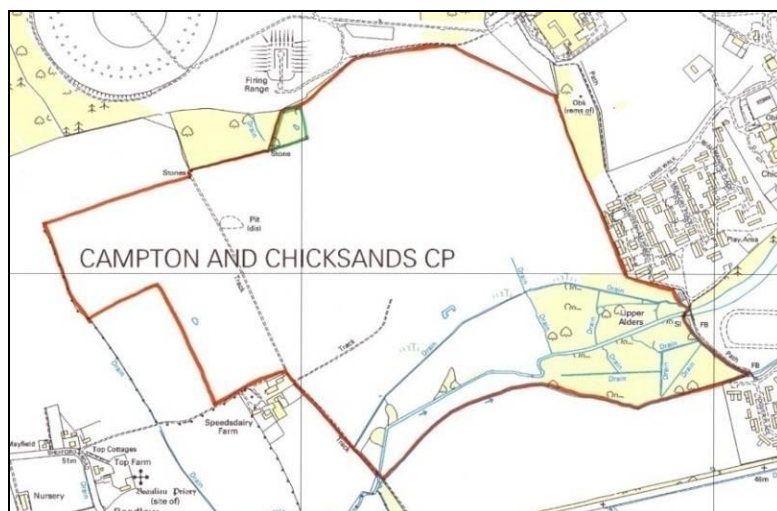


# Sandy Smith Nature Reserve - wildlife and history of plum orchard

Sue Raven, The Greensand Trust – May 2012

## Introduction

On the northern edge of the Sandy Smith Nature Reserve is a small piece of secondary woodland, marked in green on the map below [grid ref: TL109393]. It forms the eastern end of Speedsdairy Wood CWS, covers an area of 0.6ha and lies on Gault Clay, sloping slightly from north to south.



Map 1: SSNR boundary – red; study area - green

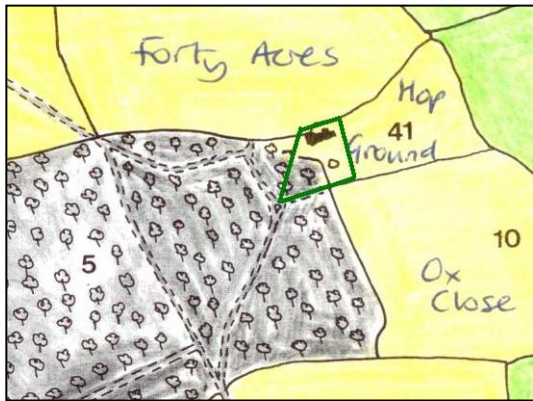
At first sight the area looks to be dominated by secondary growth of elder and hawthorn, however, on closer inspection it can be seen that there are a large number of plum trees, of a variety of ages, throughout much of the area together with an old hazel, three yews and two apple trees. There is a considerable amount of dead and dying wood, plus fallen and phoenixed trees. There is a small, heavily silted up pond in the south-east corner which overflows for a short distance to the south. In the north-west corner, the presence of various banks and ridges, bricks, tiles and broken pottery suggests that there was once a building there, however now only a small three-sided brick construction remains.

During 2011 work was carried out to investigate the history of this area of the reserve and its wildlife in order to inform management decisions. The work has been funded by Grantscape and the Peter Smith Charitable Trust and this report summarises its findings.

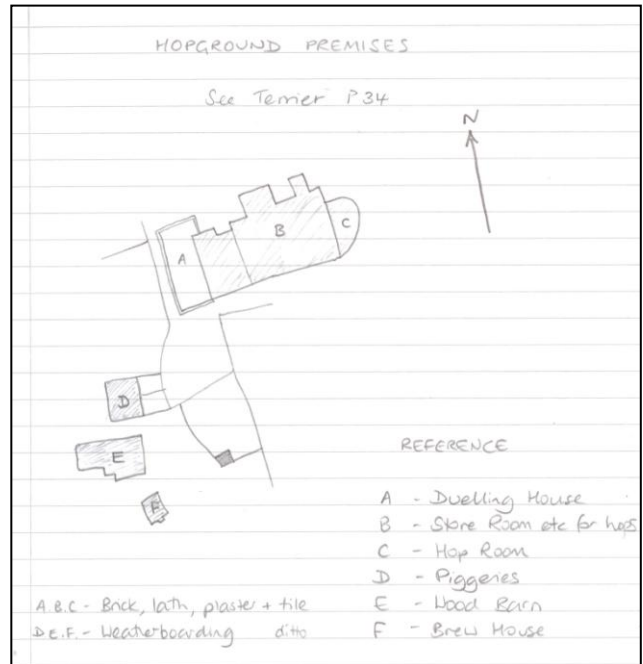
## History

The study area and the surrounding land was historically part of the Chicksands Estate and, prior to that, the lands of Chicksands Priory. The earliest map found to show the area in any detail is an Estate map of 1855 (Map 2). At that time it appears that the south-western part of the area was within Chicksands Wood (which then still extended this far) while the eastern part, including the pond, was open, and part of the Estate's Hop Ground, with buildings to the north of the pond. The

Survey book that goes with this Estate map gives more details of the premises (Map 3) which were, together with the hopground, described as being in hand – ie not leased out to a tenant but managed by the Estate. An earlier small-scale map of 1834 shows a similar layout, and the hopgrounds are mentioned in account books and leases from the mid-18<sup>th</sup> century, so this situation may have been in existence for a considerable time.

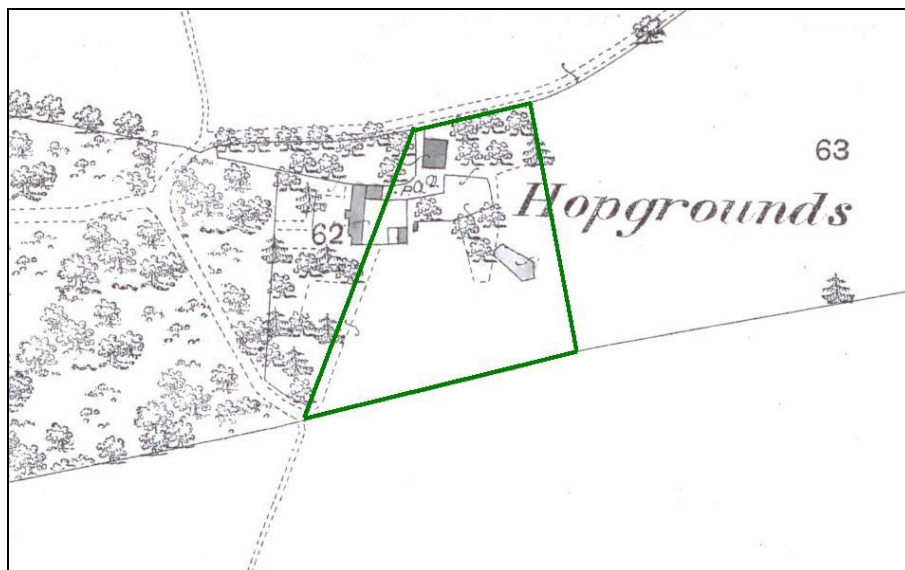


Map 2: Copy of 1855 Estate Map from HER (study area in green)



Map 3: Copy of details in 1855 Estate Survey Book

By 1883, much of this southern part of Chicksands Wood had been cleared and Speedsdairy Wood was now isolated as it is today. Buildings were still present although their layout looks to have changed since 1855 (Map 4); trees are marked in the north of the area but not the south. A pump is marked in the centre of the area of buildings. The area is still labelled as Hopgrounds.



Map 4: 1<sup>st</sup> edition OS (1883), 1:2500 (study area in green)

The second edition OS map in 1902 looks similar to the first edition, however, a Ratings Valuation Survey carried out in 1927, but recorded on a 1902 base map, shows all the buildings crossed out, except for the most southerly small square one, which suggests that most had been demolished by this time. The Land Utilisation Survey carried out in 1931, again marked on the 1902 base, records the field as arable – there is no orchard marked.

In 1936 the Chicksands Estate was sold to the Crown. Jack Chisholm took on the Speedsdairy Farm tenancy at some point in the 1930s, buying the farm from the MoD in the 1960s. His daughter, who grew up on the farm, does not think her father planted the fruit trees here and so it seems most likely that they were planted at some point in the early 1930s, before the sale of the Estate.

Aerial photographs from 1948 show the area as looking entirely wooded except for the south-west corner which appears, on close inspection, to contain just a few scattered trees (Map 5). No signs of a grid structure in planting is apparent. A local farmer who worked on the farm remembers a deep well in the wood.



Map 5: Section of aerial photo from August 1948  
(study area in green)

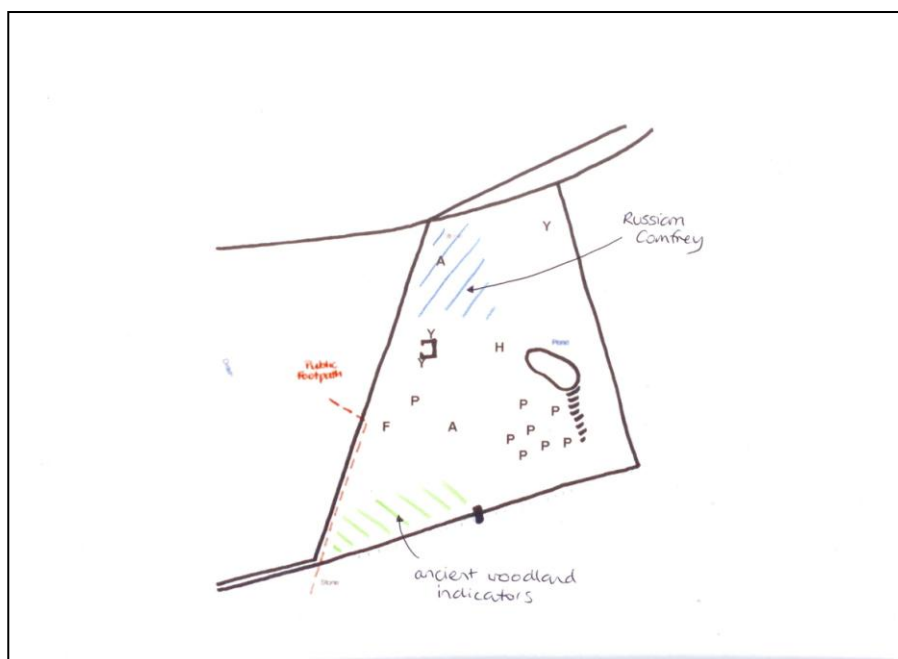
It seems likely that the wood was left to its own devices over the decades that followed, being used only as cover for game. When the Greensand Trust bought the land in 2006 it was very overgrown and there were pheasant hoppers present. There was also a row of bales along the south-eastern edge which presumably were the result of the last topping of the field after it had come out of cultivation and prior to sale. Since 2006, very little work has been done in the area – a small amount of clearance was carried out round the pond, some bird boxes have been put up and occasionally a path has been strimmed through the nettles.

## Biodiversity

### Trees, flowering plants and ferns

There are a number of notable and veteran trees in the area – veterans include a hazel, a phoenixed field maple, two apples and eight plums (Map 6). In addition there are three notable yew trees (probably no earlier than early 19<sup>th</sup> century). Along the southern boundary are a number of mature oaks and ash – some of the latter showing signs of having been coppiced in the past. Hawthorn, elder, plums of a variety of ages and the occasional hazel make up the rest of the tree cover, together with a small amount of blackthorn.

The ground flora noted during 2011 is listed in the Appendix – there are no species of particular conservation importance but the distribution of several is interesting and supports what is known of the history of the site. Ancient woodland plants such as bluebell, pignut, yellow archangel, greater stitchwort are found only in the south-west of the area, and Russian comfrey, a good indicator of nutrient rich areas of former habitation, is only in the north-western area. Giant horsetail is found in the wet areas around the pond.



Map 6: Distribution of interesting trees and flora within study area

### Fruit trees

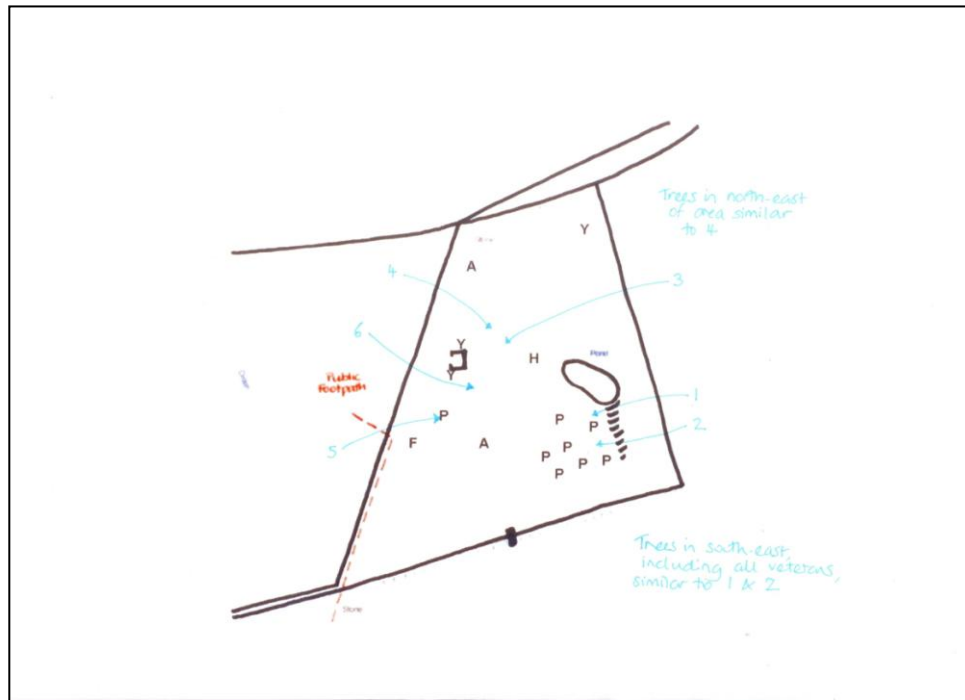
Paul Read, of the Suffolk Traditional Orchard Project, visited the site in March 2011 and his comments are summarised below.

#### **Plums**

There are at least 50 large plum trees in the area, some as tall as 12-15m, some phoenixed and fallen. The oldest might be 70-90 years old and are in the south-eastern part of the area. There are also numerous younger specimens, either seedlings or suckers. No grid structure is apparent and it

is not clear which, if any, of the trees might be original plantings. There is no sign of rootstocks. This number of trees is more likely to be a small commercial enterprise rather than simply for one household's personal use.

In mid-August, six samples of plums were sent to Paul for identification, together with photos of the trees from which they were taken. These included samples from young and old trees of all the different types that could be distinguished. The trees from which samples were taken were marked; their approximate locations are shown on Map 7. His thoughts are given below:



Map 7: Locations of sampled plums

1. *"This is very close to Victoria, and may be this. There are a number of seedlings from Victoria which were grown because they were earlier or later cropping. The stones are not quite Victoria-like but the fruit are probably small due to the tree's age and being overshadowed. As a guess I would say this could be a planted crop tree. Victoria was discovered as a 'wild' seedling in a garden and widely planted from about 1860. Its variants, probably all seedlings, are widely known from about 1900 onwards and from all over the world. Would have been grafted onto a rootstock; rarely grown on its own roots.*
2. *This is almost, but not quite the same, but I think it is a seedling of the above.*
3. *Seedling or rootstock sucker – a damson – very distinct seed and taste; difficult to say if this was a crop tree, or the rootstock used for all sorts of plums and damsons, called Damas.*
4. *This has the characteristics of Mussel, an old plum rootstock, but poorly described and so I am a bit careful. Fruit a bit small for Mussel, usually 3cm across at least, round and with a symmetrical flat plum stone. Mussel was also once grown as a crop on its own roots but has*

*little flavour and no damson astringency. In this site it could be the crop, but more likely a rootstock, or even seedling of a Mussel rootstock.*

5. *This is Pershore Purple, or so close as to be a seedling. Long narrow pointed symmetrical stone and taste characteristic and there is a slight neck to the fruit which is more obvious on large fruit. Widely grown crop up to the 1950's.*
6. *This is one of the Shropshire Prune damsons. This is very characteristic, very stringent right now – seed an asymmetric smooth oval with an upturned point at one end. Probably not a clonal cv but a population coming quite repeatably from seed. Could be a planted crop tree or the sucker from a crop tree because this cv was widely planted on its own roots (I expect it also was used as a plum rootstock too, like Damas).*

*It looks as though Victoria and Pershore Purple might have been planted as crops. They were on something like Damas and/or Mussel rootstocks, which have probably not been used since the late 1930's. This would have been a fairly typical commercial combination; and I would have expected later crop clones to extend the season, and in the 1930's these often included Monarch, a big black spherical plum in Sept. It seems possible that a Shropshire Prune-type damson was also planted as a crop, although it's possible that this was another rootstock. And that cv was widely grown elsewhere in Bedfordshire."*

No later ripening plum varieties were found.

### **Apples**

There are two apple trees in the area, both of considerable age. The southern one is likely to be a feral apple, bearing numerous small, sour green apples. The northern one however produces small red apples with a greasy skin which are edible. Paul Read made the following comments about samples sent to him in August. *"I think both these are feral apples. The small one [southern tree], with the smaller less pubescent leaves, definitely – the larger one [northern tree] could be just a small variety, smaller because the tree is over-mature and heavily shaded."*

In October a sample from the northern tree was taken to an Apple Day where it was tentatively identified by EEAOP as possibly Laxton's Epicure – a late, sweet tasting desert apple, however, it was felt the apple was too small and late to be certain of identification. The tree appears to be growing from the remains of a stony wall which makes it seem unlikely to have been planted intentionally.

### **Fungi & Mosses**

Alan Outen, former county recorder for fungi and bryophytes, visited the site on 10 October 2011. Species found are listed in the Appendix. The lists of species of both groups found were felt to be relatively short, with no species of particular significance.

### **Lichens**

Mark Powell visited the site on 25 January 2011. The species found are given in the Appendix. The elder bushes are of considerable interest for lichens and he confirmed a record of *Strangospora*

*ochrophora* from one of these – this is the second record for Bedfordshire. The large old hazel near the pond has a lichen that is a new record for Bedfordshire - *Arthonia didyma*. On this tree he also found what he has tentatively identified as *Lecanora barkmaniana* – one of few records in the county.

### **Invertebrates**

An entomological survey of the site was commissioned from Dr Pete Kirby with the aim of assessing its invertebrate interest particularly, given the amount of deadwood present, its saproxylic fauna. It was carried out on three visits between early June and September 2011, using active and static sampling methods. His main findings are summarized below; full details are given in his report.

381 species of invertebrate were recorded during the survey – two are Red Data Book, 17 are Nationally Scarce and 51 considered to be, to a greater or lesser extent, of local occurrence. For such a small area of a secondary nature this is high – the connectivity to the ancient Chicksands Wood, the abundance of deadwood and the relatively open nature of the canopy are likely to be contributory factors. The greatest interest was in the saproxylic beetles found and it was considered that there is considerable saproxylic interest in the site, both the fruit and marginal trees, and that it is worthy of conservation.

The pond and wetland area have invertebrate interest however it is secondary to that of the saproxylic fauna. The herbaceous vegetation has slight interest but is probably of most importance in providing a nectar source.

### **Reptiles and Amphibians**

During survey work in the pond in 2010, adult smooth newts were bottle trapped and eggs were observed. No signs of great-crested newts were found, although they have been recorded about 300m to the northwest on Chicksands base. Adult common toads and frogs have been found in the area although no spawn has been observed in the pond. Common lizards are often to be found basking on piles of dead material near the pond.

### **Birds**

23 species of birds have been recorded in the area to date by casual observation or ringing (see Appendix) – all are species to be expected in an area of woodland, particularly one linked to a large block of ancient woodland such as Chicksands Wood. Of particular interest, as on the red list of species of high conservation concern, are spotted flycatcher, marsh tit and song thrush and, during the winter, redwing & fieldfare. Stock dove, green woodpecker, bullfinch, dunnoek, whitethroat and willow warbler are on the amber list. It is unlikely that any small scale management work which might happen in this small area would significantly affect its bird population.

### **Mammals**

Sightings and signs of mammals from this area are typical of those commonly found in woodland – muntjac, fox, mole, rabbit, grey squirrel, bank vole, woodmouse and badger. There is a badger sett immediately to the west of the site, in Speedsdairy Wood. No signs of badgers were seen until August when the plums were falling – then dungpits containing dung full of plumstones were very

apparent. No bat recording has yet been carried out in the area, however, it is unlikely that any trees with roost potential would be felled, and if they had to be they would be checked for bats first.

## Summary

This small area of overgrown plum orchard is likely to have been planted in the early 1930s on an area which had previously been part ancient woodland and part Estate brewhouse and hopground. It appears that the varieties present were typical of that period. Since that time it appears to have been neglected.

The greatest biodiversity interest is found among the lichens and the saproxylic invertebrates of the trees, both fruit trees and native tree species within and along the edge of the site. The populations of other groups are characteristic of a small area of predominantly secondary woodland linked to a large area of ancient woodland.

## Management Recommendations

- To avoid damage to the existing interest of saproxylic invertebrates, it will be necessary to keep the marginal trees, the old hazel and the old fruit trees, together with a substantial proportion of the old hawthorns. Also to keep other trees with substantial dead wood and the larger diameter fallen wood. In particular the large old hazel should be left to die and decay naturally.
- As a general principle, at least some of the elders should be retained as these are potentially important hosts for epiphytic bryophytes, lichens and fungi. For example, the elder on which *Strangospora ochrophora* occurs.
- The above precludes restoration to a working orchard however allowing a little more light in would not harm the saproxylic fauna as it is often associated with old parkland trees in open settings. Young scrub could be removed although it would be advisable to leave some dense bramble patches which flower well. Work should be done gradually.
- Finer woody material can be removed or tidied to a stack. Cut wood, or dead wood that has to be moved should be piled loosely, not put in tidy stacks.
- At least initially, allow the pond to develop naturally until it ultimately becomes a marshy area. This might allow the development of a wider range of wetland species. The policy could be easily be reversed if rare aquatic species are found, or further historical research suggests it would be valuable to restore the pond.
- Ensure that the pond remains sheltered but not shaded – maintain a clearing around at least half its margin – the southern outflow could be cleared of young overhanging scrub. Keep



the piles of cut material to the west of the pond as lizards use them for basking, and the smooth newts may well use them as a refuge.

- The herbaceous vegetation outside the wetland area is of less interest – although it would be good to leave umbellifers to flower before cutting if necessary as they are good sources of nectar for invertebrates. The nettles are of little value. Paths could be cut and maintained without harm to the invertebrate interest.

## **Acknowledgements**

With thanks to our funders, the Peter Smith Charitable Trust and Grantscape, James Collett-White of the Bedford & Luton Archive Service and David Alderman, Keith Balmer, Ed Green, Pete Kirby, Liz Millbank, Alan Outen, Marcus & Sue Phillips, John Pitts, Mark Powell, Paul Read, Steve Squire and Malcolm Willis.

## Appendix

### Flora

Ash	<i>Fraxinus excelsior</i>	
Yew	<i>Taxus baccata</i>	
Hawthorn	<i>Crataegus monogyna</i>	
Plum	<i>Prunus domestica</i>	
Blackthorn	<i>Prunus spinosa</i>	
Apple	<i>Malus domestica</i>	
Hazel	<i>Corylus avellana</i>	
Elder	<i>Sambucus nigra</i>	
Field maple	<i>Acer campestre</i>	
Oak	<i>Quercus robur</i>	
Bramble	<i>Rubus fruticosus</i>	
Dog Rose	<i>Rosa canina</i>	
Male fern	<i>Dryopteris filix-mas</i>	south-western edge
Broad buckler fern	<i>Dryopteris albobstriatus</i>	south-western edge
Remote sedge	<i>Carex remota</i>	overflow
Cow parsley	<i>Anthriscus sylvestris</i>	widespread
Common nettle	<i>Urtica dioica</i>	widespread
Dog's mercury	<i>Mercurialis perennis</i>	widespread
Cleavers	<i>Galium aparine</i>	widespread
Ground ivy	<i>Glechoma hederacea</i>	widespread
Garlic mustard	<i>Alliaria petiolata</i>	widespread
Germander speedwell	<i>Veronica chamaedrys</i>	widespread
Cuckoo pint	<i>Arum maculatum</i>	widespread
Ivy	<i>Hedera helix</i>	northern area
Black bryony	<i>Tamus communis</i>	north-west area
Russian comfrey	<i>Symphytum x uplandicum</i>	north-west area
Red campion	<i>Silene dioica</i>	along edges
Woody nightshade	<i>Solanum dulcamara</i>	south of pond
Giant horsetail	<i>Equisetum telmateia</i>	pond and surroundings
Bush vetch	<i>Vicia sepium</i>	south-west area
Wood forget-me-not	<i>Myosotis sylvatica</i>	south-west area
Bluebell	<i>Hyacinthoides non-scripta</i>	south-west area
Yellow archangel	<i>Galeobdolon luteum</i>	south-west area
Greater stitchwort	<i>Stellaria holostea</i>	south-west area
Pignut	<i>Conopodium majus</i>	south-west area
White dead-nettle	<i>Lamium album</i>	south-east corner
Common duckweed	<i>Lemna minor</i>	pond
Meadow buttercup	<i>Ranunculus acris</i>	overflow
Marsh thistle	<i>Cirsium palustre</i>	where path goes through fence
Common Burdock	<i>Arctium pubens</i>	north-west corner
Ragwort	<i>Senecio jacobaea</i>	north-east corner
Great willowherb	<i>Epilobium hirsutum</i>	pond edge
Upright hedge-parsley	<i>Torilis japonica</i>	widespread
Wood avens	<i>Geum urbanum</i>	one seen
Hedge woundwort	<i>Stachys sylvatica</i>	one seen

## **Fungi**

	<b>Associated organism</b>	<b>Substrate</b>
<i>Mycena galericulata</i>		dead wood
<i>Hypholoma fasciculare</i>		dead tree
<i>Ganoderma adspersum</i>		living tree trunk
<i>Stereum rugosum</i>	Hazel	branch
<i>Trametes versicolor</i>		dead branch
<i>Phellinus pomaceus</i>	Apple	branch
<i>Calvatia gigantea</i>		soil
<i>Auricularia auricula-judae</i>	Elder	dead branch
<i>Puccinia malvacearum</i>	Apple	living leaves
<i>Puccinia glechomatis</i>	Ground Ivy	living leaves
<i>Erysiphe sordida</i>	Greater Plantain	living leaves
<i>Erysiphe heraclei</i>	Hogweed	living leaves
<i>Microsphaera alphitoides</i>	Oak	living leaves
<i>Daldinia concentrica</i>	Ash	dead fallen branch
<i>Diatrype stigma</i>		dead fallen branch
<i>Erysiphe cynoglossi</i>	Russian Comfrey	living leaves
<i>Leptosphaeria acuta</i>	Common Nettle	dead stems
<i>Sawadea bicornis</i>	Field Maple	living leaves
<i>Phoma hedericola</i>	Ivy	living leaves
<i>Cercospora mercurialis</i>	Dog's Mercury	living leaves
<i>Dendryphion comosum</i>	Nettle	dead stems
<i>Lichenocodium xanthoriae</i>	<i>Xanthoria parietina</i>	apothecia
<i>Ramularia calcea</i>	Ground Ivy	living leaves
<i>Ramularia rubella</i>	Broad-leaved Dock	living leaves
<i>Xylaria hypoxylon</i>		

## **Bryophytes**

<i>Amblystegium serpens</i>	epiphyte
<i>Brachythecium rutabulum</i>	soil
<i>Bryum capillare</i>	epiphyte
<i>Dicranoweisia cirrata</i>	epiphyte
<i>Hypnum cupressiforme</i> var <i>cupressiforme</i>	various
<i>Kindbergia praelonga</i>	soil
<i>Lophocolea bidentata</i>	rotting wood
<i>Lophocolea heterophylla</i>	rotting wood
<i>Metzgeria furcata</i>	epiphyte
<i>Orthotrichum affine</i>	epiphyte
<i>Orthotrichum diaphanum</i>	epiphyte
<i>Plagiomnium undulatum</i>	soil
<i>Thamnobryum alopecurum</i>	soil
<i>Tortula muralis</i>	brickwork

## Lichens

<i>Xanthoria parietina</i>	MOD post no.9, mature tree on southern edge
<i>Xanthoria calcicola</i>	MOD post no.9
<i>Caloplaca saxicola</i>	MOD post no.9
<i>Lecanora albescens</i>	MOD post no.9
<i>Rinodina gennarii</i>	MOD post no.9
<i>Lecidella stigmatea</i>	MOD post no.9
<i>Phaeophyscia orbicularis</i>	MOD post no.9, mature tree on southern edge
<i>Caloplaca flavocitrina</i>	MOD post no.9
<i>Candelariella aurella</i> f. <i>aurella</i>	MOD post no.9
<i>Lecanora dispersa</i>	MOD post no. 9
<i>Lecanora campestris</i> subsp. <i>campestris</i>	MOD post no.9
<i>Phlyctis argena</i>	mature tree on southern edge
<i>Pyrrhospora querneae</i>	mature tree on southern edge
<i>Physcia adscendens</i>	mature tree on southern edge
<i>Lecanora chlorotera</i>	mature tree on southern edge, woodland area
<i>Lecanora expallens</i>	mature tree on southern edge
<i>Physconia grisea</i>	mature tree on southern edge
<i>Pertusaria amara</i> f. <i>amara</i>	mature tree on southern edge
<i>Diploicia canescens</i>	mature tree on southern edge
<i>Lepraria incana</i> s. str.	mature tree on southern edge, woodland area
<i>Anisomeridium polypori</i>	mature tree on southern edge
<i>Strangospora ochrophora</i>	woodland area – on elder
<i>Candelariella reflexa</i>	woodland area
<i>Lecania naegelii</i>	woodland area
<i>Caloplaca cerinella</i>	woodland area
<i>Caloplaca obscurella</i>	woodland area
<i>Jamesiella anastomosans</i>	woodland area
<i>Bacidia sulphurella</i>	woodland area
<i>Parmotrema perlatum</i>	woodland area
<i>Punctelia jeckeri</i>	woodland area
<i>Hypotrachyna revoluta</i>	woodland area
<i>Flavoparmelia caperata</i>	woodland area
<i>Evernia prunastri</i>	woodland area
<i>Dimerella pineti</i>	woodland area
<i>Cliostomum griffithii</i>	woodland area
<i>Physcia tenella</i> subsp. <i>tenella</i>	woodland area
<i>Xanthoria polycarpa</i>	woodland area
<i>Lecidella elaeochroma</i> f. <i>elaeochroma</i>	woodland area
<i>Arthonia radiata</i>	woodland area
<i>Arthonia spadicea</i>	woodland area
<i>Arthonia didyma</i>	woodland area – old hazel
<i>Punctelia subrudecta</i> s str.	woodland area
<i>Chaenotheca ferruginea</i>	woodland area
<i>Lecanora barkmaniana</i>	woodland area – old hazel (probable record)

## **Birds**

Buzzard	<i>Buteo buteo</i>
Pheasant	<i>Phasianus colchicus</i>
Woodpigeon	<i>Columba palumbus</i>
Stock dove	<i>Columba oenas</i>
Green woodpecker	<i>Picus viridis</i>
Great spotted woodpecker	<i>Dendrocopus major</i>
Wren	<i>Troglodytes troglodytes</i>
Duncock	<i>Prunella modularis</i>
Robin	<i>Erithacus rubecula</i>
Blackbird	<i>Turdus merula</i>
Fieldfare	<i>Turdus pilaris</i>
Redwing	<i>Turdus iliacus</i>
Song thrush	<i>Turdus philomelos</i>
Garden warbler	<i>Sylvia borin</i>
Whitethroat	<i>Sylvia communis</i>
Blackcap	<i>Sylvia atricapilla</i>
Willow warbler	<i>Phylloscopus trochilus</i>
Chiffchaff	<i>Phylloscopus collybita</i>
Spotted flycatcher	<i>Muscicapa striata</i>
Marsh tit	<i>Parus palustris</i>
Blue tit	<i>Parus caeruleus</i>
Great tit	<i>Parus major</i>
Long-tailed tit	<i>Aegithalos caudatus</i>
Treecreeper	<i>Certhia familiaris</i>
Goldfinch	<i>Carduelis carduelis</i>
Bullfinch	<i>Pyrrhula pyrrhula</i>