

Millichope Park and Estate

Invertebrate survey 2020

(Coleoptera, Diptera and Aculeate Hymenoptera)

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SUMMARY

During 2020, 822 invertebrate species (mainly beetles, true-flies, bees, wasps and ants) were recorded from Millichope Park and a small area of adjoining arable estate.

The park's saproxylic beetle fauna, associated with dead wood and veteran trees, can be considered as **nationally important**. True flies associated with decaying wood add further significant species to the site's saproxylic fauna. There is also a strong representation of bees and wasps associated with decaying wood. The site is at least **regionally important** for its fauna of flies (Diptera), bees, wasps and ants (aculeate Hymenoptera).

73 species with conservation statuses were recorded. These included Nationally Rare and Nationally Scarce species (or equivalent designations).

22 species were recorded for the first time in Shropshire.

Four significant species assemblages, consisting of true-flies, bees, wasps and ants as well as beetles, were established as being in "favourable condition":

Two significant species assemblages are associated with the numerous veteran trees that are an important feature of the parkland. Both these assemblages (heartwood decay and bark & sapwood decay assemblages) were assessed as being in "favourable condition" for nature conservation.

Two other significant species assemblages are associated with the grassland and scrub edges in the park. Both these assemblages (rich flower resource and scrub edge assemblages) were assessed as being in "favourable condition" for nature conservation.

INTRODUCTION

In January 2020 Nigel Jones and Dr Caroline Uff were commissioned by the Millichope Estate to survey and assess the insect fauna of Millichope Park with particular regard to its ancient and veteran trees. In addition to surveying the parkland, an adjoining small orchard and two oaks on the edge of adjacent arable land were included in the survey.

The park is located in and surrounding the Ordnance Survey 1 km square - SO5288.

Millichope Park contains various ancient and veteran tree species, including oak, some of which are estimated to be around 500 years old, beech, sycamore, lime, sweet chestnut and horse chestnut. The typical age range of non-oak veteran and potential veteran trees in the park is around 200 – 350 years. Many of the trees feature dead wood, both in situ on trees and left on the ground after collapse.

The British beetle (Coleoptera) and true-fly (Diptera) fauna contains numerous species that are particularly associated with mature trees and dead wood in parkland and old woodland. These two orders were targeted by the survey in order to gain an indication of the value of the park's trees for invertebrates.

As the survey progressed it became evident that the open grasslands and scrub edge features contained a significant fauna of bees and wasps (aculeate Hymenoptera), so this insect sub-order was also targeted by the survey.

METHODOLOGY

Techniques

Thirteen vane traps, a type of flight interception trap, were installed in older trees around the parkland. Samples from the traps were collected at approximately 3 week intervals. *Fig. 1* shows the locations of the 11 vane traps placed in the parkland. Two of these traps were placed in oaks at the edge of arable farmland. Table 1 details the locations for the traps. Additionally, a bottle trap (a different design of flight interception trap) was placed on a dead beech trunk (trap 12) at the edge of woodland within the park, near to vane trap 4.

Other techniques employed were:

- sweep netting through grassland vegetation;
- sweep netting over tree foliage at various heights up to 4 metres;
- search and capture of insects on flowers, and foliage with an insect net;
- pan traps set out in grassland and on prone dead wood;
- beating vegetation, flowers and tree foliage;
- direct observation of insects.

See also the section on Coleoptera, which details other techniques used specifically for collecting Coleoptera.



Figure 1: Location of traps 1 - 11

Field survey days

Survey days were undertaken on: 26 and 27 March (trap installation), 10 April CU, 15 April NJ, 4 May NJ, 5 May CU, 6 May CU, 18 May NJ, 27 May CU, 14 June CU, 15 June NJ, 22 June CU, 27 June NJ, 12 July NJ CU, 4 August CU, 6 August NJ, 24 August CU, 30 August NJ, 15 September CU, 29 September NJ, 14 October NJ.

Trap	Grid Ref	species	Date installed	Date moved	Final sample collected
1	SO52568798	oak	26/03/2020		14/10/20
2*	SO52338807	horse chestnut	26/03/2020	10/4/20	no sample
2**	SO52378807	horse chestnut	10/04/2020	14/06/2020	14/6/20
2	SO52918821	inside bole of lime	14/06/2020		14/10/20
3	SO52238816	oak	26/03/2020		14/10/20
4	SO52108828	beech	26/03/2020		30/8/20
5	SO52378860	oak	26/03/2020		15/9/20
6	SO52358860	oak inside bole	26/03/2020		15/9/20
7	SO52078839	beech	26/03/2020		14/10/20
8	SO52488821	oak	27/03/2020		14/10/20
9	SO52348818	sweet chestnut	27/03/2020		14/10/20
10	SO52968817	oak	27/03/2020		14/10/20
11*	SO51648863	beech	27/03/2020	14/6/20	14/6/20
11	SO52088819	oak	14/06/2020		30/8/20
12	SO52188824	dead beech stump	15/04/2020		29/9/20
X01	SO52788771	oak	10/04/2020		14/10/20
X02	SO53248784	oak	10/04/2020		15/9/20

Table 1 Locations of vane traps and tree species involved. * fell out of tree and moved to a new tree. ** relocated due to poor productivity. * relocated due to flooding by debris spilt by overhead nesting jackdaws.

RESULTS

Results from the survey are presented for each of the main target groups Coleoptera, Diptera and aculeate Hymenoptera.

Coleoptera (beetles) - Dr. Caroline R. Uff

The beetle survey focused on the identification of wood decay (saproxylic) species. These were considered likely to be the most ecologically significant invertebrate group in the parkland due to the presence of ancient and veteran trees.

Saproxylic species are associated with wood decomposition and damage. Many of the rarest species are completely dependent on habitats associated with ancient trees. For these species, the rarity and isolation of prime habitat in the modern landscape makes colonisation of new sites all but impossible. Parkland sites with a good diversity of these rare saproxylic species may therefore be considered for SSSI designation.

There are not known to have been previous beetle surveys of Millichope Park. Indeed, only three earlier beetle records can be seen on the National Biodiversity Network (NBN, 2020), two of which were saproxylic species recorded in 1985.

Methods

Beetles were collected using a variety of techniques as detailed below. Most species were identified by microscopic examination using specialist keys and in some cases dissection. An example of each species collected is retained as a voucher specimen. Specimens that could be identified in the field were not collected. Two ancient oak trees on the wider (arable) estate were included in the survey.

- **Vane trapping** (flight interception traps). Traps were suspended in large girth trees, mainly oaks, but also lime, beech, sweet chestnut and horse chestnut. Traps were emptied approximately every 3 weeks (from April to October). The methodology is compliant with the guidelines set out by Natural England and provides a dataset that can be analysed for habitat condition assessment purposes.
- **Hand searching**, particularly on the trunks and under bark of old trees with dead or decaying wood and fungal fruiting bodies. Rot holes and hollows were searched with loose heartwood material sieved.
- **Observations**, particularly of sap runs, cobwebs on trunks, fallen trees and timber stacks. Trunks were also scanned for adult emergence holes. Hogweed and similar flowers were checked as these are often used for feeding and mating.
- **Beating** of decaying aerial branches and foliage of trees, and blossom, particularly hawthorn blossom.
- **Sweep netting** of marginal vegetation and grassland beneath trees.
- **Grass traps** –fermenting hay was placed into the hollows of orchard trees and insects that collected in them were sieved out.
- **Targeted search** for the rare noble chafer beetle was carried out in the orchard by looking for characteristic frass within trunk hollows.

Results

Two hundred and sixty eight species of beetle were identified, all but two of which were new records for the site. Over one hundred of these were saproxylic, 112 of which were identified with confidence to species level and are used in the analysis.

Thirty one confirmed species are considered to be Nationally Scarce (or have some sort of conservation status) and a further four have no status but are worthy of note as they are recorded here for the first time in Shropshire. More detail on all of these is included in Table 2.

There did not appear to be significantly less species in oaks on the wider estate (arable) compared to similar trees within the parkland. Indeed, two beetle species of interest were only recorded from these 'arable edge' trees.

The tree with both the highest number and highest diversity of beetles was the large hollow oak stump (# 824). It is also worth noting that the rotting large trunks, used as horse jumps, supported excellent breeding populations of the impressive lesser stag beetle.

The targeted search for the noble chafer, a saproxylic beetle of fruit trees, failed to find signs of this rare species. Its UK stronghold is in Worcestershire, but they have recently been found in orchards in south Shropshire. The orchard trees were well maintained and often young, with only a few having a significant wood decay component, so suitable habitat was limited. Despite this, several other saproxylic species were recorded from the orchard, often using the surrounding hedgerows and blossom for feeding. There are a number of rare species associated with mistletoe in traditional orchards, but it appears that this may have been removed from the trees so was not assessed. The orchard would be described as a traditional orchard and, like the parkland, classified as a priority habitat in the UK.

Analysis of Saproxylic beetles

The overall diversity of saproxylic beetles is high and indicates the significance of the wood-decay habitats at Millichope (in particular those associated with 'heartwood' and 'bark & sapwood' decay). These two assemblages, when analysed using Natural England's online Pantheon tool (Webb *et al.*, 2018), are both shown to be in favourable condition. The assemblage associated with fungal fruiting bodies is also noted to be in favourable condition although the calculation is less reliable due to lower numbers of specimens from this group.

The saproxylic beetle fauna can be assessed using two established methodologies: the Index of Ecological Continuity (IEC) and the Saproxylic Quality Index (SQI) (Fowles, A.P., 2020). Several saproxylic species are not included in the analysis as their identification could not be verified at present, or they could only be identified to genus level.

The IEC was originally developed as a means of producing a simple statistic which could be used in grading a site for its significance to the conservation of saproxylics. It is based on ecological considerations rather than rarity. The approach is recognised by conservation agencies and several important sites have been designated as a result.

When analysed for beetles alone, Millichope has an IEC score of 51, indicating that it is of national significance (a score of more than 15 is considered to indicate a site of regional importance, more than 25 indicates a site of **National Importance** and more than 80 a site of international importance). By comparison, Attingham Park has an IEC of 39, and Croft Castle of 68, but it is important to note that these scores are based on many years' worth of cumulative data, whereas the Millichope data has been gathered in a single year. All of the species found at Millichope that qualify for an IEC grade are described in more detail in Table 2.

The SQI is a scoring system based on a wider range of species, taking into account common as well as rarer saproxylics although with much greater weight being placed on the rarity of species. It was suggested that a score of 500 was an appropriate threshold for assessing national importance, but as very few sites nationally attain this score, it is now considered unrealistically high, with a score of 400 being a more realistic goal.

Millichope has an SQI value of 441.7, again comparable to Attingham Park (405.8) and Croft Castle (474.8) again indicating a site of **National Importance**.

Only one species of beetle had been previously recorded from the site (1985) that was not found in this survey, and that was the saproxylic species *Bitoma crenata*. It was not used in the analysis but is listed in the table and is likely to still be present.

Details and further analysis of the coleoptera recorded from Millichope have now been published in the Coleopterist Journal (Uff, C.R. 2021).

Conclusion

The ancient and veteran parkland trees of Millichope Park and the wider estate have a significant saproxylic beetle fauna at a national level. This is clear, despite only a having single season of recording data. It is considered that the use of vane traps has given a good representation of the beetle fauna present (at least of those species that live largely within the trees) and further vane trapping would be unlikely to produce significantly more species. However, the numbers and diversity of the larger, more mobile species, such as longhorns, soldier beetles and cardinal beetles were disappointing. These are often picked up feeding on the surrounding shrubs and flowers and it is possible that the very dry spring was a contributing factor. Further survey could reasonably be expected to add significant numbers of these larger, mobile species.

The parkland habitat was in good condition, with appropriate grazing levels throughout, a diverse, well-structured sward, and the retention of deadwood and lower limbs of ancient trees. In places there were also patches of scrubby hawthorns – a key component of the habitat that is often undervalued. It should be emphasised that for saproxylic species, the retention of both standing and fallen deadwood, ideally *in situ*, is paramount. Likewise, the importance of readily available early nectar sources, in particular hawthorn, and later in the season, umbellifers such as hogweed are also extremely important to allow this important assemblage of invertebrates to thrive.

Diptera (true-flies) and aculeate Hymenoptera (bees, wasps & ants)

Nigel Jones

DIPTERA

The Diptera survey targeted the identification of flies associated with decay in trees. This decay is often associated with accumulations of woody and leaf debris in rot holes that develop in mature trees, as well as in sap runs and, rotting tree roots. Diptera also often breed in tree associated fungi.

The survey also sampled flies associated with grassland, wetland and scrub. These species were picked up as a by-sample of sweeping ground vegetation and tree foliage for species associated with mature trees.

The National Biodiversity Network and Shropshire Ecological Data Network hold no Diptera records for Millichope Park, so it appears that no previous records of any Diptera species have been made for the site.

Methods

Flies were collected using several techniques, with the majority of species requiring microscope determination and reference to specialist literature. Where possible, species were identified in the field and released on site. Voucher specimens of critical species and noteworthy species have been retained in the author's private collection.

- **Vane trapping** - see the description under Coleoptera above. Vane traps often capture tree-associated Diptera that are rarely caught by other collecting methods;
- **Search and capture** – see description above;
- **Sweeping** across ground vegetation and particularly across tree foliage up to 4 meters height with a long handled net. This captures flies that are rarely captured by sweeping at lower levels.
- **Pan traps** – small yellow and white pans containing water where the surface tension has been broken by adding a small drop of detergent. Flies are trapped in the water when they land on its surface;
- **Observing** and identifying distinctive flies on flowers, foliage, tree trunks, fences and other features.

Results

427 Diptera taxa were recorded; 421 were determined to species level and an additional six to genus or species complex level. Around 50 species are saproxylic, having an association with decaying wood. A further 115 species are associated with non wood decay aspects of trees.

Twenty nine (10 saproxylic) species carry Nationally Scarce or equivalent, or higher conservation status designations. One of the Nationally Scarce saproxylics is new to Shropshire (*Odinia trinotata*) and a further twelve species without conservation status designations are of interest, having not previously been recorded in Shropshire. Table 3 details noteworthy Diptera species recorded in the park.

ACULEATE HYMENOPTERA

Methods

Collecting methods were as for Diptera above.

Results

110 species of bees, wasps and ants were recorded, including 13 species with conservation designations. However conservation designations for aculeate Hymenoptera have not been revised since 1991, and in the last 30 years there have been very significant changes in the distributions of many species in the UK, often in reaction to the warming UK climate. Consequently a number of designated species are now known to be widespread and common. Our assessment (following Archer, 2007 & 2011) is that six species might still be considered as scarce in a national context. These are listed in Table 4 and given in bold below.

The full list of conservation designated species presented by the Pantheon database (Webb *et al.*, 2018) (with those species currently considered as scarce in bold) is:

Andrena apicata large sawfly mining bee Nb, ***Andrena bucephala*** big-headed mining bee [Na], ***Bombus rupestris*** red-tailed cuckoo bee [Nb], ***Nomada fucata*** painted nomad bee [Na], ***Nomada hirtipes*** long-horned nomad bee [RDB 3], ***Nomada lathburiana*** Lathbury's nomad bee [RDB 3], ***Crossocerus distinguendus*** [Na], ***Stigmus pendulus*** [RDB K], ***Lasius brunneus*** NA, ***Lasioglossum pauxillum*** lobe-spurred furrow bee [Na], ***Sphecodes crassus*** swollen-thighed blood bee Nb, ***Auplopus carbonarius*** Nb, ***Tiphia minuta*** [Nb]

One species, the mining bee *Lasioglossum pauxillum*, is new to Shropshire, and the spider-hunting wasp *Auplopus carbonarius* is known from just three other sites in the county (Jones & Cheeseborough, 2014).

Particular note should be made of the range of aerial nesting bees and wasps, of which there are 29 species. These are associated with cavities in dead wood, in which they construct nests. These species are also heavily reliant on floral resources, from which they collect pollen and prey items, as well as drinking nectar for energy purposes. Thus, the grassland and scrub trees are an important resource in the park for both aerial nesting and ground nesting aculeates.

The park also supports a significant assemblage of ground nesting bees and wasps - 57 species - that are heavily reliant on the resource of exposed friable soils, or sparsely vegetated soil. Another ten species (bumblebees and ants) make nests at ground level, but do not necessarily require exposures of loose soil.

The list of 110 aculeate species, recorded in a single season, ranks Millichope Park as one of the top ten sites in Shropshire (Jones & Cheeseborough, 2014). This reflects, in part, the relatively intense level of recording effort made in the park during 2020, but it undoubtedly also indicates that the range of semi natural habitats and associated resources available across the park do provide a high quality opportunity for aculeate Hymenoptera.

Analysis – Diptera and aculeate Hymenoptera

An analysis of the combined data for all species (beetles, true flies, bees, wasps and ants etc.) was made using the online Pantheon tool (Webb *et al.*, 2018). This indicates that the park is in “favourable condition” for its rich flower resource species assemblage type (SAT). This SAT consisted of 61 species of bees and wasps.

The Pantheon analysis also indicates that the park has a scrub edge SAT that is in “favourable condition”. This is in great part, 28 of 33 species, made up by aculeate Hymenoptera species.

Veteran tree fauna

Note: SQI below refers to the Pantheon database term Species Quality Index rather than the Saproxylic Quality Index used solely for beetles above. It is important to understand that the scores for the Pantheon derived analysis are not directly comparable with the scores derived from the tool used for scoring saproxylic beetles alone. The Pantheon scores are strictly based on published references, which means that many candidate species do not get allocated a score in Pantheon. To avoid confusion the term Pantheon SQI has been used below. For further details see the Pantheon glossary at www.brc.ac.uk/pantheon/lexicon/sapwood-bark-decay.

The Coleoptera (beetles) provide the major element of the invertebrate fauna associated with the park's veteran trees, but Diptera and aculeate Hymenoptera are also included in the Pantheon analysis giving a wider representation of value for a range of species associated with veteran trees. The **bark & sapwood decay** SAT (species assemblage type), scores a Pantheon SQI of 145. **The heartwood decay** SAT is scores a Pantheon SQI of 200. Note: Pantheon is a relatively new tool for assessing invertebrate fauna value. To date a limited number of sites have been analysed, so that the scores cannot yet be usefully compared with other similar sites.

Both bark & sapwood decay and heartwood decay SATs are assessed as being in favourable condition.

Open habitat fauna

An unanticipated outcome of the survey was the value of the park for its **rich flower resource** species assemblage type. An SQI of 115 is given by the analysis. The list of species from Millichope Park constitutes some 25% of all the species that have been allocated to the national list of species in this SAT. The **scrub edge** SAT also holds significant value with an SQI of 136.

Both rich flower resource and scrub edge SATS are assessed as being in favourable condition.

Conclusion - Diptera and aculeate Hymenoptera

The park's saproxylic fauna of Flies provides a strong indication the value of the park's ancient and veteran trees for saproxylic species. Currently, there is not an appropriate analysis tool that can provide a strictly objective assessment of the importance of the Diptera fauna in a regional/national context. However, with around fifty candidate saproxylic Diptera species, the park can reasonably be considered as significant for saproxylic Diptera at at least a county level and very probably at a regional (West Midlands) level. Comparable sites in Shropshire, such as Attingham Park and Loton Deer Park, host faunas of saproxylic Diptera of a similar quality.

Management of the park for its saproxylic Diptera should follow that suggested for saproxylic beetles. Standing deadwood and rot holes are particularly important for many saproxylic Diptera species, particularly where these occur in situations where they are less prone to drying out.

The dead wood associated fauna of nesting bees, wasps and ants is significant at a county level with a good range of common species that nest in dead wood. Management for this component of the park's fauna should aim to retain as much standing and prone dead wood as possible, particularly where this occurs in the sunlit situations required by warmth-loving aculeate Hymenoptera.

The park hosts an extensive range of bees, wasps and ants, with many ground nesting species, including some nationally scarce species. The park's grassland and scrub edge offers a significant resource of great value to this fauna, and also to the wider insect fauna. Management of grazing in the park should aim to maintain and ideally enhance the quantities and variety of flowering plants. Retention of a woodland edge scrub component with bramble, hawthorn, blackthorn, willow etc. will also be important for the maintenance and enhancement of invertebrate populations. Areas of exposed soil, for example along tracks, in areas where cuttings to create access tracks have provided exposed soil and where livestock have created small cliffs, should be tolerated, as these are key locations for ground nesting bees and wasps.

The Pantheon database does not yet contain enough sites in its public data section to enable meaningful comparison with other similar sites, so the Site Quality Scores cannot yet provide a meaningful Site Quality Index for the various species assemblages. However Colin Plant Associates (2006) (See Appendix 3) devised a system for assessing the importance of sites based on the presence of species with conservation designations. This type of assessment considers the whole insect fauna of a site, rather than a specific species assemblage, such as heartwood decay or rich flower resource, and is thus quite different to the assessments above. Referring to the Colin Plant Associates method, the combined Diptera and aculeate Hymenoptera (excluding Coleoptera) fauna of Millichope Park contains over 30 species with Nationally Scarce or higher designations. This alone would indicate at least **Regional Importance** for the park's non Coleoptera insect fauna.

Other species

A small number of species from other insect orders was recorded on a casual basis. The most noteworthy of these was a moth, the lime cosmet *Chrysoclista linneella* at only its second Shropshire site. The larvae feed under the bark of lime trees. It is a scarce moth nationally, with only 34 UK records. It was present in numbers on the large, partly collapsed lime alongside the drive at SO529882.

A single silver washed fritillary butterfly *Argynnis paphia* was observed, nectaring on bramble and flying back and forth along a woodland edge at grid ref SO522885.

There were second Shropshire records for Brassica shield bug *Eurydema oleracea* and the leaf beetle *Chrysolina herbacea*.

Wetland Fauna

A minor, but distinct element of the park's invertebrate fauna is associated with the stream, flushes and bank-side vegetation. Species recorded included the rare Muscid fly *Lispocephala brachialis*, the soldier flies *Oxycera morrisii* (Nationally Scarce), *O. nigricornis* and *O. rara* (both are local), the Nationally Scarce hoverfly *Cheilosia chrysocoma* and Signal fly *Themira gracilis*, and other rather local species: *Chrysotus laesus*, *Poecilobothrus chrysozygos*, *Platypalpus luteicornis* and *Platypalpus subtilis*.

Table 2 key beetle species of interest (nationally scarce species, indicators of ecological continuity and first county records) Saproxylic species are in bold.

Abbreviations: NS - Nationally Scarce, NT – Near Threatened, NA – Notable A, NB - Notable B, RDB – Red Data Book, DD Data deficient. IEC – Index of Ecological Continuity. See Appendix A for details of designations.

Information on statuses, distributions and life history is drawn from Alexander (2014), Alexander, Dodd & Denton (2014), Duff (2012, 2016, 2020)

Family	Species	Status	Notes
Aderidae	<i>Euglenes oculatus</i>	NS; IEC 1	Found in huge numbers in a variety of ancient trees across the site, including oaks on the arable land. Reported to develop in moist crumbly red-rot of old hollowing oaks and other broad-leaved trees. Adults favour elder blossom. Widespread in ancient parks and wood pastures of England and Wales.
Anobiidae	<i>Dorcatoma chrysomelina</i>	IEC 1	Found in good numbers in both ancient oak and sweet chestnut on both the parkland and arable fields. Reported to develop in the interior of boughs and trunks of oak (mainly) which are red-rotten, due to activity of the fungus <i>Laetiporus sulphureus</i> . Known from ancient wood pastures of England and Wales.
Anobiidae	<i>Dorcatoma dresdensis</i>	NS; IEC 2	Found in low numbers in ancient beech, oak and lime. Reported to develop in hard perennial bracket fungi on broad-leaved trees, incl. <i>Ganoderma</i> on old beech. Known from ancient wood pastures mainly in south-east England.
Anobiidae	<i>Dorcatoma flavicornis</i>	NS; IEC 1	Found in low numbers in ancient oaks across the park. Adults and larvae live mainly in red rotten oak though may also occur on other trees, such as alder and willows. Widely distributed from southern England to west Yorkshire with an old record from south Wales. Very local across range.
Anobiidae	<i>Ptinus subpilosus</i>		Two specimens found in a single oak on the edge of woodland. First Shropshire record. Reported from old hollow trees and under bark, mainly of oak. A scavenger in bird nests and on invertebrate remains. It has a wide but scattered distribution in Britain.
Anobiidae	<i>Xestobium rufovillosum</i>	IEC 1	Death watch beetle. A single specimen found in an ancient oak in an arable field by the river. Known to bore in hard dead heartwood of several hardwood species where damp and fungal decay is present. Scattered UK records mainly from south-eastern and central England.
Biphyllidae	<i>Biphyllus lunatus</i>	IEC 1	Specimens found in a single ancient parkland beech. Known to develop in the fruiting body of the fungus <i>Daldinia concentrica</i> growing on ash and, to a lesser extent, other broad-leaved trees. Widespread in lowland England, although rarer in the west where strongly associated with ancient wood pastures.

Biphyllidae	<i>Diplocoelus fagi</i>	Nb; IEC 1	Found mainly in the ancient parkland beech trees but one specimen from oak. Described as associated with beech, the adults occurring under bark on deadwood, particularly the loose outer layer. Adults over-winter in deadwood, including oak. Known from ancient woodlands and wood pastures, mainly in south and south-east England.
Bothrideridae	<i>Oxylaemus variolosus</i>	RDB 3; IEC 2	A single specimen found in an ancient hollow oak stump. <u>Only 8 UK records</u> - the closest from Croft Castle. Has been recorded from litter at base of tree stumps, and in the root pathogen fungus <i>Collybia fusipes</i> at the base of a red oak.
Chrysomelidae	<i>Crepidodera nitidula</i>	NSB	A single specimen swept in the parkland. This is a first record for Shropshire. A scarce species on poplar / aspen in central and southern England.
Chrysomelidae	<i>Orsodacne cerasi</i>	NS	Several specimens swept from the parkland. Usually found in mixed or deciduous woodland. Widespread and locally common in England and Wales.
Cleridae	<i>Thanasimus formicarius</i>	IEC 1	A single specimen from an ancient parkland oak. Larvae and adults are known to feed on bark beetles and also other beetles in hard dead timber; especially ash and elm, but also pine and oak. Widespread in central and eastern England, more sparingly in north and west.
Cleridae	<i>Tillus elongatus</i>	NS; IEC 1	A single specimen. A predator of other beetles on old broad-leaved trees, especially larvae of <i>Ptilinus pectinicornis</i> , and usually in hard dead heartwood of beech. Mainly in southern and south-eastern England.
Cryptophagidae	<i>Cryptophagus micaceus??</i>	RDB K; IEC 3	Two individual specimens from ancient parkland oak and lime. A very tricky group, but if confirmed this would be a first Shropshire record, with only 18 UK records. In tree hole nests of hornet and social wasps; also reported from rotting timber, fungi, sap and nest debris.
Cucujidae	<i>Pediacus dermestoides</i>	DD; IEC 1	A single specimen taken from an ancient parkland oak. Known to develop beneath bark on dead broad-leaved timber in the early stages of decay, especially in shattered ends of broken boughs. Larvae feed on other insect larvae, while adults are fungivorous. Widespread in ancient woodlands and wood pastures throughout southern Britain, as far north as N. Yorkshire.
Curculionidae	<i>Curculio villosus</i>	Nb	Two individual specimens taken from ancient beech and oak in the park. Reported to be uncommon on and around oaks. Only the 2nd recent Shropshire record.
Curculionidae	<i>Ernoporicus fagi</i>	[Na] IEC 1	Several specimens taken from ancient parkland oak and beech. Reported to be mainly associated with freshly dead beech boughs, also oak and birch in ancient woodlands and wood pastures. Recorded from central and south-eastern England, reaching to the Welsh borders.
Curculionidae	<i>Pteleobius vittatus</i>		2 specimens taken from a single ancient parkland oak. First Shropshire record. Most UK records are from the southern midlands. The larvae develop under the bark of ailing or dying trees. However, the adults hibernate in short galleries that they make in the bark of healthy trees.

Curculionidae	<i>Trypodendron domesticum</i>	IEC 1	A single specimen taken from ancient parkland oak. One of the ambrosia beetles, known to develop in the sapwood of a wide range of freshly dead broadleaved timber. Adults excavate deep galleries in the sappy timber and feed on the fruiting bodies of fungi cultivated therein. Widespread in British Isles, but largely confined to ancient woodlands and wood pastures.
Curculionidae	<i>Xyleborinus saxesenii</i>	IEC 1	A single specimen taken from ancient parkland oak. One of the ambrosia beetles known to forms galleries within thick bark of freshly dead or dying oak, beech, sweet chestnut and other trees. Also found in the sapwood of small diameter branches Over-winters as adult, under bark. Distributed across lowland England.
Curculionidae	<i>Xyleborus dryographus</i>	Nb; IEC 1	A single specimen taken from hollow oak stump. Reported to be mainly associated with freshly dead oak and sweet chestnut, also beech and elm. Recorded mainly from southern and south-eastern England.
Dermeestidae	<i>Megatoma undata</i>	NS	Found in ancient oaks on both arable and parkland. Known to be a scavenger in the nests or burrows of other insects and in spider webs. Also found in decaying wood in old trees, feeding on remnants of insects, spider exuviae etc. Widespread in lowland England, although most frequent in south-east and Midlands.
Elateridae	<i>Calambus bipustulatus</i>	Nb; IEC 1	A single specimen from ancient parkland beech. First Shropshire record. Larvae are predators living in relatively soft rotten wood in stumps and trunks of oak & other broadleaves. The adult nectars at blackthorn and hogweed. Scattered records across southern Britain.
Endomychidae	<i>Symbiotes latus</i>	Nb; IEC 1	Several specimens taken from ancient lime, but also one from beech. First Shropshire record. Reported from fungi and under bark on deadwood; elm, poplar, ash and beech. Scattered records from across southern Britain.
Erotylidae	<i>Dacne rufifrons</i>	DD	2 individuals taken from ancient parkland beech and oak. Reported that adults normally frequent fruiting brackets of the softer polypore fungi on trunks of broad-leaved trees. Widespread in lowland England but local.
Eucnemidae	<i>Epiphanis cornutus</i>	NT	An unusually large specimen taken from ancient lime. Second Shropshire record. Larvae are known to be wood boring in a variety of trees. Propably a north American import to England, now scattered across southern Britian.
Histeridae	<i>Gnathoncus buyssoni</i>	NS	A scavenger, living particularly in the nests of birds within hollow trees, but also in squirrel dreys and other situations. Widespread across the lowlands of southern Britain, but very localised within its range
Histeridae	<i>Gnathoncus communis</i>		First Shropshire record. Thought to be associated with bird's nests and carrion. A very local species in central England and the south-east.
Histeridae	<i>Plegaderus dissectus</i>	IEC 2	Found in good numbers on a variety of ancient trees, mostly beech but also oak and lime, in both parkland and arable. Reported to be confined to ancient wood pastures where it lives in moist crumbly decaying timber of various broad-leaved trees, and occasionally found under sappy bark. Recorded across southern England.

Latridiidae	<i>Enicmus brevicornis</i>	Notable; IEC 1	Found in low numbers in ancient beech and oak trees across the park. Reported to be associated with mouldy bark of beech, birch, ash and sycamore. Appears to have increased in numbers and range in recent years. Found across central and south-eastern England.
Latridiidae	<i>Enicmus rugosus</i>	Notable; IEC 2	Found in low number in ancient lime, beech and oak across the park. Known to be associated with slime mould on trees, often under bark on deadwood; mainly oak, but also ash, beech, alder and pine. Mainly found in central and south-eastern England.
Lycidae	<i>Platycis minutus</i>	NSB IEC 3	A single specimen observed on fallen tree in the woodland. Larvae are known to develop in large, relatively soft, moist, decaying heartwood. Found especially on beech, mostly in closed-canopy areas of ancient woodland in southern and eastern England.
Melandryidae	<i>Abdera quadrifasciata</i>	NS; IEC 3	Single specimen from an ancient parkland oak. Reported to develop in decaying branchwood of hornbeam, oak, and beech in ancient wood pastures and woods. Generally found on lower dead branches which have been shaded out by the tree's own canopy. Scattered across lowland southern Britain, into the Welsh Marches, but not known from the southwest.
Melandryidae	<i>Conopalpus testaceus</i>	NS; IEC 1	2 specimens from ancient parkland oak. Reported to develop in decaying boughs and branches, especially of oak but also on hazel in ancient wood pastures. Adults may visit flowers, especially umbellifers. Widespread in central and southeastern England, rare in Wales.
Melandryidae	<i>Orchesia minor</i>	NS	Single specimen. Develops in a variety of large polypore fungi mainly in ancient woodland and wood pasture. Widespread in England and Wales
Mycetophagidae	<i>Mycetophagus atomarius</i>	IEC 1	2 specimens taken from ancient parkland beech (one from dead beech). Larvae are known to develop in the hard black fruiting bodies of <i>Hypoxylon fragiforme</i> on dead & dying beech, or <i>Daldinia concentrica</i> on ash. Pupae reported under bark and in deadwood. Recorded throughout England.
Mycetophagidae	<i>Mycetophagus piceus</i>	IEC 2	Present in good numbers in ancient oaks in both parkland and arable fields. One taken from a parkland sweet chestnut. Reported to develop in red-rotten heartwood in oak trunks and boughs, <i>i.e.</i> in the decay caused by the fungus <i>Laetiporus sulphureus</i> , the larvae occurring where the decay is fresh and moist. Adults are also found feeding on fruiting bodies of other bracket fungi. Primarily in ancient woodlands and wood pastures. Widespread over much of England and Wales.
Mycetophagidae	<i>Pseudotriphyllus suturalis</i>	NS,NT; IEC 1	Several specimens taken from hollow oak stump. Adults said to be associated with bracket fungi, most often <i>Laetiporus sulphureus</i> and <i>Polyporus squamosus</i> . Widespread over lowland central and eastern England.
Oedemeridae	<i>Ischnomera cyanea</i>	NS; IEC 1	A single specimen swept from marginal vegetation beneath an ancient riverside oak in the wider (arable) estate. The larvae are known to develop in relatively soft, white-rotting heartwood of a great variety of broad-leaved trees. Adults over-winter in pupal cell, later attracted to blossom of hawthorn, hogweed etc. Widespread in ancient woods and wood pastures over much of lowland England.

Oedemeridae	<i>Ischnomera sanguinicollis</i>	NS; IEC 1	2 swept from vegetation. Develops in old relatively soft dead wood of wych elms, adults at flowers of various trees and shrubs. Most frequent in ancient woods and wood pastures of central southern England.
Ptiliidae	<i>Ptenidium gressneri</i>	NS; IEC2	Known from ancient deciduous forests, generally in moist crumbly wood mould in hollow trunks & rot holes; also in nests of hornet and squirrel dreys in hollow trees; most records from beech.
Rhizophagidae	<i>Rhizophagus cribratus</i>		A single specimen taken from beech. First Shropshire record. Larvae reported to feed on larvae of other small beetles, including certain scolytid bark beetles, in damp conditions where there is mould or sap. Usually found around tree roots in litter etc, especially oaks.
Rhizophagidae	<i>Rhizophagus oblongicollis</i>	RDB1; IEC 3	Several specimens taken from hollow oak stump. Thought to develop underground at the roots of old oaks, but above ground it is attracted to sap associated with damaged bark.
Staphylinidae	<i>Phyllodrepoidea crenata</i>	NS	Adults and larvae occur under bark of relatively freshly dead trees or branches, usually broad-leaved trees in England.
Staphylinidae	<i>Quedius maurus</i>	IEC 1	Rather strictly subcortical, and in moist crumbly rotten wood. Widespread in central and eastern England.
Staphylinidae	<i>Quedius scitus</i>	NS; IEC 2	Usually subcortical, in moist crumbly red-rot of various broad-leaved trees. Mainly central and eastern England
Staphylinidae	<i>Stenichnus bicolor</i>	IEC 1	Single specimen taken from hollow parkland beech. Reported to be found under bark and in moist crumbly decaying timber of various dead trees. Widespread in Britain, mostly in ancient wood pastures.
Tenebrionidae	<i>Eledona agricola</i>	NS; IEC 1	Several specimens taken from 2 ancient parkland oaks. Known mostly from old wood pastures where it develops primarily in the fruiting bodies of <i>Laetiporus sulphurous</i> . Very occasionally adults have been reported from other similar soft annual bracket fungi. Recorded from central and southern Britain.
Tenebrionidae	<i>Prionychus ater</i>	IEC 1	Several specimens taken from beech and oak in both park and arable. The larvae are reported to most often develop in black wood mould in hollowing broad-leaved trees, often beneath nests of birds such as jackdaw. Adults are nocturnal. Widely recorded in wood pastures across southern Britain, but absent from far west.
Tetratomidae	<i>Tetratoma desmarestii</i>	NS; IEC 1	2 specimens taken from ancient parkland oak. Third Shropshire record. Reported to be most often associated with dead, shaded out, lower boughs of mature and overmature oaks, possibly developing in <i>Stereum</i> . Thinly scattered over much of lowland Britain.
Zopheridae	<i>Bitoma crenata</i>	IEC 1	Not recorded in this survey but 1985 (Keith Alexander). Reported to be found mainly beneath bark on dead beech, oak and occasionally other trees when in the early stages of decay and still sappy. Recorded mostly from ancient wood pastures, especially in the north and west. Widespread over much of England.

Table 3 key fly species of interest (Nationally Scarce species, species with other conservation designations and first county records for Shropshire) Saproxylic species are in bold. Statuses are those given by the Pantheon database, some of which require revision in the light of changing knowledge of species distributions.

Abbreviations: NS - Nationally Scarce, NT – Near Threatened, NA – Notable A, NB - Notable B, RDB – Red Data Book, DD Data deficient. See Appendix A for details of designations.

Information on statuses, distributions and life histories is drawn from: Drake (2017, 2018), Falk (1991b), Falk & Chandler (2005), Falk & Crossley (2005), Falk, Ismay & Chandler (2016), Falk & Pont, (2017).

Family	Species	Status	Notes
Tipulidae	<i>Tipula hortorum</i>	RDB3	A single specimen was captured from a mature beech in Baldwyn’s Coppice. Assessed as rare in Britain, but known from several sites in Shropshire and now considered to be widespread enough in the UK not to merit a conservation designation.
Tipulidae	<i>Ctenophora pectinicornis</i>	Noteable	A widespread but local crane fly of old woodlands and sites containing veteran trees. A single male was observed flying around the base of tree No. 809 – a standing dead oak.
Empididae	<i>Empis woodi</i>	NS	Sparsely recorded from scattered localities in southern Britain. Many sites are woodland or parkland. 3 specimens: 2 swept from parkland and 1 from a vane trap in a beech.
Empididae	<i>Rhamphomyia micropyga</i>	NS	Records are widely dispersed across Britain. Old broadleaved woodland is the most frequently recorded habitat. A single specimen swept from the Baldwyn’s Glen area of the parkland.
Empididae	<i>Hilara albitarsis</i>	NS	5 specimens from four locations across the park. Local in England and Wales, north to Yorkshire. A poorly understood species; habitat Preferences are not clear, records including woodland, sandy heathland and dry grassland localities.
Empididae	<i>Hilara brevivittata</i>	NS	7 Specimens from vane traps (in oaks) and swept from foliage in the parkland. Records for this species are widely dispersed over southern England and Wales. Usually associated with marshy areas, flushes and rivers.
Dolichopodidae	<i>Poecilobothrus chrysozygos</i>		First Shropshire record. A single specimen. A wetland species swept from near the cascade stream in the park. A rather local species.
Hybotidae	<i>Euthyneura gyllenhali</i>		First Shropshire record. A single specimen swept from tree foliage near Baldwyn’s Glen. A species that is strongly associated with trees and woodland.
Hybotidae	<i>Oedalea apicalis</i>	NS	2 specimens from vane traps in beech trees in the parkland. Records for this species are widely scattered throughout southern England as far north as Staffordshire. Most frequently found in old woodlands. Larvae of this genus have been found in rotten wood, and the adults are predators on small insects.

Hybotidae	<i>Platypalpus luteicornis</i>	NS	First Shropshire record. 1 specimen from the parkland. Records of this species are few, but widely scattered, in England, Scotland and Wales. Preferences are unclear; damp woodland associated with wetlands or rivers is a possible habitat, while there is one recent record from an ancient park.
Hybotidae	<i>Platypalpus pseudofulvipes</i>		First Shropshire record.
Hybotidae	<i>Platypalpus subtilis</i>	NS	The majority of records are from riverside localities, but there are also some woodland ones well away from riparian influences.
Tabanidae	<i>Tabanus maculicornis</i>	NS	Narrow-winged horsefly . 1 specimen swept from tree foliage in the parkland. Very sparsely distributed in England, Scotland and Wales. Predominantly found at woodland sites with wetland features.
Scenopinidae	<i>Scenopinus niger</i>	NT	Forest window fly. 4 specimens from oak – 3 from a hollow oak trunk at the edge of woodland (tree No. 824) and one from an oak (tree X01) on arable land. This a very scarce species in the UK with most records from southern England. Larvae are likely to feed on the larvae of dermestid and woodworm beetles in heart-rot, rot-holes and bracket fungi on veteran broadleaved trees including oak and beech.
Conopidae	<i>Myopa pellucida</i>	NS	A single specimen swept from grassland in the park. A parasitoid of species of mining bees, its main host is suspected to be the widespread mining bee <i>Andrena cineraria</i> .
Pipunculidae	<i>Pipunculus zugmayeriae</i>	NS	First Shropshire record. A single specimen swept from tree foliage in Baldwyn's Glen. Sparsely distributed in England and Wales, north to Monmouthshire and Staffordshire. Pipunculus are parasitoids of leaf hoppers of the family Cicadellidae.
Syrphidae	<i>Cheilosia chrysocoma</i>	NS	A single specimen observed at the edge of a woodland block within the park. Very scattered records across Britain. This is a species of woodland rides and glades. It is suspected that the larvae live in Angelica plants.
Syrphidae	<i>Eupeodes nitens</i>	NS	A single specimen collected in the Baldwyn's Glen area of the park. The majority of British records are southern or western and are largely confined to England. It may have undergone a significant decline in recent decades. Mainly a species of broad leaved woodland.
Heleomyzidae	<i>Scoliocentra collini</i>		First Shropshire Record. Larvae probably develop in the burrows of small mammals.
Lauxaniidae	<i>Aulogastromyia anisodactyla</i>	NS	5 specimens from across the park. Widely scattered records from across Britain. Woodland edge, rides and clearings, also open structured scrub. Biology unknown.
Lauxaniidae	<i>Cnemacantha muscaria</i>	NS	Several swept off tree foliage in the park. Widely distributed but local in north and west Britain. Habitat: Woodland edge, rides and clearings, also open structured scrub.
Lauxaniidae	<i>Meiosimyza illota</i>		First Shropshire Record.

Lauxaniidae	<i>Minettia longiseta</i>		First Shropshire Record.
Megamerinidae	<i>Megamerina dolium</i>	NS	A single specimen was swept from the edge of Baldwyn's Coppice. The larvae develop beneath the bark of dead broad-leaved wood and in Britain the puparium has been found beneath the bark of a dead Oak, although adults have been found in association with the dead wood of Aspen on the continent.
Milichiidae	<i>Madiza pachymera</i>	NS	2 specimens from a largely dead oak in the park. Scattered locations across southern England. Habitat: Old broad-leaved woodland and other situations that have experienced a long continuity of dead wood and old or diseased trees.
Odiinidae	<i>Odinia trinotata</i>	NS	A single specimen from a largely dead oak in the park. First Shropshire record. Known from only around a dozen sites in England. The larvae appear to develop in the sappy borings of insect larvae in old Oaks. Some of the records refer to trees infested with larvae of the goat moth.
Clusiidae	<i>Clusia tigrina</i>	NS	Around 10 specimens were found in the park and woodland: 3 in a vane trap inside the hollow bole of a lime, several swept from a large sycamore in the park (tree 808), 1 on a dead beech trunk, 1 on a cut dead prone tree. Occurs in isolated old or diseased trees in woodland, hedgerows, ancient parkland and scrub. The larvae almost certainly develop in dead wood or rot holes. Known from widely scattered locations in England and Wales.
Sepsidae	<i>Themira gracilis</i>	NS	A single specimen swept from grassland in the Baldwyn's Glen area of the park. An essentially northern species, with records from Scotland, Wales and England. Larvae may develop in a range of rotten substances such as animal dung, bird guano or decomposing animals, although exact preferences are not known.
Tephritidae	<i>Trupanea stellata</i>		First Shropshire Record. "Star-winged Ragwort Fly". A single specimen from the parkland. The larvae mine in the capitulum of various Asteracea, particularly <i>Senecio</i> species.
Fanniidae	<i>Fannia aequilineata</i>	NS	3 specimens from decaying beech in woodland. Widespread but sparsely distributed in England. Habitat Ancient broad-leaved woodland.
Fanniidae	<i>Fannia gotlandica</i>	NS	2 specimens, 1 swept off a pile of large prone deadwood in woodland and another swept from foliage in Baldwyn's Coppice. This species is known only from Britain and Sweden. In occurs in southern Britain, north to Shropshire. Habitat: Old broad-leaved woodland, with dead wood and old or damaged trees. The larvae develop in wood detritus and rotting wood of trees including elm and beech.
Muscidae	<i>Helina abdominalis</i>	NS	2 specimens from vane traps in oak trees in the park. First Shropshire Record. Occurs sparsely throughout England and Wales as far north as Yorkshire and Westmorland. Habitat Broad-leaved woodland.
Muscidae	<i>Lispocephala brachialis</i>	NT	Several specimens swept from a wet flush in Baldwyn's Glen. Known from very few localities across Britain, with only a handful of post-1960 localities. Habitat: Broad-leaved woodland alongside shaded streams.

Muscidae	<i>Macrorchis meditata</i>		First Shropshire Record. Records are sparsely distributed across Britain.
Sarcophagidae	<i>Sarcophaga subulata</i>	NS	A single specimen from the parkland. Known from southern England, north to Shropshire, plus Glamorgan in Wales. Habitat: Calcareous grassland, sandy heaths, and broad-leaved woodland.
Tachinidae	<i>Lophosia fasciata</i>	Notable	A single specimen from the parkland. A widely distributed species in England and Wales, but rather local. A parasitoid of shield bugs in the family Acanthosomatidae.

Table 4 key bee, wasp and ant species of interest (Nationally Scarce species, and first county records for Shropshire). The scarcity values are drawn from Archer (2007 and 2011) rather than from the 1991 review of aculeate Hymenoptera (Falk, 1991) as this is now badly outdated. County level information is drawn from Jones & Cheeseborough (2014).

Family	Species	Status	Notes
Andrenidae	<i>Andrena apicata</i>	Scarce	2 specimens from the park and arable estate. Local in southern Britain, the range extending northwards to Cumberland. An area centred on Shropshire/Herefordshire/Worcestershire appears to be a stronghold for the species. A mining bee that is amongst the earliest to emerge each spring. Habitats include open deciduous woodland and abandoned sand and chalk quarries.
Andrenidae	<i>Andrena bucephala</i>	Scarce	12 specimens, mainly from the park, but 1 from the arable estate. The species is widely distributed in southern England and south Wales, but is generally rare and very local. Habitat is mainly open deciduous woodland, pastures, calcareous grassland, parkland, disused gravel workings.
Apidae	<i>Nomada hirtipes</i>	Scarce	7 specimens swept from the parkland. Habitat - open sites that support nesting aggregations of <i>Andrena bucephala</i> – the host of this cleptoparasitic bee. Rare in Shropshire.
Formicidae	<i>Lasius brunneus</i> brown tree ant	Notable A 1991	A single specimen collected in the park. Only known from central and southern English counties, from Essex to Shropshire. Nests are usually found within mature but still living trees; they have also been found in stumps and hedgerows.
Halictidae	<i>Lasioglossum pauxillum</i>	Restricted	New to Shropshire. Several specimens found across the park. Habitat: mainly open sites, including chalk grassland and woodland. Nests in small to large aggregations, mainly on level, sparsely vegetated soil.
Pompilidae	<i>Auplopus carbonarius</i>	Scarce	A single specimen observed in the park. A generally scarce species that occurs in southern England. A spider hunting wasp that nests in a variety of cavities. Rare in Shropshire.

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Appendix 1 Conservation designations explained:

RDB and Near Threatened statuses given in this report refer to species that are rare in Britain. The rarest species are categorised as endangered. None of the species recorded from Millichope Park fell into the endangered category. The survey did find species that fell into the **Near Threatened** category. This is used for species whose international populations are rare enough for them to be considered as at risk of becoming threatened with extinction in the near future.

Notable and Nationally Scarce. Notable A and Noteable B designations were used in older species assessments to categorise species that occurred in no more than 100 1 km squares in Britain (Nb), or no more than 30 1km squares (Na). Nationally Scarce status is now used and refers to species known from less than 100 1km squares or from less than 14 vice counties.

Appendix 2: List of species recorded from Millichope Park during 2020

Full data is provided in separate spreadsheet files.

Order	Family	Species	English name
BEETLES			
Coleoptera	Aderidae	Euglenes oculatus	
Coleoptera	Anobiidae	Anobium fulvicorne	
Coleoptera	Anobiidae	Anobium punctatum	
Coleoptera	Anobiidae	Dorcatoma chrysomelina	
Coleoptera	Anobiidae	Dorcatoma dresdensis	
Coleoptera	Anobiidae	Dorcatoma flavicornis	
Coleoptera	Anobiidae	Grynobius planus	
Coleoptera	Anobiidae	Hedobia imperialis	
Coleoptera	Anobiidae	Ptilinus pectinicornis	
Coleoptera	Anobiidae	Ptinus subpilosus	
Coleoptera	Anobiidae	Xestobium rufovillosum	
Coleoptera	Anthicidae	Omonadus floralis	
Coleoptera	Biphyllidae	Biphyllus lunatus	
Coleoptera	Biphyllidae	Diplocoelus fagi	
Coleoptera	Bothrideridae	Oxylaemus variolosus	
Coleoptera	Buprestidae	Agrilus biguttatus	
Coleoptera	Byturidae	Byturus ochraceus	
Coleoptera	Byturidae	Byturus tomentosus	
Coleoptera	Cantharidae	Cantharis cryptica	
Coleoptera	Cantharidae	Cantharis decipiens	
Coleoptera	Cantharidae	Cantharis nigricans	
Coleoptera	Cantharidae	Cantharis rufa	
Coleoptera	Cantharidae	Cantharis rustica	
Coleoptera	Cantharidae	Malthodes marginatus	

Coleoptera	Cantharidae	Rhagonycha fulva	
Coleoptera	Cantharidae	Rhagonycha lignosa	
Coleoptera	Cantharidae	Rhagonycha limbata	
Coleoptera	Carabidae	Amara familiaris	
Coleoptera	Carabidae	Amara similata	
Coleoptera	Carabidae	Asaphidion stierlini	
Coleoptera	Carabidae	Bembidion quadrimaculatum	
Coleoptera	Carabidae	Bembidion tetracolum	
Coleoptera	Carabidae	Calodromius spilotus	
Coleoptera	Carabidae	Carabus problematicus	
Coleoptera	Carabidae	Carabus violaceus	
Coleoptera	Carabidae	Demetrias atricapillus	
Coleoptera	Carabidae	Dromius meridionalis	
Coleoptera	Carabidae	Dromius quadrimaculatus	
Coleoptera	Carabidae	Harpalus rufipes	
Coleoptera	Carabidae	Nebria brevicollis	
Coleoptera	Carabidae	Ocys harpaloides	
Coleoptera	Carabidae	Platynus assimilis	
Coleoptera	Carabidae	Poecilus cupreus	
Coleoptera	Carabidae	Pterostichus madidus	
Coleoptera	Cerambycidae	Alosterna tabacicolor	
Coleoptera	Cerambycidae	Clytus arietis	
Coleoptera	Cerambycidae	Grammoptera ruficornis	
Coleoptera	Cerambycidae	Pachytodes cerambyciformis	
Coleoptera	Cerambycidae	Rhagium mordax	
Coleoptera	Cerambycidae	Rutpela maculata	
Coleoptera	Cerambycidae	Stenocorus meridianus	

Coleoptera	Cerylonidae	Cerylon ferrugineum	
Coleoptera	Cerylonidae	Cerylon histeroides	
Coleoptera	Chrysomelidae	Altica lythri	
Coleoptera	Chrysomelidae	Aphthona melancholica?	
Coleoptera	Chrysomelidae	Chrysolina herbacea	
Coleoptera	Chrysomelidae	Crepidodera aurea	
Coleoptera	Chrysomelidae	Crepidodera nitidula	
Coleoptera	Chrysomelidae	Donacia simplex	
Coleoptera	Chrysomelidae	Gastrophysa viridula	
Coleoptera	Chrysomelidae	Lochmaea suturalis	
Coleoptera	Chrysomelidae	Longitarsus pratensis?	
Coleoptera	Chrysomelidae	Neocrepidodera transversa	
Coleoptera	Chrysomelidae	Orsodacne cerasi	
Coleoptera	Chrysomelidae	Oulema obscura	
Coleoptera	Chrysomelidae	Phaedon armoraciae	
Coleoptera	Chrysomelidae	Phyllotreta atra	
Coleoptera	Chrysomelidae	Phyllotreta nemorum	
Coleoptera	Chrysomelidae	Phyllotreta undulata	
Coleoptera	Chrysomelidae	Psylliodes chrysocephala	
Coleoptera	Chrysomelidae	Psylliodes chrysocephala var anglica	
Coleoptera	Ciidae	Cis bilamellatus	
Coleoptera	Ciidae	Cis boleti	
Coleoptera	Ciidae	Cis castaneus	
Coleoptera	Ciidae	Cis fagi	
Coleoptera	Ciidae	Cis vestitus	
Coleoptera	Ciidae	Cis villosulus	
Coleoptera	Clambidae	Clambus sp.	
Coleoptera	Cleridae	Thanasimus formicarius	

Coleoptera	Coccinellidae	Adalia bipunctata	
Coleoptera	Coccinellidae	Adalia decempunctata	
Coleoptera	Coccinellidae	Calvia quatuordecimguttata	
Coleoptera	Coccinellidae	Coccidula rufa	
Coleoptera	Coccinellidae	Coccinella septempunctata	
Coleoptera	Coccinellidae	Exochomus 4-pustulatus	
Coleoptera	Coccinellidae	Harmonia axyridis	
Coleoptera	Coccinellidae	Propylea quatuordecimpunctata	
Coleoptera	Coccinellidae	Tytthaspis 16-punctata	
Coleoptera	Corylophidae	Orthoperus sp.	
Coleoptera	Cryptophagidae	Antherophagus pallens	
Coleoptera	Cryptophagidae	Atomaria atricapilla	
Coleoptera	Cryptophagidae	Atomaria lewisi?	
Coleoptera	Cryptophagidae	Atomaria linearis	
Coleoptera	Cryptophagidae	Atomaria nitidula?	
Coleoptera	Cryptophagidae	Atomaria sp.	
Coleoptera	Cryptophagidae	Cryptophagus dentatus?	
Coleoptera	Cryptophagidae	Cryptophagus micaceus?	
Coleoptera	Cryptophagidae	Cryptophagus scanicus	
Coleoptera	Cucujidae	Pediacus dermestoides	
Coleoptera	Curculionidae	Anthomonas sp.	
Coleoptera	Curculionidae	Archarius pyrrhoceras	
Coleoptera	Curculionidae	Ceutorhynchus obstrictus	
Coleoptera	Curculionidae	Ceutorhynchus pallidactylus	
Coleoptera	Curculionidae	Ceutorhynchus typhae?	
Coleoptera	Curculionidae	Chaetocnema hortensis	
Coleoptera	Curculionidae	Curculio venosus	

Coleoptera	Curculionidae	Curculio villosus	
Coleoptera	Curculionidae	Dorytomus taeniatus	
Coleoptera	Curculionidae	Dorytomus tortrix	
Coleoptera	Curculionidae	Euophryum confine	
Coleoptera	Curculionidae	Mecinus pyraeter	
Coleoptera	Curculionidae	Nedyus quadrimaculatus	
Coleoptera	Curculionidae	Neocoenorrhinus aequatus	
Coleoptera	Curculionidae	Orchestes alni	
Coleoptera	Curculionidae	Orchestes fagi	
Coleoptera	Curculionidae	Perapion hydrolapathi	
Coleoptera	Curculionidae	Phyllobius pyri	
Coleoptera	Curculionidae	Polydrusus tereticollis	
Coleoptera	Curculionidae	Rhinoncus pericarpus	
Coleoptera	Curculionidae	Sitona lepidus	
Coleoptera	Curculionidae	Sitona lineatus	
Coleoptera	Curculionidae	Trichosirocalus troglodytes	
Coleoptera	Curculionidae	Tychius picirostris	
Coleoptera	Dermestidae	Anthrenus verbasci	
Coleoptera	Dermestidae	Attagenus pellio	
Coleoptera	Dermestidae	Ctesias serra	
Coleoptera	Dermestidae	Megatoma undata	
Coleoptera	Elateridae	Agriotes acuminatus	
Coleoptera	Elateridae	Agriotes obscurus	
Coleoptera	Elateridae	Agriotes pallidulus	
Coleoptera	Elateridae	Aplotarsus incanus	
Coleoptera	Elateridae	Athous bicolor	
Coleoptera	Elateridae	Athous haemorrhoidalis	
Coleoptera	Elateridae	Calambus bipustulatus	

Coleoptera	Elateridae	Denticollis linearis	
Coleoptera	Elateridae	Kibunea minuta	
Coleoptera	Elateridae	Melanotus castanipes	
Coleoptera	Elateridae	Melanotus villosus?	
Coleoptera	Endomychidae	Symbiotes latus	
Coleoptera	Erotylidae	Dacne bipustulata	
Coleoptera	Erotylidae	Dacne rufifrons	
Coleoptera	Eucnemidae	Epiphanis cornutus	
Coleoptera	Geotrupidae	Anoplotrupes stercorosus	
Coleoptera	Geotrupidae	Geotrupes spiniger	
Coleoptera	Histeridae	Abraeus perpusillus	
Coleoptera	Histeridae	Acritus sp.	
Coleoptera	Histeridae	Gnathoncus buyssoni?	
Coleoptera	Histeridae	Gnathoncus communis	
Coleoptera	Histeridae	Gnathoncus nannetensis	
Coleoptera	Histeridae	Paromalus flavicornis	
Coleoptera	Histeridae	Plegaderus dissectus	
Coleoptera	Hydrophilidae	Cercyon pygmaeus	
Coleoptera	Hydrophilidae	Cercyon terminatus?	
Coleoptera	Hydrophilidae	Cryptopleurum minutum	
Coleoptera	Hydrophilidae	Helophorus brevipalpis	
Coleoptera	Hydrophilidae	Megasternum concinnum	
Coleoptera	Hydrophilidae	Sphaeridium lunatum	
Coleoptera	Hydrophilidae	Sphaeridium scarabaeoides	
Coleoptera	Kateretidae	Brachypterus glaber	
Coleoptera	Kateretidae	Brachypterus urticae	
Coleoptera	Laemophloeidae	Cryptolestes ferrugineus	
Coleoptera	Latridiidae	Cartodere bifasciata	

Coleoptera	Latridiidae	Cartodere nodifer	
Coleoptera	Latridiidae	Corticaria elongata	
Coleoptera	Latridiidae	Corticarina minuta	
Coleoptera	Latridiidae	Corticicaria gibbosa	
Coleoptera	Latridiidae	Enicmus brevicornis	
Coleoptera	Latridiidae	Enicmus rugosus	
Coleoptera	Latridiidae	Enicmus testaceus	
Coleoptera	Latridiidae	Enicmus transversus	
Coleoptera	Latridiidae	Latridius porcatus	
Coleoptera	Leiodidae	Agathidium seminulum?	
Coleoptera	Leiodidae	Anisotoma humeralis	
Coleoptera	Leiodidae	Catops coracinus?	
Coleoptera	Leiodidae	Catops fuliginosus	
Coleoptera	Leiodidae	Catops nigricans	
Coleoptera	Leiodidae	Catops sp.	
Coleoptera	Leiodidae	Nemadus colonoides	
Coleoptera	Leiodidae	Ptomaphagus subvillosus	
Coleoptera	Leiodidae	Sciodrepoides fumatus	
Coleoptera	Leiodidae	Sciodrepoides watsoni	
Coleoptera	Lucanidae	Dorcus parallelipedus	
Coleoptera	Lucanidae	Sinodendron cylindricum	
Coleoptera	Lycidae	Platycis minutus	
Coleoptera	Malachiidae	Malachius bipustulatus	
Coleoptera	Melandryidae	Abdera quadrifasciata	
Coleoptera	Melandryidae	Conopalpus testaceus	
Coleoptera	Scarabaeidae	Melolontha melolontha	
Coleoptera	Mycetophagidae	Mycetophagus atomarius	
Coleoptera	Mycetophagidae	Mycetophagus piceus	

Coleoptera	Mycetophagidae	Mycetophagus quadripustulatus	
Coleoptera	Mycetophagidae	Pseudotriphyllus suturalis	
Coleoptera	Nitidulidae	Epuraea aestiva	
Coleoptera	Nitidulidae	Epuraea biguttata	
Coleoptera	Nitidulidae	Epuraea marseuli	
Coleoptera	Nitidulidae	Epuraea melanocephala	
Coleoptera	Nitidulidae	Epuraea sp.	
Coleoptera	Nitidulidae	Meligethes aeneus	
Coleoptera	Nitidulidae	Meligethes atratus?	
Coleoptera	Nitidulidae	Meligethes nigrescens?	
Coleoptera	Nitidulidae	Soronia grisea	
Coleoptera	Oedemeridae	Ischnomera cyanea	
Coleoptera	Oedemeridae	Oedemera lurida	
Coleoptera	Oedemeridae	Oedemera nobilis	
Coleoptera	Pselphidae	Tychus niger	
Coleoptera	Ptiliidae	Acrotrichis sp.	
Coleoptera	Ptiliidae	various species of Ptilids	
Coleoptera	Rhizophagidae	Rhizophagus bipustulatus	
Coleoptera	Rhizophagidae	Rhizophagus cribratus	
Coleoptera	Rhizophagidae	Rhizophagus ferrugineus	
Coleoptera	Rhizophagidae	Rhizophagus nitidulus	
Coleoptera	Rhizophagidae	Rhizophagus perforatus?	
Coleoptera	Salpingidae	Salpingus planirostris	
Coleoptera	Salpingidae	Salpingus ruficollis	
Coleoptera	Scarabaeidae	Aphodius depressus	
Coleoptera	Scarabaeidae	Aphodius prodromus	
Coleoptera	Scarabaeidae	Aphodius rufipes	

Coleoptera	Scarabaeidae	Aphodius sphaelatus	
Coleoptera	Scarabaeidae	Aphodius stiticus	
Coleoptera	Scarabaeidae	Onthophagus coenobita	
Coleoptera	Scirtidae	Cyphon coarctatus	
Coleoptera	Scirtidae	Cyphon palustris	
Coleoptera	Scirtidae	Microcara testacea	
Coleoptera	Scirtidae	Scirtes hemisphaericus	
Coleoptera	Curculionidae	Dryocoetes villosus	
Coleoptera	Curculionidae	Ernoporicus fagi	
Coleoptera	Curculionidae	Hylesinus varius	
Coleoptera	Curculionidae	Pteleobius vittatus	
Coleoptera	Curculionidae	Scolytus mali	
Coleoptera	Curculionidae	Scolytus multistriatus	
Coleoptera	Curculionidae	Trypodendron domesticum	
Coleoptera	Curculionidae	Xyleborinus saxesenii	
Coleoptera	Curculionidae	Xyleborus dryographus?	
Coleoptera	Curculionidae	Anaspis fasciata	
Coleoptera	Curculionidae	Anaspis frontalis	
Coleoptera	Curculionidae	Anaspis garneysi	
Coleoptera	Curculionidae	Anaspis humeralis	
Coleoptera	Curculionidae	Anaspis lurida?	
Coleoptera	Curculionidae	Anaspis maculata	
Coleoptera	Curculionidae	Anaspis rufilabris	
Coleoptera	Silphidae	Nicrophorus humator	
Coleoptera	Silvanidae	Ahasverus advena	
Coleoptera	Sphindidae	Aspidiphorus orbiculatus	
Coleoptera	Staphylinidae	Ocypus olens	
Coleoptera	Staphylinidae	Ontholestes murinus	

Coleoptera	Staphylinidae	Oxytelus laqueatus	
Coleoptera	Staphylinidae	Scaphidium quadrimaculatum	
Coleoptera	Staphylinidae	Stenichnus bicolor?	
Coleoptera	Staphylinidae	Stenus similis	
Coleoptera	Staphylinidae	Tachinus pallipes	
Coleoptera	Staphylinidae	Tachinus rufipes	
Coleoptera	Tenebrionidae	Eledona agricola	
Coleoptera	Tenebrionidae	Prionychus ater	
Coleoptera	Tetratomidae	Tetratoma desmarestii	
Coleoptera	Throscidae	Trixagus carinifrons	
Coleoptera	Throscidae	Trixagus dermestoides	
TRUE-FLIES			
Diptera	Anisopidae	Sylvicola cinctus	
Diptera	Anisopidae	Sylvicola punctatus	
Diptera	Anthomyiidae	Adia cinerella	
Diptera	Anthomyiidae	Anthomyia liturata	
Diptera	Anthomyiidae	Botanophila brunneilinea	
Diptera	Anthomyiidae	Botanophila fugax	
Diptera	Anthomyiidae	Botanophila striolata	
Diptera	Anthomyiidae	Chirosia flavipennis	
Diptera	Anthomyiidae	Delia florilega	
Diptera	Anthomyiidae	Delia frontella	
Diptera	Anthomyiidae	Delia platura	
Diptera	Anthomyiidae	Delia radicum	
Diptera	Anthomyiidae	Eustalomyia festiva	
Diptera	Anthomyiidae	Hylemya vagans	
Diptera	Anthomyiidae	Hylemya variata	

Diptera	Anthomyiidae	Hylemyza partita	
Diptera	Anthomyiidae	Lasiomma strigilatum	
Diptera	Anthomyiidae	Leucophora obtusa	
Diptera	Anthomyiidae	Leucophora personata	
Diptera	Anthomyiidae	Mycophaga testacea	
Diptera	Anthomyiidae	Pegomya testacea	
Diptera	Anthomyiidae	Phorbia fumigata	
Diptera	Asilidae	Dioctria rufipes	
Diptera	Asilidae	Leptogaster cylindrica	
Diptera	Asilidae	Machimus atricapillus	
Diptera	Asteidae	Asteia amoena	
Diptera	Asteidae	Leiomyza sp.	
Diptera	Bibionidae	Bibio johannis	
Diptera	Bibionidae	Bibio lanigerus	
Diptera	Bibionidae	Bibio lepidus	
Diptera	Bibionidae	Bibio longipes	
Diptera	Bibionidae	Dilophus febrilis	
Diptera	Bombylidae	Bombylius discolor	
Diptera	Bombylidae	Bombylius major	
Diptera	Calliphoridae	Calliphora vicina	
Diptera	Calliphoridae	Melanomya nana	
Diptera	Calliphoridae	Pollenia griseotomentosa	
Diptera	Calliphoridae	Pollenia labialis	
Diptera	Calliphoridae	Pollenia pediculata	
Diptera	Camillidae	Camilla flavicauda	
Diptera	Carnidae	Meoneura vagans	
Diptera	Chamaemyiidae	Chamaemyia aridella	
Diptera	Chamaemyiidae	Chamaemyia herbarum	

Diptera	Chloropidae	Chlorops pumilionis	
Diptera	Chloropidae	Conioscinella sp.	
Diptera	Chloropidae	Elachiptera megaspis	
Diptera	Chloropidae	Thaumatomyia notata	
Diptera	Chloropidae	Tricimba cincta	
Diptera	Chyromyidae	Chyromya flava/flavellum	
Diptera	Chyromyidae	Gymnochyromyia inermis	
Diptera	Clusiidae	Clusia flava	
Diptera	Clusiidae	Clusia tigrina	
Diptera	Clusiidae	Clusiodes albimanus	
Diptera	Clusiidae	Clusiodes gentilis	
Diptera	Clusiidae	Clusiodes ruficollis	
Diptera	Conopidae	Myopa buccata	
Diptera	Conopidae	Myopa pellucida	
Diptera	Conopidae	Myopa testacea	
Diptera	Conopidae	Physocephala rufipes	
Diptera	Conopidae	Thecophora atra	
Diptera	Dolichopodidae	Campsicnemus curvipes	
Diptera	Dolichopodidae	Chrysotimus molliculus	
Diptera	Dolichopodidae	Chrysotus cilipes	
Diptera	Dolichopodidae	Chrysotus gramineus	
Diptera	Dolichopodidae	Chrysotus laesus	
Diptera	Dolichopodidae	Dolichopus campestris	
Diptera	Dolichopodidae	Dolichopus festivus	
Diptera	Dolichopodidae	Dolichopus latelimbatus	
Diptera	Dolichopodidae	Dolichopus plumipes	
Diptera	Dolichopodidae	Dolichopus popularis	
Diptera	Dolichopodidae	Dolichopus trivialis	

Diptera	Dolichopodidae	Dolichopus unguatus	
Diptera	Dolichopodidae	Gymnopternus cupreus	
Diptera	Dolichopodidae	Hercostomus nigripennis	
Diptera	Dolichopodidae	Medetera dendrobaena	
Diptera	Dolichopodidae	Microphor holosericeus	
Diptera	Dolichopodidae	Poecilobothrus chrysozygos	
Diptera	Dolichopodidae	Poecilobothrus nobilitatus	
Diptera	Dolichopodidae	Rhaphium appendiculatum	
Diptera	Dolichopodidae	Sciapus platypterus	
Diptera	Dolichopodidae	Sybistroma obscurellum	
Diptera	Dolichopodidae	Sympycnus desoutteri	
Diptera	Dolichopodidae	Xanthochlorus galbanus	
Diptera	Dolichopodidae	Xanthochlorus ornatus	
Diptera	Drosophilidae	Cacoxenus indagator	
Diptera	Drosophilidae	Drosophila immigrans	
Diptera	Drosophilidae	Hirtodrosophila confusa	
Diptera	Drosophilidae	Hirtodrosophila trivittata	
Diptera	Drosophilidae	Lordiphosa andalusiaca	
Diptera	Dryomyzidae	Dryope flaveola	
Diptera	Empididae	Clinocera stagnalis	
Diptera	Empididae	Dolichocephala irrorata	
Diptera	Empididae	Empis aestiva	
Diptera	Empididae	Empis albinervis	
Diptera	Empididae	Empis chioptera	
Diptera	Empididae	Empis grisea	
Diptera	Empididae	Empis livida	
Diptera	Empididae	Empis nigripes	
Diptera	Empididae	Empis nuntia	

Diptera	Empididae	Empis praevia	
Diptera	Empididae	Empis punctata	
Diptera	Empididae	Empis scutellata	
Diptera	Empididae	Empis stercorea	
Diptera	Empididae	Empis tessellata	
Diptera	Empididae	Empis woodi	
Diptera	Empididae	Hilara albitarsis	
Diptera	Empididae	Hilara anglodanica	
Diptera	Empididae	Hilara brevistyla	
Diptera	Empididae	Hilara brevivittata	
Diptera	Empididae	Hilara chorica	
Diptera	Empididae	Hilara fuscipes	
Diptera	Empididae	Hilara galactoptera	
Diptera	Empididae	Hilara intermedia	
Diptera	Empididae	Hilara litorea	
Diptera	Empididae	Hilara lurida	
Diptera	Empididae	Hilara manicata	
Diptera	Empididae	Hilara maura	
Diptera	Empididae	Hilara nigrina	
Diptera	Empididae	Hilara obscura	
Diptera	Empididae	Hilara quadrifasciata	
Diptera	Empididae	Hilara rejecta	
Diptera	Empididae	Hilara ternovensis	
Diptera	Empididae	Microphor holosericeus	
Diptera	Empididae	Phyllodromia melanocephala	
Diptera	Empididae	Rhamphomyia albohirta	
Diptera	Empididae	Rhamphomyia crassirostris	

Diptera	Empididae	Rhamphomyia erythrophthalma	
Diptera	Empididae	Rhamphomyia flava	
Diptera	Empididae	Rhamphomyia micropyga	
Diptera	Empididae	Rhamphomyia nigripennis	
Diptera	Empididae	Rhamphomyia pilifer	
Diptera	Empididae	Rhamphomyia pilifer	
Diptera	Empididae	Rhamphomyia sulcata	
Diptera	Empididae	Rhamphomyia tarsata	
Diptera	Empididae	Trichopeza longicornis	
Diptera	Ephydriidae	Hydrellia maura	
Diptera	Ephydriidae	Psilopa nitidula	
Diptera	Fanniidae	Fannia aequilineata	
Diptera	Fanniidae	Fannia armata	
Diptera	Fanniidae	Fannia coracina	
Diptera	Fanniidae	Fannia gotlandica	
Diptera	Fanniidae	Fannia lepida	
Diptera	Fanniidae	Fannia lustrator	
Diptera	Fanniidae	Fannia monilis	
Diptera	Fanniidae	Fannia pallitibia	
Diptera	Fanniidae	Fannia polychaeta	
Diptera	Fanniidae	Fannia rondanii	
Diptera	Fanniidae	Fannia serena	
Diptera	Fanniidae	Fannia similis	
Diptera	Fanniidae	Fannia sociella	
Diptera	Fanniidae	Fannia umbrosa	
Diptera	Fanniidae	Piezura pardalina	
Diptera	Heleomyzidae	Neoleria inscripta	

Diptera	Heleomyzidae	Scoliocentra collini	
Diptera	Heleomyzidae	Suillia affinis	
Diptera	Heleomyzidae	Suillia atricornis	
Diptera	Heleomyzidae	Suillia bicolor	
Diptera	Heleomyzidae	Tephrochlamys flavipes	
Diptera	Hybotidae	Drapetis assimilis	
Diptera	Hybotidae	Drapetis ephippiata	
Diptera	Hybotidae	Drapetis simulans	
Diptera	Hybotidae	Euthyneura gyllenhali	
Diptera	Hybotidae	Hybos culiciformis	
Diptera	Hybotidae	Ocydromia glabricula	
Diptera	Hybotidae	Oedalea apicalis	
Diptera	Hybotidae	Oedalea flavipes	
Diptera	Hybotidae	Oedalea holmgreni	
Diptera	Hybotidae	Oedalea tibialis	
Diptera	Hybotidae	Platypalpus agilis	
Diptera	Hybotidae	Platypalpus c.f. infectus	
Diptera	Hybotidae	Platypalpus calceatus	
Diptera	Hybotidae	Platypalpus candicans	
Diptera	Hybotidae	Platypalpus ciliaris	
Diptera	Hybotidae	Platypalpus exilis	
Diptera	Hybotidae	Platypalpus interstinctus	
Diptera	Hybotidae	Platypalpus longicornis	
Diptera	Hybotidae	Platypalpus longiseta	
Diptera	Hybotidae	Platypalpus luteicornis	
Diptera	Hybotidae	Platypalpus minutus	
Diptera	Hybotidae	Platypalpus pallidiventris	
Diptera	Hybotidae	Platypalpus parvicauda	

Diptera	Hybotidae	Platypalpus pectoralis	
Diptera	Hybotidae	Platypalpus pseudofulvipes	
Diptera	Hybotidae	Platypalpus subtilis	
Diptera	Hybotidae	Platypalpus verralli	
Diptera	Hybotidae	Tachypeza nubila	
Diptera	Hybotidae	Trichina bilobata	
Diptera	Hybotidae	Trichina clavipes	
Diptera	Hybotidae	Trichinomyia flavipes	
Diptera	Keroplastidae	Platyura marginata	
Diptera	Lauxaniidae	Pseudolyciella pallidiventris agg.	
Diptera	Lauxaniidae	Aulogastromyia anisodactyla	
Diptera	Lauxaniidae	Calliopum aeneum	
Diptera	Lauxaniidae	Calliopum simillimum	
Diptera	Lauxaniidae	Cnemacantha muscaria	
Diptera	Lauxaniidae	Lyciella pallidiventris agg.	
Diptera	Lauxaniidae	Lyciella stylata	
Diptera	Lauxaniidae	Meiosimyza decempunctata	
Diptera	Lauxaniidae	Meiosimyza illota	
Diptera	Lauxaniidae	Meiosimyza platycephala	
Diptera	Lauxaniidae	Meiosimyza rorida	
Diptera	Lauxaniidae	Minettia longipennis	
Diptera	Lauxaniidae	Minettia longiseta	
Diptera	Lauxaniidae	Peplomyza litura	
Diptera	Lauxaniidae	Pseudolyciella pallidiventris	
Diptera	Lauxaniidae	Sapromyza c.f. opaca	
Diptera	Lauxaniidae	Tricholauxania praeusta	

Diptera	Limoniinae	Limonia nubeculosa	
Diptera	Limoniinae	Rhipidia maculata	
Diptera	Lonchaeidae	Lonchaea chorea	
Diptera	Lonchaeidae	Lonchaea contigua	
Diptera	Lonchaeidae	Lonchaea fugax	
Diptera	Lonchaeidae	Lonchaea iona	
Diptera	Lonchaeidae	Lonchaea mallochi	
Diptera	Lonchaeidae	Lonchaea mallochi	
Diptera	Lonchaeidae	Lonchaea postica	
Diptera	Lonchaeidae	Lonchaea scutellaris	
Diptera	Lonchaeidae	Lonchaea tarsata	
Diptera	Lonchaeidae	Protearomyia nigra	
Diptera	Lonchaeidae	Protearomyia sp.	
Diptera	Lonchaeidae	Protearomyia withersi	
Diptera	Lonchaeidae	Silba fumosa	
Diptera	Lonchopteridae	Lonchoptera furcata	
Diptera	Lonchopteridae	Lonchoptera lutea	
Diptera	Megamerinidae	Megamerina dolium	
Diptera	Milichiidae	Madiza pachymera	
Diptera	Milichiidae	Phyllomyza securicornis	
Diptera	Muscidae	Azelia cilipes	
Diptera	Muscidae	Coenosia agromyzina	
Diptera	Muscidae	Coenosia intermedia	
Diptera	Muscidae	Coenosia testacea	
Diptera	Muscidae	Coenosia tigrina	
Diptera	Muscidae	Eudasyphora cyanella	
Diptera	Muscidae	Eudasyphora cyanicolor	
Diptera	Muscidae	Graphomya maculata	

Diptera	Muscidae	Hebecnema nigra	
Diptera	Muscidae	Hebecnema nigricolor	
Diptera	Muscidae	Hebecnema vespertina	
Diptera	Muscidae	Helina abdominalis	
Diptera	Muscidae	Helina evecata	
Diptera	Muscidae	Helina impuncta	
Diptera	Muscidae	Helina pertusa	
Diptera	Muscidae	Helina reversio	
Diptera	Muscidae	Hydrotaea albipuncta	
Diptera	Muscidae	Hydrotaea armipes	
Diptera	Muscidae	Hydrotaea cyrtoneurina	
Diptera	Muscidae	Hydrotaea dentipes	
Diptera	Muscidae	Hydrotaea irritans	
Diptera	Muscidae	Hydrotaea militaris	
Diptera	Muscidae	Limnophora riparia	
Diptera	Muscidae	Lispocephala brachialis	
Diptera	Muscidae	Macrorchis meditata	
Diptera	Muscidae	Morellia simplex	
Diptera	Muscidae	Musca autumnalis	
Diptera	Muscidae	Muscina prolapsa	
Diptera	Muscidae	Mydaea corni	
Diptera	Muscidae	Mydaea urbana	
Diptera	Muscidae	Neomyia cornicina	
Diptera	Muscidae	Phaonia errans	
Diptera	Muscidae	Phaonia palpata	
Diptera	Muscidae	Phaonia rufiventris	
Diptera	Muscidae	Phaonia subventa	
Diptera	Muscidae	Phaonia tuguriorum	

Diptera	Muscidae	Phaonia valida	
Diptera	Muscidae	Polietes lardarius	
Diptera	Muscidae	Stomoxys calcitrans	
Diptera	Muscidae	Thricops diaphanus	
Diptera	Muscidae	Thricops semicinereus	
Diptera	Odiniidae	Odinia boletina	
Diptera	Odiniidae	Odinia trinotata	
Diptera	Opetiidae	Opetia nigra	
Diptera	Opomyzidae	Geomyza c.f. balachowskyi	
Diptera	Opomyzidae	Opomyza florum	
Diptera	Opomyzidae	Opomyza germinationis	
Diptera	Opomyzidae	Opomyza petrei	
Diptera	Pallopteridae	Palloptera muliebris	
Diptera	Pallopteridae	Palloptera umbellatarum	
Diptera	Pallopteridae	Palloptera ustulata	
Diptera	Phoridae	Borophaga incrassata	
Diptera	Piophilidae	Stearibia nigriceps	
Diptera	Pipunculidae	Chalarus indistinctus	
Diptera	Pipunculidae	Eudorylas c.f. obscurus	
Diptera	Pipunculidae	Eudorylas obscurus	
Diptera	Pipunculidae	Jassidophaga beatricis	
Diptera	Pipunculidae	Pipunculus campestris	
Diptera	Pipunculidae	Pipunculus zugmayeriae	
Diptera	Platypezidae	Protoclythia modesta	
Diptera	Pollenidae	Pollenia amentaria	
Diptera	Pollenidae	Pollenia angustigena	
Diptera	Pollenidae	Pollenia labialis	
Diptera	Pollenidae	Pollenia pediculata	

Diptera	Psilidae	Loxocera albiseta	
Diptera	Psilidae	Psila merdaria	
Diptera	Rhagionidae	Chrysopilus asiliformis	
Diptera	Rhagionidae	Chrysopilus cristatus	
Diptera	Rhagionidae	Rhagio lineola	
Diptera	Rhagionidae	Rhagio scolopaceus	
Diptera	Rhagionidae	Rhagio tringarius	
Diptera	Rhinophoridae	Paykullia maculata	
Diptera	Rhinophoridae	Rhinophora lepida	
Diptera	Rhinophoridae	Tricogena rubricosa	
Diptera	Sarcophagidae	Ravinia pernix	
Diptera	Sarcophagidae	Sarcophaga aratrix	
Diptera	Sarcophagidae	Sarcophaga carnaria	
Diptera	Sarcophagidae	Sarcophaga dissimilis	
Diptera	Sarcophagidae	Sarcophaga haemorrhoea	
Diptera	Sarcophagidae	Sarcophaga incisilobata	
Diptera	Sarcophagidae	Sarcophaga nigriventris	
Diptera	Sarcophagidae	Sarcophaga pumila	
Diptera	Sarcophagidae	Sarcophaga subulata	
Diptera	Sarcophagidae	Sarcophaga subvicina	
Diptera	Sarcophagidae	Sarcophaga vagans	
Diptera	Sarcophagidae	Sarcophaga variegata	
Diptera	Scathophagidae	Scathophaga stercoraria	
Diptera	Scenopinidae	Scenopinus niger	
Diptera	Sciomyzidae	Tetanocera arrogans	
Diptera	Sepsidae	Saltella sphondylii	
Diptera	Sepsidae	Sepsis cynipsea	
Diptera	Sepsidae	Sepsis flavimana	

Diptera	Sepsidae	Sepsis fulgens	
Diptera	Sepsidae	Themira gracilis	
Diptera	Sepsidae	Themira superba	
Diptera	Sphaeroceridae	Coproica ferruginata	
Diptera	Sphaeroceridae	Copromyza nigrina	
Diptera	Sphaeroceridae	Limosina silvatica	
Diptera	Sphaeroceridae	Sphaerocera curvipes	
Diptera	Stratiomyidae	Beris chalybata	
Diptera	Stratiomyidae	Beris clavipes	
Diptera	Stratiomyidae	Beris vallata	
Diptera	Stratiomyidae	Chorisops nagatomii	
Diptera	Stratiomyidae	Chorisops tibialis	
Diptera	Stratiomyidae	Microchrysa cyaneiventris	
Diptera	Stratiomyidae	Microchrysa flavicornis	
Diptera	Stratiomyidae	oxycera morrisii	
Diptera	Stratiomyidae	Oxycera nigricornis	
Diptera	Stratiomyidae	Oxycera rara	
Diptera	Stratiomyidae	Pachygaster atra	
Diptera	Stratiomyidae	Pachygaster leachii	
Diptera	Stratiomyidae	Sargus bipunctatus	
Diptera	Syrphidae	Bombus vestalis	
Diptera	Syrphidae	Brachypalpus laphriformis	
Diptera	Syrphidae	Cheilosia chrysocoma	
Diptera	Syrphidae	Cheilosia grossa	
Diptera	Syrphidae	Cheilosia illustrata	
Diptera	Syrphidae	Cheilosia pagana	
Diptera	Syrphidae	Cheilosia proxima	
Diptera	Syrphidae	Cheilosia variabilis	

Diptera	Syrphidae	Chrysogaster cemiteriorum	
Diptera	Syrphidae	Chrysotoxum bicinctum	
Diptera	Syrphidae	Criorhina asilica	
Diptera	Syrphidae	Criorhina berberina	
Diptera	Syrphidae	Criorhina floccosa	
Diptera	Syrphidae	Dasysyrphus albostriatus	
Diptera	Syrphidae	Dasysyrphus tricinctus	
Diptera	Syrphidae	Epistrophe grossulariae	
Diptera	Syrphidae	Episyrphus balteatus	
Diptera	Syrphidae	Eristalis nemorum	
Diptera	Syrphidae	Eristalis pertinax	
Diptera	Syrphidae	Eumerus strigatus	
Diptera	Syrphidae	Eupeodes corollae	
Diptera	Syrphidae	Eupeodes luniger	
Diptera	Syrphidae	Eupeodes nitens	
Diptera	Syrphidae	Ferdinandea cuprea	
Diptera	Syrphidae	Helophilus pendulus	
Diptera	Syrphidae	Leucozona laternaria	
Diptera	Syrphidae	Leucozona lucorum	
Diptera	Syrphidae	Melanostoma mellinum	
Diptera	Syrphidae	Melanostoma scalare	
Diptera	Syrphidae	Merodon equestris	
Diptera	Syrphidae	Myathropa florea	
Diptera	Syrphidae	Neoscia podagrica	
Diptera	Syrphidae	Orthonevra nobilis	
Diptera	Syrphidae	Pachygaster atra	
Diptera	Syrphidae	Paragus haemorrhous	
Diptera	Syrphidae	Pipiza luteitarsis	

Diptera	Syrphidae	Platycheirus albimanus	
Diptera	Syrphidae	Platycheirus clypeatus	
Diptera	Syrphidae	Rhingia campestris	
Diptera	Syrphidae	Scaeva pyrastris	
Diptera	Syrphidae	Sphaerophoria interrupta	
Diptera	Syrphidae	Sphaerophoria scripta	
Diptera	Syrphidae	Syritta pipiens	
Diptera	Syrphidae	Syrphus ribesii	
Diptera	Syrphidae	Syrphus vitripennis	
Diptera	Syrphidae	Volucella bombylans	
Diptera	Syrphidae	Volucella pellucens	
Diptera	Syrphidae	Xylota segnis	
Diptera	Syrphidae	Xylota sylvarum	
Diptera	Tabanidae	Haematopota pluvialis	
Diptera	Tabanidae	Tabanus maculicornis	
Diptera	Tachinidae	Catharosia pygmaea	
Diptera	Tachinidae	Eriothrix rufomaculata	
Diptera	Tachinidae	Gymnocheta viridis	
Diptera	Tachinidae	Lophosia fasciata	
Diptera	Tachinidae	Lypha dubia	
Diptera	Tachinidae	Meigenia sp.	
Diptera	Tachinidae	Phasia pusilla	
Diptera	Tachinidae	Phryxe vulgaris	
Diptera	Tachinidae	Ramonda spathulata	
Diptera	Tachinidae	Siphona c.f. maculata	
Diptera	Tachinidae	Siphona geniculata	
Diptera	Tachinidae	Siphona maculata	
Diptera	Tachinidae	Thelaira nigripes	

Diptera	Tephritidae	Anomoia purmunda	
Diptera	Tephritidae	Philophylla caesio	
Diptera	Tephritidae	Tephritis neesii	
Diptera	Tephritidae	Tephritis vespertina	
Diptera	Tephritidae	Terellia serratulae	
Diptera	Tephritidae	Terellia serratulae	
Diptera	Tephritidae	Terellia tussilaginis	
Diptera	Tephritidae	Trupanea stellata	
Diptera	Tephritidae	Urophora stylata	
Diptera	Tephritidae	Xyphosia miliaria	
Diptera	Tipulidae	Ctenophora pectinicornis	
Diptera	Tipulidae	Nephrotoma appendiculata	
Diptera	Tipulidae	Tipula hortorum	
Diptera	Tipulidae	Tipula paludosa	
Diptera	Tipulidae	Tipula rufina	
Diptera	Trixoscelidae	Seioptera vibrans	
Diptera	Trixoscelidae	Trixoscelis canescens	
BEES, WASPS & ANTS			
Hymenoptera (aculeate)	Andrenidae	Andrena angustior	
Hymenoptera (aculeate)	Andrenidae	Andrena apicata	
Hymenoptera (aculeate)	Andrenidae	Andrena bicolor	
Hymenoptera (aculeate)	Andrenidae	Andrena bucephala	
Hymenoptera (aculeate)	Andrenidae	Andrena chrysoceles	
Hymenoptera (aculeate)	Andrenidae	Andrena cineraria	
Hymenoptera (aculeate)	Andrenidae	Andrena dorsata	
Hymenoptera (aculeate)	Andrenidae	Andrena flavipes	
Hymenoptera (aculeate)	Andrenidae	Andrena fucata	
Hymenoptera (aculeate)	Andrenidae	Andrena fulva	

Hymenoptera (aculeate)	Andrenidae	Andrena haemorrhoa	
Hymenoptera (aculeate)	Andrenidae	Andrena helvola	
Hymenoptera (aculeate)	Andrenidae	Andrena minutula	
Hymenoptera (aculeate)	Andrenidae	Andrena nigroaenea	
Hymenoptera (aculeate)	Andrenidae	Andrena nitida	
Hymenoptera (aculeate)	Andrenidae	Andrena scotica	
Hymenoptera (aculeate)	Andrenidae	Andrena semilaevis	
Hymenoptera (aculeate)	Andrenidae	Andrena subopaca	
Hymenoptera (aculeate)	Andrenidae	Andrena synadelpha	
Hymenoptera (aculeate)	Andrenidae	Andrena wilkella	
Hymenoptera (aculeate)	Apidae	Anthophora furcata	
Hymenoptera (aculeate)	Apidae	Bombus bohemicus	
Hymenoptera (aculeate)	Apidae	Bombus hortorum	
Hymenoptera (aculeate)	Apidae	Bombus hypnorum	
Hymenoptera (aculeate)	Apidae	Bombus lapidarius	
Hymenoptera (aculeate)	Apidae	Bombus pascuorum	
Hymenoptera (aculeate)	Apidae	Bombus pratorum	
Hymenoptera (aculeate)	Apidae	Bombus rupestris	
Hymenoptera (aculeate)	Apidae	Bombus terrestris	
Hymenoptera (aculeate)	Apidae	Bombus vestalis	
Hymenoptera (aculeate)	Apidae	Nomada fabriciana	
Hymenoptera (aculeate)	Apidae	Nomada flava	
Hymenoptera (aculeate)	Apidae	Nomada flavoguttata	
Hymenoptera (aculeate)	Apidae	Nomada fucata	
Hymenoptera (aculeate)	Apidae	Nomada goodeniana	
Hymenoptera (aculeate)	Apidae	Nomada hirtipes	
Hymenoptera (aculeate)	Apidae	Nomada lathburiana	
Hymenoptera (aculeate)	Apidae	Nomada leucophthalma	

Hymenoptera (aculeate)	Apidae	Nomada marshamella	
Hymenoptera (aculeate)	Apidae	Nomada ruficornis	
Hymenoptera (aculeate)	Apidae	Nomada striata	
Hymenoptera (aculeate)	Chrysididae	Chrysis angustula	
Hymenoptera (aculeate)	Chrysididae	Chrysis impressa	
Hymenoptera (aculeate)	Chrysididae	Chrysis terminata	
Hymenoptera (aculeate)	Chrysididae	Chrysis viridula	
Hymenoptera (aculeate)	Colletidae	Hylaeus communis	
Hymenoptera (aculeate)	Colletidae	Hylaeus hyalinatus	
Hymenoptera (aculeate)	Crabronidae	Argogorytes mystaceus	
Hymenoptera (aculeate)	Crabronidae	Crossocerus annulipes	
Hymenoptera (aculeate)	Crabronidae	Crossocerus capitosus	
Hymenoptera (aculeate)	Crabronidae	Crossocerus cetratus	
Hymenoptera (aculeate)	Crabronidae	Crossocerus dimidiatus	
Hymenoptera (aculeate)	Crabronidae	Crossocerus distinguendus	
Hymenoptera (aculeate)	Crabronidae	Crossocerus elongatulus	
Hymenoptera (aculeate)	Crabronidae	Crossocerus megacephalus	
Hymenoptera (aculeate)	Crabronidae	Crossocerus ovalis	
Hymenoptera (aculeate)	Crabronidae	Crossocerus podagricus	
Hymenoptera (aculeate)	Crabronidae	Crossocerus quadrimaculatus	
Hymenoptera (aculeate)	Crabronidae	Crossocerus tarsatus	
Hymenoptera (aculeate)	Crabronidae	Ectemnius cavifrons	
Hymenoptera (aculeate)	Crabronidae	Ectemnius cephalotes	
Hymenoptera (aculeate)	Crabronidae	Ectemnius continuus	
Hymenoptera (aculeate)	Crabronidae	Evagetes crassicornis	
Hymenoptera (aculeate)	Crabronidae	Lindenius albilabris	
Hymenoptera (aculeate)	Crabronidae	Mimumesa dahlbomi	

Hymenoptera (aculeate)	Crabronidae	Nysson spinosus	
Hymenoptera (aculeate)	Crabronidae	Passaloecus singularis	
Hymenoptera (aculeate)	Crabronidae	Pemphredon inornata	
Hymenoptera (aculeate)	Crabronidae	Pemphredon lugubris	
Hymenoptera (aculeate)	Crabronidae	Stigmus pendulus	
Hymenoptera (aculeate)	Crabronidae	Trypoxylon clavicerum	
Hymenoptera (aculeate)	Dryinidae	Aphelopus serratus	
Hymenoptera (aculeate)	Formicidae	Formica fusca	
Hymenoptera (aculeate)	Formicidae	Lasius brunneus	
Hymenoptera (aculeate)	Formicidae	Leptothorax acervorum	
Hymenoptera (aculeate)	Formicidae	Myrmica rubra	
Hymenoptera (aculeate)	Formicidae	Myrmica ruginodis	
Hymenoptera (aculeate)	Halictidae	Halictus rubicundus	
Hymenoptera (aculeate)	Halictidae	Halictus tumulorum	
Hymenoptera (aculeate)	Halictidae	Lasioglossum albipes	
Hymenoptera (aculeate)	Halictidae	Lasioglossum calceatum	
Hymenoptera (aculeate)	Halictidae	Lasioglossum lativentre	
Hymenoptera (aculeate)	Halictidae	Lasioglossum leucopus	
Hymenoptera (aculeate)	Halictidae	Lasioglossum leucozonium	
Hymenoptera (aculeate)	Halictidae	Lasioglossum minutissimum	
Hymenoptera (aculeate)	Halictidae	Lasioglossum morio	
Hymenoptera (aculeate)	Halictidae	Lasioglossum parvulum	
Hymenoptera (aculeate)	Halictidae	Lasioglossum pauxillum	
Hymenoptera (aculeate)	Halictidae	Lasioglossum villosulum	
Hymenoptera (aculeate)	Halictidae	Sphecodes crassus	
Hymenoptera (aculeate)	Halictidae	Sphecodes ephippius	
Hymenoptera (aculeate)	Megachilidae	Chelostoma florissomne	
Hymenoptera (aculeate)	Megachilidae	Megachile centuncularis	

Hymenoptera (aculeate)	Megachilidae	Megachile ligniseca	
Hymenoptera (aculeate)	Megachilidae	Megachile willughbiella	
Hymenoptera (aculeate)	Megachilidae	Osmia bicornis	
Hymenoptera (aculeate)	Megachilidae	Osmia leaiana	
Hymenoptera (aculeate)	Mutillidae	Myrmosa atra	
Hymenoptera (aculeate)	Pompilidae	Anoplius nigerrimus	
Hymenoptera (aculeate)	Pompilidae	Arachnospila anceps	
Hymenoptera (aculeate)	Pompilidae	Auplopus carbonarius	
Hymenoptera (aculeate)	Pompilidae	Dipogon subintermedius	
Hymenoptera (aculeate)	Pompilidae	Dipogon variegatus	
Hymenoptera (aculeate)	Tiphiidae	Tiphia minuta	
Hymenoptera (aculeate)	Vespidae	Ancistrocerus nigricornis	
Hymenoptera (aculeate)	Vespidae	Dolichovespula norwegica	
Hymenoptera (aculeate)	Vespidae	Dolichovespula sylvestris	
Hymenoptera (aculeate)	Vespidae	Odynerus spinipes	
Hymenoptera (aculeate)	Vespidae	Vespa crabro	
Hymenoptera (Symphyta)	Tenthredinidae	Strongylogaster multifasciata	
Hymenoptera (Parasitica)	Gasteruptiidae	Gasteruption jaculator	
Hymenoptera (Parasitica)	Megaspilidae	Lagynodes pallidus	
Hymenoptera (Parasitica)	Mymaridae	Lytus cynipseus	
GRASSHOPPERS & CRICKETS			
Orthoptera	Acrididae	Chorthippus brunneus	field grasshopper
Orthoptera	Acrididae	Chorthippus parallelus	meadow grasshopper
Orthoptera	Acrididae	Omocestus viridulus	common green grasshopper
Orthoptera	Tetrigidae	Tetrix undulata	common

			groundhopper
Orthoptera	Tettigoniidae	Meconema thalassinum	oak bushcricket
TRUE-BUGS			
Hemiptera	Aradidae	Aradus depressus	
Hemiptera	Miridae	Capsus ater	
Hemiptera	Coreidae	Coreus marginatus	
Hemiptera	Pentatomidae	Eurydema oleracea	
Hemiptera	Pentatomidae	Palomena prasina	
Hemiptera	Tingidae	Tingis cardui	
Hemiptera	Pentatomidae	Troilus luridus	
EARWIGS			
Dermaptera	Forficulidae	Forficula auricularia	
LACEWINGS			
Neuroptera	Chrysopidae	Chrysoperla carnea	
Neuroptera	Chrysopidae	Nineta vittata	
Neuroptera	Hemerobiidae	Hemerobius humulinus	
Neuroptera	Hemerobiidae	Hemerobius lutescens	
DRAGONFLIES & DAMSELFLIES			
Odonata	Coenagrionidae	Enallagma cyathigerum	
Odonata	Coenagrionidae	Ischnura elegans	
Odonata	Calopterygidae	Calopteryx splendens	
Odonata	Aeshnidae	Anax imperator	
BUTTERFLIES & MOTHS			
Lepidoptera	Agonoxenidae	Chrysoclista linneella	lime cosmet
Lepidoptera	Choreutidae	Anthophila fabriciana	nettle tap
Lepidoptera	Erebidae	Phragmatobia fuliginosa	ruby tiger moth
Lepidoptera	Geometridae	Petrophora chlorosata	brown silver-line
Lepidoptera	Gracillariidae	Phyllonorycter blancardella	brown apple midget

Lepidoptera	Hesperiidae	Ochlodes sylvanus	large skipper
Lepidoptera	Hesperiidae	Thymelicus sylvestris	Small skipper
Lepidoptera	Noctuidae	Autographa gamma	silver Y
Lepidoptera	Noctuidae	Noctua pronuba	large yellow underwing
Lepidoptera	Noctuidae	Polia nebulosa	grey arches
Lepidoptera	Nymphalidae	Aglais io	peacock
Lepidoptera	Nymphalidae	Aglais urticae	small tortoiseshell
Lepidoptera	Nymphalidae	Aphantopus hyperantus	ringlet
Lepidoptera	Nymphalidae	Argynnis paphia	silver-washed fritillary
Lepidoptera	Nymphalidae	Maniola jurtina	meadow brown
Lepidoptera	Nymphalidae	Polygonia c-album	comma
Lepidoptera	Nymphalidae	Pyronia tithonus	gatekeeper
Lepidoptera	Nymphalidae	Vanessa atalanta	red admiral
Lepidoptera	Pieridae	Anthocharis cardamines	orange tip
Lepidoptera	Pieridae	Pieris brassicae	large white
Lepidoptera	Pieridae	Pieris napi	green-veined white
Lepidoptera	Tineidae	Tinea semifulvella	
SPIDERS			
Araneae	Araneidae	Nuctenea umbratica	Walnut Orb-weaver