



LUNE VALLEY COMMUNITY BEEKEEPERS

NEWSLETTER MAY 2018



Weather & inspections

In this part of the UK we are used to the season nearly always being a little later than further south and the weather tending to be more variable, but this last month has been exceptional, even for us! Warm, sunny periods interspersed with Beasts from the East and rain which left no one in any doubt about how the Lake District came about!

However, although we have seen very little of our bees, they have been busy inside their hives raising brood to tackle the May honey flow (I am an optimist) and consuming stores at quite an alarming rate, especially if kept in insulated hives.

It is important, therefore, that you have carried out a Spring inspection to assess the condition of your colonies and, if necessary, feed them until you see them foraging regularly.

Club News



Our first outdoor meeting of the year, on Thursday, 5th April, was a working party at the apiary to harrow an area of land and plant more wildflower seeds. Unfortunately, the condition of the ground made that work impractical. However, with the aid of a contractor, mini-digger and dumper truck, we were able to plant the mature roots of a hedge rooted out from a near-by development site.



Our second meeting, on Sunday, 8th April, was to erect swarm boxes in advance of the forthcoming swarming season. Eight are now in place. Three are shown in the above photo! We also managed to lay a hardcore patch in front of the container.



Apiary inspection



Following several days of hot, sunny weather, the rain stopped and a large number of members turned out for the first apiary inspection of the year. All the colonies housed in insulated long hives had over-wintered very well and had an impressive amount of eggs, larvae and sealed brood along with large amounts of sealed honey. Two had sizeable amounts of sealed drone brood. The colony in the WBC had died despite having a full super of honey, whilst the swarm placed in the Warré hive appeared to have absconded without making any attempt to draw out comb.

Pollinator patch planting



Over 100 parents and children turned out on Sunday, 8th April to help seed the pollinator patch along the Millennium Cycleway at Caton. The Parish Council organised a litter-pick at the same time.

Club Activity in May

On **Saturday, 12th May**, the Dukes Theatre is staging two performances of *Me and My Bee*, a new family comedy about climate change and its effect on bees. The publicity information states:

“Our fuzzy little friends need our help and so we’re launching a political party disguised as a party party as a show.

Multi award-winning theatre company, ThisEgg, invites you to save the world – one bee at a time. A new comedy for children and adults alike. Plant the seed for change, join the Bee Party. Before it’s too late.....”

The Club will be staging a display to showcase our activities and how people can take practical action to support the bees.

On **Sunday, 20th May**, we shall be celebrating World Bee Day by running BEEKEEPING - A practical introduction for beginners, at the Apiary.

Swarming Season

We are now entering the swarming season when many beekeepers will be faced with the task or opportunity to collect swarms. It is perhaps appropriate to consider who actually owns the swarm and what your legal position is, before rushing to do so! The following scenarios and notes provide some guidance.



Situation: The bees in your colony show evidence of swarming

Owner: You

Reason: The bees in your hive belong to you

Situation: The bees in your colony are out foraging

Owner: You

Reason: The bees intend to return to the hive

Situation: Your bees swarm but you did not see them emerge

Owner: No one. Your ownership is lost when the swarm emerges (but may be regained).

Reason: Your bees have reverted to the wild state over which you have no control, and neither does anyone else.

Situation: Your bees swarm and you see them emerge

Owner: No one but your right to follow them starts. You can regain ownership of the swarm if you can take it legally.

Reason: A beekeeper who sees his swarm emerge has a right to follow them.

Situation: A swarm of bees has landed on your land.

Owner: You, if you can catch them and control them.

Reason: Control gives you ownership.

Situation: A swarm of bees has landed on someone else's private property

Owner: You, if you are allowed access and can catch and control them.

Reason: Control gives you ownership.

Note: **If someone else, authorised by the property owner, takes them, he/she becomes the owner.**

Situation: Your bees have swarmed, you saw them emerge and have successfully followed and collected them

Owner: You

Reason: Based on original Roman Law, a beekeeper who keeps his swarm in view, and collects it, can claim it.

Note: **But, if the swarm settles on private land, the right to follow and claim is lost.**

Situation: A swarm has got away and is living wild anywhere, including on your land.

Owner: No one

Reason: No one controls it

Private property means any land of any kind to which the general public does not have right of entry.

Beekeepers do not have a right to enter private property to collect swarms.

Swarm collection involves risks to:

- Others
- Property
- Self

As a swarm collector you have a legal duty of care to those who might foreseeably be affected by your actions.

To be safe, before attempting to collect a swarm always:

- Carry out a risk assessment and obtain the land owner's agreement
- Prepare a method statement with a contingency plan should it not work
- **FAILURE TO DO SO MAY INVALIDATE ANY INSURANCE COVER**

Collecting swarms in public places, such as parks, public buildings, roads etc. carries additional risks and may require restricting public access for some time. If the Police or other statutory bodies are not prepared to provide you with a safe working environment, you may need to withdraw entirely.



Hyndburn Butterfly group



Earlier this year we were contacted by the Hyndburn Butterfly group requesting advice on how to create an 800 square metre pollinator area in Milnshore Park in Accrington. We have been able to guide them through the process of what to do and they have been extremely appreciative of our advice and how to approach the project. The site has now been cut, stripped off and planted.

Volunteers for Open Day

This year our Open Day will be on Saturday, 14th July from 11-00am to 4-00pm, when hopefully our wildflower meadow will be looking its best. We plan to have a number of stalls including:

- Barbecue
- Club information etc
- Pollinator patch information
- Observation hive
- Long hive
- Honey Sales
- Wax products
- Club sales

If you can help us by volunteering to help out with any of these stalls or for other activities such as car parking, for the day or even a few hours, could you please let me know. Donations of cakes etc would be very welcome.



Volunteer Web Master

We need a volunteer to act as Web Master for the Club's web site. The main task is to upload the monthly newsletter to our web site, together with updates to other pages from time to time. Whilst the new Web Master will need to be generally IT literate, specific training for the tasks involved can be provided. If you are interested, please give me a call – 01524 811978.

Club Meeting Programme 2018 – 2019

Sat 12th May	"Me and My Bee" We will be having an information stand in the foyer before and after performances.	Dukes Theatre, Lancaster
Sun 20th May	World Bee Day	
Sat 7th July	National Coronation Meadow Day	
Fri 13th Jul	Working Party Preparatory work for the Open Day.	Club Apiary 10-00am
Sat 14th Jul	Apiary Open Day	Club Apiary, 10-00am to 4-00pm
Sun 4-00pm 5th Aug	Clubs Open Day Members of other clubs in the region will be invited to come and look at our range of alternative hives and join a barbecue.	Club Apiary, 10-00am to
Sun 16th Sept	Preparing for winter There will be a short, explanatory talk followed by practical inspections.	Club Apiary, 10-00am to 2-00pm
29nd Sept	Scything course See notice for details.	Club Apiary, 10-00am to 4-30pm
Wed 10th Oct	Speaker meeting Topic: Pollinating insects and the effectiveness of pollinator patches	Scarthwaite Hotel, 7-30pm
Wed 14th Nov	Speaker meeting Topic: conserving bees, breeding our own local stocks and discouraging imports.	Scarthwaite Hotel, 7-30pm
2019		
Wed 9th Jan	Social Evening Wine and cheese evening and auction of members' surplus equipment.	Scarthwaite Hotel, 7-30pm
Wed 13th Feb	Speaker meeting Topic: Keeping bees in long hives	Scarthwaite Hotel, 7-30pm

EU member states support near-total neonicotinoids ban



Concerns over the health of honey bees and other pollinators have led the EU to push for a total ban. Member states have voted in favour of an almost complete ban on the use of neonicotinoid insecticides across the EU. Scientific studies have long linked their use to the decline of honey bees, wild bees and other pollinators. The move represents a major extension of existing restrictions, in place since 2013. Manufacturers and some farming groups have opposed the move, saying the science remains uncertain.

Neonicotinoids are the most widely used class of insecticides in the world, but concerns about their impact on bees have been reinforced by multiple research efforts, including so-called "real world" trial results published last year.

Change of heart

Back in 2013 the European Union opted for a partial ban on the use of the three chemicals in this class: Imidacloprid, clothianidin and thiamethoxam. The restrictions applied to crops including maize, wheat, barley, oats and oil seed rape. The newly agreed Commission regulation goes much further, meaning that almost all outdoor uses of the chemicals would be banned. Voting on the proposal had been postponed a number of times as countries were split on the move. However, Friday's (27th April) meeting saw a qualified majority vote in favour of the ban. The action has been driven by a recent report from the European Food Safety Authority (Efsa), which found that neonicotinoids posed a threat to many species of bees, no matter where or how they are used in the outdoor environment.

"The Commission had proposed these measures months ago, on the basis of the scientific advice from the European Food Safety Authority," said EU Commissioner for Health and Food Safety, Vytenis Andriukaitis. "Bee health remains of paramount importance for me since it concerns biodiversity, food production and the environment."

Another key element that helped push the vote through was the UK's change of heart on the use of these insecticides. Environment Secretary, Michael Gove, announced last November that Britain would now support further restrictions. "I think it has helped the dynamic," Franziska Achterberg from Greenpeace told BBC News. "It has helped sway Ireland definitely, and then lately, the Germans, the Austrians and the Dutch. I think the fact the UK had come around was a good signal for them as well, that they could not stay behind."



Campaigners reacted with delight on the streets of Brussels to the decision

Growers will only be free to use neonicotinoids in greenhouses across the EU, despite some environmental groups having reservations about the chemicals leaching into water supplies. Other neonicotinoids, including thiacloprid and sulfoxaflor, will continue to be exempt from the ban.

Environmental campaigners have welcomed the ban. Some five million people across the EU had signed petitions calling for an extension of restrictions. "Banning these toxic pesticides is a beacon of hope for bees," said Antonia Staats, from Avaaz, "Finally, our governments are listening to their citizens, the scientific evidence and farmers who know that bees can't live with these chemicals and we can't live without bees."

No benefits for bees

Many farmers are unhappy about the increase in restrictions, saying they do not believe they are warranted on scientific grounds and that the existing partial ban has not delivered results. "The Commission hasn't been able to find that these restrictions have delivered any measurable benefits for bees," said Chris Hartfield from the National Farmers' Union (NFU) in the UK. "That has been a big question for us, and if we can't be certain they can deliver measurable benefits, why are we doing this?"

The new regulation will be adopted in the coming weeks and will be applicable by the end of the year. Some farmers believe it will have significant impacts on the types of crops grown across the Continent. "The irony of the current restrictions is that it has led to the decline of oil seed rape being grown in the UK and that's reflected across the whole of Europe," Mr Hartfield said. "We're not decreasing our consumption of that product; we are just importing it from outside Europe, where it is often treated with neonicotinoids. I would expect to see that continue."

Some campaigners believe that the extended ban heralds a new era for EU farmers where the needs of the environment are seen as more important than production. "It's a significant indication that we need a different form of farming across Europe that farms with nature and not against it," said Sandra Bell from Friends of the Earth.

"The ban on neonicotinoids could be a really important step towards a more general questioning of the use of pesticides and the harm they are doing to our environment."

An Asian hornet has been found in Lancashire and surveillance activity is underway.



The National Bee Unit has confirmed a sighting of the Asian hornet in the Bury area of Lancashire. It was spotted by a member of the public in a cauliflower, which has since been traced back to Boston, Lincolnshire.

The Asian hornet is smaller than our native hornet and poses no greater risk to human health than a bee. However, they do pose a risk to honey bees and work is already underway to identify any nests, which

includes setting up a surveillance zone and traps in the two identified locations and deploying bee inspectors to visit local beekeepers.

This is the first confirmed sighting since last year, when a nest was discovered in Woolacombe in North Devon. That Asian hornet incursion was successfully contained by bee inspectors who promptly tracked down and destroyed the nest. Nicola Spence, Defra Deputy Director for Plant and Bee Health, said:

"While the Asian Hornet poses no greater risk to human health than a bee, we recognise the damage they can cause to honey bee colonies. That's why we are taking swift and robust action to locate and investigate any nests in the Bury and Boston areas following this confirmed sighting. Following the successful containment of the Asian hornet incursion in North Devon last year, we have a well-established protocol in place to eradicate them and control any potential spread. We remain vigilant across the country, working closely with the National Bee Unit and their nationwide network of bee inspectors."

Bee inspectors from APHA National Bee Unit will be carrying out surveillance and monitoring in a 1-2 km radius around the initial sighting. Additional monitoring and surveillance will be carried out in the Boston area where the cauliflower was grown.

If you suspect you have seen an Asian hornet you can report this using the iPhone and Android app 'Asian Hornet Watch' or by emailing alertnonnative@ceh.ac.uk.

Background

- The cost of eradication on private land will be met by APHA.
- Members of the public can also report sightings by email to alertnonnative@ceh.ac.uk with a photo or on the Great Britain Non-native Species Secretariat website.
- At this time of year the hornet is likely to be a newly emerged queen which is looking to establish a nest. If a nest was established last year it would have died out over winter.
- The Great Britain Non-native Species Secretariat is a joint venture between Defra, the Scottish Government and the Welsh Government to tackle the threat of invasive species. More information can be found on their website.
- Details on the appearance of an Asian hornet can be found on Bee Base guide or the non-native species identification guide.

New Pesticide as Alternative to Neonicotinoids

In February 2018, the European Food Safety Authority (EFSA) confirmed that the pesticide group of neonicotinoids is harmful to bees. A novel pesticide manufactured by Bayer AG is therefore being discussed as an alternative; it contains flupyradifurone from the class of butenolides. The product goes by the brand name of Sivanto.

Sivanto is assumed to be effective against various sucking insects such as aphids and whiteflies and can be used on a number of fruit and vegetable crops, but also on cocoa and coffee plants. Advertised as bee-friendly, the pesticide can even be applied on flowering fields. It has been available in the US market since 2015. In the EU, it is approved, but not yet available.

Measurable impact on honeybees

Scientists from the University of Würzburg have now investigated the effect of flupyradifurone on honey bee behaviour. The study led by Ricarda Scheiner, Professor for Neuroethology of Arthropods and Hannah Hesselbach, her PhD student, was published in the current issue of *Scientific Reports*.

"Our data show that non-lethal doses of flupyradifurone after a single application to collecting honey bees have a negative impact on the bees' taste, learning and memory capability," Ricarda Scheiner sums up the study result.

No impact when used properly

The two researchers first tested the bees' gustatory response to sugar using a standard procedure. Subsequently, the bees were subjected to olfactory conditioning, and on the next day the scientists tested their memory to see what the bees had retained. "Whereas the two smaller doses did not exhibit any adverse effect, a flupyradifurone amount of 1.2 microgrammes per bee results in significantly reduced perception and learning performance," Hannah Hesselbach says.

The good news, however, is that the collecting honey bees will probably not come into contact with such high doses when the pesticide is applied properly. But the scientists believe that further research is necessary to determine the pesticide's influence on motor function, waggle dance or orientation.

"Also, we cannot say which influence flupyradifurone will have on bees in combination with other pesticides, which are frequently found in honey and pollen in residual amounts," Hannah Hesselbach adds. The impact on wild bees and other pollinators should also be examined according to the researchers.

Read the open access paper at:

<https://www.nature.com/articles/s41598-018-23200-0>

Honey Bees Struggle to Find Enough Good Bacteria

Modern monoculture farming, commercial forestry and even well-intentioned gardeners could be making it harder for honey bees to store food and fight off diseases, a new study suggests.

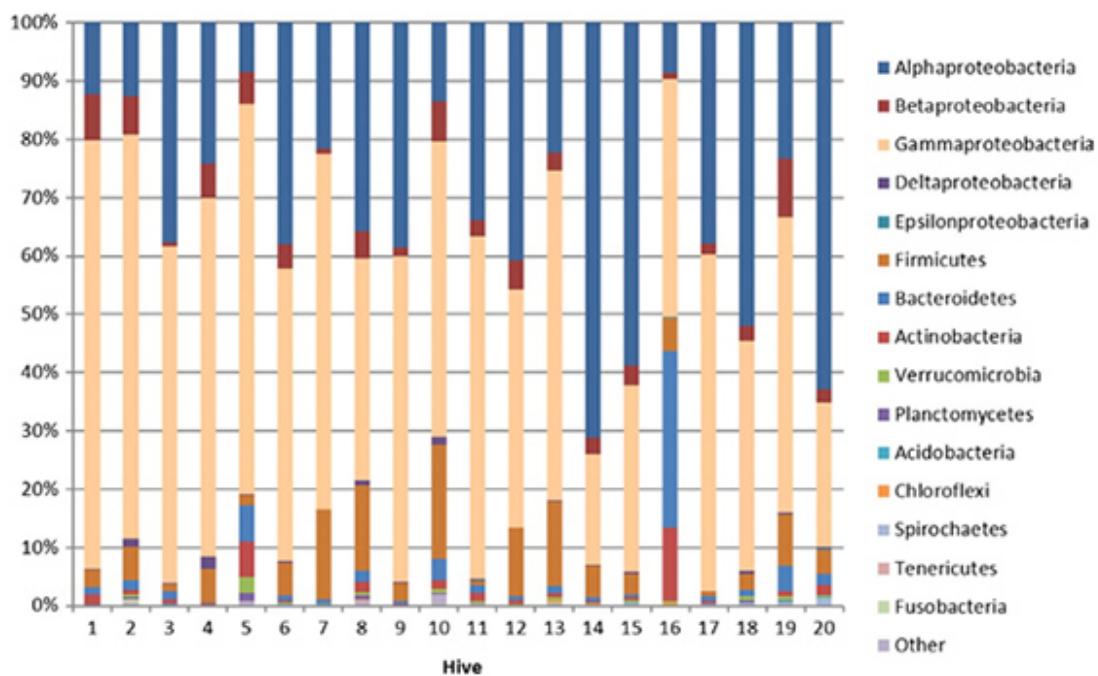


FIGURE 1 Phylum-level distributions of bacterial community, determined by Illumina MiSeq sequencing of bee bread from 20 hives, organized by location (on an east-west axis left to right)

Phylum-level distributions of bacterial community, determined by Illumina MiSeq sequencing of bee bread from 20 hives, organised by location (on an east-west axis left to right).

Human changes to the landscape, such as large areas of monoculture grassland for livestock grazing, and coniferous forests for timber production, is affecting the diversity of the 'microbiome' associated with the long-term food supply of honey bees.

Scientists at Lancaster University examined the mix of bacteria, known as a microbiome, of bee bread. They found that the bee bread within hives close to agriculturally improved grasslands, made up of single grass varieties, and those near coniferous woodland contained lower bacterial diversity than hives near habitats with more plant variety such as broadleaf woodland, rough grasslands and coastal landscapes.

Bees use a diverse community of bacteria to turn fresh pollen into a long-term food store. They need a range of bacteria to help them fight off infectious diseases, and also the bacteria can act as a preservative for bee bread within hives. Without a diverse microbiome the bee bread can be more vulnerable to mould, causing a food shortage for the hive.

The researchers discovered that some of the bacteria present within bee bread, such as bifidobacterium and lactobacilli, are the same 'good bacteria' found in some brands of bioactive yogurt. Bees pick up different strains of bacteria from plants when they are foraging for food and this is transferred to bee bread within the hive.

Lancaster's Dr Philip Donkersley, lead author of the study, which is published in the open access journal ***Ecology and Evolution***, said: "We are showing that even in a small geographical area there is a huge variance in bee bread microbiome. This is almost certainly because bee bread has a variable composition made up of pollen from different plants.

"It is traditionally thought that monocultures, such as grazing land and timber forests, were bad for pollinators due to a lack of food continuance through the year. However, our study suggests land use change may also be having an indirect detrimental effect on the microbiota of bee bread.

"Since nutrition derived from bee bread and the microbiome therein directly affects the health of bees, we therefore believe this demonstrates an indirect link between landscape composition and bee fitness."

In addition, hives located near urban landscapes also demonstrated lower diversity in the microbiome of bee bread. Gardeners trying to help bees by growing a range of pollinator-friendly flowers from around the world may need to consider that non-native species may not be as good for bees as native UK plants.

Native bees, their forage plants and the bacteria located within have evolved together and the bacteria bees pick up from non-native plants may be less likely to be beneficial to the hive.

Dr. Donkersley thinks that "Decreased bacterial diversity in bee breads near urban environments suggests that the increased range of non-native plants in gardens could be impacting bees' ability to get diverse microbiota." But perhaps there is something else in urban environments reducing the microbiome availability, such as air pollution. It would be interesting to compare microbiome composition of bee bread from different urban environments that varied in their native versus introduced plant diversity.

The work is reported in the paper 'Bacterial communities associated with honeybee food stores are correlated with land use'. <http://dx.doi.org/10.1002/ece3.3999>

Lizards, mice, bats and other vertebrates are important pollinators too!



Pollen dusts the nose of a Namaqua rock mouse *Aethomys namaquensis* as it samples nectar from a pagoda lily *Whiteheadia bifolia* on the Sevilla Rock Art Trail in South Africa.

Credit: Petra Wester

Bees are not the only animals that carry pollen from flower to flower. Species with backbones, among them bats, birds, mice, and even lizards, also serve as pollinators. Although less familiar as flower visitors than insect pollinators, vertebrate pollinators are more likely to have co-evolved tight relationships of high value to the plants they service, supplying essential reproductive aid for which few or no other species may substitute.

In plants known to receive flower visitations from vertebrates, fruit and seed production drops 63 percent, on average, when the larger animals, but not insects, are experimentally blocked from accessing the plants, ecologists report in the March cover [study](#) for the Ecological Society of America's journal *Frontiers in Ecology and the Environment*.

Fabrizia Ratto and colleagues reviewed 126 such animal exclusion experiments to get an idea of how dependent wild plants are on animals with backbones for reproduction. The researchers selected published studies that quantified pollination through the subsequent growth of fruit or seeds.

The exclusion of bat pollinators had a particularly strong effect on their plant consorts, reducing fruit production by 83 percent, on average. Bats pollinate about 528 plant species worldwide, including crops like dragon fruit, African locust beans, and durian, Southeast Asia's "King of Fruits." The authors speculate that chiropterophilous, or bat-pollinated, plants are unusually dependent on just a few, related species to carry their pollen.

Many bat species have coevolved intimate interdependencies with the plants that feed them in exchange for pollen transport. Among them, blue agave (*Agave tequilana*), the source of tequila, depends entirely on the greater (*Leptonycteris nivalis*) and lesser (*Leptonycteris yerbabuenae*) long-nosed bats. The cacti open their long, narrow flowers only at night, luring in the bats with the fragrance of rotten fruit. Both bat species are endangered or near threatened.

Loss of pollination by vertebrates had a higher impact in the tropics, where the study found a 71 percent decline in fruit or seed production. This higher impact may reflect the higher degree of customization for specific pollinators, the authors say. Like the agave cacti, specialised plants that rely on a small number of species of animal helpers for their reproductive success are more vulnerable to disruption.

Non-flying mammals are also pollinators, visiting at least 85 plant species worldwide. Ruffed lemurs (*Varecia variegata*) may be the largest pollinators, known to pry open the tough flowers of the traveler's tree (*Ravenala madagascariensis*) for a nectar treat on their native island of Madagascar. The lemurs, which rely on the nectar for many of their calories, leave the flowers intact and carry pollen on their fur. Possums and squirrels also pollinate plants. Because empirical studies have only been conducted with species of mice, Ratto and colleagues' analysis cannot give a picture of the importance of non-flying mammal species for plant reproduction.

Over 920 bird species pollinate plants, forming the largest contingent of the vertebrate pollinators and pollinating about 5 percent of plant species in most regions. The reliance of plants on birds tends to be higher on islands, where birds typically pollinate 10 percent of the local flora. Perhaps most surprisingly, some lizard species are also pollinators, especially on islands.

The distribution and health of vertebrate pollinators is well documented compared to insect species, allowing, the authors argue, for targeted conservation efforts. As pollinating bird and mammal species fall under increasing pressure from habitat conversion to agriculture needs, fire, hunting, and invasions of non-native species, their plant companions and other species that feed on fruits and seeds are also at risk.

Journal Article:

Fabrizia Ratto et al (2018) Global importance of vertebrate pollinators for plant reproductive success: a meta-analysis. *Frontiers in Ecology and the Environment*
doi: [10.1002/fee.1763](https://doi.org/10.1002/fee.1763)

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Fred Ayres, Editor & Chairman, May 2018

Open Courses Programme 2018

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

BEEKEEPING

A practical introduction for beginners



Sunday, 20th May 2018

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

BOOKING ESSENTIAL AS PLACES ARE LIMITED

For further information:

visit www.lunevalleybeekeepers.co.uk

or email: fred@lunevalleybeekeepers.co.uk

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