelters made for simple made skeps range from purpose built brick / stone structures to holes created when building dry stone walls. I think the nearest one to us is in Slaidburn. There are over 1500 registered in the country. To find the them and see the different types of construction copy and paste the link into Google:

ibra.beeboles.org.uk/search_choose.php

Here are a few to tempt you

The first one is in Slaidburn, Clitheroe



With thanks to Steve Ganner

Learn to read how your queen is performing

There are times when a queen bee is failing in some way that it becomes necessary to perform the unpleasant task of killing her. There is very simple test that you can do on her dead body in a few seconds that will provide you with some valuable information. The technique is easy and can be performed on the spot with bare hands or if you prefer, take her home and do it.

When the queen is mated (by 10-20 drones) the sperm is stored for her lifetime in an organ called the spermatheca. By removing and examining the small, liquid filled sphere, you should be able to tell how much sperm was available to the queen at the time of her death.

WHY should you bother?

Well, if a colony is not building up as quickly as those nearby, you can confirm or deny your suspicions about her. You will educate yourself over time as to the appearance of the brood pattern and so make more accurate assessments about how well the queen is performing. However, bear in mind, it is not always just about the queen's laying ability. There are other factors such as the size of the colony, diseases, Varroa levels, differences in the amount of drawn out comb or foundation etc.

HOW?

First, squeeze the Queens head to kill her.

Tease away the last 2 segments of her abdomen with finger and thumb (use tweezers if you're clumsy)

Place the dead queen in container to dispose of later

WHAT ARE YOU LEFT WITH?

In the gunge between your finger and thumb will be the intestine, a clear poison sac, and the spermatheca. The spermatheca is white and spherical in shape, measuring only 1 mm diameter. It has a rough (trachea) net surrounding it, but by gently rubbing between finger and thumb, this net will break away leaving you with just the spermatheca.

The spermatheca of a well mated queen with lots of sperm is a tan and opaque colour.

In the virgin queen, it is crystal clear with a pattern of marbled swirls.

A queen with very little semen remaining will have a cloudy or milky whitish spermatheca. This could be because she has used up all her stores or that she didn't get mated enough times in the first place.

SO WHAT NOW?

Once you have determined which of the above applies, take a look at the colony and the brood laying pattern. By linking the state of the spermatheca with the brood pattern, you will eventually learn to spot any abnormal pattern and make a decision on whether or not to re-queen.

Pssst! Wanna see a Wasp Trap?

By Roger Barker, October 2010 issue of The Essex Beekeeper, Courtesy of eBees

The secret of Roger Barker's wasp trapping success: *"two wine bottles, one third filled with a mixture of blackcurrant and orange juice."*



(Ed's note: my own traps attracted a lot of hornets last year. To see what hornets can do to your bees, please watch this video on YouTube: <http://www.youtube.com/watch?v=ugH7YnaVvtw&feature=related>)

Intelligence, Sleep And Memory – *Beelogistics*

Taken from the October 2010 issue of Bee master, Nottinghamshire BKA's Newsletter, Courtesy of eBees

Intelligence

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The Many Uses of a Snelgrove Board

Strategic considerations and some innovative uses

By Wally Shaw, from the Summer 2010 issue of The Welsh Beekeeper, Courtesy of eBees

Introduction

The previous parts of this series of articles have described the main ways that a Snelgrove board can be deployed in colony management. Some of the uses are determined by the beekeeper having a definite objective in mind, the most common example being the raising of a new queen for a colony because the existing one is nearing the end of her useful life. Another related objective is to change the strain of a colony with undesirable characteristics by making it raise a new queen using eggs or young larvae from a more desirable stock. By using a Snelgrove board this latter operation can be accomplished almost seamlessly, keeping the existing queen in her job until her replacement is up and running, so that little honey production is lost. A Snelgrove board can also be used as a means of small-scale queen raising; isolating part of the brood from the queen thereby causing the split to make emergency queen cells and using frames with cells on them to „seed“ nucs that have been populated by bees (surrogate carers) from another hive.

However, the mainstream use of a Snelgrove board is for either swarm prevention (Method I – used to split colonies pre-emptively before swarm cells are produced) or swarm control (conventional artificial swarming or Method II – used when queen cells are present in a colony). The main objective of beekeeping (for most people) is to produce an optimum crop of honey from their hives. The way in which the swarming behaviour is managed is the main determinant of honey production that is under the control of the beekeeper – things like weather are not.

Swarm Control and Honey Production

Virtually all swarm control methods involve some loss of honey production but this must be weighed against the loss that occurs if a colony is just allowed to swarm, when the prime swarm makes good its escape and so do any cast swarms. If this entirely natural sequence of events is allowed to proceed unchecked, most of the honey production will be lost. The following management options are listed in order of their increasing impact on honey production.

No swarm control – the colony goes the whole way through the season without attempting to swarm. This is the option most likely to realise the maximum honey production potential of the hive. The likelihood of a colony not attempting to swarm during the season is greatly increased by good comb management; ensuring the queen always has room to lay and there is plenty of space for the storage of honey.

Pre-emptive swarm control – splitting the colony before any queen cells are produced (eg. Snelgrove's Method I, described in Part 2) comes next. If this operation is carefully timed in relation to anticipated nectar flows and the **quantitative balance of the split is nicely adjusted***, there will be little loss honey production. There can even be a slight increase if the split is made early in the season and results in two fully-functioning colonies by the time of the main flow. Pre-emptive splitting is certainly a good option for bees that are to be taken to the heather or have access to some other late nectar flow. Uniting the splits can be used to produce a large colony with lots of brood and headed by a young queen in anticipation of the flow.

Reactive swarm control – doing no swarm control until queen cells are produced and then applying some method of artificial swarming (see Part 3 of the series). The two colonies produced by an artificial swarm will inevitably produce less honey than two colonies produced by a pre-emptive split but the **'wait and see what happens'** or „sitting on the fence“ strategy does allow the beekeeper to get maximum production from those hives that actually go through the whole season without attempting to swarm. This strategy, using reactive swarm control as and when required, is basically gambling on the chance of a colony not attempting to swarm at any time during the season. Like all gambling, you win some and you lose some, but this is not entirely a game of chance. Experienced beekeepers have some idea how likely their colonies are to swarm and there are warning signs in the colonies themselves if you are looking carefully. The only thing the beekeeper cannot control is the weather and, in western Britain, this is a major factor in the initiation of swarming.

Waiting until swarms emerge – hoping to catch and hive them before they disappear into the wild blue yonder. This is a chancy strategy, requiring great vigilance but can be enhanced by the use of catch or bait hives which hopefully attract swarms to hive themselves. If things are not to go from bad to worse, the beekeeper still has to determine which colony has produced the swarm, open the hive and destroy all but one queen cell, if cast swarming is to be avoided.

Doing nothing at all – apart from adding enough supers and hoping for the best. If the colony does not swarm a good crop of honey will be produced. If it does swarm and then cast swarms, there is little hope of any honey surplus.

Which Strategy is Best?

You are not catching me on that one! If I really knew the answer I would be much too clever and important to be writing articles for you lot. Seriously though, it is a choice (a balancing act) between (a) no swarm control but good comb management, (b) pre-emptive swarm control by splitting colonies, and, (c) re-active swarm control. All three strategies have a place in the beekeeper's management repertoire.

I still have plenty to learn about this aspect of beekeeping and I will let you know when I have any firm conclusion – if ever!

*Just to explain what I mean by the phrase the „quantitative balance of the split is nicely adjusted“. When a colony is split to prevent initiation of the swarming process you are attempting to revert the existing brood nest to a less mature state. You are doing this by the removal of brood and nurse bees. The existing brood nest (still with the queen in place) now, not only has more room for her to lay, but fewer nurse bees to look after the brood. The result is a brood nest in a state of development similar to that which existed earlier in the season when the colony was still building. The question is how much brood and nurse bee removal is enough to prevent the colony from attempting to swarm for the rest of the season? I do not know the answer and that is where your skill and judgment as a beekeeper comes in.

With some colonies the removal of 2-3 frames of brood and bees will be enough whilst other colonies may need the removal of a whole box – and, in some cases, even that may not be enough. The only rule I can give you is, that if you are going to put the removed frames on a Snelgrove board, it has to be a viable number and I would suggest that about 6 deep frames or 8-9 shallow frames is about right. Because by using a Snelgrove board you have warmth coming up from the colony below, you could probably get away with fewer frames but it is best to err on the safe side. Defence may be the critical issue for the split and it is good practice to adjust the degree of opening of the door on the Snelgrove board accordingly. With a small split quite a small opening will suffice until more bees have emerged from the brood and the new colony has got its act together.

The Many Uses of a Snelgrove Board, continued

Difference between a Natural Swarm and an Artificial Swarm

Most beekeepers think that natural and artificial swarms are the same thing – they both consist of flying bees don't they? – but this perception could hardly be further from the truth.

An artificial swarm – by the way it is created by the beekeeper's manipulation, contains virtually all of the experienced flying bees (the foragers) from the original colony. However, it only contains a few younger nurse bees; those that were transferred with (and hatch out from) the single frame of brood and bees that it is usual to transfer to the box containing the artificial swarm.

A natural swarm – contrary to popular opinion, a natural swarm contains relatively few dedicated foragers (the oldest bees in a colony) but is rich in younger bees, many of which have little or no previous experience of flying. Studies have shown that up to 70% of worker bees under 10 days old depart with the prime swarm.

If you watch a hive in the process of swarming you can see some of this happening. Incoming foragers, ignoring the mayhem that surrounds them, can be seen struggling to get back into the hive against the flow of bees. Similarly, if you look at the newly settled swarm, you will usually see a few foragers with loads of pollen on their hind legs but a few minutes later they will have disappeared – presumably they realize they have no business there and have returned home.

The process by which the colony splits during the formation of a natural swarm – which bees go and which bees stay - is not understood. Presumably it is an instinctive, age-related response to the triggering buzz that runs across the comb faces executed by the bees organizing the swarming process (whoever they are). Some bees are recruited to the swarm and others hold back and provide the garrison for the home colony. The way a colony splits during a cast swarm may be even more complex but, again, virtually nothing is known about this.

When one thinks about the age composition of a natural swarm it makes perfect sense. What use are older bees to a swarm? A foraging bee has probably got only a few days more to live and what the swarm needs is bees that will survive a minimum of 3 weeks (and more typically 4 weeks) until there can be any new recruits. When the swarm settles in its new home it has to re-deploy its labour force to do the most urgent tasks that face it; into wax makers/comb builders and foragers, the latter to keep the wax makers well supplied with nectar. As soon as there is comb available and the queen starts to lay again some nurse bees will have to come on duty.

What does all this matter to the practical beekeeper? Well, I would have thought you had worked that out by now! An artificial swarm and a natural swarm behave very differently. The artificial swarm is slow to recover and start to rebuild its numbers – presumably because of the initial shortage of nurse bees. It is also not prepared for large scale wax production and comb building and will be quite reluctant to draw any foundation with which it is presented. By contrast, a natural swarm is all get-up-and-go and full of vigour. It wants to get a set of combs built as soon as possible. It wants to get the queen into lay quickly and it wants to start accumulating stores for the oncoming winter. The very process of swarming may have an invigorating (stimulative) effect on the bees.

Because an artificial swarm is what it says on the can – „artificial“ – the bees have not evolved any instinctive behaviour to deal with this entirely unnatural situation in which you (the beekeeper) have placed them. It is no wonder that initially they struggle but there is not much the beekeeper can do to help. Although we casually say that an artificial swarm „thinks that it has swarmed“, I very much doubt this is the case. There are some bees (not all of them) in that artificial swarm that were triggered to organise a swarm and you have frustrated them. Despite the manipulation to which they have been subjected, they often retain the urge to swarm and will do just that given the slightest opportunity.

So it is no good introducing some nurse bees into the artificial swarm to help it recover more quickly because that will probably upset the delicate balance that exists during the early days. The safest option is to leave them to recover in their own time.

When one compares the comparative lethargy of an artificial swarm with a natural swarm it leads one to think that the old-time practice of beekeepers, assiduously collecting swarms and installing them in their skeps, had something to be said in its favour. Just a thought!

Two Innovative Ways of Using a Snelgrove Board

These are just a couple of things we have tried recently; they are not in the books but they seem to work.

Putting the Queen in Purdah

If you are beekeeping in an area where there is no late nectar flow, by the last week in June the queen will have laid the last eggs that are going to produce bees that will contribute to collecting the honey crop. Most annoyingly, this is the moment at which some colonies will decide to swarm and you find the start of queen cells in the hive. What do you do about this? If you do an artificial swarm you will end up with two colonies that will not really be up to the job of producing much honey.

Providing you catch the process in its early stage, one solution is to find and remove the queen. In the past we have taken the queen plus a couple of frames of brood and bees and put them in a nuc – and it worked. Recently, instead of using a nuc, we have put her into the half-brood and placed that at the top of the hive on a Snelgrove board. We have then used door changing to divert surplus bees back into the (honey collecting) colony below. The main colony (now without a queen) will of course make emergency queen cells but will continue to function reasonably well during honey flow – and certainly much better than if it were split or allowed to swarm. When the honey crop has been taken and if the main colony has successfully raised a new queen, a range of options are open. You can unite the colonies, choosing either the new or the old queen, or you can remove the colony on the Snelgrove board and give it its independence (use it to make increase). If you are going on holiday in July and suspect a colony may attempt to swarm during the time you are away, you can deploy the same manipulation pre-emptively. This will ensure the colony does not swarm and probably cast swarm in your absence.

What to do with a July Swarm

This is the swarm that „isn't worth a fly“ as the old saying goes. Basically this is a disaster for the honey crop, as neither the swarm nor the parent colony will make much honey on the main flow. Out of the blue (meaning we weren't looking properly) one of our colonies swarmed in early July. Instead of hiving it as an independent colony in the normal way, we chucked it into a box of comb on a Snelgrove board on top of the colony whence it came. A few days later, when it had settled down (which it did, slightly to our surprise), we did a door change to divert bees back into the parent colony below. As most of the bees were active fliers, a substantial number of bees were bled down by this manipulation but enough remained to support the old queen. If there had been a main flow (this was the summer of 2009 don't forget) this colony would have been able to collect quite a good crop. As it happened, the parent colony (at the bottom) did not succeed in raising a new queen so the old queen was returned to them after the honey had been taken. On the basis of one trial this method seemed to work and we will use it again if the opportunity arises – which it will no doubt.

What I have tried to demonstrate by these last two examples of the use of a Snelgrove board is what a flexible tool it can be for the beekeeper who is prepared to try something new. The only problem is that, when obtained from equipment suppliers, Snelgrove boards tend to be quite expensive. This is why plans for making your own boards accompany this last part of the series*. There is nothing really complex about their construction – no fancy joints – just a bit of accurate measurement and cutting and it's just a bit fiddly. Why not band together as a group of beekeepers or an association and make a batch of Snelgrove boards?

(Wally Shaw is a member of Anglesey BKA)

West Kalimantan (Borneo) forests contain *Apis dorsata*, *Apis florea*, *Apis andreniformis*, *Apis cerana* and a variety of stingless bees. These bees are important pollinators and sources of honey and wax for indigenous people. But West Kalimantan forests are being destroyed. Tapang, is the Iban word for 'bee tree'. Without the trees, there will not be bees. "We don't ask more, but we don't want less. Stay away from our forest!" - Apai Janggut, Elder of Dayak Ibanic of Sui Utik, West Kalimantan.

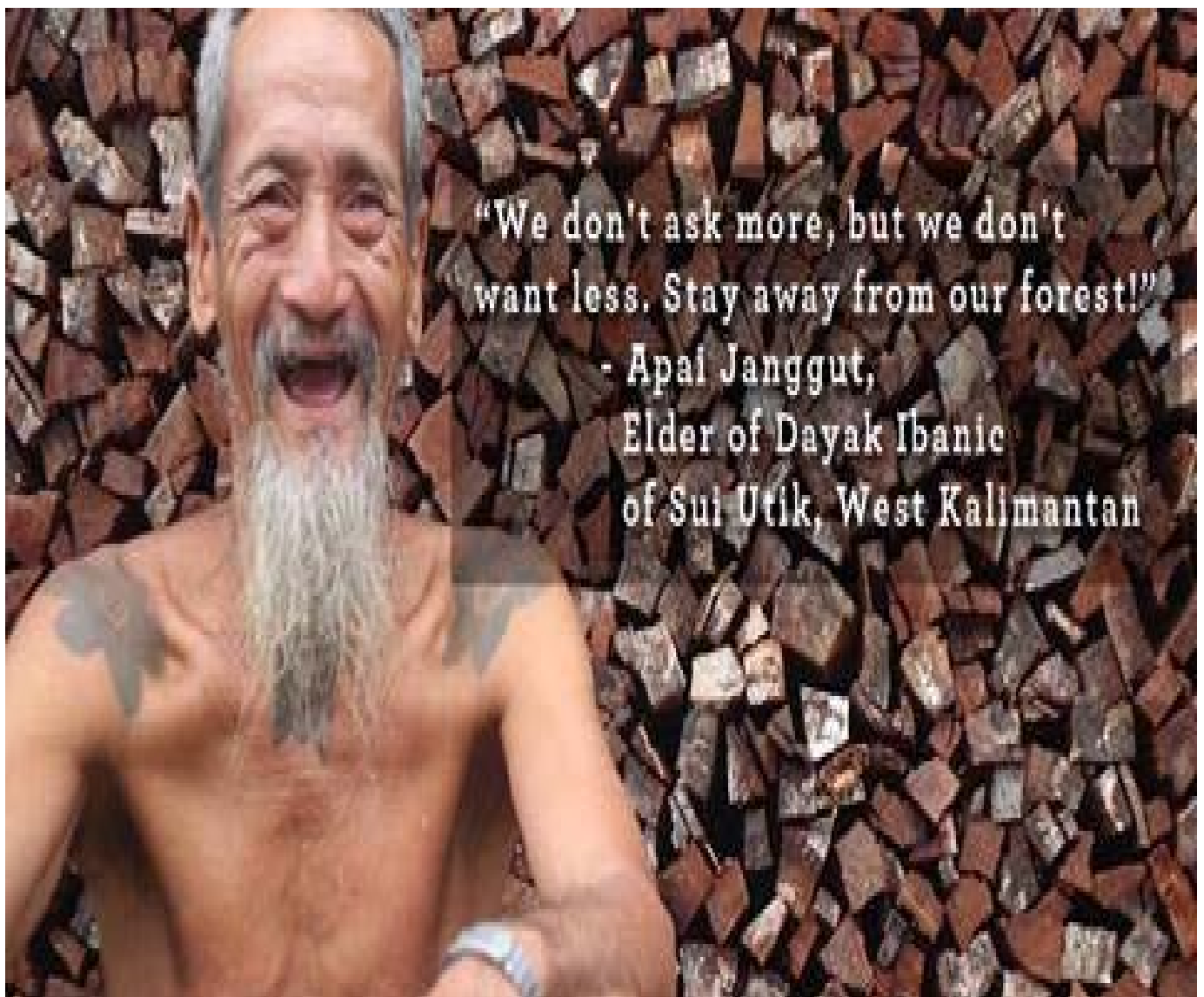
Image and quote from First People Worldwide <https://www.facebook.com/firstpeoplesworldwide>

A 25 acre plot of rainforest in Borneo can contain more than 700 species of trees (equal to all of that in North America). Trees and species are disappearing due to illegal logging and expansion for commercial palm oil plantations. Watch this video here:

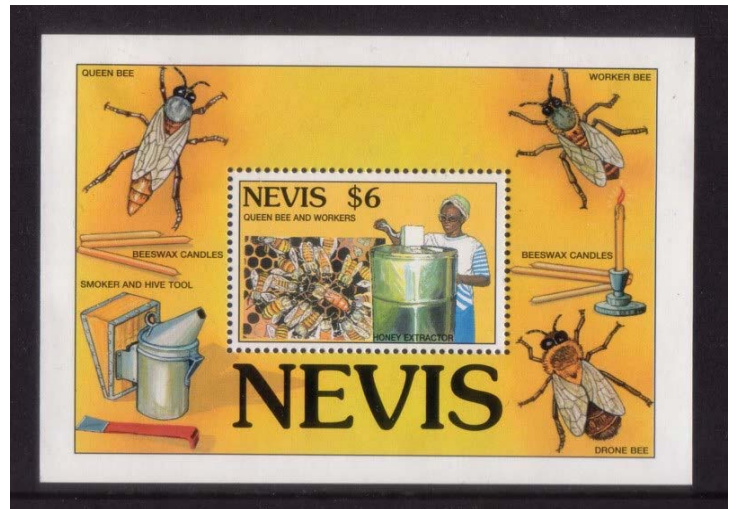
<http://www.youtube.com/watch?v=V7c0h23pHR8>

In this video (link below) Pak Janggut - Dayak Iban Tribe Leader - narrates about his people way of live. He tells us about their way in agriculture and how their forest support their lives.

http://www.dailymotion.com/video/x4pmvz_sui-utik-the-wisdom-from-the-hearth_people



Some Bee Stamps from around the world



Here we go again!

From the December 2010 issue of West Cornwall BKA's Newsletter, An Hes, Courtesy of eBees
Pesticide Already Illegal in Germany, Italy & France Based on Scientific Findings

Beekeepers and environmentalists today called on EPA to remove a pesticide linked to Colony Collapse Disorder (CCD), **citing a leaked EPA memo that discloses a critically flawed scientific support study**. The November 2nd memo identifies a core study underpinning the registration of the insecticide clothianidin as unsound after EPA quietly re-evaluated the pesticide just as it was getting ready to allow a further expansion of its use. Bayer's field study was the contingency on which clothianidin's conditional registration was granted in 2003. The groups are calling for an immediate stop-use order on the pesticide while the science is redone in partnership with practicing beekeepers. They claim that the initial field study guidelines, which the Bayer study failed to satisfy, were insufficiently rigorous to test whether or not clothianidin contributes to CCD in a real-world scenario: the field test evaluated the wrong crop, over an insufficient time period and with inadequate controls.

According to James Frazier, Ph.D., professor of entomology at Penn State, "Among the neonicotinoids, clothianidin is among those most toxic for honey bees, and this combined with its systemic movement in plants has produced a troubling mix of scientific results pointing to its potential risk for honey bees through current agricultural practices. Our own research indicates that systemic pesticides occur in pollen and nectar in much greater quantities than has been previously thought, and that interactions among pesticides occurs often and should be of wide concern."

With a soil half-life of up to 19 years in heavy soils, and over a year in the lightest of soils, commercial beekeepers are concerned that even an immediate stop-use of clothianidin will not save their livelihoods or hives in time.

SAN FRANCISCO and WASHINGTON, Dec. 8, 2010 /PRNewswire-USNewswire/

(Despite concerns in other countries, clothianidin is still used in the UK in approved products applied to cereals, oilseed rape (OSR), and sweetcorn. Hopefully the data provided by Bayer to the "Crop Protection Agency" was accurate and useful. Matt)

Also see: <http://www.wired.com/wiredscience/2010/12/epa-clothianidin-controversy/>

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### Check it out

The above type of article might make you scratch your head and wonder what's going on with the science. I'm currently reading a book titled "Bad Science" by Ben Goldacre and I came across this link to a **free** book download from the James Lind Library. The book is called "Testing Treatments" and it gives some insight into how scientific results can be distorted to suit the interests of those paying for the tests. Download it from here and see for yourself: <http://www.jameslindlibrary.org/>

## And Finally

### The Bizarre History of the Vibrator: From Cleopatra's Angry Bees to Steam-Powered Dildos

Did you know that the first vibrator in history may have been invented by Egyptian Queen Cleopatra? Apparently, she had the idea of filling a hollow *gourd* with *angry bees*. The violent buzzing caused the gourd to vibrate and then... well, then, the rest is history

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