Friends of the Roman Road and Fleam Dyke

November 2020 Newsletter 57

Fleam Dyke and the Roman Road, Butterfly Transect Data Summary 2020,

by Roger Lemon

On Fleam Dyke, following the partial lifting of lockdown in Week 7, transect walks were completed for every week of the season, except Week 25. On the Roman Road, all 26 weeks were completed.

A total of 25 species were recorded on each site. The only differences in the range of species were Dark Green Fritillaries on Fleam Dyke and a single Small Copper on the Roman Road. For the first time since we started monitoring in 2007, a Green Hairstreak was recorded on the Roman Road, a species which has been recorded each year on Fleam Dyke. Total butterfly sightings on the Roman Road were almost exactly the same as in 2019 but, on Fleam Dyke, because of the absence of data in the early part of the season, it is not really possible to compare the two years.

Looking at the data for individual species, it was a season of mixed results but unfortunately, on Fleam Dyke, in the absence of sufficient data, the Transect Walker software was unable to calculate indices for four species, namely the Brimstone, Orange-tip, Green Hairstreak and Common Blue. Data on species which occur later in the season were not affected.

The first of our three habitat specialist species, the **Chalkhill Blue** (above) had an excellent year on Fleam Dyke, with an increase of over 30% compared with 2019. Only 2015 gave a better result. On the Roman Road, the very small population of this species continues to hang on, with the same very low number that we recorded in 2019.

The second habitat specialist species, the **Green Hairstreak,** was present in two counts on Fleam Dyke but in the absence of other counts at the critical time of year, it was not possible to produce an index. A single sighting on the Roman Road was the first in a transect count since we started monitoring

The **Dark Green Fritillary**, which appeared in the count on Fleam Dyke for the first time in 2010, but was absent from 2014 to 2017, has returned and numbers have increased from an index of 10 in 2019 to 18 this year.

Moving on to the wider countryside species, **Small/Essex Skippers** were down in numbers on the Fleam Dyke but showed an increase of more than 90% on the Roman Road. After an excellent season in 2018, the numbers of **Large Skippers** were down in both 2019 and 2020.

On Fleam Dyke, it was not possible to obtain an index for the **Brimstone,** which appears in greater numbers in the spring than in the summer, but on the Roman Road, the number increased by more than 70%. The **Large White** was present in smaller numbers on Fleam Dyke than in 2019 but showed a significant increase on the Roman Road. The **Small White** was down in numbers on both sites but was still the most abundant butterfly species on the Roman Road. The **Green-veined White** was present in similar numbers to those in 2019 on

Fleam Dyke and increased significantly on the Roman Road. The **Orange-tip** showed a modest increase on the Roman Road but there were too few relevant counts to obtain an index on Fleam Dyke.

The few counts obtained for the **Common Blue** on Fleam Dyke showed similar levels to last year and numbers on the Roman Road increased after a poor result in 2019. The **Brown Argus** had a good year on Fleam Dyke but on the Roman Road, the index was down by more than 40%. **Holly Blue** numbers increased significantly on Fleam Dyke but fell on the Roman Road after an excellent year in 2019. No **Small Coppers** were recorded on Fleam Dyke this year but a single specimen was seen on the Roman Road.

It was a mixed year for the vanessids. **Red Admiral** numbers were similar to 2019 on Fleam Dyke but there was a significant reduction on the Roman Road with just 4 sightings during the whole season. After a poor season in 2019, the **Small Tortoiseshell** showed improvements on both sites, with very good numbers in the summer brood. **Peacock** numbers were slightly higher than in 2019 on both sites. On Fleam Dyke, only one **Comma** was recorded this year but on the Roman Road the number increased from 5 to 11. 2019 was a good year for the **Painted Lady,** a migrant species, but this year, there was only one sighting on each site.

The **Marbled White** was again one of the highlights of the year. On the Roman Road the index increased from 65 to 84 but on Fleam Dyke it fell from 68 to 42. However, even this number is better than those obtained in any previous year. Hopefully, this confirms that this species is becoming established on our two sites, after many years of zero or very low numbers in the transect counts. The **Speckled Wood** had a generally poor season and the number we recorded on the Roman Road was the lowest in 14 years of monitoring. The number of **Gatekeepers** was similar to 2019 on the Roman Road but showed a considerable reduction of on Fleam Dyke. The **Meadow Brown** was down in numbers on both sites. Although numbers were still above average on the Roman Road, it was the worst season so far for this species on Fleam Dyke with a reduction of 76% compared with 2019. The **Ringlet** also had another poor year on both sites with the lowest numbers so far recorded. On the other hand, the **Small Heath** had a particularly good season with the best results so far on both sites, although numbers have always been lower on the Roman Road than on Fleam Dyke.

It is still difficult to judge the impact of the extensive scrub clearance in sections 1-4 on Fleam Dyke. The Green Hairstreak was the species we were most concerned about but fortunately, total numbers don't seem to have been affected, although they are now found in different parts of the site.The reduction in numbers of some of the browns or satyrids may be

linked to the clearance but a closer study of the data will be required. Weather conditions may also have played an important part.

> * The index is a measure of abundance, which is calculated for each species. It is the total number of butterflies recorded in the transect counts, adjusted, where necessary, using estimated numbers for any missing counts or where weather conditions were not within the guidelines. Where several weeks have been missed, as on Fleam Dyke in the early part of this season, and this coincides with the peak season for a particular species, it is not always possible to calculate an index.

That's enough about Butterflies,' the Gryphon interrupted in a very decided tone: `tell her something about the Bees now.'

The Ivy Bee, by Bill Clark

On Oct 1st 2015 I was walking with my wife Wendy past the Wandlebury Play Area, when I saw a couple of 'strange' bees quartering the south facing chalk bank, closer inspection revealed nine fresh looking holes, and a similar yellow and black striped bee flew out from one. I thought I had found a new species for Cambridge, but my reference books showed that it had been spreading northwards since 2002, and had been recorded as far as Lincolnshire and Yorkshire. A bee-keeping friend said it was doing very well on the Gog Magog Golf Course!

I believe 2018 was a problem year for the Ivy Bees - *Colletes hederae*. I have always thought that most solitary bees must live 'on the edge', for most of them rely on a very small group of plant species and also have a tight breeding schedule, so our erratic weather must play havoc most years. I was surprised to see the first Ivy Bees a month earlier than usual, but as we had a very hot/dry early summer and then rains and coolness in August, perhaps some pupae were fooled as to the arrival of the autumn season: anyway, with no sign of ivy flowers they had to resort for their sustenance to the few thistles and wild-marjoram still flowering. None of them were collecting pollen, but then true to form, the majority emerged around the usual date, except that by then the few flowers on our - earlier than usual - drought stricken ivy had almost finished.

The nine holes that I surmised were the exit holes of the progeny of the 2014'first arrivals' on Wandlebury had escalated to many hundreds in 2017 autumn but in this 2018 autumn the number of worked holes are 75% less than I expected - few bees finally emerged - I do know that occasionally the pupae of solitary bees can go into a second and even third season, so perhaps this is one of those times. I wonder too, if perhaps there may have been pollen gathering problems caused by our wet and windy weather during the 2017 autumn, as many of them were on the small side, and rather lethargic, as can be seen by the female on my finger, but it does help tremendously with close up photography!

Update for 2020.

The 2019 autumn - winter I believe has been reasonable with us, the 2020 spring was early, and we missed the heavy rainfall of other areas, and although we had a drought with days of high temperatures in the summer, rain arrived in time for the blackberry and the ivy, which in common with most other crops throughout the year flowered at least two weeks early. I visited an ivy-covered dead stump close by on 1st September to monitor progress, and found

it just starting to flower - but already smothered in various flies, ladybirds and wasps, and tmy surprise, a few hundred male C. hederae! I decided that the 14th - if it was sunny - would be about right to visit the breeding grounds, in order to view the females working. On the day - with my wife Wendy - I walked to the area where we had found the nine or ten open holes in 2015 and hundreds in 2017, and saw only five or six males quartering the ground and three open holes!!

Disappointed, we walked toward Clark's Corner some 400m distant. Whilst still 100m from our destination, I asked Wendy if she could hear humming - she could. I sniffed the breeze, it was coming from the direction of the busy A11, we both decided that the sound was the drumming of tires on tarmac, but as we walked the humming grew louder and instead of still looking ahead to our expected patch of holes in the wide path, I turned toward the roughly grazed grassland to our right, and realized there was a cloud, 20cm high, of thousands of male C. hederae flying back and forth over every millimetre of about half a hectare of the meadow!! Upon stepping into the melee and looking closer, I could see hundreds of small holes in the turf, with here and there a ball of males clustering around a just emerged female. Over the last few days of September I have looked at the ivy-clad trees on our boundary with the golf-course - the honey-like smell assails the nostrils from a distance - all covered in a cloud of both C. hederae and Apis melifera. My close-up of one of the ivy flowers shows what is causing all the excitement.

However, all of this has all given me a puzzle! The first of the C. hederae to arrive in 2014/15, dug their holes in almost bare ground and mostly south facing slopes, as most of our other ground nesting bees do. I have always thought this was in order to take advantage of the warmth of the sun. So what had caused this sudden change? There are now hardly any holes in the original first dug areas - not even emergent holes. Most of the new holes are difficult to see in the rough grass, but they are as numerous as those in my photo, which was at a spot were they spilled onto the wide pathway. It cannot be that the original bees died or have been predated, for where would this massive upsurge in numbers have come from? They are certainly acting differently to most of the other species of mining bees that I know. I have seen some occupying the same patch for many years, and in some cases research revealed that folk had known of them for perhaps generations back - a small group of Hairy-footed flower bees, Anthophora plumipes, have lived in a small patch of wall near my home for the last 44 years, yet only during the last five have I seen them occupy three new areas of wall - and still only four or five holes at each place still!

Leaf-cutter bee and lockdown, by Christine Newell

Early in spring I put up a solitary bee nest box on the wall by the back door, consisting of a simple wooden open-fronted box, stuffed with hollow lengths of stem harvested last year from a lovage plant. In July I noticed a large leaf-cutter bee, about the size of a honey bee, approaching the nest box, carrying a rolled-up piece of leaf underneath her body. She tried several times to take it into one of the tubes, and each time had to back out still carrying the leaf disc, as it was too big for her to put in such a small tube. Eventually she gave up and flew off with it. She was evidently one of the genus *Megachile*; over the next few days I would occasionally meet her by the back door, and she would attempt to chase me away. At first I thought we had just collided by accident, but after this happened several times, I decided it was indeed a deliberate attempt to keep me away from her nesting place. The leaf-cutter bee makes several cells inside the tube; each cell is provided with a mixture of pollen and nectar by way of food, and an egg is laid. The cell is then sealed off with a leaf disc, and another cell made in front of it until the tube is full. Cells at the end of the tube usually produce female bees, while the outermost cells produce males. She finished off her first tube with leaf discs, and started on a second, much larger tube, and I spent ages trying to get photographs of her for identification purposes. She had a loud and distinctive hum, and I could tell when she was approaching from some distance away. On one occasion I was stationed close to the nest-box with my camera, and when I heard her coming, I quickly focussed the lens on the nesting tube in preparation for the photo; I listened to the hum getting louder and louder until it suddenly stopped – turning my head slowly, I realized that she had landed on my shoulder! On the last, very hot, afternoon when she was finishing off her second nesting tube, she was so intent on getting the job done that I was able to stand quite close with my camera without scaring her away. She cut and collected at least 7 leaf discs to pack into the end of the tube; she dropped a couple and I wandered round the garden with them trying to find out where they had come from. It was obvious when she came flying in holding onto them, that it wasn't easy to fly properly, so the bushes had to be close to the house somewhere. Some of the leaf-cutter bees commonly cut discs out of rose leaves, but I was able to identify redbud (*Cercis*), St. John's Wort (*Hypericum*), and Mock-orange (*Philadelphus*) as well as rose. She seemed to be in a desperate hurry to finish up and the leaf discs became increasingly untidy, until the last one was barely attached at one side. Finally she disappeared and I thought that was the end, but then she came back one last time and sat in the sun on the brick wall next to the nest-box, and I was able to take one last photo which could be used to estimate her body length. Leaf-cutter bee identification is not straightforward, but most probably she was *Megachile ligniseca*, the largest of the 7 species found in this country. She occupied a significant amount of time during lockdown, but also was the source of great interest and amusement, and I look forward to the emergence of her offspring next year.

Honey bee swarm and lockdown, by Christine Newell

Halfway through July, I was in the garden in the early afternoon when I heard a noise like a train coming; previous experience suggested that it would be a good idea to take cover, so I duly raced for the back patio. Sure enough a few seconds later, the air was filled with buzzing honey bees. After a short time they headed for a composting bin at the side of the garden, one of the conical types which the council gave out free many years ago. Eventually things quietened down and I was able to go and investigate; the swarm had gone inside the compost bin, the bees getting in by way of the lid which had a small gap on each side where the plastic had been moulded to make handles. Luckily Bill Clark at Wandlebury was able to suggest a local bee-keeper, and an extremely pleasant couple arrived to collect the swarm. While I watched from a safe distance the beekeepers transferred the beginnings of a wax comb which the bees had already made in the space of a few days, from the compost bin to a wooden box, as that most likely had the queen on it somewhere. They then scooped up handfuls of bees from the bin and put them into the box – with thick gloves on of course - commenting that although the bees were rather smaller than usual, they were very docile. The wooden box was then left on top of the bin until nightfall so that remaining bees would enter it as their new home, as that was where the queen now resided. I had noticed several bees around the lid of the compost bin earlier in the day on which the swarm arrived, and just assumed they were visiting flowers around the bin. I learnt, however, that on the day when bees in a hive decide to swarm, scouts are sent out in various directions to find a suitable new home, and they then report back to the hive. Evidently the scouting party which found my compost bin gave a good account of it to the rest of the hive, and consequently the swarm headed for my garden. The beekeepers came back later in the evening to collect their box, in which by now, the entire swarm was housed. It was with huge relief that I saw them being taken away, as I had had to steer clear of that part of the garden while they were resident in the compost bin. Perhaps I should have left them, I could have had my own supply of honey …

Roman Road and Fleam Dyke Winter Management Work 2020-2021

In September Hunt's Wildlife worked along from **Copley Hill,** digging out small bushes and suckers from the hedge all the way down to the Fulbourn footpath. In April 2021 they will cut and rake off where necessary. The Golf Course Bank will also be cut and raked off. Some digging out of scrub may be needed. Despite all our work over the last decade, it is the increasing height of the golf course hedge which prevents this small site regaining the range and variety of flowers it once had. In other winter work on the Roman Road, Hunt's Wildlife will join Iain Webb and the Mid-Week Volunteers to deal with scrub regrowth using small tree poppers, or brush cutting followed by chemical treatment of cut stems. At **Mount Farm**, with the Mugwort now under control, the Barren Brome will be treated with a specific herbicide.

The Fulbourn end of the Fleam Dyke was cleared at considerable expense and without an obvious follow up plan. The section of the dyke between the disused railway and Mutlow Hill has become very full of little bushes and brambles. I am hoping that Hunt's Wildlife, perhaps working with the Mid-Week Volunteers will bring it back to the state it was in before Iain Webb and the Mid-Volunteers were transferred to work on Trumpington Meadows. This ambitious project, which brought much needed money to the Wildlife Trust, has created a marvellous new nature reserve, full of flowers and butterflies, but other formerly well managed parts of the Fleam Dyke are now rapidly reverting to scrub.

On the **Juniper end of the Fleam Dyke**, Hunt's Wildlife have continued to try to eliminate the Mahonia. Glyphosate runs off the shiny leaves, so they bash the leaves with a wire brush before painting on the chemical. (Patent pending!) This work has been paid for by Butterfly Conservation Cambs & Essex which has also paid for some more brush cutting in continuing support of our work to conserve the Chalkhill Blue.

By contrast, **the A11 end of the Fleam Dyke** has been increasingly covered with scrub, with large Elder bushes growing up from the ditch and an army of Hemlock spreading among them. I applied to the Green Recovery Challenge Fund for £50,000 to be spent over two years. The sum would also have paid for replacement of the information boards, a '3 season' survey of invertebrates by Peter Kirby and a reprint of our Walk booklet. However, our application was rejected because they said "**You do not meet the criteria (!) of being an environmental charity registered with the Charity Commission."**

What they meant is that we are not registered independently because we were set up by the Wildlife Trust BCN to conserve and enhance the fauna and flora of the Roman Road and Fleam Dyke. We are an extremely efficient charity. We have almost no administrative costs, spending most of our money directly on conservation. We **cannot** register as a charity because we do not keep £5,000 in the bank. Because of this we cannot claim Gift Aid; and we cannot have Direct Debit; and we do not qualify for a grant from the Green Recovery Challenge Fund which would help us to deal with the scene below.

Above, mixed scrub growing up to the gate leading to the A11. This overgrown path leads to the road. For 400m from here to the big ash tree and the juniper section, the slopes of the Fleam Dyke need bushes to be dug out or treated with glyphosate. In the ditch to the left there is a mass of elder trees interspersed with Hemlock.

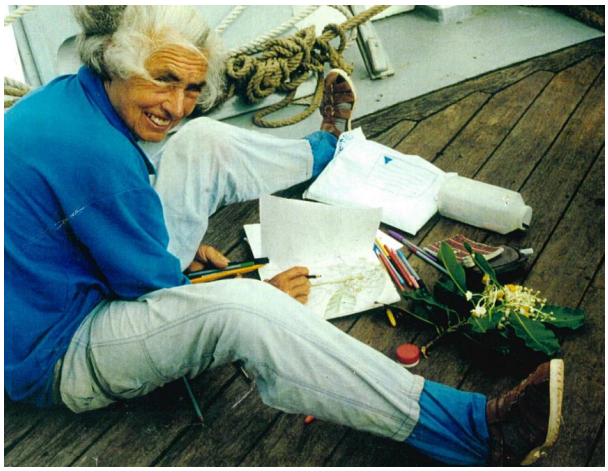
Left, looking towards the A11 from the Bedford Gap. This is what it should look like again, **if we can find the money.**

Looking down the back of the sofa £ £ £ £For the last ten years, the Friends have spent an average of £3,000 a year on contract work to conserve the rare chalk grassland flowers of these sites. The money came from subscriptions, donations, a variety of grants and fund raising events. Subscriptions and donations usually bring in about £2,000. This year we received £2,500 from the Binks Foundation, a generous donation which will be repeated next year. I have also applied to a new grant finding system called BREVIO. Does anyone know anything about this novel approach to matching donors to charities?

Members, what else can you do? Please try to recruit some **new members**.

Practical Conservation Sunday morning work parties can get a lot done. Let me know if you could help, especially if you could take charge of a group?

Please check your Standing Orders. Have you paid the full **£15 subscription**. Could you perhaps add another £10?



Marjorie Powell – Botanist, explorer and illustrator

Those of you who took part in work parties with Sharon Hearle, will certainly remember Marjorie Powell, with her wild grey hair, amazingly deep blue eyes, gap-toothed grin and stories of sailing in her own boat, flying the black and white flag of Cornwall. On one work party I said I was looking for good flower drawings. She fished in her satchel and produced a folder of beautiful, and botanically correct drawings of flowers from the Santa Lucia Cloud Forest Reserve.

As the photograph shows, she worked only from life, using chalk water colour pens – in a cloud forest. Quite a problem. You can see her drawings in Newsletter No. 30, 2009 and Newsletter 36, 2011. She planned to do more, but a fall from her bicycle restricted her life. She continued with deteriorating health but dogged independence, living up a rickety staircase in a flat over a garage attached to a house which she did or did not own. Worries about her health were brushed away, but she was very concerned about the future of her drawings. Thanks to the wonderful Web, Dr Adrian Goodman got in touch from the University of Lincoln, and in 2017 she donated all her drawings to the Joseph Banks Laboratories there. She died in June 2020. As with all good legends, the date of her birth remains uncertain.

Marjorie gained a PhD in Horticultural Science at the University of Reading UK. She spent most of her working life at the Glasshouse Crops Research Institute near Peterborough. Later, with VSO, she worked in Agricultural Research in Bhutan (ICAR) for three years and then travelled throughout central and South America for four years. With Rainforest Concern, she went to Ecuador and the Santa Lucia where she completed a comprehensive survey of the flora of Santa Lucia. The resulting illustrations and botanical descriptions provide a valuable teaching resource for students and visitors to Santa Lucia today.

With best wishes to all our members for a Happy Christmas and a New Year when we can all be gradually liberated from the fear of COVID 19

Julia Napier, December 2020

frrfdjin@freebie.net 01223213152 www.frrfd.org.uk