

The Coton Countryside Reserve

A report on the CNHS Survey of 2010

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The Cambridge Natural History Society project for 2010 was a survey of the flora of the Coton Countryside Reserve, which belongs to Cambridge Past, Present & Future, and part of Rectory Farm. We logged nearly 400 plant species, and also recorded some other phyla. Each monad was logged separately and individual record sheets for each area are available on the Society web pages.

Over the past few years the Cambridge Natural History Society (CNHS) has selected a different area of the city and made regular survey visits to it over the course of a year. Primarily these surveys have concentrated on the vascular plants, however other phyla have been recorded usually on a casual basis. This year's survey covered the area west of the M11 designated the Coton Countryside Reserve, together with part of Rectory Farm which is in Higher Level Stewardship. The Reserve is owned by Cambridge Past, Present & Future (CPPF), which has slowly been converting some arable land to public access meadows, though large areas are still a working farm, tenanted by the Cambridge University Farm.

The Reserve extends over 120ha of pasture and agricultural land. It was acquired by what was then the Cambridge Preservation Society in the 1930s with some initial amenity planting and provision for public access. Further steps towards creating the Reserve waited until 2003, when grants began to be won. Provision of better infrastructure, particularly the spine road and Martin car park, and habitat creation was carried out over the next few years. Now there is over 11ha of public access land, over 5000 trees have been planted, two ponds dug and there is over 5km of footpaths. There are plans for the future: a lake to provide flood control and a resource centre for Wheatcases Barn. Location and field names in this report are taken from those in the CPPF plan of the Reserve.

Geology and history of the area

The lower ground is gault clay, giving poor drainage and heavy conditions for agriculture. In the autumn new mole drains were laid in several fields. The south western corner of the Reserve rises to over 40m, with marly chalk overlain by glacial till and providing an excellent viewpoint over Cambridge. The Bin Brook cuts through the north of the reserve, before turning south. It is prone to flash floods and its bed is



The geology of the area, shown using the BGS Geology Viewer. Reproduced with the permission of the British Geological Survey ©NERC. All rights Reserved

eroding. Near the heart of the Reserve, with the Brook running to its west is an old ridge and furrow meadow, however this was “improved” by spraying until a decade or so ago, and no indicator broad-leaved species remain, though fungi appear to do rather better, with several waxcap species present. Wheatcases Barn gives hints of the early twentieth century farm management in the area, with pegs on which the harnesses of the working horses was hung.

Rare species

The online (<http://www.cambridgeshireflora.com/>) Cambridgeshire Flora records a few notable species for the area. Shepherd’s needle *Scandix pecten-veneris* had been reported from near the sewage works in 1995, however this was not refound. The chalky gault is a stronghold for three nationally rare or declining species and these were all present in the area: Dwarf Spurge *Euphorbia exigua*, Broad-leaved Spurge *Euphorbia platyphyllos* and Slender Tare *Vicia parviflora*. Dwarf Spurge and Slender Tare were scattered across the Reserve, but only half a dozen plants of Broad-leaved Spurge were found, in a habitat strip along a field margin. A remarkable display of abundant Broad-leaved and Dwarf Spurge was seen during a visit to an uncultivated field on the other side of the motorway, though this was not in our survey area. A Corn Marigold *Glebionis segetum* was found in a habitat corner, but this was almost certainly introduced, as was the Water Soldier *Stratiotes aloides* found in the pond. Mark Powell found three scarce lichens *Caloplaca ulcerosa*, *Lecania cyrtellina*, and *Piccolia ochrophora* on Elder *Sambucus nigra*.

On the October excursion we found a couple of rather unusual looking ferns in Bin Brook, where it ran below gardens in Coton. One of these had planted Hard Shield Ferns *Polystichum aculeatum* and Soft Shield Fern *P. setiferum*, and our specimens were on the opposite bank. One specimen was described as an “odd” *P. aculeatum* by Fred Rumsey, the Botanical Society of the British Isles (BSBI) referee. The other one he determined as the hybrid between the two, *P. x bicknellii*, and this is its first record in the County.

Altogether we made 1000 records of nearly 400 vascular plant species and records of around 200 other species.

Diary for the year

The major contributors to the survey were: Monica Frisch (MF), Steve Hartley (SH), Alan Leslie (AL), David Seilly (DS) and Jonathan Shanklin (JS). Over 50 people of all ages participated in the monthly visits, with numbers on individual visits ranging from 2 to 21.

January 1. The traditional New Year's Day outing took place under fine, cold, conditions. AL, Helen Holmes, JS, MF and SH began by searching round the information centre off the Coton Footpath, which has been seeded with meadow flowers, and where there is a new pond. We stayed here for over half an hour, finding around 30 species. We continued round the Reserve, finding a spot out of the breeze for a picnic lunch. Continuing up to View Point, we found some snow-banks

persisting from the pre-Christmas snow. At the top we had splendid views across the surrounding countryside. The total for the day was 112 vascular plant species and a total of 231 records, along with a miscellany of birds, mammals, mosses, lichens and fungi.

February 21. Uncertain weather, there had been heavy sleet and rain earlier in the day, was probably the reason only two people turned out for the second Coton Countryside Reserve survey. But apart from some hail showers early on, MF and AL enjoyed a bright afternoon concentrating on the eastern half, especially the edges of the Bin Brook and the field margins.

The vegetation had not grown much since the visit on January 1st, no doubt due to the cold damp winter, though the leaves of Lords-and-Ladies *Arum maculatum* were unfurling nicely, the Hazel *Corylus avellana* was in flower and one willow was covered in silvery pussy-willow catkins. Nevertheless we made some additions to the lists for the two eastern 1-km squares. In a ditch we found two small seedlings of Buddleia *Buddleja davidii* and just one spike of Coltsfoot *Tussilago farfara* coming into flower. In the hedges we recorded Italian Alder *Alnus cordata*, Spindle *Euonymus europaeus*, with the remnants of a fruit to confirm the identification, and a climber which AL identified as Hop *Humulus lupulus* from the very rough stems. We identified Square-stalked St. John's Wort *Hypericum tetrapterum*, Nipplewort *Lapsana communis* and Charlock *Sinapis arvensis* from dead stalks and fruits. There were fresh rosettes of Green Alkanet *Pentaglottis sempervirens* and leaves of Sweet Violet *Viola odorata*.

The highlights were two clumps of snowdrops growing on the banks of the Bin Brook. These were not the common Snowdrop *Galanthus nivalis* but Pleated Snowdrop *G. plicatus*, larger and with broader pleated leaves. Also on the banks but a bit further on were some leaves which AL thought might develop into a Snowflake *Leucojum sp.* We shall have to return to check on a future occasion [it was found to be Summer Snowflake *L. aestivum*]. Also to be checked are the row of poplars near Wheatcases, which seemed to be of several different species, and the docks growing under them which had leaves reminiscent of Fiddle Dock *Rumex pulcher*.

March 28. Despite advance threats of rain from the Met Office, the weather on the day was fair. JS and MF checked the car park area round Wheatcases, noting that signs of growth were still few and far between, as were signs of anyone else arriving. We set off towards the View Point and on crossing the road were warned by a passing cyclist that the red flag was flying indicating that firing was taking place at the rifle range. This had been very audible all morning! Nearing the top, Charles Turner rang up to ask where we were, and we suggested meeting by the road. On the way down we passed a cheery armed guard who made sure we didn't stray into harm's way (the route was off our trail anyway). In the hedgerow we came across a yellow flowered shrub, which on meeting up with Charles was identified as Cornelian cherry *Cornus mas*. Continuing along the brook we spotted some lighter stems close to more *G. plicatus*, which turned out to be Few-flowered Garlic *Allium paradoxum* (aka White Bluebell). We just made it back to the Coton Footpath at 1:30 in time for lunch as planned so as to be ready for the afternoon party.

Numbers soon swelled and around a dozen admired the mass of frogspawn in the pond, with tiny wriggling tadpoles just starting to emerge. JS showed the liverwort *Aneura pinguis* that he'd spotted on the bank of the pond, Jess Hatchett admired a large earthworm *Lumbricus terrestris* that seemed equally able to move forward or backward and then we started a slow passage round the Reserve, demonstrating some of the common and less common plants on view. There were several clumps of Plicate Snowdrop growing along the brook, often in an odd location for planting, and we thought that seeds might have been washed downstream from gardens in Coton. On the other hand we thought a clump of Blue Anemone *Anemone apennina* growing near the sewage works must have been introduced despite the rather odd location. Part way round we had a good view of a pair of buzzards circling around before they flew off into the distance. There were a lot of 7-spot ladybirds *Coccinella 7-punctata*, some engaged in making sure that there were even more, but no other species. We encountered several queen bees, but they weren't keen to stay put long enough to confirm their identity, though in the end the consensus was that they were all Buff-tailed Bumble Bees *Bombus terrestris*. By the end of the day our plant count had reached over 160 species, sub-species and varieties.

April 25. The morning saw the break of the drought after several weeks without rain. Nothing daunted, JS and MF met at the sewage works to look round a field that we hadn't visited previously. Walking round the edge we added several species to the list, which would have included honeybees except that they all seemed to be in their hives in one corner of the field. Completing the circuit we carried along Bin Brook and

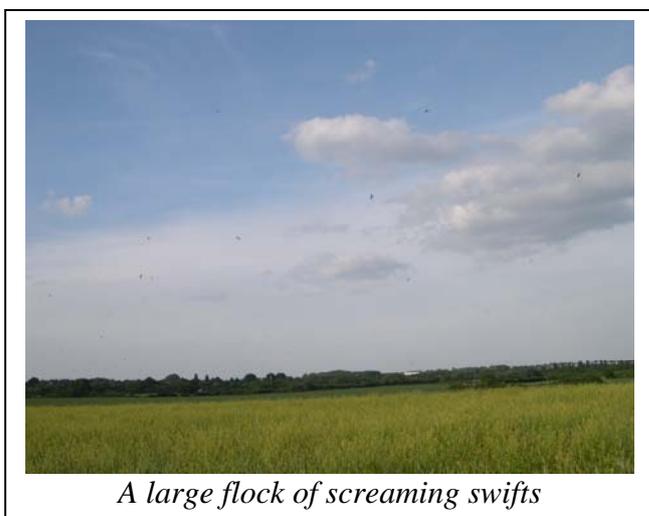


The forest of horsetails at the side of Bin Brook

found a completely unexpected green lane (with several garden escapes), which led into a very hummocky and unimproved meadow. Here we found Ladies Bedstraw *Galium verum* and Field Woodrush *Luzula campestris*, and JS found several liverworts along the Brook. Coming back we navigated a ditch and found Crosswort *Cruciata laevipes* at the corner of Rectory Field. After a lunch, where we added another grass, Meadow Fescue *Festuca pratensis*, to the list, we returned to the Coton footpath entrance to greet the afternoon party. This slowly swelled in numbers to a dozen, covering all ages. Having pointed out some of the introduced wildflowers in the entrance area, we proceeded down the spine road, often trying some of the edible plants, including Hedge Garlic *Alliaria petiolata* and Dandelion *Taraxacum agg.*, but avoiding Parsnip *Pastinaca sativa*. The arable weeds field had a magnificent display of Hairy Bittercress *Cardamine hirsuta*, and also a spectacular forest of the fertile cones of Field Horsetail *Equisetum arvense* near Bin Brook. The new pond at Wheatcases had several additions, including introduced Water Soldier and a Water Crowfoot, which seemed to key following inspection of the nectar pits to *Ranunculus trichophyllus*. We decided that a sedge was too far from the edge to be accurately identified. From there we continued to View Point, passing on the way some

Goosegrass *Galium aparine*, which Michaela (the youngest member of the group) found great fun sticking to her clothes. At the top we had good views across Cambridgeshire, with notable landmarks of the Schlumberger "tent", St John's, King's College, the Catholic church and Addenbrooke's hospital. Coming down we inspected a Badger sett, then proceeded across Hawks Way looking at some of the arable weeds in the set-aside. The "improved" ancient ridge and furrow grassland of Middle Green proved rather disappointing. Although we saw several species of bee, every time we tried to collect them for identification they flew off, and only Red-tailed Bumble-bee *Bombus lapidarius* was positively identified. The flora records for the day added a further 50 species, with a total of 120 additions, as well as miscellaneous birds, mammals, amphibians and insects.

May 27. For the first of the evening walks we visited the north west part of the Reserve, though it took a little while to get there. A small group of five met by the footpath and first inspected the vegetation of the rendezvous point, with its introduced mix of wildflowers. Progressing along the spine road we compared trefoils and medicks. Although we didn't find anything else unusual, we did add a further 25 species to the reserve list. A subsequent visit in early June by JS to patrol the areas we didn't have time to visit added more species bringing the total to over 240. He also made a further visit later in the month to check up on orchids reported by Les Bradford and found that her land included large swarms of Common Spotted *Dactylorhiza fuchsii* and some Southern Marsh Orchid *Dactylorhiza praetermissa* in the plantation, along with Bee Orchid *Ophrys apifera* on the higher ground.



A large flock of screaming swifts

June 24. A small group of botanists (AL, JS and MF) assembled at the Coton meeting point, and first assessed four roses that JS had collected earlier. Three had been planted - Sweet briar *Rosa rubiginosa* is a favoured planting in the reserve, but Short-styled Field Rose *Rosa stylosa* was a more unusual find in the motorway hedge. A third rose planted in the copse was not yet identifiable, but the leaves were downy. The final one was the common Dog Rose *Rosa*

canina agg., which as it turned out was the only one that we encountered during the rest of the evening, which was intended to target roses and brambles. The group then proceeded down the spine road, spotting one or two additions, including Slender Tare, a red-listed species, though Cambridgeshire is its heartland. Reaching the motorway bridge, we were joined by another Member, and here found several new species, which appeared to like the different environment of the bridge embankment. Species included Wild Basil *Clinopodium vulgare*, Round-leaved Cranesbill *Geranium rotundifolium*, Fennel *Foeniculum vulgare* and the only new bramble of the evening *Rubus conjugens*. We returned through the "weed field", which has shown an interesting succession through the year, running through Bittercress, Horsetail, Groundsel *Senecio vulgaris* and now Sow-thistle *Sonchus* and Willowherb *Epilobium*.

A few oddities also surfaced including a few plants of the hybrid Ryegrass *Lolium x boucheanum*. Back on the spine road we reached the new pond where a wide variety of aquatics have been introduced. Some of these were deliberate such as the Purple Loosestrife *Lythrum salicaria* and Tubular Water-dropwort *Oenanthe fistulosa*, which were in flower, but others were probably accidental such as Water Bent *Polypogon viridis* that we found at the pond edge. The pond has been quickly colonised by invertebrates and marginal plants had many Dragonfly exuviae. One was inspected and demonstrated the amazing grip of the feet, which made for a reluctant transfer from hand to hand. The party returned on the circular route, although we kept encountering interesting plants, finding Treacle Mustard *Erysimum cheiranthoides* on the rough ground near Wheatcases, a Pyramidal Orchid *Anacamptis pyramidalis* in full flower in the hedge and Dwarf Spurge along the field margin. As it got darker we sped up a little but on entering the ridge and furrow field MF pointed out Wall Barley *Hordeum murinum* (not new) and JS suggested that Meadow Barley *Hordeum secalinum* should be present and then immediately found it. By the time we returned to the meeting point the sun had set, but we had made an additional 45 records of which 22 were new species taking the total species count to around 280.

July 22. Thunderstorms were forecast, but in the event the drought did not really break and whilst threatening clouds surrounded the area, only a few drops fell. Butterflies were in short supply, in contrast to the previous day when a group from the Wednesday volunteers had seen a good selection of species including White-letter Hairstreak *Satyrrium w-album* flying above some of the big Elms *Ulmus*. A larger



“Witches Moss” on willow

than usual group assembled at the Coton Footpath entrance and were briefed about Cambridge Past, Present & Future and the Reserve by Carolin Gohler, the Chief Executive of the Society. Moving along the spine road, JS pointed out the seed heads of Strawberry Clover *Trifolium fragiferum* along the far side of the ditch, which Carolin said had not been introduced. Turning off past the Recreation Ground we looked at a few of the grasses along the field margin, and the

Stinking Iris *Iris foetidissima* growing in the hedgerow. The new plantation at the end of Rowans Field had had soil from Hayley Wood introduced, but no obvious plants appeared to have come with it, although JS found an awned Bent *Agrostis* sp on the track, which appeared to key to Common Bent *A. capillaris*. Access to Bin Brook was rather impeded by vegetation, so we pressed on to the ridge and furrow field of Middle Green. The Brook was full of invasive Himalayan Balsam *Impatiens glandulifera* and one Willow *Salix* had a strange mossy gall. Long Green had recently been topped, and only a few arable weeds were identifiable, however the motorway bridge bank was resplendent in Teasel *Dipsacus fullonum*, with Stone Parsley *Sison amomum* coming up. Returning along the Brook we noted that there had been less bank collapse in the area that was thick with Horsetail, so maybe this was a way of strengthening it. We crossed over to look at part of Hays Ends and

Hawks Way which had been left uncultivated. There was some Dwarf Spurge in Hays Ends and rather more in Hawks Way, but no sign of any Broad-leaved Spurge, which JS had found earlier in the week in Further Field on the other side of the motorway. Altogether we added a dozen plant records of which 5 were new.

August 29. With a return to Sunday visits, SH and JS carried out the morning patrol, finding a few new species. The rate of finds was clearly dropping, suggesting that the list of vascular plants for the site was nearing its conclusion. After the usual picnic lunch we headed for the motorway bridge, casting slightly anxious looks at encroaching dark clouds. As we began to head back towards Wheatcases Barn to meet the afternoon party driving rain and wind arrived, more reminiscent of autumn than the end of summer. We found shelter in the Barn and a few more people arrived to begin the second part of the day. Fortunately as we discussed plans the rain eased and it remained dry for the rest of the afternoon. Our route took us up the hill and then back via Les Bradford's farm.

September 26. Despite a cold morning with fleeting patches of drizzle, JS covered some of the northern part of the reserve. The first find was the introduced Long-sepalled Hawthorn *Crataegus rhipidophylla*, planted in the copse by the Coton Footpath. Some of the other plantings are also likely to be this or its hybrid with the ordinary hawthorn. Trying a slight variation of routes, the other side of the recreation ground hedge had a planted Rowan *Sorbus aucuparia* and Swedish Whitebeam *Sorbus intermedia*. The wet weather had demanded Wellington boots, and this allowed some exploration of Bin Brook. A surprising addition was a Shield-fern *Polystichum* opposite gardens in Coton, suggesting a possible planting, though it was clearly thriving. Also in this section was Enchanter's Nightshade *Circaea lutetiana*. Heading back towards Wheatcases Barn, the fleeting showers began to get less fleeting, and by the 2pm start time of the planned lichen survey it had set in for the rest of the afternoon. These were atrocious conditions for a survey, so our attempt at completing the OPAL Air Quality survey fell by the wayside, nevertheless a stalwart band of six including Mark Powell, the County Recorder, set off up the hill. Ash trees, some quite ancient provided a good substrate, and Mark showed common species such as Yellow Scales *Xanthoria parietina*. Along the way Mark explained some of the features of lichens. He also described how he had been looking at old wattle laths and finding lichens dating back several hundred years. The findings were being used to compile an account of lichens in lowland Britain prior to the industrial revolution. Along the brow of the hill the old Elder trees *Sambucus nigra* attracted Mark's attention, and he vowed to return under better conditions for another look. We still managed to identify 20 lichens with a couple more not being nameable. Fungus expert Helene Davies was another member of the party, however fungi were rather sparse. We did spot some rather desiccated (despite the weather!) Chicken-of-the-Woods *Laetiporus sulphureus* on a willow, a Sticky Scaly-cap *Pholiota gummosa* and a ring of the relatively uncommon Satin Shield *Pluteus plautus* near the top of the hill. With the rain still falling, the party returned to the Barn and decided to call a halt rather than investigate any lichens on the bridges over Bin Brook and the M11. Mark revisited the elder bank on October 8, his finds including three notable lichens: *Caloplaca ulcerosa* (scarce, but throughout lowland Britain), *Lecania cyrtellina* and *Piccolia ochrophora* (rare, some eastern occurrences).

October 31. A spell of mild weather made for potentially good prospects for finding fungi. Whilst rain was in the offing we only experienced a very short shower in the morning and a few spots throughout the afternoon. The morning botanical party (AL, MF, SH and JS) began by looking at hawthorns along the edge of the copse by the Coton Footpath. There was quite a variety of fruit and leaf shapes, and we decided that whilst the basic tree was the common Hawthorn *Crataegus monogyna*, there was clear influence of other parents including Midland hawthorn *C. laevigata* (with some plants being mostly this), *C. heterophylla* and *C. rhipidophylla*. We then moved on to the Bin Brook, to check the fern that Jonathan had found the previous month. After a bit of wading through the brook Jonathan re-found it, with Alan thinking it a bit odd, but probably *Polystichum setiferum* rather than *P. aculeatum*. A nearby garden had both species in it, and after taking specimens home Alan thought that a hybrid was possible, and this was confirmed by the BSBI referee. On the way back to the meeting point we noted several fungi in the meadow and the party had to be dragged past them to get to the start on time. Here we had our best turnout of the year, with 21 assembling, with a good boost from members of the Cambridge University Mycological Society. Led by John Holden, we started by showing a specimen of Verdigris Agaric *Stropharia aeruginosa* from the nearby stubble field (contrasting it with the supposed *S. caerulea* found the previous day in the Botanic Garden), and some Dog's Vomit *Mucilago crustacea* on grass near the entrance. We spent an hour scabbling through the copse and scrub near the footpath, and whilst we found around 15 species, none were spectacular. One interesting find was a Red slug *Arion rufus*, though it was showing its pale colouration with an orange margin to the foot. We moved on to the ridge and furrow meadow, and whilst past spraying to "improve" it had removed any interesting vascular plants, the fungi were still there. There were some large specimens including Blewitts (with some Field Blewitt *Lepista saeva* being taken home to eat) and Agarics, the delicate Pleated Inkcap *Coprinus plicatilis* and at least four waxcap species including a Parrot Waxcap *Hygrocybe psittacina*. In total we found around 34 different species of fungi.



Identifying fungi on the meadow.

November 28. When reminding members of the CNHS about the bryophyte excursion an injunction was given that it would only be cancelled in the event of a blanket of snow covering the ground. A light dusting of snow and an overnight temperature of -7°C did not therefore deter the group of stalwarts who assembled at the Martin car park with the temperature still at -3°C , and which did not rise above freezing all day. Mark Hill, Chris Preston and Tom Charman provided expert assistance with identification and recording, with JS and Kevin Hand completing the party. We started by looking round the car-park and showing some of the common bryophytes, including *Brachythecium rutabulum* a pleurocarp moss which is abundant in Cambridge lawns, *Fissidens taxifolius* an acrocarp moss which has flat shoots and

Syntrichia ruralis, colloquially known as the car-park moss on account of its predilection for tarmac. Jonathan led the group on a circular, clockwise walk that was designed to look at a variety of habitats and visit all the monads of the Reserve. Going up the hill we found a small amount of the liverwort *Pellia endivifolia*, one of the commoner thallose liverworts that grows on shaded stream banks. Attempting to find some additional mosses in the new copse by Rectory field we noted several lichens on the Ash trees (including *Lecanora sp* and *Xanthoria parietina*). Lunch was



taken near the top of the hill and we descended down to Bin Brook to look at an older area of stream and scrub. Along the Brook, in an area visited several times previously JS spotted some Hartstongue Fern *Asplenium scolopendrium*, which we had not previously found within the reserve boundaries. Returning via the scrub at the end of the meadow we joined the spine road, where the ditch bank turned up a few additional species, including a small piece of the

liverwort *Aneura pinguis* and *Bryum gemmiferum*. A detour via the motorway bridge found a few more species, but the left-side field proved disappointing and we returned to the car-park as cloud began to cover the sky. Despite the conditions we found around 40 species, all characteristic of the general arable chalky clay environment.

The 2011 survey is covering The Backs. Although the present CNHS group tends to concentrate on plants, we make records of other organisms too and would welcome beginners and experts with other interests. Do come and join in. Dates for the monthly surveys, and flora lists for many of the wildlife sites near Cambridge are on the Society web page at <http://www.cnhs.org.uk>

Thanks are due to David Barden and Alan Leslie for comments on my original text, and to Monica Frisch for making notes on the February visit.