

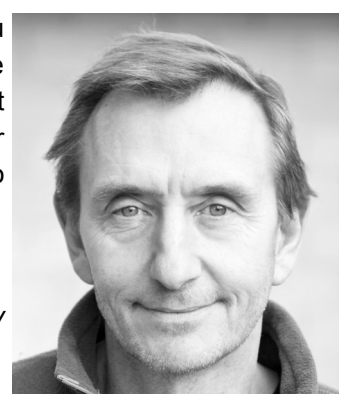


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Welcome to the 11th issue of the Buzz Club quarterly newsletter. It is 1 June as I write, my favourite time of year, when my garden is at its most full of flowers and buzzing bees. It is also an extremely busy time for those of us in the Buzz Club, for we now have seven projects running this year, more than ever before. Check out our website for full details.

This newsletter gives you some updates on what we are all up to, and might give you some ideas for projects you might like to join in the future.

This Issue is edited by Dave Goulson



Brighton's Balconies are Buzzing!

By Dr Claire Harkin

Thanks to the votes of shoppers across Brighton and Hove, our Buzzing Balconies project has secured £4000 of funding from the Tesco Bags of Help scheme. We are now helping residents learn about wild bees and other pollinators by creating small oases of essential habitat across the city. Our project is focused on, but not limited to, engaging with families that do not have ready access to a garden. We are helping to provide 'vertical habitat' for pollinators by asking recruited volunteers to create mini wildflower meadows on balconies, or in courtyards. Participants will also perform simple experiments using strawberry plants to give them the opportunity to learn more about the pollinating process and the importance of insects in food

production.

In the UK, 81% of our population lives in an urban area, a figure predicted to rise to 92% by 2030. Many children do not get opportunities to experience nature first hand, and so do not gain an understanding of the importance of looking after our environment, or appreciating how beautiful and fascinating wildlife can be. This project gives people of all ages just such an opportunity even if they lack gardens; a chance to learn how plants grow, watch their flowers be visited by bumblebees and other insects, and then to collect the fruits they produce. These experiments are ideal for children to take the lead on and, who knows, might even help ignite that spark of interest that results in the next

generation of conservationists and entomologists!

These ideas have obviously struck a chord, as we received over 80 expressions of interest in just the first couple of weeks of advertising the project! Things got off to a fantastic start on 16th May when we held the first of our series of 'open days' at the University of Sussex to which we invited volunteers to come and pick up their Buzzing Balcony kits and meet the project organisers, myself and Dr Ellen Rotheray. Thanks to our funding, we are able to provide all of the materials volunteers need to take part, which includes two growbags, three strawberry plants, and a pack of seeds from 28 native wildflower species to form a mini-meadow. We took more than 60 volunteers through what they needed to do, and

answered any questions they had. We were delighted to get such an enthusiastic response, and everyone seems confident, aided by our simple step by step methods and 'How to' videos on the project website http://thebuzzclub.uk/Buzzing_Balconies.php.



Keen volunteer carrying her growbags to the bus (above) and emerging mini-meadow and strawberry plants planted in our growbags (left)

As well as giving volunteers the chance to contribute to scientific records and help create some much-needed habitat for our urban pollinators, we are also hoping to foster a sense of community and involvement in the project through the use of social media, particular via our Twitter handle @buzzingbalcony. We are delighted that volunteers have already started sharing their updates, and can't wait to see more as the project progresses. One enthusiastic volunteer expressed amazement that her plants were already showing signs of growth in only a couple of days, despite her balcony overlooking a very busy and dusty road. "...life finds a way!" she tweeted; we couldn't agree more!

Hoverfly Lagoons 2018

In April, we kicked off the Hoverfly Lagoons project for the 3rd year! This year we're asking volunteers to create a minimum of two lagoons to help us answer whether content (grass clippings or leaf litter) or size is important. We have asked volunteers to create two or four Lagoons using 2 and 4-pint plastic milk bottles.

2018 Lagoons methods, full instructions can be found on our project webpage thebuzzclub.uk/Hoverfly_Lagoons.php

- Option 4:**
- 1 x leaf litter (2-pint bottle)
 - 1 x leaf litter (4-pint bottle)
 - 1 x grass clippings (2-pint bottle)
 - 1 x grass clippings (4-pint bottle)



We're also welcoming volunteers to get creative and report to us on the outcome of any type of Lagoon they would like to test, or that they find. For example, what seems common are Lagoons inspired or created by accident through brewing organic fertiliser out of comfrey or nettles.

Right now, hoverflies that overwintered in Lagoons as larvae are developing, pupating, or emerging as adults. The stage they are at depends on the climate, the species of hoverfly, and the content of the Lagoon. Larval growth can be limited by the amount of food in Lagoons, and this depends on the quantity and type of organic matter, and the amount of water. Remember to top up your lagoons with water through any dry spells.

There are also male hoverflies defending territories looking for females, and gravid females, those that have

mated and are looking for breeding habitat in which to lay eggs. So, in and around Lagoons, you might find all stages of hoverfly from egg to adult!

The tiny 5 mm long instars can be quite difficult to see, and may get damaged in the process of searching through Lagoons to count larvae. We are asking volunteers to carefully search the surface of Lagoons for eggs and first instars, before emptying the Lagoon to carry out the more thorough search for larvae. First instars will be within the first few cm of water, or between leaves or grass blades near or above the surface. If they are spotted, the number should be estimated from what can be seen from a careful surface search, and the Lagoon returned to survey again in a couple of weeks to allow these larvae to grow.

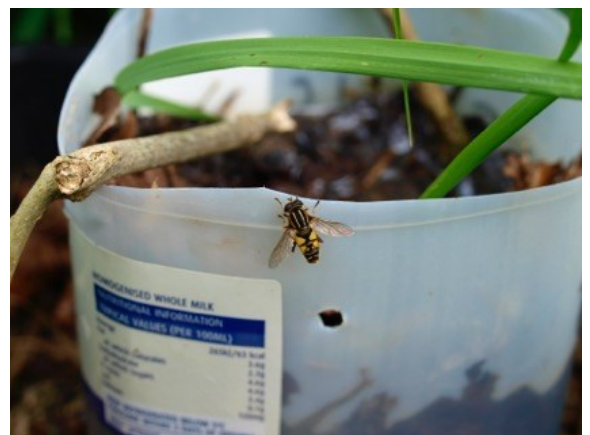
Hoverfly Lagoons and Strawberry Farms

Recent declines in wild pollinators threatens the pollination services we depend on, particularly in relation to the food we eat. Right now, farms often buy or rent managed honeybee hives, or purchase factory-produced bumblebee colonies to pollinate their crops. But recent research has demonstrated that wild pollinators are as, or in some cases more, important crop pollinators. As habitat degradation is thought to be one of the major causes of insect declines, we sought to investigate whether Hoverfly Lagoons, the breeding habitat of several species of hoverfly, increases insect visitation and subsequent fruit set on a farm. Hover-



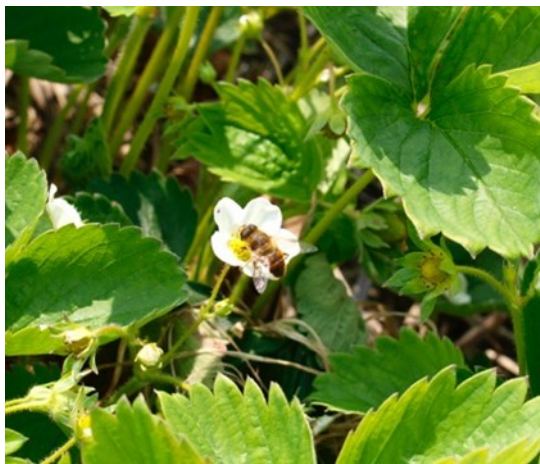
Myathropa florea larva and pupa (left)

A male Tiger Hoverfly, *Helophilus pendulus*, stalking females around, and on, our Hoverfly Lagoons (right).



Hoverfly eggs and the tiny, first instar larvae.

flies are recorded as feeding more frequently on strawberry flowers than any other insect group, so we established Lagoons around a pick-your-own strawberry field in East Sussex. We will return to record insect visitors, fruit set, and larval abundance in the lagoons. We have also replicated this set up in a field near the University of Sussex by growing our own strawberry plants, and we have already spotted hundreds of tiny larvae in these Lagoons. It should be an exciting strawberry-filled, Lagoon-tastic summer ahead! Follow us @HoverflyLagoons



Setting up lagoons for distribution across the strawberry field (above);

*The Lagoon-dwelling, Stripe-eyed Dronefly, *Eristalis tenax* feeding on strawberry flowers at the strawberry farm. This is one of the few hoverflies that over-winters as an adult (left).*

Lagoon at the end of a strawberry row (right)



Air Bee 'n' Bee

By Xavier McNally

Air Bee 'n' Bee is our nationwide citizen science project to test out different designs of bee hotel for solitary bees species. Bee hotels offer horizontal holes which are often used by species such as the red mason bee. Lots of different designs are available commercially, plus it is easy and cheap (even free) to make your own, with a bit of imagination. At present, we do not have good information as to which designs are most attractive to the bees, and which kinds of locations are best to put them up in.



In this project, we have invited members of the public to help us find the answers. Twitter proved to be a great way to recruit volunteers; you can follow the project here @air_beenbee. Participants were asked to set up one or more of three different simple bee hotels:

- Holes drilled in a wooden block
- Plastic milk carton containing cardboard tubes
- Plastic drainpipe containing cardboard tubes (pictured left).

We also set up our own hotels, dotted all over the University of Sussex campus. At the time of writing, red mason bees are at their busiest. If they adopt a hotel, the female bee will begin stocking a tube with pollen, lay an egg, then gather mud to make a little wall across the tube. She then

repeats the process until the tube is full, containing perhaps ten or more cells. If she has the energy, she then moves on to another tube and starts again. Full tubes are obvious, since the female thoroughly blocks up the entrance when she has finished—see above. Our volunteers will tell us which hotels are used, and how many tubes are filled. In the autumn we will be able to let you know what worked best.

The mason bees will soon be finished for the year, but leafcutter bees which emerge later may occupy any holes the masons have not used. These little bees use leaves instead of mud to partition their tube into cells.

It is never too late in the year to put up a bee hotel of your own, as there is always next year! To find out more about the project, email me at: xm45@sussex.ac.uk

How much do you save by growing your own fruit and veg?

We're trying to find out how much produce is grown in our gardens and allotments around the UK. To help us, we'd like you to keep a record of the food you harvest. You can also find out how much money you saved by growing your own, by using our ['Garden Shop Calculator'](#). This will tell you how much it would have cost to buy your produce in the shops, and also what proportion of your harvest relies upon pollinators. In 2017, our volunteers 'saved' £425 on average!

HOW TO MEASURE YOUR HARVEST

- 1) Download and print a copy of our 'Harvest' [recording sheet](#) which has space to record several harvests from the same crop (or use a notebook if that's easier!)
- 2) Each time you harvest fruit or veg from your growing space, weigh and/or count the number of items, and record this on the sheet.
- 3) At the end of the growing season (around September time) please use our [online form](#) to upload data on your TOTAL yields, or if you prefer, post your forms to us: Team PollinATE, Room 5D2, JMS Building, University of Sussex, BN1 9QG.

Asian hornet alert

Please once again keep an eye out for the Asian hornet, *Vespula velutina*. You may have heard that this species is threatening to invade the UK, having been accidentally introduced to France some years ago. It has been sighted several times in the UK in the last two years, with a nest found and destroyed near Tetbury in Gloucestershire in 2016. So far, it does not appear to have become established in the UK.

This Asian wasp species is no more dangerous to humans than our common native wasps, but it is a major predator of honeybees and also takes wild bumblebees. Our poor bees do not need another problem to deal with.

The Asian hornet is smaller and darker than our native hornet. If you think you have seen one, take a picture and email it with details of where you saw it and your contact details to alertnonnative@ceh.ac.uk



Or simply use the [Asian Hornet Watch app](#) on your phone to send a picture and a location via GPS in the app straight to the non-native species secretariat and National Bee Unit.

[Photo from BBKA]

Help us create a Buzz!

To better our pollinators, the Buzz Club needs more members! Can you think of any friends, organisations, schools or community groups that have an interest in nature or may be interested in joining the Buzz Club and taking part in our projects? Alternatively, are there any places near where you live that would be happy to display Buzz Club leaflets? Would you like to help promote the club and increase our membership more widely throughout the UK? If so, don't hesitate to email us at buzzclub.uk@gmail.com for more information about how you can help. Thanks!



Super Strawberries

By Beth Nicholls

Last year, many of our volunteers noticed that pollinators were often more spotted visiting ornamental flowers in their growing spaces, rather than the crop. This led them to ask whether planting flowers in your growing space can help or hinder crop pollination. So this year we're going to try and answer this question by conducting a simple experiment using strawberries and borage.

We are investigating whether planting bee-friendly borage can improve the pollination of strawberry and result in bigger yields of fruit. To do this, we are asking our volunteers to record the number of pollinator visits to these plants once a week for 4-6 weeks, and then to compare the weight of fruit produced by two strawberry plants once they begin to produce berries. We'll let you know the answer soon.

It is too late to join this project this year, but we hope we will run it again in 2019.

If you have any pictures or interesting experiences with insects or pollinators please feel free to send them to buzzclub.uk@gmail.com, or tweet to us @The_Buzz_Club and we will add them into our newsletters.

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We are a group of scientists and non-scientists, adults and children, working together to find out more about bees and other pollinators. The Buzz Club's goal is to ensure that we look after our wild bees and other insects, giving them a future. We can only do this if we understand more about them; why are some disappearing, how many are left, and where are they? How fast are they declining? What can we best do to help them? Together, we undertake fun nationwide surveys and experiments.

Visit our website

www.thebuzzclub.uk

Help us study and save pollinators!!