

Ledbury Naturalists' Field Club

Field Survey 2018

Coddington Court

Adhithana



January 2018

Acknowledgements

Project Coordinator and Author: Janet Parry

Photography: Janet Parry, Eden Tanner

Graphics: Alan Parry

Printing: Forestry Commission

Access: Adhithana Community

Liaison: Sanghadeva

Technical Information: Jay and Clara Abrahams of Biologic Designs

Members and friends who carried out the survey, whose expertise and help was vital to the success of the project

Clara and Ben Abrahams, Michael Bradley, Felicity Burge, Valerie Cooper, Anne Crane, John Davies, Heather Davies, Richard Davies, Caroline and David Evans, Peter Garner, Cherry Greenway, Robin and Christine Hemming, Moira Jenkins, Richard and Phyl King, Garth Lowe, Janet Parry, David Taft, Eden and Wendy Tanner, Hilary Ward, Sally Webster, Kate Woollen plus several occasional visitors from local wildlife clubs.

Validation of observations and checking of data:

David Taft, Cherry Greenway, Hilary Ward, Peter Garner

Checking the text: Hilary Ward, Alan Parry

Geology comments: Moira Jenkins

Moth Trapping: Robin Hemming



Ledbury Naturalists Survey Group

Introduction

In 2018 it was brought to the club's notice that the Buddhist Community in Coddington had been doing a great deal of work to encourage wildlife on their new site which had been an arable farm for many years previously. An innovative new system had been installed to deal with the sewerage and a meadow and new woodland planted. A request was made to conduct the club's annual survey there through the year and this was received with enthusiasm as the Buddhists were very keen to know what wildlife had been attracted to the grounds.

Background

Since ceasing to be the family home of the Poore family in 1980, Coddington Court had been the headquarters of an oil exploration company and the headquarters of Autism West Midlands. Both these organisations added many more buildings to the site. It was unoccupied for 3 years until bought by the Triratna Buddhist Order in September 2012 as their headquarters and re named Adhithana. Since then, many changes have been made both to the buildings and to the land. A beautiful formal garden is being developed near the main house but in the fields beyond, wild life is being encouraged in many ways. There are no public footpaths through the site but the community is very welcoming.

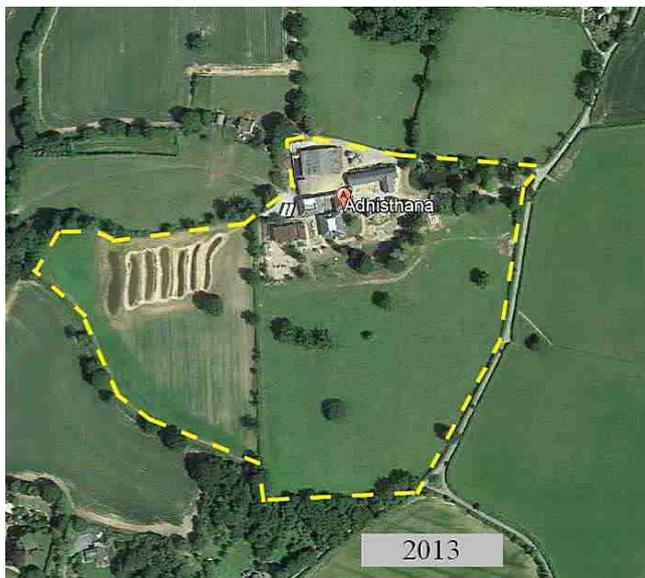
Coddington Court is situated at SO 724 430 at an elevation of 110 metres with the land sloping towards the west. It covers 23 acres. The soil is derived from glacial till so is quite deep clay with many stones but fertile. There is a more detailed description of the underlying geology in Appendix 1.

When the Community moved in, the sewerage system was totally inadequate, overflowing and polluting and the solids collection chamber had to be emptied twice a day by tankers. In 2013 Jay and Clara Abrahams of Biologic Designs, were asked to design and install a Wetland Ecosystem Treatment (WET) system, where the liquid sewerage is run through a soil based system where the roots of plants host bacteria which live on the organic material in the water, thus cleansing it. This involved digging 7 “swales” which are bank and ditch systems, one below the other running along the contours as the land dips gently down. It is gravity fed with no pump from the collection chamber at the top which now only needs emptying twice a year. The banks are planted with moisture loving plants and others at the margins and in the water, so there are roots at varying levels to process the run off. The water gets steadily purer as it progresses down the series. It has been running for 6 years and the banks and ponds are well established and working effectively. The water in the bottom pond is now clean enough to swim in. The banks are mainly planted with Willow and Dogwood which makes a dense thicket in the summer and the stems are cut and sold at the end of the season. There are paths along the banks between the ponds which are mowed to allow access and are self mulching. Marginal plants such as Purple Loosestrife and many reeds and sedges were planted nearer the water and some water plants in the swales. A full list of the original planting can be found in Appendix 3. Some fruit trees have been planted at the sides and it is hoped to install some bees to take advantage of the abundant blossom in the summer. The system is self maintaining and needs very little management though Bulrush has appeared in the lower swale and is currently being removed as it is very invasive. Eventually, the upper swales may need digging out occasionally.

The adjacent meadow had been an arable field for years and it was seeded in May 2013 with a wild flower and grass mix. It is mowed once a year and the hay sold locally. It is now well established and self perpetuating.

A strip of 3 acres of woodland has been planted along the south and west margins of the site. This has a range of native broadleaved trees which vary according to the soil conditions. It will form a good screen and link up several small stretches of hedge and woodland in the area improving connectivity for wildlife.

Site in 1999 before purchase



2013 survey area and swales newly dug

2018 maturing swales, meadow and new woodland



Conducting the Survey

Volunteers from Ledbury Naturalists' Field Club paid eight visits to the site between March and October in 2018 to carry out the survey. The dates of the general meetings were March 15th, April 12th, May 10th, June 7th, July 12th, August 9th, September 13th, and October 11th. The survey concentrated on the wilder sections of the site, rather than the formal garden though the pond alongside the drive, which had been revived during the alterations, was included. Moira Jenkins conducted a geological survey of the area.

On each date members spent about 3 hours in the afternoon walking around the site. All flowering plants, grasses, trees, fungi, ferns, birds, insects, and other invertebrates found along the way were recorded. There was an extra birdwatching evening on May 18th and a club visit on August 18th when the Abrahams followed up a talk they had given to the club in the winter with a site visit to the swales to see them in action. Robin Hemming and friends ran moth traps over the night of July 6th. Sanghadeva, the groundsman from the community, has added some observations of his own.

Hilary Ward supervised the botany, David Taft tackled the invertebrates, Robin Hemming identified the moths from the traps and Cherry Greenway identified the fungi. Peter Garner, County Botanical Recorder, joined our team on several outings. The club is fortunate to have the support of these experts in their fields, and great trouble was taken to verify each record to ensure the reliability of the survey as far as possible. However the records are doubtless an underestimate of the species present due to the limited time spent and in some cases due to lack of expertise available. Unfortunately no moss or lichen experts were available this year. Complete details of the survey can be found in Appendix 2.

In summary the following numbers of species were noted.

Herbaceous Plants	Grasses Sedges Rushes	Trees	Fungi and Ferns	Birds	Mammals and other Vertebrates	Insects and other Invertebrates
207	37	46	39	46	17	410

Discussion

Despite being arable fields only 8 years ago, the site now hosts a great variety of wildlife. The herbaceous plants set to grow round and in the swales have all thrived and others have joined them. The diversity of plants seemed to increase down the sequence of ponds as the water became purer. In March the Marsh Marigolds made a brave display but the cold spring delayed the growth of the other plants. In May all the vegetation shot up and started to obscure the water. As the season progressed the Yellow and Purple Loosestrife, Branched Bur-reed and flowering Rush added to the diversity. Later in the summer the Water Lilies and Bog Bean were covering the water of the lower swales. A mixture of sedges and rushes such as Great Tussock Sedge, Cyperus Sedge and Pendulous Sedge were thriving throughout the system. On the banks the Water Forget-me-not, Creeping Jenny, Water mint and Ragged Robin were well established among many. In the water itself was Frogbit, and both Curled and Broad Leaved Pondweed. The many Willows that had been planted grew prolifically during the year making the paths through the swales almost impenetrable in the summer.



Swales in march



Marsh Marigolds in April



Bottom swale in May



Path between swales in August

The wildflower meadow was developing well with a profusion of blossom in June and July. There was much Knapweed, Tufted Vetch, Ladies Bedstraw, Bird's-foot-trefoil and Yellow Rattle in the mix which was a magnet for many insects. There was also a good mix of grasses such as Yorkshire Fog, 3 species of Bent, Sweet Vernal grass and Crested Dog's-tail.



Meadow in July



Meadow grasses

The edge of the site was bounded by hedgerows which still harboured well established woodland edge plants such as Primroses, Violets and an extensive strip of Bluebells. One plant of False Ox-slip was found in the new woodland and one spike of a Green Winged Orchid popped up in May. In August a Broad leaved Helleborine appeared by the path along the old hedge. Five species of Fern were found including Hart's-tongue and Soft Shield-fern and Bracken was spreading amongst the new trees.



False Ox-slip



Green Winged Orchid



Bluebells along the hedgerow

Of the 46 species of trees identified many were planted by a contractor in a strip along the SW boundary. These included many Alders and Willow in the damp lower sections and more Silver Birches higher up. There were other interesting trees in the mix such as Hornbeam, Norway Maple, Dogwood, Alder Buckthorn and Bird Cherry as well as a few English and Wyche Elms, Pedunculate Oak and Beech. There was some Gorse and both Field and Dog Roses. All were growing well and making an interesting

habitat for other species. Hedgerows included Hawthorn, Spindle, Wild Service, Blackthorn and Field Maple showing an older origin.



New woodland in March



New woodland in July

The site was not optimum for fungi but 33 species were identified including several rusts. More common fungi were both Shaggy and Glistening Inkcaps, and Artist's and Southern Brackets. Occasional species were the spectacular Lurid Bolete, Resin Bracket, and *Spinellus fusiger*, a pin mould on *Mycenae* fungus. The wood chips spread on the paths between the swales yielded some interesting finds which Cherry Greenway and the Herefordshire Fungus Recorder were unable to identify. One very unusual specimen has been sent to the mycology department at Kew and identification is awaited.



Mystery fungus



Pin mould on Mycenae

Early afternoons are not the best times for spotting birds, however 46 species were identified over the year. These included most of the common tits and both Green and Great Spotted Woodpeckers and Mistle and Song Thrushes. By the swales a Sedge Warbler was heard and a Reed Bunting seen. Mallards were busy eating frog spawn in March. There was a House Martin's nest on one of the buildings and a Kestrel and Sparrowhawk had been spotted. On the extra birding trip in May, a Cuckoo was singing and Swifts were flying over from the nest boxes in Coddington church to skim the site for insects. No doubt here are many more species not recorded due to timing of visits.



Moth trapping in July

An impressive list of 410 species of invertebrates was identified, 154 of which were moths attracted to the traps on moth night. Some of the same species were also recorded in the day time.

Robin Hemming sent the following comment:

“Of the micromoths; *Oecogonia deauretella* was a second county record. *Coleophora frischella* can really only be identified by microscopic examination so as you would expect, there are very few records in this area (VC 36). *Aphelia viburnana* the Bilberry Tortrix is only known from the high ground in the extreme west of the county so an excellent lowland record. *Eucosma obumbratana* has surprisingly few VC 36 records but was present in high numbers in the meadow. It feeds on Sow thistle. *Calamotropha paludella* is a relatively new species to VC 36 feeding on reeds so probably a local resident.

Most of the macromoths were regulars but it was very nice to see Blackneck, an uncommon species feeding off the abundant Tufted Vetch, Waved Black off bracket fungi, plus Double Lobed, a scarce wet meadow species. Obscure Wainscot is about the 5th Hereford record and an expanding species thought to be doing well precisely because of the type of filtration system at Adhithana. *Phragmites* – Common Reed, is extremely limited in Herefordshire. All in all a very interesting selection of moths reflecting such a young habitat.”



Gatekeeper



Beetle on Ox Eye Daisy



Shield bug



Elephant Hawk moth caterpillar

During the daytime visits, a range of butterflies were recorded including Orange tip, Ringlet, Holly and Common Blues, Large, Essex and Small Skippers, Speckled Wood, Comma, Gatekeeper and Large, Green-veined and Small Whites as well as day flying moths. There were 33 species of Diptera (flies) including Hoverflies, Dung flies, Sawflies and Craneflies. The Coleoptera (beetles) were also well represented with 63 species being identified. These ranged from 5 varieties of Ladybird to Rove beetles, Soldier Beetles, and many Weevils amongst the throng. There were Whirligig, Great diving, Sulcate diving beetles and Cherry-stone beetles in the swales. The list of Hymenoptera included 11 species of bee, hornet, wasps, gall wasps and ants, and the Acari included 11 species of gall mite.



Pond dipping in progress



Selection of invertebrates from lower swale

The water in the swales attracted many dragonflies and damselflies in the summer, both adult and larval forms being found. During the pond dipping exercise, the Kings identified 30 aquatic species all noted in Appendix 2. They concentrated on the lowest swale as access to the others was difficult due to the prolific vegetation. The lesser



Damsel flies mating

Water-boatman, Common Pondskater and Back-swimmer were found in both nymph and adult stages showing breeding and indicative of high water quality. The swale above was lacking in caddisfly, dragonfly and damselfly larvae which indicates the water quality was lower than in the bottom swale. A selection of other invertebrates such as snails, leech, bloodworm, fleas, mites and shrimps were also identified.

Of the vertebrates, Stickleback were found in the pond by the drive. Frogs bred in the lower swales and toad spawn also appeared. Great Crested Newts were identified as well as juveniles of Smooth or Palmate Newt. An adult male grass snake also appeared. Mammals were not systematically recorded but 11 species were noted. A hedgehog raised a family in the courtyard garden and could be seen suckling its young. Three species of bats including the Lesser Horseshoe were picked up on the moth night. Moles, rabbits, Roe deer and Muntjac had all been seen and no doubt there is a whole host of unrecorded mice and voles resident in the fields and hedges.



Hedgehog in nest



Lower swale in May



Bathing in the lower swale in August



Spindle in hedgerow in autumn



Woodland path in autumn

Conclusion

What a difference 8 years makes! Two arable fields with a hedgerow fringe have now been transformed into a wildlife friendly zone. The swales of the innovative WET system have developed well and provide a great habitat for many plants, aquatic invertebrates and flying insects especially moths. The meadow also flowers profusely and attracts many insects and subsequently birds, and the new woodland is developing well and will, in time, add another ecological niche to the mix. It also provides much needed continuity between adjoining hedges and small parcels of woodland. The community is to be congratulated on its far sighted approach to creating this wildlife haven which will mature further and be an asset to the neighbourhood and a wonderfully peaceful spot for contemplation.



Enjoying the ambience in July

Distribution

1. Ledbury Naturalists' Field Club, survey team and committee members
2. Adhithana community
3. Jay and Clara Abrahams of Biologic Designs
4. Peter Garner Botanical Recorder for Herefordshire
5. Worcester Wildlife Trust
6. Herefordshire Wildlife Trust.
7. Malvern Hills Trust
8. Malvern Hills AONB
9. Natural England.
10. Herefordshire Biological Records Centre
11. Ledbury Town Council
12. Ledbury Library
13. Colwall Library
14. Woolhope Naturalists' Field Club

Appendices

Appendix 1 Geology notes by Moira Jenkins

Appendix 2 Species records collated by Janet Parry

Appendix 3 WET system original planting by Clara Abrahams