



Friends of the Roman Road and Fleam Dyke

November 2012
Newsletter 39



White Forms of a Purple Flower by Christine Newell

The beautiful purple flowers of Greater Knapweed are a familiar sight along the Roman Road and Fleam Dyke. Not infrequently, however, white flowers appear among the purple, an interesting phenomenon which has given rise to the following musings on flower colour.

Anthocyanins, from the Greek *anthos* = flower + *kyanos* = blue, are water-soluble pigments that appear red to blue, depending upon pH or acidity. Because they are water-soluble they are found in the cell sap, and are most visible in the petals of flowers, although present in all tissues including leaves, stems, roots, flowers and fruits. You can check out the pH colour change for yourself by crushing a red rose petal with the back of a spoon on a white plate; add either vinegar (acid) or baking soda (base) to the extruded sap and see the colour change.

Anthocyanins belong to the flavonoid class of molecules. Examples include delphinidin (a tri-hydroxylated glycoside derivative, for the chemists amongst us), which gives the blue hues to Delphiniums and Violas; the bright blue pigment in the Cornflower, *Centaurea cyanea*, comes from protocyanin, while malvidin is primarily responsible for the colour of red wine. Other frequently occurring pigments are glycosides of cyanidin, pelargonidin, peonidin and petunidin. Interestingly, these pigments are not found in some plant groups, including cacti and the beet group, where compounds called betalains are responsible for the intense red to purple colours.

Sap-soluble anthoxanthins comprise another major group of flavonoids, and these are responsible for colourless or white to creamy or yellow colours, found in cauliflower, onions, white potatoes, and bananas, to name but a few. Carotenoid pigments, on the other hand, are not sap-soluble but reside in bodies in the plant cell called plastids, and they give rise to reds, yellows and oranges.

The biochemical pathways of these compounds are extremely complex, but basically a series of discrete enzymatic steps is responsible for the final pigment; thus any, even minor, disruption in the mechanism of the enzymes by genetic or environmental factors, would have the

effect of halting anthocyanin production. With respect to Greater Knapweed, while not knowing exactly how white flowers are being produced, there is a good chance that some genetic perturbation is at the bottom of it. A small experiment is being carried out at home to see whether the white flowers are carried through into the next generation, and if so, whether the ratio of white flowers to purple can tell us anything about the genetics of the process. Results, if meaningful, may appear in a future issue of the Newsletter!



Roman Road, Scrub Clearance south of Copley Hill

in the spring of 2011, about a third of the south verge north of the footpath to Fulbourn was cleared and the cut scrub treated, using the money raised at our Tenth Anniversary Event. A week or two later, an equivalent length was cleared by a County Council contractor who must have misread his instructions. Our contractor, Bernard Hunt, then treated the scrub on that section. There followed eighteen months of drought, and though a range of calcareous species was visible, things did not look very promising. However, rain in April and then torrents of rain in June 2012 led to an astonishing emergence of chalk grassland species; a range of grasses, mostly False Oats; plus quite a lot of the sort of wind-blown 'weeds' such as Creeping Thistle and Sow Thistle. The Greater Knapweed flowers were exceptionally large and brilliant. Some surviving Small Scabious had flowered in the dry summer of 2011, but there must have been many more waiting dormant. Normally about a foot high, in 2012 these grew to three or four feet and flowered abundantly.

Above, with thanks to Shelley Signs, are some of the flowers to look for on this site next year. From the left, Hoary Plantain; Wild Basil, a good butterfly and bee plant; Lady's Bedstraw, which smells of summer meadows; Common Knapweed, which, like Greater Knapweed, is another favourite of butterflies and bees, especially the red-tailed bumble bee; Horseshoe Vetch, and Agrimony. In addition, clearance revealed a large quantity of Rock-rose. Burnet Saxifrage was abundant, plus a small amount of the confusingly named Salad Burnet, a few plants of Dwarf Thistle and lots of Hedge Bedstraw, the white flowered cousin of Lady's-Bedstraw. Other flowers present, not specifically chalk-loving, were: Bird's-foot Trefoil, White Campion, Mignonette, the wild unscented variety, and Common Sorrel, a food plant of the Small Copper butterfly.



If you do not know what all these flowers look like, you can look them up on our **website** at www.frrfd.org.uk There is a 'gallery' of flower photographs taken by **Christine Newell**, (left) who recently retired from CU Plant Sciences Department and now has, or had, more free time until we asked her to update the website. The site includes a gallery of butterfly photographs taken by Val Perrin, a former butterfly recorder for Cambridgeshire VC 29, 'Old Cambridge'.

Nearer the Fulbourn footpath, there is a small sandy area of the verge where the dominant plants are White Campion and Common Sorrel. It would be interesting to see if we can increase the number of Small Coppers. Apart from its food plant of docks and sorrels, and a variety of nectar sources in the summer months, this gleaming little butterfly needs the bare, sun-warmed soil of a well used path or track on which to bask. It also needs protection from a mowing machine, because it overwinters as a caterpillar on the undersides of the leaves of its food plant. I hope to adjust the mowing with this in mind.

Mr Bennet's Piece

Also in the spring of 2011, the Land Manager of Babraham Farms, Peter Bennet, very kindly agreed to flail the long section of low growing brambles and clematis just south of Copley Hill merely to hold the jungle at bay. With no normal spring rains, this northern section remained for months looking like a piece of pointless tidying up, as if a wildlife site should at least look neat. Several tours of inspection suggested that nothing much could be expected, except that among the enormous rabbit holes there were two surviving patches of Rock-rose, unknown to existing records.

May 2012 changed the picture entirely. Suddenly this uninteresting bit of verge turned out to have preserved a useful collection of calcareous flora: quantities of Greater Knapweed and Common Knapweed, Wild Parsnip, Lady's Bedstraw, St John's Wort, several plants of Salad Burnet, Hoary Plantain, Rest Harrow and others.

Help from Robert Todd, Copley Farms

How could this happy state of affairs be maintained? The answer came in the shape of an offer from Robert Todd, the owner and manager of Copley Farms, who also owns Mount Farm near Worsted Lodge. He suggested that his game-keeper, Julian Bye, would flail any section of the Roman Road for us while working in the area. Julian advised flailing the section, leaving it to dry out a bit, and then flailing it again. He said that in his experience this reduces the mulching effect and allows existing grass and flowers to take hold. Since the alternative would be rather expensive 'weed-wiping', I accepted the offer gratefully. Unfortunately, his Allen Scythe cannot cope with the slope of the agger, but the inner section of the verge has been done and looks promising.

Further South down to Worsted Lodge, the main site is looked after by **Iain Webb and the Mid-week volunteers**, who have been mowing and raking off systematically, as usual, leaving reservoirs of grassland uncut for overwintering invertebrates, while continuing to push back the scrub that was once so dominant here. It is this sort of work over twenty years which has led to the return of **Chalkhill Blues to the Fleam Dyke and now the Roman Road**. The unexpected arrival of **Dark Green Fritillaries** on these sites is the result of the spread of violets in areas previously covered with scrub. For no obvious reason, Green Hairstreak numbers were up on Fleam Dyke.

Flowers for your Garden

Apart from these successes, this year was fairly bad for butterflies everywhere. From Butterfly Conservation to John Humphries, voices urged us to "plant wild flowers in your garden". Simultaneously, the wonderful Olympic Stadium gardeners produced banks of wildflowers, and the Cambridge University Botanic Garden had a marvellous wildflower display. **However, be careful!** These were cornfield annuals, boosted with similar annuals from California and South Africa. They have a limited flowering season. Many of the flowers listed on page 2 can be grown in a garden. **Greater Knapweed** and **Common Knapweed** are perennial and drought-proof. Dead-head for more flowers. **St John's Wort** looks handsome in a border. **White Campion** reseeds itself and produces flower after flower all summer, lighting up a dark corner. The smaller **Wild Basil** has wind-born seeds which travel further, but seedlings are easy to pull up. **Bird's-foot Trefoil** thrives at the edge of gravel or paving. Both can be cut back when apparently finished and will flower beautifully in September. Best of all for smaller butterflies, bees and hoverflies is **Marjoram**. Seeds can be collected from minor road verges but I recommend plug plants, available from Linda Laxton's British Wildflower Plants, which supplied the Olympic Park. www.wildflowers.co.uk

Via Devana No longer by Anthony Godsell

Life likes a gap to wedge itself into where it then exploits the resources available and can romp away with abandon. Just think of those pesky weeds between paving slabs: and envy them, perhaps. I find myself in a gap in my life. Recently, separation from my wife and a return to my childhood home (to my parents' great delight) has led to a new feeling, within me, at least, of the beginning of new life and all the excitement and anxiety that goes with that. And it is not surprising that being back in Fulbourn and the opening of this new old ground has brought about the emergence of many memories like weed seeds and roots just waiting for the lifting of the accumulated weight of detritus that goes with being settled for a long time. As a supply teacher I have the odd day off during the week and I have taken to revisiting some of the places I remember from my childhood. One of these is the formerly named Via Devana, the Roman Road that runs past the village, and through quite a large part of my life. It has been a backdrop to dreams and daydreams from when I first started to explore it.

One of those gaps we all experience occurs in the school holidays, those lacunae between the four-square organisation of the terms' timetables. These spaces give air to daydreams and the fuel for me came from the books I read. The most combustible combination was for me the epic fantasies of Tolkien, and the tantalisingly history of Iron Age hill fort dwellers in Wandlebury and the Romans who built the road. Middle Earth had vast impenetrably dark forests of sentient trees with elves and giant spiders, and long-toothed chains of mountains with orcs and dwarves; I had the Gogs. I don't believe that I have ever told anybody before but I yearned to find, hidden in the most neglected and overgrown corners of this long strip of wilderness this remaining hint of a long lost world threaded between what I always felt was a more debased industrial scale modern world, an item of ancient power and magic (preferably shiny and sharp) that would mean that I was about to be involved in an adventure that would make any brave heart quail. But the world of Faery remained resolutely removed from our own and I still haven't found my enchanted sword, my ring of power.

I remember that the antidote to being completely lost on the road to Faery was the constant drone and splutter and rasp of a variety of aircraft circling Marshall's airport, indeed the sound of the 'infernal' combustion engine couldn't be completely escaped anywhere on the hills as the Road runs through farmland complete with tractors and combines and a multitude of other farm hardware. But my secret place was more immune than others. One summer, motivated by boredom (a highly underestimated and very useful spur to action, eventually) and nagging mothers (you'll have to ask them for their side of the story), I and at various times any one of three friends decided to roam the Hills and explore the corners that we hadn't yet nosed around in. In this way we found ourselves, Tim and I, creeping carefully through the wood on Copley Hill. Deep inside it was still, cooler than beyond the edge of the trees, and above all in a little clearing kept free of thick undergrowth by the canopy of a large tree it was as silent as any place I have experienced in Cambridgeshire. All sound from outside was muted by the thicket, or nulled by the white noise of the leaves of the tree-tops hissing in the light breeze above the wood. The tree trunk, I remember, had traces of initials carved into it. I can't remember now what they were but I hope, if it was you, you can go back and run your fingers over the stretched, roughened letters and remember what brought you there the day you carved them.

The Road was also a test track for any new bike that any of my friends ever got. It represented the toughest terrain near to hand. Pedalling down the rutted and channelled track between green walls of thorn, beech and bramble gave an agreeable adrenalin rush and the sensation of great speed – even if the reality was probably more like a quick running pace. We had a circular ride out of Fulbourn: along the Babraham Road, turn right along the Road and then either exit at the top of the Gogs and go left, past the Beech Woods and over Lime Kiln Hill and back via Cherry Hinton; or

the more likely shorter route turning left out of the Road and plunging down the long straight towards the village going behind the windmill.

I haven't been back to walk the Road possibly for twenty years or so, my memories being mainly from the 1980s and early 90s. By pure chance I had an unexpected day off when I was expecting to be in a school and I chose to renew my acquaintance with the Road. It was there, while finding that the wild sprawl and tangled skein of underbrush and bramble which I remembered fondly had been cut back, that I met someone I didn't at all expect to meet, a lovely lady not intimidated by a strange man wandering by himself in the backwoods. She breached the usual very English reserve that I habitually feel with a greeting, saying that it was all her fault. She explained that the cutting had not been done to tidy up the unsightly wilderness, but it had been done to give rare and beautiful plants native to the chalk hills a chance of re-establishing themselves. And we got on to the topic of reminiscences...



This page needs a picture. What better than Graham Easy's beautiful stoat, also going for a walk. Furthermore, I did see one crossing the Roman Road near the Fulbourn footpath.

More Mystery Clearance, this time on Fleam Dyke

Some time in the spring, the footpath between Balsham and Dungate Farm was blocked by a fallen tree and scrub regrowth. Contractors for the Countryside Access Team of Cambridgeshire CC dealt with it, but scrub regrowth nearer Balsham continued to be a problem. Before the Friends' Walk on 30th September, Roger Lemon checked that the path was clear, which magically, it was. But cleared by who?

Cambridge Ramblers to the rescue

Jill Tuffnell, a member of CRC, sent the following explanation and answers to my questions. The Cambridge/South Cambridgeshire Group of the Ramblers Association has a small 'clearance' group which helps to cut back vegetation which impedes the rights of way in our area. We recently provided a small group to help cut back brambles, trees etc restricting the easy use of the public footpath along the Fleam Dyke – covering both the Fulbourn and Balsham ends of the Dyke. The clearance group is willing to help cut back vegetation obstructing rights of way throughout both Cambridge City and South Cambridgeshire. Just get in contact with Jill Tuffnell (jill.tuffnell@ntlworld.com). However, if the obstruction involves crops on a cross-field path, this is the responsibility of the landowner, and on a field-edge path the responsibility rests with Cambridgeshire County Council. All obstructions to rights of way should, in the first instance, be reported to Cambridgeshire County Council.

What is the difference between the Cambridge Group of the Ramblers Association and the Cambridge Rambling Club?

The Cambridge Rambling Club (CRC) was founded in 1927 and so pre-dates the Ramblers Association, both nationally and locally. (The National Federation of Ramblers Federations was founded in 1931, and became the Ramblers Association in 1935.) The CRC really only exists to provide a varied walks programme, both locally and further afield for weekends and the occasional

week. There are three local walks for walkers of different abilities on both Wednesdays and Sundays. On Thursday evenings in summer there is a further walk. The CRC is affiliated to the Ramblers Association, as well as HF Holidays. CRC subscribes to the Wildlife Trust BCN, Cambridge PPF, the Friends of the Roman Road and Fleam Dyke, Mountain Rescue, the YHA and others. The annual membership charge is only £4.00. Fifty per cent of the 400 members are also individual members of the Ramblers Association.

The Cambridge Group of the Ramblers Association (RA) covers individual members of the RA living in Cambridge City and South Cambridgeshire: these total around 800. The Ramblers are concerned with a wide-ranging agenda, including keeping a watching eye on proposals to divert, extinguish or create new rights of way, monitoring of the condition of paths and some clearance work. The Group is also concerned with studying planning applications which impact on rights of way, such as wind farms and other new developments. The national HQ is concerned with major policy issues, such as Access Land, coastal access plans, changes to National Trails maintenance etc. The Cambridge Group of the Ramblers Association provides one Saturday walk each week and usually one Monday walk – so that there is no clash with the CRC. They no longer provide trips away from Cambridge. Many regular walkers are also CRC members.

The work done on Fleam Dyke was carried out by members of the CRC and others. The tools (loppers, saws etc) are owned by the Cambridge Group of the Ramblers. Volunteers come from both groups.

Chilford Hall Summer Visit, July 1st

Last year, Mrs Fiona Alper, the owner of Chilford Hall suggested that we held a summer event there. The plan crystallised as a walk round her meadow and a nice tea in the old Barn. Two years ago a quantity of orchids had appeared there and Mrs Alper was interested to know what they were. A fortnight before our event, the Great Hall and the Barn, both eighteenth century wooden buildings, were destroyed by arson. An irreparable loss.

However, rather than cancel two weddings and our less important event, Mrs Alper and her staff hired a marquee and coped wonderfully. Elfrida and friends produced half a dozen top-quality cakes to add to the very nice tea, and a collection of top-quality botanists scoured the meadow identifying plants, which Elfrida listed. The orchids were mostly Bee-orchids, about which botanists are getting rather blasé, but Edmund Tanner said there were more than he had ever seen in one place before. There were also a few Pyramidal orchids. Otherwise the range of species seen was unremarkable. It is probably too long since the fields of Chilford Hall were herb rich sheep pastures, but there was some Dwarf Thistle, and the strikingly handsome Cotton Thistle.

Thanks to the generosity of Mrs Alper, who very kindly waived her costs, we made £300.

Roman Road Fleam Dyke Walk 30th September

This was a shorter version of the walk with which we launched the Walk booklet. Seven walkers set off from Wandelbury car park. They were joined by others at the Black Bull at Balsham. Some settled for a lift home after a sociable picnic lunch in the garden. Everyone bought drinks, some bought food, and the landlord bought ten copies of our Long Walk booklet for £2 each.

Work Parties

On 21st October, there was a work party at the Fulbourn end of the Fleam Dyke. Mr Townley's plan to return several hundred yards of the dyke to sheep grazing depends on certain agreements on fencing, which are not in place yet. Nine supporters turned up and, with Iain Webb, worked through a grey morning which turned into rain. **The 18th November**, by contrast, was brilliantly sunny. The plan was to tidy up the very steep slope of the dyke just north of Mutlow Hill. An equivalent number of people came to help. A miscalculation in the layout prevents me from listing names as usual, but sincere thanks to all.

Conservation Enhancement Scheme

In 2011, Natural England was given money by DEFRA to improve grassland management on SSSIs. The 2006 scheme involved total clearance of almost one kilometer of scrub, which was then chipped and left on site. A few weeks later this was found to be a bad idea and the chippings were removed. For the next three years, the Roman Road was flailed three times a year, thus maintaining fertility and mulching any surviving chalk grassland species. In 2010 the central track was maintained by the CCC Byways cut and the rest was left.



2011 saw the first year of the new CES scheme in which this machine mowed and baled the arisings as it went. The result was a marked reduction in the 'thatch' which had built up over the years, making room for the flowers we want to see. There followed, as we all know, record quantities of rain. The long drought had held back plant growth and when the rain came, plants flowered spectacularly and doubled in height and quantity.



As a result, the machine operator was compelled to cut long sections of grass, and then go back, scraping up the sodden cuttings and dumping them in piles for collection on a third journey.

Deadman's Hill, just north of the Hildersham road.

Even so, the site is far better cut than uncut. The only serious objection is that this very large site is yet again receiving one-size-fits-all treatment, despite the existence of the 2007 Management Plan which specifies that there should be variations of long grass and shorter grass, with areas left alternately to provide a reservoir for invertebrates.



Mr Bennet's Piece, left, runs from Copley Hill and Mile Road to the ivy-covered sycamore and refers to the initial clearance here. See page 3. With thanks also to Robert Todd and Julian Bye for the recent flailing work.

How many problems can you spot? The bank of the south verge, where the best flowers are, is 3ft deep in brambles. The hedge is getting too high. The big sycamore is full of ivy, which will not kill it, but which may bring it down in a gale. The beautiful beeches, once a beech hedge, have shaded out a formerly wide, flowery verge.



Mutlow Hill, 18th November, 2012

Twenty years ago the whole of the western half (left) of this obviously amateur panorama was covered with scrub and small trees, the stumps of which are still visible here and there as shown in a photo taken by Sharon Hearle. Does anyone remember what the eastern half looked like in the 1990s? Regular mowing improved the western side steadily, and by summer 2009 it was full of chalk grassland flowers, including some Rock-rose. Several small butterflies flew up from the turf as you stepped through the gate. Two years of dry summers, and a huge increase in rabbit numbers, have left the turf badly damaged. Meanwhile on the eastern, (right) side, Old Man's Beard flourished despite annual mowing. In the winter of 2010-2011, the clematis was extensively treated using money raised by the Friends. Iain Webb has seeded the bare areas with Upright Brome gathered from Therfield Heath. At the moment there is a hopeful sheen of young grass blades emerging.

With thanks for your continuing support of our work, Julia Napier November 2012

8th May, Twelfth Annual General Meeting

Guest Speaker: Professor Paul Brakefield, Fellow of the Royal Society and Director of the Zoology Museum of Cambridge University

Courtship in Butterflies and Moths

7.30pm in the Function Room of the Six Bells Public House, High Street, Fulbourn

Contacts

Secretary, Julia Napier
30a Hinton Avenue
Friends of the Roman Road & Fleam Dyke,
Cambridge, CB1 7AS

tel: 01223 213152
frrfdjin@freebie.net

Membership Secretary, Jane Robson,
Herring's House,
Wilbraham Road,
Fulbourn, CB21 5EU

Tel: 01223 880277
j_m_robson@btinternet.com

www.frrfd.org.uk