



# WILDLIFE GARDENING FORUM

## E-newsletter: September 2022

[www.wlgf.org](http://www.wlgf.org)

@WLGForum



The Brits are notorious for wanting to talk about the weather, but I make no apologies for opening with the drought summer. 2022 has been one of the driest summers on record – and hot, too, with temperatures soaring to a new UK high of 40.3°C in Lincolnshire on 19<sup>th</sup> July. We may have been spared (so far) the nuisance of standpipes, yet it’s a stark reminder of our changing climate. Wildlife and communities alike have suffered from fires, parched crops, shrunken ponds and river courses, and many plants succumbed to the heat and lack of water, trees shedding leaves in a ‘false autumn’.



Hummingbird hawkmoth and hornet hovering on buddleja

While the heat has been a strain for some (furry bumblebees for instance), for others it seems to have been just to their liking. This is an excellent year to see the delightful hummingbird hawkmoth; I counted four at one time on my buddleja in the Midlands. As we move into cooler conditions it’s time to take stock of your garden. What struggled in the heat? Was there accessible water for your wildlife? Do you need to install some extra water butts or even a rain garden? This won’t be the last we’ll see of similar weather extremes. Several of this issue’s articles take a deeper look at impacts of the weather.

Looking ahead, we’re hoping to offer a virtual conference this winter. We know our conferences have been much missed by many of you and, while holding one in person would be a popular move, we need to recognise our limited capacity. On the plus side, costs can be kept low with a virtual event, which is also more inclusive for those that have struggled to travel to our past events. Date to be set, but likely to be in the new year and we’ll be in touch with more details.

**Helen Bostock, Chair WLGf, Warwickshire**

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## Forum news

### Reaching out to 100,000 people

In other 'hot' news, our Wildlife Gardening Forum Facebook group reached an incredible milestone this summer, topping a whopping 100,000 members. This makes it the most popular group in the world about wildlife gardening...on any social media or website forum platform anywhere!

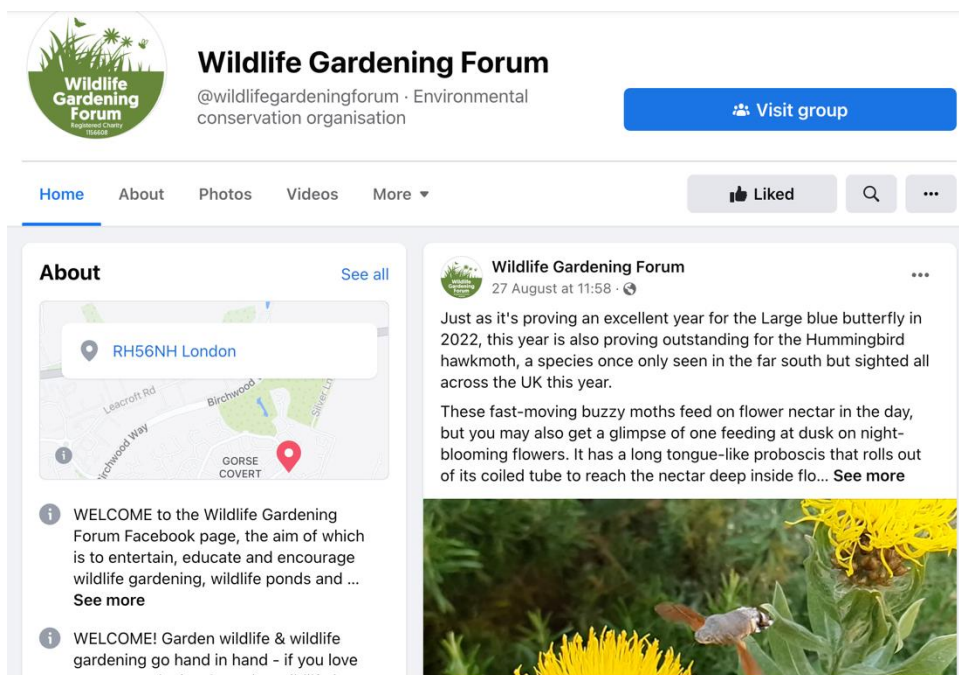
The team running this is made up of 25 wonderful volunteers from all walks of life, providing 24/7 moderation coverage, as the group now has members from more than 100 countries, including 10,000 from North America alone. 178 group experts answer almost any conceivable wildlife and

gardening ID question and Facebook itself has even recognised the group by inviting several of its admins to Facebook-invite only groups for 'leaders of highly engaged communities', while also sponsoring one of the admin team for professional community management certification.

Facebook isn't for everyone, but a lot of people do spend a lot of time on there, and like everything else we do as a wildlife gardening charity, it's about spreading the word and bringing people into the fold. The explosive growth in the group during the last two years, from 2,000 members to 100,000 members, has been fuelled by lockdown and by wildlife gardening becoming a mainstream 'thing', but also by having an online community that prefers facts over hysteria, civil discourse over internet feuding and by sensible moderation, which eschews rebels with a cause in favour of dispassionate fact-based information. Come and join! It's a lovely, tranquil, soothing group and the more the merrier. There's a welcome on the mat for everyone!



This success couldn't be achieved without the thousands of hours of effort put in by the moderators, headed by Forum trustee Johan Ingles-le-Nobel. A massive congratulations to the whole team.

- Join the group at [www.facebook.com/groups/wildlife.gardening.forum](https://www.facebook.com/groups/wildlife.gardening.forum)



## Wildlife Garden Challenge trial

Founder Patron Steve Head, working with Learning through Landscapes on our recently completed Polli:Gen project, has devised a project called 'The Wildlife Gardening Challenge', in which gardeners can assess their plots for wildlife friendliness and by adding helpful features, gain points towards bronze, silver and gold award certificates. It's designed to use our ['How to' guides](#) alongside specially written manuals, and in the long term – with sufficient support – it could be rolled out nationally. The scheme offers friendly and easy guidance into the world of wildlife gardening and is being run as a trial in Steve's home village of Cholsey and neighbouring villages. Already it's attracted a lot of interest and several gold, silver and bronze awards have been made. This scheme isn't yet open to people from elsewhere, but if you'd like to know more about it, contact Steve at [steve@wlgf.org](mailto:steve@wlgf.org).

### Cholsey Wildlife Garden Challenge

**List of categories and features or activities that will earn award points**

This shows the many ways you can improve your garden for pollinators and other wildlife. Some are harder, or need a greater time commitment, and have a higher score. The Whole Garden Ratings category can be earned when you have done lots of things that help a group of wildlife or shown special effort.

Enjoy Your Garden !	Feature or activity	Back Garden	Patio garden	Balcony garden
EG1	Grow fruit	1	1	
EG2	Grow your own veg.	2		
EG3	Involve children	1		
EG4	Spend time in Nature	1	1	1
EG5	Volunteer	2	2	2
EG6	Join the Wildlife Gardening Forum	1	1	1
EG7	Join a local gardening or eco club	2	2	2

Food and Drink	Feature or activity	Back Garden	Patio garden	Balcony garden
FD1	Grow small trees and shrubs for pollinator flowers & berries for birds	2	2	

## Website update

With the Polli:Gen and Wildlife Gardening Challenge taking up a lot of his time, Steve has only been able to add one new section to the website, but it's an important one. We now have 60 pages on garden birds, covering nearly 50 species and including data on their distribution, status and breeding, together with clips of their song. Where there are several similar species, introductory pages show pictures of them side by side to emphasise distinguishing features.

Garden Wildlife

Insects   Arthropods   Other invertebrates   **Birds**   Other vertebrates


Home > Garden Wildlife > Birds > Pigeons and doves

### Pigeons and doves


Pigeons and doves are in the family **Columbidae**. In general speech we usually call the bigger species pigeons and the smaller ones doves. Globally there are about 340 species, and six species in Europe. Four are fairly common to abundant in our gardens, and there is one more which you just might encounter if you live in the south east. They are large among garden birds, and are largely ground feeders, sometimes a nuisance to gardeners and farmers.

Unusually, pigeons and doves don't feed insects to their young as do most garden birds. Instead, both sexes produce "pigeon milk" - a secretion from the crop produced from just before the eggs hatch, which is disgorged for their young.


**Click on the pictures below to go to the pages on these species**



**Woodpigeon**  
Big, grey and purple, white patch on neck. 5 "coos" in their call



**Feral pigeon**  
Typical town pigeon, grey, no neck patch, very variable in colour and pattern. 3 "coos" in their call



**Collared dove**  
Slim and dainty, warm buff to pinkish in colour, black neck collar. 3 "coos" in their call

Most of the pages were drafted by Roy Smith, who is a very experienced zoologist and birdwatcher, and we're very grateful for his input.

The next task for the website is to wrestle it into the now standard 'https://' format away from the 'http://' form in which it's written. For those unfamiliar with website arcana, this is best described as a Big Job, but it should increase its accessibility to browsers.

# Forum noticeboard

## Watch *Gardener's World* on catch up



For a glimpse into Forum Advisor Jan Miller-Klein's wonderful garden, go to BBC iPlayer for episode 25, which went out on 9<sup>th</sup> September. It was a wildlife gardening special and isn't the first time naturalist and writer Jan's garden at Saith Ffynnon Farm has featured on the programme. In it she recommends gardeners provide food, water, shelter and microhabitats with different temperature gradients for wildlife to thrive.

## Donate to the Forum



We'd like to remind our readers that we're a registered charity on Amazon Smile – this means that with eligible purchases on Amazon they'll donate 0.5% of the price to your chosen charity – go to [www.smile.amazon.co.uk](http://www.smile.amazon.co.uk), click on AmazonSmile in your account and search for The Wildlife Gardening Forum – all funds raised will go towards promoting and educating on the protection and improvement of gardens for wildlife. Much appreciated and thanks!

## Call for notices



If any readers have any wildlife gardening events, advertisements or news you'd like to publicise in this newsletter here on the forum noticeboard, then do please send details over to [info@wlgf.org](mailto:info@wlgf.org) and they'll be included in the next issue.



## Making the headlines

### Check out the Biodiversity Heritage Library

The very nature of newsletters is that they're all about what's new – in the news, in the scientific literature, in nature. But sometimes historic documents are where new discoveries lie. This is certainly the case with the Biodiversity Heritage Library, a free online resource that could have you engrossed for hours. With millions of digitised natural history pages and images spanning the 15<sup>th</sup>-21<sup>st</sup> centuries it's hard to know where to start. Read Jean-Henri Faber's fascinating *Hunting Wasps*, published in 1916, or Florence Merriam's 1896 *A-birding on a Bronco*. Delve into many a naturalist's and botanist's field notes or feast your eyes on the exquisite nature artwork of Edo period Japanese artist Mori Shunkei. Whether you're a researcher, a writer or simply one of the curious, start your discovery at [www.biodiversitylibrary.org](http://www.biodiversitylibrary.org) and [here](#) on Flickr.



### Phew what a scorcher!

This summer Britain's seen record temperatures and a long period of drought. While this has had the benefit of convincing a few more sceptics that climate change is real and already visible, it has potential to cause much disruption to our wildlife. Starting in June, temperatures climbed to a peak of over 40°C, the highest ever recorded, prompting the first ever Red Extreme Heat Warning. Overall it tied with 2018 as the warmest summer on record. It was also the sixth driest summer on record, with 11 out of 14 Environment Agency areas in England in drought status, many with hosepipe bans in force. Forty-six years ago, the legendary hot summer of 1976 saw a maximum temperature of only 35.9°C, but a drought so bad that standpipes were installed for domestic water in some places. The lack of rain in 2022 is the most severe since 1976 and has brought on premature berry ripening, autumn colours and leaf fall.



A timely and important [paper](#) has just been published by scientists at York University that has analysed the impact of exceptional weather events on widespread butterflies, moths and birds since 1968. Sudden population changes were common, but while some species' populations rose dramatically in some years, population crashes were much more common. The impact of 1976 was much the most spectacular. At the beginning of the summer butterfly and moth numbers boomed in the sunny weather but collapsed in the later dry period when nectar and caterpillar leaves were almost unavailable. Loss of overwintering individuals led to the following spring and summer having very low populations of a quarter of the species tracked. Interestingly, for birds it was winter cold that had the greatest impact; in particular the 'big snow' winter of 1981-1982.

It remains to be seen how insect populations fare next year, but since 1976 populations generally are reduced and climate change will make freak events like the current summer more common.

## Wildlife gardening research

### Don't forget moths are pollinators, too!

Ask any gardener (and most ecologists) to name pollinating insects, and they'll usually mention butterflies – but often forget the moths. Clearly, most people aren't out in their gardens at night when moths are at work so this isn't surprising. A team of Swiss and Danish scientists looked at the [pollination of red clover](#) in alpine fields in Switzerland using flash illuminated time-lapse cameras, operating during



both day and night from mid-June to mid-August. They found that moths, especially the large yellow underwing, *Noctua pronuba* (pictured left), were very significant pollinators of the clover, with 34% of visits compared with 61% by bumblebees.

In a century of research on this important fodder crop, moth pollination had never even been mentioned. This backs up a [recent paper](#) from the Environmental Change Research Centre in London, which showed nocturnal pollen transfer by 103 moth species, including to seven plant species that had no daytime pollinator visits. At a time of declining insect populations and growing concerns for pollination, future studies must include moths, even if this means ecologists having to miss some sleep.

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### Long, warm autumns may be bad for butterflies

Many butterflies and moths overwinter as pupae or chrysalises, completing metamorphosis and hatching as adults in spring or summer. This helps them survive through harsh winter conditions, but many have to pupate long before winter as plant food for caterpillars becomes unavailable in autumn.

Climate change has reduced the intensity of winter, while hotter, drier conditions (as in this year) has made autumn start earlier. The net result is that the pre-winter autumn period has become longer and warmer. [Three zoologists](#) from Stockholm University decided to see if this could affect survival. They put green-veined white (*Pieris napi*) pupae (pictured) through three different temperature regimes for up to four months before exposing them all to the same 'standard' winter. They found substantial loss of weight in pupae exposed to higher temperatures, caused by higher metabolic rates in the insects. Although there were few deaths before the winter period, after the winter there was much greater mortality for higher temperature pupae, and the adults that did hatch were underweight.



While this was found in one very common butterfly, it's very likely the same could apply to others, including some garden favourites like the brimstone, holly blue and comma. It would be helpful to look in the same way at species overwintering as larvae (e.g. meadow brown and gatekeeper) and adults such as the peacock and small tortoiseshell.

## Supposedly 'safe' fungicide reduces male solitary bee sex appeal



Fenbuconazole is a commonly used commercial fungicide used to control disease in apples and other fruit. It was considered to have little environmental impact and doesn't kill bees exposed to it. Most toxicity testing just looks at gross mortality impact, but we're beginning to appreciate that sub-lethal effects can be very important, too. These effects can include lowered fertility and changes in feeding, navigation and egg-laying behaviour.

A team led by Samuel Boff at the University of Würzburg has shown that fenbuconazole has a significant impact on males of the pollinating mason bee *Osmia cornuta* (pictured). [They found](#) that males exposed to the chemical had altered behaviour and 'smell', and were less successful in mating with females, which preferred unexposed males. It may be that other supposedly safe fungicides may have a similar effect; all the more reason to think twice before using chemicals in your garden.

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## Pet moggies are a threat to nearby semi-natural habitats

Ecologists from the People and Wildlife Research Group at the University of Reading have just published a [paper](#) comparing the predatory behaviour of cats in suburbia with those living on the edges of towns close to more natural habitats. There are thought to be 9.5 million cats in Great Britain, outnumbering native carnivores by five to one and killing an estimated 92 million prey over spring and summer months. Previous studies on predation only looked at urban and suburban cats, so the team compared 79 cats from both inner suburban and urban boundary situations, the latter having immediate access to semi-natural woodland or heathland. The cats were GPS-tagged, and their movements followed for about a week each month. Their owners observed and reported any prey they brought home.

While cats from inner and boundary sites travelled similar distances, the boundary cats (and the males) had significantly (70%) larger ranges, venturing deep into the semi-natural habitats. All cats avoided built-up areas, preferring gardens and semi-natural ground. The prey returned were mostly small mammals (70%) and birds (25%). Boundary cats caught more than twice as many prey, especially mammals, than inner suburban cats. Surprisingly, bell-wearing cats returned significantly *more* prey than those unencumbered.

[The study](#) confirms that pet cats choose to patrol and hunt in semi-natural habitats beyond their home gardens. As well as killing prey, other wild mammals and birds will be disturbed and perhaps have their breeding disrupted. New developments near important habitats should perhaps now include fencing or buffer zones to reduce impact.



## The drones are coming – and we don't mean bees



Urban gardens, which occupy up to [half of UK city greenspace](#), could provide major food growing opportunities in a world where food supplies are becoming precarious. They're also crucial for people's health and for wildlife, so it's very important that we can get a handle on what features are present in gardens and how these are changing. A very important [study from 2010](#) revealed the loss and changes in London's garden greenspace, but the work involved using conventional aerial photography is very considerable.

A [new paper](#) reports surveys of 10 large community allotment gardens in Melbourne, Australia, carried out using a small, computer-guided drone backed up by ground surveys of vegetation. The subsequent artificial intelligence computing used to process the images was formidable, but the resulting models reached 80% predictive performance and they could estimate plant species richness from the total area and patchiness of crops. With drones costing no more than a few hundred pounds, provided the processing software can be obtained, this approach may be useful for monitoring urban garden change.

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## Climate change and intensive agriculture work together to clobber insects



Insect population decline has become a hot topic of late, with claims of an 'Insect Armageddon' offset by data from some areas showing little change. An [important new study](#) by scientists from University College, London, has tried to tease apart such factors as climate and land use change on a global scale and how they might work together.

They looked at insect data over 20 years from over 6,000 locations worldwide. There

were indeed some areas of major declines in both populations and species present, but these were in areas where both intensive agricultural management *and* climate warming had occurred in the last 20 years. In contrast, in areas where substantial amounts of natural habitat remained, losses were small, at only about 7% in populations and 5% in species. Where less than 25% of natural habitat remained, the corresponding losses were 63% and 61%. The greatest impacts were in tropical and Mediterranean habitats, while in some temperate areas mild warming has slightly increased species numbers.

Given that in the short term we can't halt global warming, this shows how important it is to preserve natural habitats and to minimise the impact of intensive agriculture by reducing artificial inputs and avoiding monocultures.



## You can't win! Carbon footprint of citizen science surveys

A huge amount of important information comes from the big monitoring surveys organised by charities and conducted by volunteers. One of the most important is the UK Breeding Bird Survey, run by the British Trust for Ornithology (BTO). This survey, alongside the Garden Bird Survey and others, has provided vital information on the status of our bird populations and their response to issues such as climate change and artificial feeding.

Now [Simon Gillings and Sarah Harris](#) of the BTO have bravely addressed the carbon footprint of their survey, which twice a year samples randomly selected 1km<sup>2</sup> areas of the UK. In 2019 this involved 2,765 volunteers making 7,520 visits to 3,914 sites. They travelled a total of 286,000km in the process. 88% of sampled squares were reached by cars, 95% of which used petrol or diesel. Only 1.4% could be made by public transport.

The authors of the report calculate that this amounts to 46.8 tonnes of CO<sub>2</sub> equivalent (tCO<sub>2</sub>e) release. An additional 9.4 tCO<sub>2</sub>e came from trips to remote squares conducted by people on holiday, so not all their travel should be accounted to the survey. To put this in context, the average annual per capita emission by UK adults is about 11 tCO<sub>2</sub>e, so the survey adds the equivalent of about four people, or 15 round trips by air from London to Australia. This is only one of many such surveys, so taking all into consideration the figure will be much higher.

Given the huge value of the data collected, the extra carbon burden may seem justified, but it would still be better if it could be reduced. The switch to electric personal vehicles could save 70% of the emissions, but better public transport would help even more. Wildlife gardeners should rejoice that the Garden Bird Survey has no travel carbon footprint at all!

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## Stiff competition between honeybees and wild bees, Munich Botanic Garden



There's been a long-running debate concerning competition between honeybees and wild bees for floral resources in both rural and urban settings. There's also ample research evidence for the importance of healthy and diverse bee species communities in, for example, the successful pollination of food and orchard crops (see [here](#) for an interesting discussion of urban food growing and bees in Munich, and research from the Danforth Lab at Cornell [here](#)).

A 2021 [paper](#) reports a study undertaken with university students from Munich which showed a significant effect on wild bee foraging in Munich Botanic Garden produced by an increase in the numbers of local honeybee colonies from 2019 to 2020. The statistical validity of the study was subsequently criticised, [eliciting a defence](#) this year from the authors.

Many of us will have our own anecdotal evidence of the suppression of bumble and solitary bee species foraging in our gardens by the establishment of adjacent large honeybee apiaries. However, demonstrating this objectively is difficult and it should be acknowledged that the native black honeybee has an important role in our environment. It's the artificially high density of honeybee colonies in apiaries that causes problems.

## How do heatwaves affect our bees?

If you've been wondering how the heatwaves have been affecting our bees, Richard Comont has written a blog for the BBCT, which you can read [here](#), and also one on [climate change impacts](#).

Large, hairy bees can handle our cool springs and even most of our winters these days (Forum Trustee David Perkins once had an active bumblebee nest in February next to a frozen pond!), but 40°C? Insect flight muscles are some of the most active of animal tissues and the energy expenditure of a flying bee is approximately 500 watts per kg compared with about 20 W/kg for an Olympic rowing crew: it generates a lot of heat that needs to be dispersed. Richard quotes a study of the American yellow-faced bumblebee flying in temperatures of 42°C and trying to cool their heads by regurgitating nectar droplets for evaporation.



[A Swedish paper](#) reports an experiment to test whether high temperatures affect learning and memory abilities in the buff-tailed bumblebee (*Bombus terrestris*, left) as it does in mammals and many other vertebrates. After exposure to 32°C for one hour they found that most 'memory of a learned response' was lost. This could seriously affect their ability to find forage sites in the field, for example, or to return to

their nest. They note, as does Richard Comont, that bumblebees will avoid flying at temperatures over 35°C as then their thoracic temperature reaches 45°C – close to their lethal limit, so cognitive damage as such may not generally be common, though impairment of any kind will hamper a colony's success in a heatwave. They also note that *B. terrestris* evolved in the Mediterranean: cognitive effects of high temperatures are potentially more severe for species of northern or arctic origin. Finally, they consider the impact of high temperatures on brood in the colony. Workers will fan the nest when internal temperatures reach 32°C; larvae exposed to 33°C show maladaptive responses to stimuli, but more research is needed to understand the nature of the damage.

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## Distributed green space in cities better for human health

It's now accepted that green spaces in urban areas are good for people's mental and physical health. 'Green space' covers a great variety of habitats – mown grass, gardens, specimen trees, nature reserves and patches of woodland, for example. What type of green space is best against what sort of human diseases? A group of Brazilian scientists have [tackled this question](#) in the city of São Paulo. They distinguished two types of land use. 'Land sparing' strategies allow heavy human use in some areas, while ensuring other areas are spared for relatively undisturbed native vegetation. 'Land sharing', on the other hand, has less intensive use over larger areas, so humans and nature share the same areas – as in suburban Britain for example.

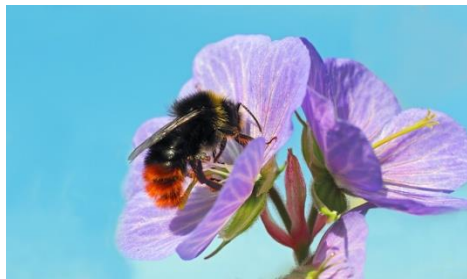
By classifying parts of São Paulo into these categories, the team could compare sickness levels under the two regimes. They found that hospital treatment for cardiovascular disease was lower in land sharing areas while the trees associated with land sparing approaches helped with lower respiratory diseases such as pneumonia and acute bronchitis. On the other hand, upper respiratory diseases such as sinusitis and pharyngitis seemed worse in forested areas due to allergic responses. Both types of land use therefore help different conditions. But cardiovascular disease is both more common and more dangerous than respiratory tract disease, so for greatest impact the land sharing model, spreading green areas throughout cities, is the most appropriate. This is great news for people living in well-gardened suburban areas but shows much more distributed green space should be provided in inner city areas.

# Wildlife gardening and citizen science

## Finding the perfect homes for bumblebees

A careful [analysis of BeeWalk data](#) collected by citizen scientists with the Bumblebee Conservation Trust was published in spring. It provides the most detailed review possible of bumblebee habitat requirements across the UK.

The study analyses the standardised bumblebee abundance records along fixed transects from the 10 years of monthly surveys from March to October each year with respect to national-scale land cover and climate data as well as habitat records from the citizen scientists. Fourteen species were included in the analysis along a total of 2,361 annual transects. Seven classes of land cover (pasture, peri-urban, arable, deciduous mixed forest, water-wetland, semi-natural and urban) and 15 combined habitat descriptions from the recorders were included.



Of particular interest to WLGf members is that the latter included horticulture and orchard habitats (positive effects for a number of species) and gardens (early bumblebees, *Bombus pratorum*, and tree bumblebees, *B. hypnorum*, were both positively associated with gardens, though negative associations were found for red-tailed bumblebees, *B. lapidarius* (left), to a less significant degree, and brown-banded carder bees, *B. humilis*). They consider gardens to be highly

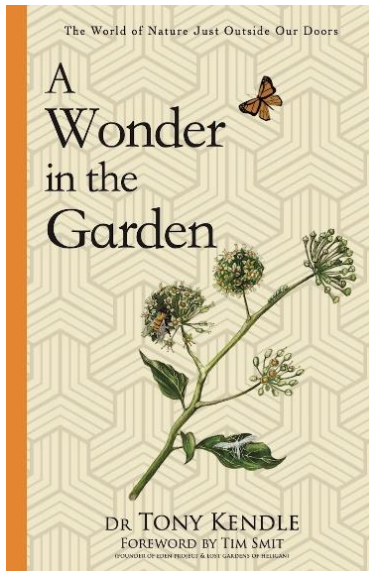
significant as land use cover and potential habitat even for the rarer species, suggesting it's important to see how gardens can be made more suitable for *B. humilis*, for example.

One of the main conclusions from the study is that the relationships between bumblebee species and ecological factors is strongly species-specific and that conservation action needs to take this into account, avoiding broad-brush, generic action for bumblebees in favour of particular actions for particular species (or groups of species). The survey also found strong associations between several species' abundance and 'water-wetland' land use, and the habitat classes of freshwater edge, bogs, marsh and mire. They suggest this is due to wetland areas tending to be the most likely semi-natural, less intensively managed land encountered in the agricultural landscape, and in the urban landscape an association between water bodies and urban open space is frequent. They also note that in drought conditions good forage will persist in these areas. A very interesting and important study highlighting the value of citizen science methodology.



## Book reviews

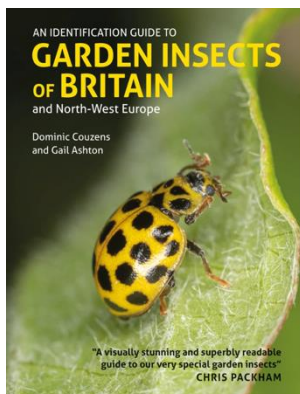
*A Wonder in the Garden*, by Dr Tony Kendle  
(United Writers, 2021) *Reviewed by Steve Head*



Dr Tony Kendle is a soil scientist and ecologist who was instrumental in the creation of the Eden Project from a disused clay pit. In this book he shares his thoughts and enthusiasm about the garden environment and its inhabitant, with the excellent premise that, “a garden can...be a reserve and an observatory, a place where we can learn about life, and somewhere we can give something back”.

The bulk of the book takes us through the *dramatis personae* of the garden, plants, bacteria and fungi, small to large animals, the weather and the soil. I liked his coverage of ‘plant blindness’ and ‘plant senses’, which leads on to plants for birds and pollinators and plant life histories, although I’m sure carnivorous plants use modified leaves not flowers for catching insects. It’s good to see proper coverage of moths, not just butterflies, and of many other interesting but less well-known taxa. As we might expect, Kendle is very good indeed on soils and their inhabitants. I liked his treatment of the annual cycle, and agree that the conventional four seasons is a poor way to define the year. He ends with an overview of our own global ecological impact and looks to the eventual end of the ‘Anthropocene’ and to Glen Albrecht’s ‘Symbiocene’ when we as a species have learned to live once more in harmony with nature.

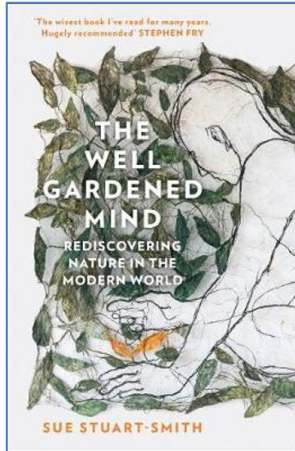
Overall, this is a book to read for inspiration and interest and it had many nuggets new to me, including the discovery of radiotrophic fungi that can use gamma radiation from reactors in the same way that plants use light to make organic chemicals. It has a useful further reading list of sources, but I do regret the lack of an index, which makes it very hard to back-track and reread something you found interesting.



*An Identification Guide to Garden Insects of Britain and North-West Europe*,  
by Dominic Couzens and Gail Ashton  
(John Beaufoy, 2022) *Reviewed by Andy Salisbury*

Choosing only 150 species of garden-dwelling insects to represent the many thousands that can occur in Britain and north-west Europe must have been a near impossible task. The book focuses on the vast range of insects that can be found in gardens and it’s a pleasure to see something in print that doesn’t focus on labelling them as plant-munching invertebrates that should be eliminated. Identification notes and fabulous photographs follow a general introduction into insect biology and identification. Importantly, there’s a guide on encouraging insects in gardens and how to photograph them. The layout for each species is clear and the amount of information, including distribution, similar species, times of occurrence and lifecycles packed onto each page is impressive. While the book only covers a small minority of those insects found in gardens, it’s a great addition to the library of a wildlife gardener. This is a book that will inspire an appreciation of the diversity of insects that a garden can support.

*The Well-Gardened Mind*, by Sue Stuart-Smith  
(William Collins, 2021) Reviewed by Steve Head



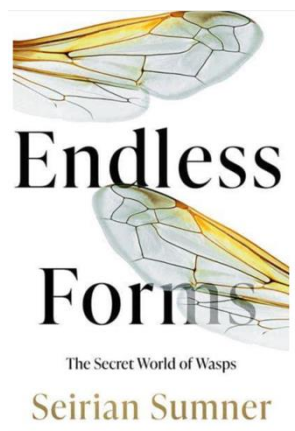
This is a very well researched and interesting book (*with an excellent index!*), which should be grist to the mill for everyone interested in the deep relationships between people and the natural world. It should be a set text for those who haven't yet woken up to the impact nature has on our health and wellbeing.

Sue Stuart-Smith is a doctor, a practising psychiatrist, and a relatively late convert to gardening. She weaves the personal stories of her grandfather and Sigmund Freud as case studies in and out of the text, while taking lessons from Egyptian tombs, the Neolithic revolution and the parallel between neurons and plant roots to illustrate the power of nature – and gardens – to heal our minds. I learnt so much from this book, such as St Hildegard of Bingen's use of the word *viriditas* or 'green truth' as the font of energy on which all life depends, and the role of the soil bacterium *Mycobacter vaccae* on our serotonin levels.

The book has chapters analysing illustrating nature in stress management and depression and the historical origins of agriculture with valuable reference to non-European societies. There is excellent coverage of practical horticultural therapy in management of mental illness and prisoner offending. Her later chapters deal with 'radical solutions', such as enlightened allotment provision by employers in the 1760s, through guerrilla gardening and Incredible Edible spreading worldwide from Todmorden. Her coverage of gardening and war was a revelation, as was the role of gardens in illness, old age and for handling contemporary exhaustion and burnout. Rather beautifully, Sue finishes with Voltaire's, "*il faut cultiver notre jardin*" and his assertion that, "I have only done one sensible thing in my life – to cultivate the ground. He who tills a field, renders a better service to mankind than all the scribblers of Europe."

This book is both an exemplary work of scholarship – backed with a number of selected references and sources – and also an engaging read.

*Endless Forms – The Secret World of Wasps*, by Seirian Sumner  
(William Collins, 2022) Reviewed by Andy Salisbury



Taking the reader on an enthralling journey into the world of wasps, in *Endless Forms* Seirian Sumner confesses to being someone who once flapped and swatted at 'picnic-bothering' yellow jacket wasps. A thoroughly gripping ride it is, too, told with humour and personal experience of what it takes to investigate this much-maligned group of insects.

Due to their defensive behaviour, it's the yellow and black social wasps that seem to get most of the, usually adverse, attention. These social wasps, however, are a tiny fraction of the wasp species with whom we share the planet. In Britain, it's estimated that there are 7,000 species of wasp, and if you include the European hornet just seven of these are social. Worldwide more than 150,000 species of wasp have been described; almost all live

solitary lives and very few have stings. Vital for healthy ecosystems (including gardens) they're mostly predators. Adult wasps provide their grubs with invertebrate food, be this chewed up caterpillars,

paralysed spiders or zombified cockroaches. One of the most common forms of predation is that of the parasitoid wasps, which lay eggs inside other invertebrates, leaving their larvae to consume the host alive from within. By number of species alone, this may be the most common form of predation!

This book inspires admiration not just for the wasps but those who research them; surrounded by thousands of wasps in bullet-riddled ruins, trying to work in tropical heat and humidity or watching the subjects of your carefully planned experiments being taken away by army ants doesn't sound like fun! Written with seemingly effortless clarity, this book helps us discover how social species develop and interact, including explanations of multifaceted theories such as how altruism evolved. Throughout it uncovers the vital role wasps have in ecosystems and culture, in places with a little help from an Ancient Greek philosopher.

A book extolling the virtues of wasps, which is as pleasurable to read as *Endless Forms*, is very much overdue. This book will turn you into a wasp fan and leave you well equipped and eager to answer the enduring question, 'what is the point of wasps?'

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## And finally...



### David Attenborough to take us around Britain's 'Wild Isles'

A new five-part BBC natural history series is due to air next spring, hosted by David Attenborough, in which he will introduce viewers to fauna and flora across Britain and Ireland, focusing on four main areas: woodlands, grasslands, freshwater and marine. It's been filmed over three years and is unique in that it will bring the spotlight back to our own shores, highlighting our own wonderful wildlife. Things to look out for include Britain's ancient oak trees, sea eagles, killer whales, wild horses and even a broomstick-riding bee!

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The newsletter is sent to all the members of the WLGf; you're welcome to forward it to friends or colleagues. Do encourage them to join the Forum (it's free!) by visiting [www.wlgf.org](http://www.wlgf.org) and filling in the simple form.

*The Wildlife Gardening Forum is a consortium of the UK's leading wildlife, conservation, gardening and horticultural organisations, from both the private and the public sectors. We now have over 2,800 members. Formed in 2005, our core aim is to help gardeners and decision-makers understand just how important our gardens are for wildlife.*

Newsletter compiled by Karen Murphy, with Helen Bostock, Andy Salisbury, Johan Ingles-le-Nobel, Marc Carlton, Steve Head, David Perkins, and Ken Thompson. Images from Pixabay and Wikicommons unless stated otherwise.

