



# LUNE VALLEY COMMUNITY BEEKEEPERS NEWSLETTER SEPTEMBER 2018

## Club News

### New Trustee

We are delighted to welcome Professor Chris Carr to our Board of Trustees. Chris is a former Vice Chancellor of the University of Cumbria, a member of the Club and has been keeping bees for a number of years.

### New Members

Welcome also to new member, Debbie Eala-Rose.

### Research projects

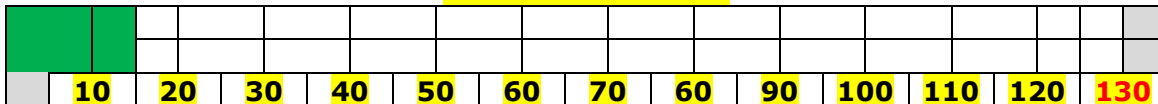
A number of research projects to study the various impacts of pollinator patches are currently being planned with the Environment Centre of Lancaster University. Led by Professor Kenneth Wilson, assisted by Dr Philip Donkersley and two students about to enter their third year, Eleanor and Alexis, the projects started in mid-August. We may learn some of their findings when Philip speaks to us in February 2019.



L to R:  
Ken, Philip, Eleanor, Alexis

### Apiary Appeal

#### APPEAL PROGRESS



Launched last month our appeal to raise funds to provide an all-weather wheelchair access surface to our apiary by asking people and organisations to sponsor a paving slab at a cost of £20 per slab, is gaining momentum. We are delighted to say that Lancaster and District Chamber of Commerce are to promote our appeal to their 500+ members during September.

### Wildflower Plugs

Transforming existing grassland into a wildflower meadow is not the easiest of tasks. Sowing wildflower seed directly into areas of vigorous grass is not always successful and much better results are usually achieved by planting plugs. But where can you buy plugs that you know have not been grown from treated seed? We may have an answer! I am currently talking to Piccadilly Garden about the possibility of them growing wildflower plugs to support community organisations wishing to create and maintain their own pollinator patches.

Piccadilly Garden has been the lead organisation for Person Centred Approaches in Lancashire for many years and is a Preferred Provider for Lancashire County Council, an accredited training centre with City and Guilds and have many years' experience of all horticultural activities.

## Next meeting



Our next meeting will take place on Sunday, 16<sup>th</sup> September starting at 10-00am at the Club Apiary when we shall carry out inspections of all the colonies in preparation for the winter. **All members are welcome. If you would like to come but do not have a bee suit, please let me know and I shall arrange a suit for you, but do not forget to bring your own wellies!** The task should be completed by around 2-00pm.

## Volunteers for an Apiary Working Party

Our apiary meadow now needs to be cut and the cuttings cleared away. If you have a strimmer or are prepared to do some weeding and can donate a few hours, we would love to see you at the Apiary on Sunday, 16<sup>th</sup> September from 2-00pm onwards. **You are very welcome to attend both if you wish!**

## Nazareth House as it originally looked!

We all know what Nazareth House and the surrounding woodland and gardens look like now, but it did not always look that way as this old photograph shows.



Nazareth House was opened in 1902 to provide accommodation for orphans and destitute children. The children taken in were primarily girls, although a few young boys and elderly poor were also accommodated. It became a nursing home sometime in the 1960s.

## Winter losses 2017/18

REGION	PERCENTAGE LOSS	
	2017/18	2016/17
Northern	22.9	15.1
Western	27.7	13.5
North East	18.8	23.0
East	24.4	9.7
South West	21.7	12.5
Southern	35.4	10.8
South East	24.0	14.0

In 2017/18, every English region except the North East suffered a significant increase in the winter colony losses over the previous year.

Statistics from the BBKA winter loss survey.

## It has been a strange year!

Whilst every year is different from a beekeeping perspective, this year has been more different than most!

It started with winter losses being much higher than the previous year with no obvious reasons why. At the Club apiary we lost the colonies in two WBCs and the Warré, all of which had ample stores, whilst the four colonies in long hives came through strongly. Apart from the obvious difference of long hives and vertical hives, the only other discernible difference is that all the long hives incorporate significant levels of insulation. I experienced a similar situation in my home apiary where I still had some active vertical hives. My out apiary only has well insulated long hives and all the colonies came through the winter strongly.



Whilst the Spring was a bit late and brought mixed weather, it did not seem particularly different and there was plenty of blossom and dandelions. However, I did notice a distinct shortage of swarms, a feature reported by numerous other clubs up and down the country. This was in complete contrast to the various bumble bee species which, judging by the number of calls I received, were making a concerted mass effort to invade every human home!



We then had one of the hottest summers this century which started off with lots of forage which quickly got burnt dry. The lack of rain meant that after the farmers had taken off their first grass cutting, there was no immediate second growth. Now, just when the Himalayan Balsam is in full flow, heavy rain is preventing the bees from foraging!

Still, there is always next year to look forward to!

## Preparing for winter

Who knows what the weather is going to be like this month? The last two months have certainly been very untypical. No matter how it turns out, this is the month when you should prepare your colonies for the winter. Have they got sufficient stores to see them through the winter? If in doubt, provide them with a syrup feed. Whilst you may wish to restrict the hive entrance and install a mouse guard, does the hive still have sufficient ventilation? Are your hives waterproof? Bees can survive the cold but rarely damp. Finally, are your hives securely fastened down? The traditional brick on the roof may have sufficed in the past, but some of the recent winter storms have produced some remarkably strong gusts! Straps are a much better solution.



# New Beekeepers' Checklist

If you are actively planning to take up beekeeping next season, now is an excellent time to start planning. This checklist should help your planning process and give you an indication of how to prioritise your decision making.

## 1. What type of beekeeper do you want to be?

Hobbyist beekeepers tend to fall into one of two camps, conventional or alternative/natural. Conventional beekeepers favour an interventionist approach and are usually interested in honey production. Alternative beekeepers favour a minimal intervention approach and are mainly interested in bees and the environment. Conventional beekeeping can be very time consuming, especially during the first three months of the season, whereas alternative beekeeping requires much less time and is rarely time critical.

## 2. Where will your apiary be?

Your apiary can either be a home apiary (set in your own garden) or an out apiary (set on a site other than your garden). There are many benefits from having a home apiary, not least because you can easily observe it and can store additional equipment close by. Nevertheless, do not be put off beekeeping simply because your only option is an out apiary. Either approach to beekeeping can be adopted for home apiaries and out apiaries, although the alternative approach is less demanding in out apiaries.

## 3. What type of hive should you obtain?

Hives essentially fall into two types, vertical hives and long hives. Although all the manipulations that can be carried out in vertical hives can also be carried out in long hives, those interested in regular manipulations tend to choose vertical hives whereas alternative beekeepers generally choose long hives or Warré hives. Long hives, because of their size and insulation, are generally too heavy to be easily moved so should be sited carefully. Vertical hives are much easier to move and can be used for migratory beekeeping (moving hives from location to location in order to forage on different crops).

## 4. What equipment will I need?

Whilst the beekeeping catalogues show pages and pages of intriguing equipment, the only kit you will actually need in your first year is a hive, a bee suit, a hive tool and a smoker. Anything else can be obtained as a need is identified. The garages and garden sheds of long established beekeepers are frequently stuffed full of unused beekeeping equipment!

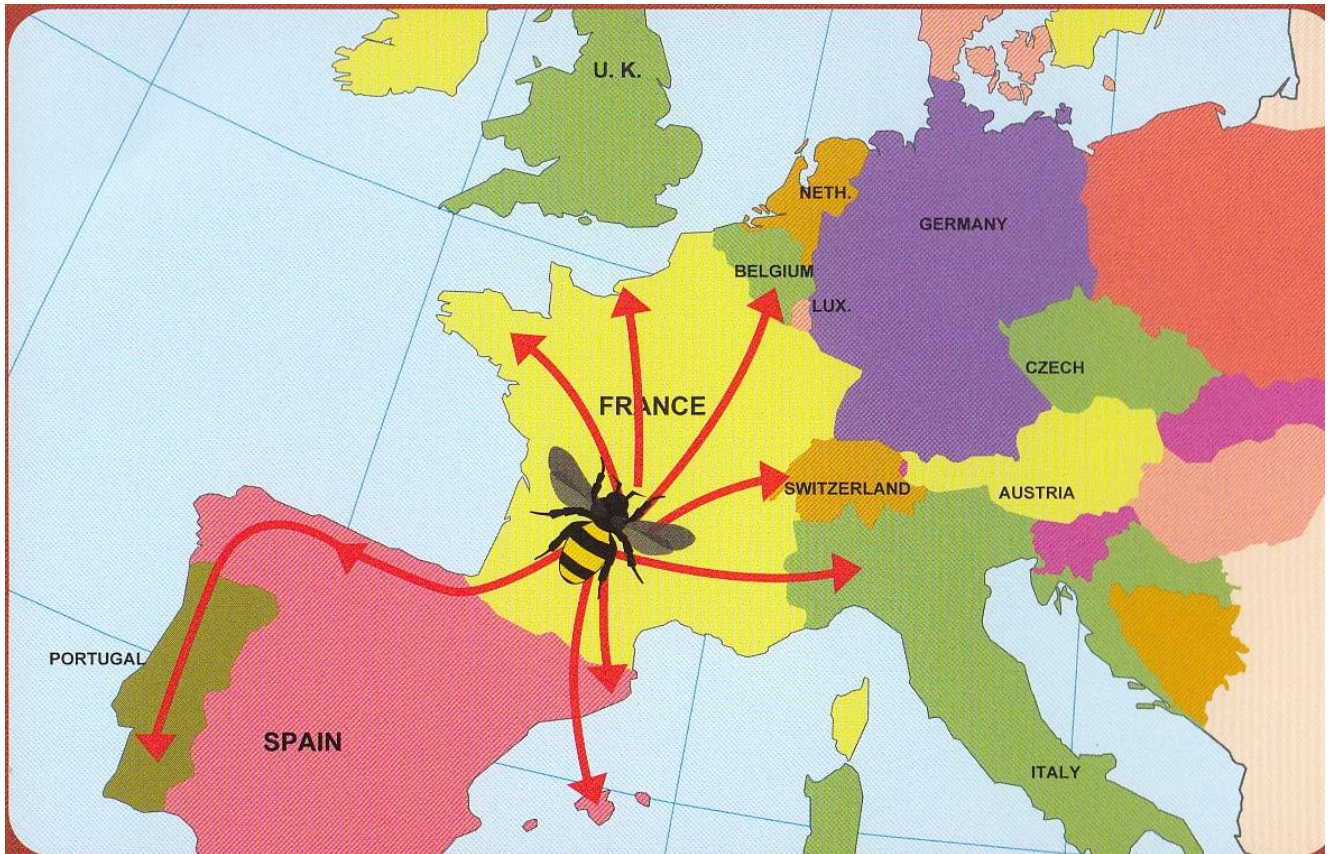
## 5. Where can I obtain bees?

The easiest and cheapest way to get your first bees is to obtain a swarm, especially one from a known source but there is no guarantee one will become available. There have been very few swarms this year in our area. The next best approach is to buy either a nucleus or a package of bees, suitable for your area, from a reputable breeder. **We can recommend some.** If buying a nucleus, make sure that the frames it comes on match those of your hive. You will need to order early as demand usually exceeds supply.

## 6. Where can I get support if I need it?

Our club will readily provide practical support to help you through your early years as a beekeeper and be an ongoing source of information. **Remember to join our public liability insurance scheme.** The chances of something happening are very low but the consequences if it did, could be significant.

## Spread of the Asian Hornet



Asian hornets can spread up to 60km per year. Their environmental limits are still unclear, but a northern limit through Britain and Germany is expected. They seem to prefer both warmth and moisture.

## Beekeeping Enigma

From The Apiarist, Harrogate & Ripon Bee-Keepers Association

Perusing beekeeping brochures  
Which from suppliers are sent,  
Can we manage without that new gadget?  
Can we replace equipment that's bent?

We're drawn like bees to sweet nectar,  
Good money ready to spend.  
Can it only be bargains we're after?  
Is it just keeping up with the trend?

We purchase brand new equipment,  
Better and better our yields.  
We collect such expensive belongings,  
So why do we leave them in fields?

*Stuart Ching*

## Club Meeting Programme 2018 – 2019

- Sun 16<sup>th</sup> Sept**      **Preparing for winter**      **Club Apiary, 10-00am to 2-00pm**  
There will be a short talk on preparing colonies for winter followed by practical inspections of the colonies at the apiary.
- 29<sup>nd</sup> Sept**      **Scything course**      **Club Apiary, 10-00am to 4-30pm**  
**Tutor: Steve Tomlin**  
Steve is recognised as the leading scythe teacher in the UK and the author of the 'Learn to Scythe' book. The course will explain the parts of a scythe, how to set it up to suit you and how to maintain your scythe, followed by practical experience of scything. The course will cater for beginners and improvers. See the notice for more information.
- Wed 10<sup>th</sup> Oct**      **Speaker meeting**      **Scarthwaite Hotel, 7-30pm**  
**Topic: Keeping bees in long hives**      **Speaker: John Vandy**  
John took up beekeeping in 2009 and since then has become a regarded expert in natural beekeeping. He was a speaker at the "National Natural Beekeeping unConference" in 2013, the "Northern Natural Beekeeper's Gathering" in 2014, 2015 and 2016 and has occasionally worked alongside Phil Chandler (The Barefoot Beekeeper) during his training courses at Brinscall Hall.
- Wed 14<sup>th</sup> Nov**      **Speaker meeting**      **Scarthwaite Hotel, 7-30pm**  
**Topic: Gardening for Bees**      **Speaker: Dr Julia Piggot**  
In addition to being our Seasonal Bee Inspector, Julia runs the Brigsteer Bee Reserve, a private wildlife reserve in the Lyth Valley, Cumbria. The 17.5 acre reserve is made up of limestone pasture, meadow and woods. The woodland is planted with trees used by bees for nectar, honeydew and resin for propolis and the grassland is managed to favour a flower rich flora and to provide nest sites for bumble bees and solitary bees.
- 2019**
- Wed 9<sup>th</sup> Jan**      **Social Evening**      **Scarthwaite Hotel, 7-30pm**  
Wine and cheese evening. We shall also be showing *More than Honey*, a documentary film made in 2013 by the Swiss filmmaker Marcus Imhoof, which looks into the fascinating world of bees, and showing small family beekeepers and industrialised honey farms. *More than Honey* is a film on the relationship between mankind and honey bees, about nature and about our future.
- Wed 13<sup>th</sup> Feb**      **Speaker meeting**      **Scarthwaite Hotel, 7-30pm**  
**Topic: Trees for Bees**      **Speaker Dr Phillip Donkersley**  
Phillip achieved his doctorate from Lancaster University three years ago after carrying out his research in the hives of local beekeepers! He is now a post-doctoral research assistant at the University and has published a number of academic papers on bees. His talk will outline some of his research findings and may even contain some data gained from the research project started at the meadow at our club apiary.



## How much pollen do bees need and how many flowers should we grow?



There is lots of advice on what gardeners can do to help bees and other pollinators, most of it focused on what sort of plants we should be growing. Or, to put it another way, on the quality of the resources that gardens provide for pollinators. But, as more than one bee must have thought, confronted by yet another postmodern wasteland of bamboos, tree ferns and tastefully arranged rocks, never mind the quality, what about the width? It is all very well growing the right plants, but are we growing enough? And how many is enough anyway? In attempting to answer that question, let us focus on bees, nearly always the most important pollinators and the ones that depend most completely on flowers. Also let us consider pollen, rather than nectar, because although bees need both, pollen is a vital protein-rich food for raising young bees. Nectar is to some extent a renewable resource, which flowers can produce more of, but pollen is not. When a flower opens, it contains a fixed amount of pollen, and when it has gone, it is gone!

So how much pollen do bees need, and what does that mean in terms of flower numbers? Those who had the job of devising the measures targeted at pollinators in the Defra Countryside Stewardship scheme asked themselves exactly the same question, and quickly realised that a lot of educated guesswork would be needed to arrive at any kind of answer. For most bees we do not know how many colonies or nests there are per unit area of garden or countryside, or how much pollen is needed for each bee larva, and for most plants we do not know how much pollen there is per flower.

Nevertheless, a team led by Dr Lynn Dicks then from the University of Cambridge, did its best, and its deliberations were reported in a recent paper in the journal *Ecological Entomology*. Their main conclusion was that rearing bees takes an awful lot of pollen, and thus an equally large number of flowers. Earlier Swiss work had already shown that it takes the pollen from tens or even hundreds of flowers to raise a single, small, solitary bee larva. Data for British wild flowers and much larger bumblebees suggest that the Countryside Stewardship requirement of two hectares of flower-rich habitat per 100 hectares of farmland is enough, just, only if you make the most optimistic assumptions. Make more pessimistic assumptions about pollen supply and demand, and there is no way any feasible scheme could even begin to supply the quantities required. The inevitable conclusion, that intensive farmland does not even come close to supplying the needs of bees, makes sense of other research. Bigger bees need more pollen, and although it is well known that all bees have tended to decline recently, larger bees have suffered more than small ones. In the Netherlands, large bees have become measurably smaller over the past 150 years, almost certainly because smaller bees can make do with less food. Small bees have not changed in size. Dutch citizens have become 10 per cent taller over the same period, largely as a result of improved nutrition, mostly from intensive farming, so our gain is the bees' loss. The message for gardeners is simple. While growing the right flowers is important, it is at least as imperative to grow lots of them. You cannot have too many flowers, especially in March and April, when queen bumble bees are waking up and establishing new colonies. You already grow pulmonarias? Good, now please grow a lot more!

*Article excerpt from the Daily Telegraph courtesy of Ipswich & East Suffolk BKA*

## Trash the bug spray in your garden

Home owners love pristine gardens. They fight aphids and other plant pests with copious amounts of chemical concoctions. A quick spritz here, a backpack sprayer there. What consequences do such home owner treatments have? Quite a lot, it turns out. Bees living in suburban habitats are still exposed to significant levels of pesticides despite the EU ban on the use of neonicotinoid pesticides on flowering crops, new research from University of Sussex scientists shows.



While the introduction of new EU restrictions on the use of neonicotinoid chemicals five years ago has reduced exposure of bees living in farmland, the study found that overall more than half of all pollen and nectar samples collected from bee nests in Sussex, Hertfordshire and Scotland between 2013 and 2015 were contaminated. The study is the first of its kind to highlight the risk to bees in urban areas posed by garden use of pesticides.

The scientists at the University of Sussex urge gardeners and home owners to ditch their bug sprays immediately. Let natural predators such as ladybirds or lacewings handle pests, or use physical methods such as hand-removal of pests, netting or sticky traps for control.

Dr. Beth Nicholls, Postdoctoral Research Fellow in Evolution, Behaviour and Environment at the University of Sussex and the study's lead author, said: "Our findings suggest that the EU's recent decision to extend the neonicotinoid moratorium to include all field crops is likely to have a positive effect on bees, relieving some of the stress on our already struggling pollinator populations. However, given that bees in suburban gardens appear to remain at risk post-moratorium, further work is needed to understand the sources of neonicotinoid exposure in these areas and to find ways to reduce it. Our study indicates that limiting the public sale and use of neonicotinoid-based bug sprays, which are currently unaffected by the moratorium, is needed if we are to protect bee populations living in and around our towns and cities."

In 2013 the European Commission instated an EU-wide moratorium on the use of three types of neonicotinoid (thiamethoxam, clothianidin and imidacloprid) on bee-attractive flowering crops such as oilseed rape. The ban will be expanded to include all field crops from 2019. The study, with colleagues at Stirling University and Rothamsted Research, found that neonicotinoid exposure for rural bumblebees declined after the ban's implementation in 2015 but the risk to bumble bees in suburban gardens remained largely the same.

As well as bug sprays, contaminated ornamental plants sold in garden centres play a key role in spreading neonicotinoids through suburban areas. A previous study by the University of Sussex revealed that 70% of bee-friendly plants sold at a range of garden centres and plant nurseries had traces of neonicotinoids. For nectar samples collected from rural bumblebee colonies, concentrations of the pesticide thiacloprid, an active ingredient in many bug sprays sold in garden centres and not included in the EU restriction, significantly increased between 2013 and 2015, replacing the banned chemicals.

Researchers were also concerned to find bee food was often contaminated with imidacloprid, a neonicotinoid which is very rarely used against crop pests any more. Its continued presence raises concerns about the persistence of chemicals in agro-environments even after their application has stopped. The researchers believe that the continued contamination could also be due to pet flea treatments, which still often contain this chemical. The long-term treatments that keep cats and dogs tick free for six weeks often contain neonics as the active ingredient.



The study found many bee populations are still subject to pesticide levels that previous studies have shown could lead to slower colony growth and the production of fewer new queens, as well as detrimental impacts on foraging and navigation, immunity and worker mortality.

Professor Dave Goulson, professor of biology at the University of Sussex, said: "Who knows what Brexit will mean for the future of this country but one thing it desperately needs to include is the continuation of the EU's ban on neonicotinoids. Gardeners can do their bit; for there is no need for pesticides in gardens. I grow lots of fruits, vegetables and flowers in my garden without chemicals, there is just no need."

## Promote honey rather than antibiotics for coughs, doctors told



Doctors are to be told to promote honey and over-the-counter remedies as the go-to treatment for coughs rather than antibiotics.

They will be told not to offer the drugs in most cases and to instead encourage patients to use self-care products, under new draft guidance from Public Health England (PHE) and the National Institute of Health and Care Excellence (Nice). The advice is part of a growing effort to tackle the

problem of antibiotic resistance.

In most cases, acute coughs are caused by a cold or flu virus, or bronchitis, and will last for about three weeks, according to the guidance. Antibiotics make little difference to symptoms and can have side-effects, it warns. Patients are instead advised to try honey or cough medicines containing pelargonium, guaifenesin or dextromethorphan, which have been shown to have some benefit for cough symptoms, before contacting their doctor. Antibiotics may be necessary to treat coughs in patients with pre-existing conditions such as lung disease, immunosuppression or cystic fibrosis, or those at risk of further complications, the guidance states.

Dr Tessa Lewis, GP and chair of the antimicrobial prescribing guidelines group, said: "If someone has a runny nose, sore throat and cough, we would expect the cough to settle over two to three weeks and antibiotics are not needed. "People can check their symptoms on NHS Choices or NHS Direct Wales or ask their pharmacist for advice. "If the cough is getting worse rather than better, or the person feels very unwell or breathless, then they would need to contact their GP. "As many as one in five GP prescriptions for antibiotics may be inappropriate, according to research published by PHE earlier this year, and the body has warned that overuse of the drugs is threatening their long-term effectiveness.

Dr Susan Hopkins, from PHE, said: "Antibiotic resistance is a huge problem and we need to take action now to reduce antibiotic use. "Taking antibiotics when you don't need them puts you and your family at risk of developing infections which in turn cannot be easily treated. "These new guidelines will support GPs to reduce antibiotic prescriptions and we encourage patients to take their GPs advice about self-care."

## Honey Bee Pheromones Safely Repel Elephants

Results from a study conducted at Kruger park in South Africa offers promise for a safe elephant management tool in areas where people and elephants are in conflict. Elephants can cause havoc to farm land. Now an organic formulation containing honey bee pheromones has been found to safely repel elephants, offering promise for a new strategy to prevent these animals from destroying crops or causing other damage in areas where humans conflict with elephants.

A study was conducted at Greater Kruger National Park in South Africa between December 2017 and February 2018. The scientists placed a blend of alarm pheromones that bees release when they perceive danger in a specialised slow-release matrix at locations around water holes frequented by African bush elephants, *Loxodonta africana*. The researchers observed that most of the elephants that came near the formulation showed typical signs of increased alertness, signs of uncertainty, and finally calmly moved away, while those approaching control treatments were eager to investigate the foreign object in their environment. The pheromones were dispensed in white socks weighed down with rocks and hung from broken tree branches no more than a meter off the ground.



At the park's Jejane waterhole, 25 of 29 elephants that approached the pheromone-laden socks moved away after getting close enough to smell the formulation. In the same timeframe, control experiments found that all elephants ignored similar looking suspended socks that did not contain the pheromone mix, or they would approach the controls and pick them up, and even try to taste them in some cases. "Our results complement previous studies that have demonstrated that active bee hives can deter elephants from crops for example, but may be difficult to implement on a large scale. We hope to expand this work to develop additional tools for sustainable passive management of elephant movements, to augment the current approaches used," said Mark G. Wright, the lead author of the study and a professor of entomology at the Department of Plant and Environmental Protection Sciences at the University of Hawaii at Mānoa.

This study breaks new ground by showing that synthetic pheromones have the potential to safely manage a large mammal species. The need for safe elephant management strategies has become more pressing as human populations have grown in Africa and Asia, creating larger areas where elephants conflict with humans by trampling crops or causing other damage. These conflicts are often tragic. People have been trampled to death, and their crops are destroyed. And elephants deemed to be destructive often end up killed.

In this study, the scientists exploited the alarm pheromones bees release when they perceive danger and elicit other bees to defend the hive. A swarm of bees then attack and sting the mammal. Elephants hate to be stung, Wright said. The soft tissues in their eyes and inside their trunks are particularly vulnerable to painful bee stings. So, over the eons, it is believed, elephants learned to recognise the odour of alarm pheromones from honey bees, backing off when they come across them. In fact, some farmers in Africa place commercial bee hives along their fence lines to protect crops from elephants. Yet, the use of manufactured pheromones in a slow-release matrix could be far less costly, more flexible, and easier to deploy to facilitate safer co-existences between elephants and humans in habitat interface areas. Though perhaps the elephants will habituate to the alarm pheromone when no stings reinforce a negative association between the odour and the elephant's behaviour.

**Fred Ayres, Editor & Chairman, September 2018**



# Lune Valley Community Beekeepers

Charity No: 1167725

# Paving Slab Appeal Sponsorship Form

I/we wish to sponsor ..... paving slabs at a cost of £20 per paving slab.

The name(s) I/we wish to have entered on the commemorative plaque (one name per paving slab) are:

1).....

2) .....

3).....

4) .....

**Signed:**

**Date:**

**Gift Aid declaration (for tax payers only)**– past, present & future donations

Please treat my sponsorship as a Gift Aid donation. I confirm I have paid or will pay an amount of Income Tax and/or Capital Gains Tax for the current tax year (6 April to 5 April) that is at least equal to the amount of tax that all the charities and Community Amateur Sports Clubs (CASCs) that I donate to will reclaim on my gifts for the current tax year. I understand that other taxes such as VAT and Council Tax do not qualify. I understand the charity will reclaim 25p of tax on every £1 that I have given.

**Lune Valley Community Beekeepers – HMRC Charities Reference XT22947**

**Signed:**

**Address:**

**Post code:**

**Date:**





**Support our Club by  
buying a  
LVCB MUG  
Only £6.50**

## **The Lune Valley Long Hive** An innovative but simple long hive



**Only £295**

**Only obtainable from Lune  
Valley Community Beekeepers**

### **Essential features:**

- Designed by bee-centric beekeepers for bee-centric beekeepers
- Comfortably houses one colony of bees without the needs for additional supers or brood boxes
- Can be used with 14 x 12 frames (recommended), standard brood frames or top bars
- Has a removable floor tray which can act as a biological sump or a debris board for varroa counts
- Has 2" thick wooden walls which provide five times more insulation than a standard hive
- Roof space is ventilated and has space for a jumbo feeder
- Has a metal roof
- Is manufactured locally, especially for LVCB
- Is constructed from pine wood to reduce the cost but will need an external preservative
- Despite its high specification, it is economically priced whilst offering exceptional value for money.

# **Open Meetings and Courses Programme 2018**

**It would be very helpful if members could print off the following notices and put them on local notice boards.**

**Lune Valley Community Beekeepers**

# **LEARN TO SCYTHER**



**Scything course by Steve Tomlin**

**All equipment provided**

**The Apiary, Nazareth House, Ashton Road, Lancaster LA1 5AQ**

**Saturday 29th September**

**BOOKING ESSENTIAL AS PLACES ARE LIMITED TO EIGHT**

**For further information:**

**visit [www.lunevalleybeekeepers.co.uk](http://www.lunevalleybeekeepers.co.uk)**

**or email: [fred@lunevalleybeekeepers.co.uk](mailto:fred@lunevalleybeekeepers.co.uk)**





# **ALTERNATIVE BEEKEEPING FOR BEGINNERS**

**Sunday, 10<sup>th</sup> March 2019  
9-30am to 4-00pm**

**Scarthwaite Country House Hotel  
Crook O'Lune, Lancaster LA2 9HR**

**If you have ever thought of owning a colony of honey bees but have been deterred by not knowing exactly what is involved, or how much time it might take, then this course is for you! This inter-active workshop focuses on responsible, low intervention, bee-centric approaches to beekeeping and will cover all you need to know to start keeping bees.**

**Cost £40 including notes, refreshments & lunch**



**For further details or to book a place visit  
[www.lunevalleybeekeepers.co.uk](http://www.lunevalleybeekeepers.co.uk)**

**Charity No: 1167725**