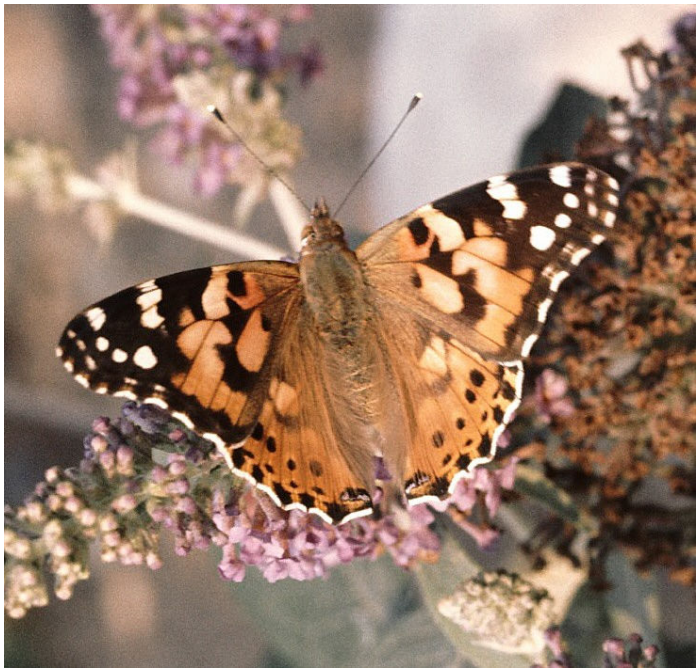
# Naphill Common . Short Invertebrate Survey

**29th May 2009**



Painted Lady Butterfly

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# Contents

## 1. Background

Naphill Common covers an area of approximately 63 hectares and consists of mature oak and beech wood with a good understorey of holly and associated woodland vegetation. In general it is possible to penetrate the woodland without too much difficulty and a good network of reasonably well defined tracks (some with information posts) exists. The woodland is considered to be ecologically important and is jointly administered by Natural England and the National Trust. Currently the administrative boundaries are not apparent in the wood, but a recent upsurge of interest in the area has seen the formation of the 'Friends of Naphill Common'- a user group keen to promote the woodland both for its amenity value and also because of its potential as an important wildlife resource.

Historically the site was pasture woodland, but the area as we see it today reflects a considerable number of years without coherent management. All parties are keen to see the accumulation of data to inform future developments here. It is hoped that this brief survey will make a small contribution to future developments.

## 2 Methodology- general considerations

Given the very brief opportunity available for site survey and the ideal weather at the start of a very good period for invertebrate activity, it was thought that a general look for some of the larger and more numerous insects on site during a fairly brisk walkover would be profitable. The location of certain species found might also be useful in discussion of conservation issues. The equipment chosen reflected these priorities.

### 2.1.Collection of specimens & equipment

General sweeping, tubing, hand search and observation were used. A standard long handled white sweep net was chosen, because it is capable of sampling very considerable areas of habitat and will collect wingless insects climbing vegetation as well as the usual winged forms. A hand –held tape recorder was used to record field observations and other data such as grid references, which were determined using a Garmin GPS 12XL set. Features of interest were photographed using a Fujifilm S9600 digital camera.

### 2.2 Sample sites

The survey team visited a number of different subsites with the aid of an existing general map produced by the Friends of Naphill Common (appendix 1 ). Short reporting notes were provided for six which appeared to have special potential for insects of the Common.

### 2.3 The Survey: conditions and progress

The weather was sunny and warm with a slight breeze and a little cloud cover. The temperature may have varied from 65-70 degrees F.

The survey started at 9.45 from an entrance adjoining Chapel Lane and made its way to a series of points of interest. These included some of the largest mature trees on the Common, some of the important over mature trees exhibiting damage or reduced to stumps, some of the larger open spaces and two pools.

At each location photographs were taken, grid references were recorded, larger insects were observed and some netting took place. Some specimens were retained for later examination. The morning session ended at around 12.30 am when T.Hussey left for another appointment. An afternoon session started at Chapel Lane at around 1.15 pm, visited some different sites and concluded at around 4.30 pm.

### 2.4 Examination & Curation

Some 80 separate insects were retained for examination by lens. A number could be named and released but others needed closer attention under a Leica stereomicroscope. About 20 were mounted and retained because of the need to have reference specimens available, should specialists request this on seeing the report. Care was taken to keep the number of vouchers taken to the barest minimum.

## 3. Presentation of results

### 3.1 The species discovered

A list of the 62 species is presented as a separate unit in appendix 2. This section continues with a discussion of the merits of six key subsites in the light of discoveries made during the survey (locations can be found using the Appendix 1 map). Grid references are only given when subsites of interest are not clearly named on this map. It must again be emphasized that report does not mention a number of other areas which may have yielded significant invertebrate records if time had allowed us to survey them.

### 3.2 Dew Pond and surrounds

Almost at the central point of the Common, this subsite has great potential for hosting some extremely scarce invertebrates. It contains large mature trees including a substantial standing dead beech trunk. Fallen timber immediately adjoining this (probably oak) contained borings of *Sinodendron cylindricum* (proved by discovery of characteristic wing cases). Importantly, a specimen of the brown ant *Lasius brunneus* was taken on the same branch. This is an uncommon ant of old woodland. Nests are occasionally found deep inside old timber, but the ant is very rarely discovered. A winged male was swept in the immediate vicinity suggesting that swarming was taking place on this day.

Dew Pond- an interesting and probably ancient feature

The nearby pond has a number of interesting features. Almost covered with duckweed it seemed to host a large population of large red damselflies- the three observers managed to count some thirty tandem pairs over the surface and on surrounding vegetation. The decision had been taken to sweep the pond surrounds so an approximate comparison with Lady Horse Pond invertebrates might be possible later in the day. The sweep here turned up a largish cranefly *Prionocera subserricornis*. This is almost certainly a new regional record for this species which is associated with saturated ground organically rich with decomposing leaf litter- conditions which seem to prevail in this situation.

### 3.3 Beech Hulk (SU83725 96951)

? *Ganoderma* species on the valuable beech hulk

It is unusual to single out individual smaller tree remnants, but the beech hulk at this location had a very local cranefly *Dictenidia bimaculata* ovipositing inside a deep cavity as the survey party arrived. A male of this species was also in evidence when we passed during the afternoon session. The trunk is full of fissures and hosts a spectacular bracket fungus. A tree like this is almost certain to harbour a good range of saproxylic insects.

### 3.4 Glade at path junction (SU 83565 96932)

This open space is very sunny to the South and yet is hemmed in by quite a diverse set of old trees. A large bumble bee nest (probably the white- tailed *bombus lucorum*) was under a thatch of grass fragments and on a substantial log, a very scarce woodland hoverfly *Xylota xanthocnema* was seen basking. This insect is designated as an H2 (strong) Primary Woodland Indicator (Ball & Morris 2000). It was not the only good find – a large showy female cranefly *Ctenophora pectinicornis* was seen in the holly at the edge of the glade- this is another fly of ancient woodland.

### 3.5 Large open Glade ('Clumps' meadow) SU 83393 96963

This is an ideal area for insect observation, consisting of about half a hectare of open bracken - filled grassland fringed by diverse mature trees. There is a good deal of scattered tall herb and the longhorn beetle *Anaglypta mystica* was soon observed. This insect is included in the 'Saproxylic quality index' (Fowles et al 1999) where it is recorded as very local. There were numerous beetles flying in the hot sunshine, including the bracken chafer and the Common Cockchafer (seen here as photographed in a garden immediately adjoining the site on May 28th).

### 3.6 Lady Horse Pond

A pool with very extensive and deep mud fringes, it is again covered by duckweed. The swept fauna seemed remarkably similar to that of Dew Pond except that the false cranefly *Ptychoptera Albimana* was dominant and there were only two large red damsel flies on view. No uncommon insect was netted here, but that was largely down to the fact that the surveyor sank into the mud and a component of the sweep was lost in the confusion. Valuable comparative data had gone!

### 3.7 Chapel Lane Woodland entrance

The presence of a very fine mature oak - shattered at the lowest main branch junction- marked out this as a good dense woodland area having potential to host many specialized insects. This was borne out when two more specimens of the large cranefly *Ctenophora pectinicornis* were discovered in the immediate area. Both were female. The morning session recorded the bee fly *Bombylius major* on a fallen log in the immediate vicinity- note the very long proboscis.

## 4. Conservation issues by subsite

### Dew Pond and surrounds

Large beech with standing fractured trunk at Dew Pond

This brief survey was able to underline the potential of this subsite for invertebrates. The presence of timber at all stages of development is likely to enable many different insects to flourish. Continuity of timber has enabled the retention of a very local ant species. Evidence of a very long period of wetland continuity in Dew pond is provided by the rare cranefly discovered there- the species is featured on the 'Buglife website' in sections on wet woodland and fens- it is also internationally scarce. Those pages should be consulted for advice.

Currently advice would be to ensure that the conditions currently prevailing at this subsite are maintained as they are. Bulky fallen timber should be left where it falls (smaller branches are not so important but should be stacked in the vicinity). Standing dead timber should be retained – not felled. It often hosts distinctive insects. If necessary, paths may be re routed to allay health and safety concerns, so that visitors are less likely to pass beneath such trees.

The pond should be treated carefully. The mud fringes are potentially very important and a reasonable cover of duckweed might be retained. Management activity in this area should always involve small numbers of assistants - well informed of the potential importance of the subsite. Any insect sampling should be done without use of any mass- trapping device (eg Malaise tent traps) because populations of rare insects may be at low numbers.

### Beech Hulk (SU83725 96951)

An example of the importance of standing dead timber mentioned in the previous paragraph. Conservation advice is the same.

**Glade at path junction (SU 83565 96932)**
This is a nice example of a smaller woodland glade where the South facing 'fringe' encourages varied flora by the path and a wide range of different microhabitats encourage insect diversity. Open spots such as this are important. Path management is fine but excessive cutting back of the fringe vegetation should be avoided.

**Large open Glade ('Clumps' meadow) SU 83393 96963**

This large open glade would probably benefit from treatment to reduce bracken. A variety of cutting and crushing methods might be tried. Chemical methods of control should be avoided. There is sufficient space for a small clearing for amenity purposes (appropriate benches near the main path) and wildlife events involving larger numbers of the public, such as Moth trapping with MV lights, could be very successful here. Monitoring for marker insect species could take place on a regular basis. Rarer woodland invertebrates are always likely to descend from the long woodland frontage to come nectaring on the wild flowers growing in this sunny subsite. Members of the 'Friends' should be encouraged to photograph insect activity here (and indeed on the whole Common).

**Lady Horse Pond**
The unexciting survey results for this subsite should not mislead anyone to consider it unimportant. The insect fauna does show some similarities to that of Dew pond but a properly conducted survey will almost certainly discover much more of interest. The surrounds should be treated with the same caution as Dew pond when any clearance or conservation activity is considered.

**Chapel Lane Woodland entrance**
The issues connected with standing and fallen mature timber have been discussed at the outset of this section and apply here. A further conservation opportunity in this denser woodland arises if Waterhouse stacks are constructed. These consist of smaller fallen branches cut and stacked horizontally with support posts driven in to stop slippage. They retain moisture, provide ideal fungal habitat and also encourage invertebrate larval development. They can be located in a variety of different situations (sunny, semi- shaded etc) to provide a wide range of ecological

opportunities, but should be kept away from paths where they can become a target for vandalism.

## 5. General Conclusions

It is not possible to draw many conclusions on the basis of a visit such as this. Much of the Common was not visited and survey methodology was quite superficial. Nonetheless It has provided some clues about the invertebrate population.

The main focus of interest is likely to be found in the **saproxylic fauna** (insects with larvae associated with dead, decaying and fungoid timber - typical of older and more mature British Woodland). Several species found on this occasion are of interest and in combination with other species already discovered by the Friends and Natural England mark out Naphill Common as probably an outstandingly good site for this group of insects.

The damp places / ponds may also have a special interest – one outstanding and unexpected find suggests that a more **detailed study of the invertebrates of the ponds on the Common may provide data valuable to students of insect ecology.**

It is recommended that monitoring of invertebrates is encouraged on the Common. Public involvement has already been recommended (Photography, butterfly transects & moth nights are useful) and **professional advice on further survey / specific conservation measures should be sought from English Nature and local Wildlife Trusts.**

## 6. Acknowledgements

I am grateful to field assistants Mr Bill Price and Mr Trevor Hussey (Friends of Naphill Common) for much valuable information about the site, for assisting with the work and for obtaining consent for a very general survey to take place. If the collection of specimens has been more zealous than managers had anticipated, I (and not the assistants) must take the blame. I can only offer apologies and plead that, as I saw it, the opportunity to add confirmed records of certain uncommon species to the Naphill lists might only have occurred during the course of this event.

## 7. Bibliography.

The following publications have been valuable during the course of the survey. The web has also been useful and sites such as 'Buglife' have been accessed during the writing of this report.

Ball,S.G. & Morris, R.K.A. (2000). **Provisional Atlas of British Hoverflies (Diptera,Syrphidae**)*Joint Nature Conservation Committee.* 167 pp.

Belshaw ,R (1993). **Tachinid Flies (Diptera :Tachinidae).** *Handbooks for the Identification of British Insects* **10.** Part 4a (i). Published by the Royal Entomological Society of London.

Collin, J.E. (1948). **A Short Synopsis of the British Sapromyzidae (Diptera).** *Trans. R. Ent. Soc. Lond.* 99, 225- 242.

Falk, S. (1991). **A Review of the Scarce & Threatened Flies of Great Britain (Part 1**).Research & Survey in Nature Conservation. Nature Conservancy Council. Peterborough.

Fowles,A.P, Alexander K.N.A. & Key, R.S. (1999) **The Saproxylic Quality Index: Evaluating Wooded Habitats for the Conservation of Dead- wood Coleoptera**. *Coleopterist* Vol 8 (3): 121- 141.

Joy, N.H. (1932). **A Practical Handbook of British Beetles**.(Witherby). 2 vols. [*Reprinted 1976, Farringdon (Classey)*].

Perkins, R.C.L. (1922a) **The British Species of *Halictus* & *Sphecodes*** *Entomologist's Monthly Magazine* **58**, 46-52, 94-101, 167- 174

Southwood, T.R.E., & Leston, D. (1959). **Land & Water Bugs of the British Isles.** Warne & Co. London.

Stubbs, A., & Falk, (2002). **S. British Hoverflies (An Illustrated Identification Guide).** *The British Entomological & natural History Society* 469 pp.

Also most valuable were **The test keys of the Cranefly Recording Scheme** by Alan Stubbs (*Dipterists Forum*.) Mss.
'**Handbooks for the Identification of British Insects**' published by the Royal Entomological Society of London were also valuable in certain cases

**Websites:**
**The following websites (with associated organizations) were of assistance.**
**Natural England: www.naturalengland.org.uk**
**Friends of Naphill Common: www.naphillcommon.org.uk**
**N.B.N. Gateway:www.searchnbn.net/**
**UK Biodiversity Action Plans: www.ukbap.org.uk**
**Buglife: www.buglife.org.uk**

## 8. Status Definitions

**Red Data Book Category 2. RDB2 - Vulnerable**
Definition. Taxa believed likely to move into the Endangered category in the near future if the causal factors continue operating.
Included are taxa of which most or all of the populations are decreasing because of overexploitation, extensive destruction of habitat or other environmental disturbance; taxa with populations that have been seriously depleted and whose ultimate security is not yet assured; and taxa with populations that are still abundant but are under threat from serious adverse factors throughout their range.
Criteria. Species declining throughout their range.
Species in vulnerable habitats.

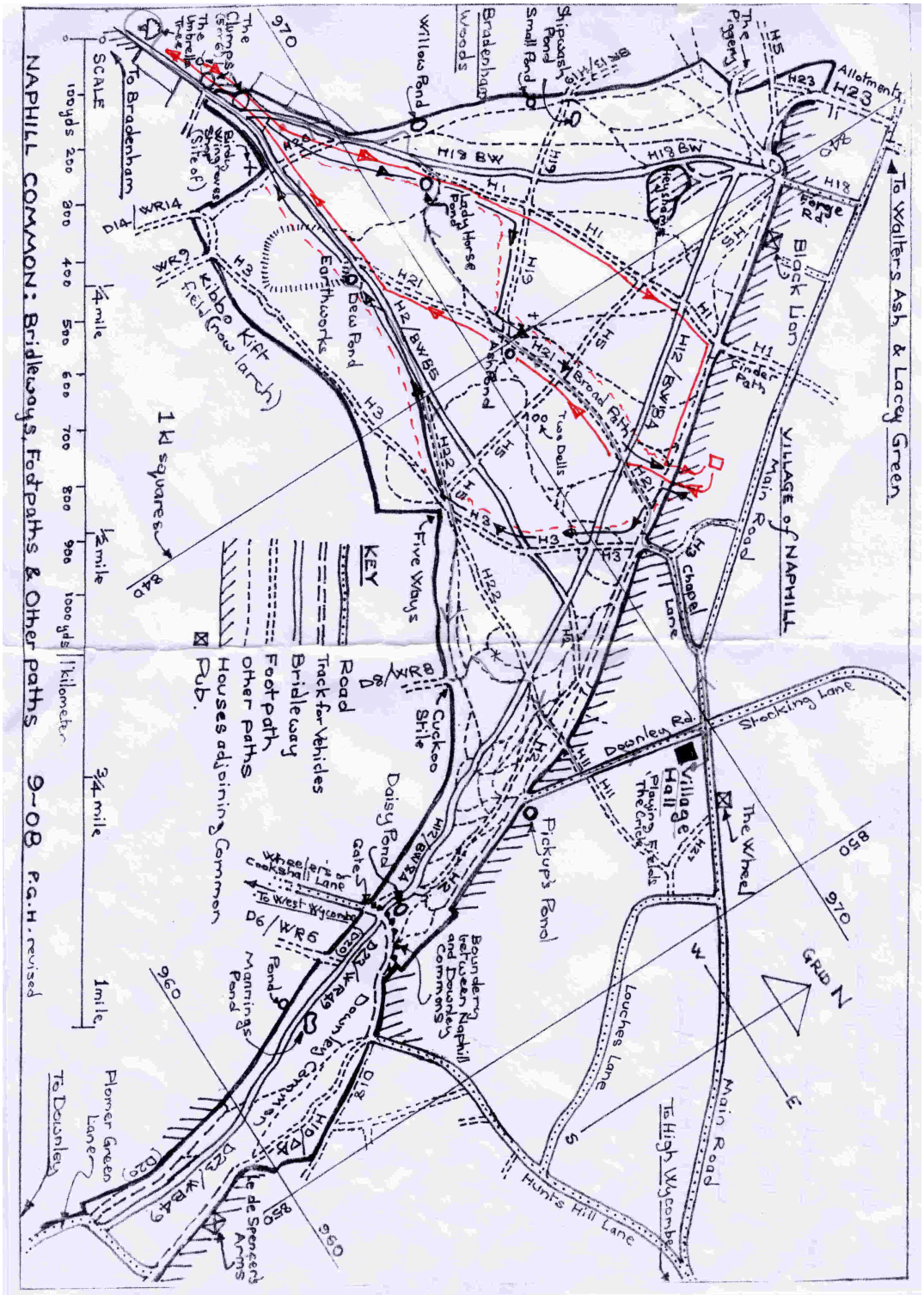
**Nationally Scarce (Notable) Category A - NA**
Definition. Taxa which do not fall within RDB categories but which are none-the-less uncommon in Great Britain and thought to occur in 30 or fewer 10 km squares of the National Grid or, for less well recorded groups, within seven or fewer Vice Counties.

**Nationally Scarce (Notable) Category B - NB**
Definition. Taxa which do not fall within RDB categories but which are none-the-less uncommon in Great Britain and thought to occur in between 31 and 100 10 km squares of the National Grid or, for less well recorded groups, within between eight and twenty Vice Counties.

**M.G.Bloxham (June 10th 2009**

## Appendix 1: site map (by courtesy of the Friends of Naphill Common).

Route walked on the day is marked in red (solid line AM & dotted PM).



## Appendix 2: Species List

## Nomenclature

The systematic arrangement in the lists broadly follows that used in E.N. Recorder 3.3. The status designations have been modified by me in certain cases, based on information from the recorders of specific groups of insects

| Appendix 2 Insect Species recorded during the survey | | | | |
|---|---|---|---|---|
| **Order** | **Family** | **Species** | **Common name** | **Status** |
| Odonata | Coenagriidae | *Pyrrhosoma nymphula* | Large Red Damselfly | Common |
| Hemiptera | Pentatomidae | *Palomena prasina* | green shield bug | Common |
| Hemiptera | Nabidae | *Nabis rugosus* | Common Damselbug | Common |
| Hemiptera | Miridae | *Deraeocoris ruber* | a plantbug or grassbug | Common |
| Hemiptera | Miridae | *Harpocera thoracica* | a plantbug or grassbug | Common |
| Hemiptera | Miridae | *Dryophilocoris flavoquadrimaculatus* | a plantbug or grassbug | Common |
| Coleoptera | Carabidae | *Harpalus affinis* | a green ground beetle | Common |
| Coleoptera | Lucanidae | *Sinodendron cylindricum* | Rhinoceros Beetle | Common |
| Coleoptera | Scarabaeidae | *Melolontha melolontha* | Common Cockchafer | Common |
| Coleoptera | Scarabaeidae | *Phyllopertha horticola* | Bracken Chafer | Common |
| Coleoptera | Elateridae | *Prosternon tessellatum* | Chequered Click Beetle | Local |
| Coleoptera | Elateridae | *Denticollis linearis* | a click beetle | Common |
| Coleoptera | Elateridae | *Athous haemorrhoidalis* | common click beetle | Common |
| Coleoptera | Elateridae | *Agriotes pallidulus* | a small click beetle | Common |
| Coleoptera | Cantharidae | *Cantharis decipiens* | a soldier beetle | Common |
| Coleoptera | Cantharidae | *Cantharis pellucida* | a soldier beetle | Common |
| Coleoptera | Pyrochroidae | *Pyrochroa serraticornis* | Common Cardinal Beetle | Common |
| **Coleoptera** | **Cerambycidae** | ***Anaglyptus mysticus*** | **a longhorn beetle** | **Notable/Nb** |
| Coleoptera | Curculionidae | *Phyllobius pomaceus* | a weevil | Common |
| Lepidoptera | Pyralidae | *Eudonia truncicolella* | a pyralid moth | Common |
| Lepidoptera | Pieridae | *Pieris rapae* | Small White | Common |
| Lepidoptera | Nymphalidae | *Cynthia cardui* | Painted Lady | Migrant |
| Lepidoptera | Nymphalidae | *Inachis io* | Peacock | Common |
| Lepidoptera | Satyridae | *Pararge aegeria* | Speckled Wood | Common |
| **Diptera** | **Tipulidae** | ***Prionocera subserricornis*** | **a cranefly** | **RDB2** |
| **Diptera** | **Tipulidae** | ***Ctenophora pectinicornis*** | **a cranefly** | **Notable/Nb** |
| Diptera | Tipulidae | *Dictenidia bimaculata* | a cranefly | Very Local |
| Diptera | Tipulidae | *Tipula (Vestiplex) scripta* | a cranefly | Common |
| Diptera | Tipulidae | *Helius longirostris* | a cranefly | Common |
| Diptera | Tipulidae | *Limnophila (P) ferruginea* | a cranefly | Common |
| Diptera | Tipulidae | *Erioptera trivialis* | a cranefly | Common |
| Diptera | Ptychopteridae | *Ptychoptera albimana* | a fly | Common |
| Diptera | Stratiomyidae | *Beris chalybata* | a soldier fly | Common |
| Diptera | Rhagionidae | *Rhagio scolopacea* | a snipe fly | Common |
| Diptera | Bombyliidae | *Bombylius major* | Bee Fly | Common |
| Diptera | Empididae | *Hilara interstincta* | a dance fly | Common |
| Diptera | Dolichopodidae | *Dolichopus popularis* | a dolichopodid fly | Common |
| Diptera | Dolichopodidae | *Dolichopus ungulatus* | a dolichopodid fly | Common |

| Appendix 2 Insect Species recorded during the survey | | | | |
|---|---|---|---|---|
| **Order** | **Family** | **Species** | **Common name** | **Status** |
| Diptera | Dolichopodidae | *Hercostomus cupreus* | a dolichopodid fly | Local |
| Diptera | Dolichopodidae | *Hercostomus metallicus* | a dolichopodid fly | Common |
| Diptera | Dolichopodidae | *Argyra diaphana* | a dolichopodid fly | Common |
| Diptera | Syrphidae | *Cheilosia variabilis* | a hoverfly | Common |
| Diptera | Syrphidae | *Rhingia campestris* | a hoverfly | Common |
| Diptera | Syrphidae | *Chrysogaster hirtella* | a hoverfly | Common |
| Diptera | Syrphidae | *Eristalis pertinax* | a hoverfly | Common |
| **Diptera** | **Syrphidae** | ***Xylota xanthocnema*** | **a hoverfly** | **Notable/Nb** |
| Diptera | Lauxaniidae | *Minettia inusta* | a fly | Unknown |
| Diptera | Sciomyzidae | *Renocera pallida* | a snail-killing fly | Common |
| Diptera | Tachinidae | *Tachina fera* | a parasitic fly | Common |
| Diptera | Calliphoridae | *Calliphora vicina* | a blue bottle | Common |
| Diptera | Scathophagidae | *Scathophaga stercoraria* | a dung fly | Common |
| Diptera | Anthomyiidae | *Chirosia parvicornis* | A fern galling fly | Unknown |
| Diptera | Anthomyiidae | *Hydrophoria ambigua* | a fly | Common |
| Hymenoptera | Tenthredinidae | *Dolerus aeneus* | a sawfly | Common |
| Hymenoptera | Tenthredinidae | *Macrophya annulata* | a sawfly | Common |
| Hymenoptera | Cynipidae | *Biorhiza pallida* | Oak Apple | Common |
| Hymenoptera | Formicidae | *Myrmica ruginodis* | A red ant | Common |
| **Hymenoptera** | **Formicidae** | ***Lasius brunneus*** | **Brown Ant** | **Na** |
| Hymenoptera | Halictidae | *Halictus rubicundus* | a solitary bee | Common |
| Hymenoptera | Anthophoridae | *Nomada flava* | a nomad or mason bee | Common |
| Hymenoptera | Anthophoridae | *Nomada ruficornis* | Red-horned Nomad Bee | Local |
| Hymenoptera | Apidae | *Bombus lucorum* | White-tailed Bumble Bee | Common |

**Footnotes.**

An expedition with Mr Bill Price in Stocking Lane wood on May 30th saw the discovery of the scarce Cardinal Beetle ***Pyrochroa coccinea*** (**Notable/Nb).** This is another beetle listed in the Saproxylic Quality index. It is nice to have recorded both cardinal beetle species from the locality.

The survey recorded other wildlife (eg Birds) during this survey but those records are not included in this report.