Ballard Meadow

Insect Survey
2024

Survey and Report by
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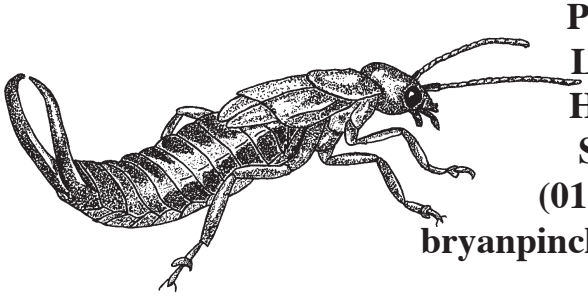
October 2024



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Ballard Meadow,
New Milton, Hampshire

Insect Survey 2024

CONTENTS

1.1 Summary

This report summarises the results of survey work to record the terrestrial insect species present in Ballard Water Meadow and adjacent woodland in New Milton, Hampshire.

Six visits were made, one each in April to September 2022 to record terrestrial insects in a number of orders.

Survey involved sweep-netting the available vegetation and some direct searching for species at flowers across the whole site. Insect groups covered by the survey are presented in Section 1.3.

Tables showing the species recorded are presented in Section 1.4.

Species were identified in the field wherever possible, but due to identification difficulties with some species, some were retained and identified with the aid of a microscope. Reference material has been retained in the collection of the surveyor, surplus material has been donated to the collections of the National Biodiversity Data Centre, Waterford, Eire and/or Portsmouth City Museum Service. Ten previously unrecorded species were added to the species database, seven of these were in the meadow while the remsining three were in the woodland.

One Nationally Scarce species was recorded, details of this species are presented in Section 1.5.

An overview of the results is presented in Section 1.6.

Appendices show all species recorded at Ballard Water Meadow and adjacent woodland over the course of surveys in 2020, 2021 and 2022 as combined lists.

This survey was commissioned and funded by the Friends of Ballard Water Meadow and New Milton Town Council.

1.2 Introduction

Ballard Water Meadow and Woodland is a 2.73 hectare grassland and 1.52 hectare woodland located in New Milton, Hampshire. Grid Reference SZ241956.
Both the meadow and woodland are afforded SINC status and are leased by New Milton Town Council for nature conservation and public recreation. The meadow is an example of relic unimproved New Forest grassland, while the woodland is considered to be ancient semi-natural woodland (Lord, 2020).

The major habitats available are the unimproved grassland of meadow, which in places is dry and others wet at certain times of the year. A seasonal stream runs along the eastern border of the site and seasonal ditches divide the site. The woodland strip on the west of the site comprises mainly Oak (*Quercus rober*) with deciduous and evergreen scrub understory. A limited amount of ground flora is present in the woodland. On the whole, the meadow and woodland are on gently sloping ground running from north-west to south-east.

Survey of the terrestrial insects was first undertaken in 2020 (Pinchen) and repeated in 2021 and 2022 , a regular butterfly transect is also walked. This current survey repeats those three earlier surveys. Ten previously unrecorded species were added to the site database during this survey.

Six visits were made to record the terrestrial insects during 2024. The data collected forms the basis of this report. Survey visits were undertaken on 29th April, 21st May, 18th June, 18th July, 21st August and 12th September 2024.

Survey involved sweep-netting the available vegetation and some direct searching at flowers with a standard sweep/insect net.

One Nationally Scarce species was recorded during this survey.

Ten new species which hadn't previously been recorded here were added to the insect database for the site.

Weather conditions throughout the survey period were rather mixed with the summer being neither hot and dry nor cool and wet this would have impacted insect species and numbers recorded. On the whole the summer of 2024 was rather poor for insects in general with many common and widespread species being notable for their absence in many places *(pers obs*).

1.3 Survey Groups and Methodology

Survey was largely undertaken by means of sweep-netting the vegetation with the aim of dislodging species resting on foliage or feeding at flowers. Occasionally direct searching (where species with known plant hosts may be present) was employed as the main survey technique. Some species, such as the lepidoptera (butterflies) and odonata (dragonflies and damselflies) were primarily recorded flying through/around the survey area. Without thorough searches for their larval stages many species in these groups, it is often difficult to determine which are breeding on site and those which are casual users of the site for feeding, roosting or hibernating.

The following insect groups were surveyed/recorded and their reason for attention in this survey highlighted:

Mecoptera: Scorpion flies
Only three species are recorded in Britain all can be found in most habitats, adults are often recorded in abundance. Larvae feed on decaying matter.

Neuroptera: Lacewings and allies
The majority of species are aphid feeders in their larval stage, adults can usually be found resting on vegetation during the day.

Odonata: Dragonflies and Damselflies
All species develop in watercourses where they are predatory on other invertebrates. Adult males fly long distances, often away from water to feed, females stay close to water courses and pools. While adults are easy to record in any habitat, breeding on a site can only be proven if searches are made for the larval stages or exuviae.

Orthoptera: Bush Crickets and Grasshoppers and allies
Many species are specific to grassland habitatswith some scrub element.

Heteroptera: True Bugs (terrestrial species)
Many species in this group are host plant specific where they feed on plant sap, a number of species are predatory on other insects, they are best surveyed by sweep-netting vegetation.

Trichoptera: Caddisflies
All species are aquatic in their larval stage with adults flying in suitable terrestrial habitat nearby.

Lepidoptera: Butterflies
A number of species are specific to grassland habitat but are usually reliant on established and relatively undisturbed habitats, all species were recorded on a casual basis.

Diptera: Hoverflies
A number of species are specific to wetland, grassland and scrub habitats but the majority are generalist in their habitats.

Diptera: Larger Brachycera (Snipeflies, Horseflies, Soldierflies, Robberflies and Beeflies)
A number of species are specific to wetland habitats. In the larval stages they live either as parasites in and on other insects, within decaying plant matter or in mud.

Diptera: Snail-killing Flies

All of the species feed within the shells of specific snail species and occasionally slugs, usually in wetland habitats, only a few species live in drier habitats where they develop in terrestrial snails.

Diptera: Picture-winged Flies

All of the species are plant host specific developing as maggots within plant stems, flowerheads or seed heads.

Diptera: Conopid Flies(Beegrabbers)

All of the species in this family parasitise solitary and social bees and wasps, either at their nest sites or by searching for adults foraging at flowers.

Diptera: Tachinid Flies

All of the species are parasites that spend their larval stages feeding within or on other insects e.g. lepidoptera caterpillars and shieldbugs.

Hymenoptera: Aculeates

Many bee, ant and wasp species nest in bare soils in warm sunny locations, each female bee or wasp excavates a series of burrows to provision them with nectar and/or pollen or live prey for their growing larvae to feed on. All species feed at flowers for nectar or pollen, while many species also feed on terrestrial invertebrates which are captured at flowers. Ants often nest in warm, highly thermophilic sites in grassland or bare and sparsely vegetated substrates.

Coleoptera: Only a limited number of coleoptera groups were surveyed for, these were Ladybirds. Soldier Beetles, Malachite Beetles, Click Beetles and Longhorn Beetles, other beetle groups were encountered during the survey.

Ladybirds

Ladybirds occur in a range of habitats with few species being specific to this habitat. Due to the ease of recording and identifying the group they were recorded on a casual basis.

Soldier Beetles

This group of mainly predatory species contain a number of brightly-coloured adults which can be found often in numbers at flowers and are often encountered in sweep-net samples.

Malachite Beetles

A small group of attractively coloured beetles that are predatory as larvae but feed on pollen as adults, they are often common in sweep-net samples.

Longhorn Beetles

A large group of often brightly coloured beetles that in most species develop as larvae inside dead timber or plant stems. Adults are often encountered nectaring at flowers

1.4. Species Recorded

The following tables show all insects recorded during the survey. The species lists and nomenclature follow the most recently available checklists for each group. As a prelude to the species lists notes on the habitat and plants flowering in each survey area are provided. The hoverfly checklist is currently in the process of being reorganised so for ease, species are presented here in alphabetical order. Species marked with an asterisk (*) are Red Data Book or Nationally Scarce and details of these can be found in Section 1.5.

The Meadow

Major forage resources (nectar and pollen) available across the meadow as a whole during the first two months of the survey period and comprised Lesser Celandine (*Ranunculus ficaria*), Buttercup (*Ranunculus* sp,) Blackthorn (*Prunus spinosa*), Hawthorn (*Crateagus monogyna*), Dandelion (*Taraxacum officinale* agg.), Hemlock Water-dropwort (*Oenanthe crocata*), Buttercup (*Ranunculus* sp). During the middle two months, Bird's Foot Trefoil (*Lotus* sp), Red Clover (*Trifolium pratense*), Hogweed (*Heracleum sphondylium*), Black Knapweed (*Centaurea nigra*)Hemlock Water-dropwort, White Clover (*Trifolium repens*), Creeping Thistle (*Cirsium arvense*), Spear Thistle (*Cirsium***)Bramble (*Rubus fruticosus* agg.) and Meadowsweet (*Filipendula ulmaria*) were dominant. In the final two months of the survey forage resources had diminished markedly, leaving just a few small areas of Greater Bird's Foot Trefoil (*Lotus pedunculatus*) Black Knapweed (*Centaurea nigra*)and Water Mint (*Mentha aquatica*), and Meadowsweet. A small section of the South Meadow was cut in June and a section of the Middle meadow was cut in late August with the arisings removed.

1.4.1 South Meadow

Group/ Visit Date	29 Apr	21 May	18 Jun	18 Jul	21 Aug	12 Sept
Odonata:Damselflies						
Ishnura elegans			*			
Dragonflies						
Brachytron pratense			*			
Aeshna cyanea					*	
Orthoptera: Bush Crickets						
Conocephalus discolor			*	*	*	
Pholidoptera griseoaptera					*	
Roeseliana roeselii				*	*	*
Grasshoppers						
Pseudochorthippus parallelus			*	*	*	*
Chorthippus brunneus					*	*
Heteroptera: True Bugs						
Lygus rugulipennis				*		
Capsus ater				*		
Closterotomus norwegicus			*	*		
Leptopterna dolabrata		*	*			
Stenotus binotatus				*		
Notostira elongata			*	*		
Pithanus maerkelii			*			
Coreus marginatus					*	*

Group/ Visit Date	29 Apr	21 May	18 Jun	18 Jul	21 Aug	12 Sept
Lepidoptera: Butterflies						
Ochlodes sylvanus				*		
Thymelicus sylvestris			*			
Gonepteryx rhamni	*					
Polyommatus icarus				*	*	
Anthocharis cardamines	*					
Melanargia galathea			*			
Maniola jurtina				*		
Diptera: Hoverflies						
Cheilosia albitarsus			*			
Episyrphus balteatus		*			*	*
Eristalis arbustorum		*				*
Eristalis intricarius			*	*		
Eristalis pertinax	*			*		
Eristalis tenax	*				*	
Eumerus funeralis					*	*
Eupeodes latifasciatus		*				
Helophilus pendulus		*				
Helophilus trivittatus					*	
Pipiza noctiluca					*	
Platycheirus albimanus	*	*			*	
Syritta pipiens					*	
Syrphus ribesii					*	
Sphaerophoria scripta				*		
Volucella pellucens					*	
Xylota sylvarum					*	
Larger Brachycera						
Chrysopilus cristatus	*					
Rhagio scolopaceus			*			
Rhagio tringarius		*				
Snail-killing Flies						
Pherbellia cinerella		*				
Pherbellia ventralis	*					
Tetanocera arrogans			*			
Picture-winged Flies						
Urophora cardui						*
Euleia heraclei						
Terellia ruficauda						
Herina frondescentia			*			
Tachinid Flies						
Alophora hemiptera		*				
Eriothrix rufomaculata				*		

Group/ Visit Date	**29 Apr**	**21 May**	**18 Jun**	**18 Jul**	**21 Aug**	**12 Sept**
Hymenoptera: Aculeates						
Ants						
Lasius flavus	*	*	*	*	*	*
Lasius niger				*		*
Social Wasps						
Vespa crabro				*		
Vespula vulgaris			*	*	*	*
Solitary Wasps						
Solitary Bees						
Andrena nitida		*	*		*	
Andrena wilkella		*				
Lasioglossum calceatum					*	
Lasioglossum pauxillum		*				
Lasioglossum morio	*					
Nomada goodeniana	*					
Social Bees						
Bombus hortorum				*		
*Bombus lucorum/terrestris^*				*		
Bombus pascuorum	*	*	*	*	*	*
Bombus terrestris	*	*	*			*
Apis mellifera	*	*		*		
Coleoptera: Soldier Beetles						
Cantharis flavilabris		*	*			
Cantharis rustica			*			
Rhagonycha fulva				*		
Malachite Beetles						
Malachius bipustulatus		*	*			
Ladybirds						
Coccinella 7-punctata		*			*	
Harmonia axyridis				*	*	

1.4.2 Middle Meadow

Group/ Visit Date	29 Apr	21 May	18 Jun	18 Jul	21 Aug	12 Sept
Odonata: Damselflies						
Coenagrion puella		*				
Ischnura elegans			*			
Orthoptera: Bush Crickets						
Conocephalus discolor			*	*	*	
Roeseliana roeselii				*		
Grasshoppers						
Chorthippus brunneus		*			*	
Pseudochorthippus parallelus					*	*
Heteroptera: True Bugs						
Closterotomus norwegicus			*			
Apolygus lucorum						
Leptopterna dolabrata		*	*			
Notostira elongata				*		
Eurygaster testudinaria				*		
Palomena prasina					*	
Coreus marginatus						*
Lepidoptera: Butterflies						
Pieris brassicae				*		*
Pieris rapae					*	
Polyommatus icarus			*			
Pararge aegeria						
Maniola jurtina			*	*		
Pyronia tithonus			*		*	
Diptera: Hoverflies						
Baccha elongata			*			
Chrysotoxum bicinctum						
Episyrphus balteatus		*				
Eristalis arbustorum			*			
Eristalis tenax		*			*	
Eumerus funeralis						*
Helophilus pendulus						*
Helophilus trivittatus						*
Melanostoma scalare						*
Merodon equestris			*			
Pipiza noctiluca			*			
Syritta pipiens						*
Xanthogramma pedissequum					*	
Xylota sylvarum			*			
Larger Brachycera						
Chloromyia formosa			*			
Leptogaster cylindrica			*			
Snail-killing Flies						
Pherbellia cinerella		*				
Pherbellia ventralis	*					

Group/ Visit Date	29 Apr	21 May	18 Jun	18 Jul	21 Aug	12 Sept
Picture-winged Flies						
Tachinid Flies						
Eriothrix rufomaculata				*		
Hymenoptera: Aculeates						
Ants						
Lasius flavus		*	*	*	*	
Lasius niger				*		*
Social Wasps						
Vespa crabro					*	
Vespula vulgaris			*			
Solitary Bees						
Andrena bicolor		*				
Andrena fulva						
Andrena nitida		*				
Andrena subopaca		*				
Andrena wilkella						
Halictus tumulorum			*			
Lasioglossum albipes						
Lasioglossum calceatum			*			
Megachile willughbiella				*		
Social Bees						
*Bombus lucorum/terrestris^*				*		
Bombus pascuorum	*			*	*	
Bombus sylvestris			*			
Bombus terrestris			*		*	
Bombus vestalis						
Apis mellifera		*		*		
Coleoptera: Soldier Beetles						
Rhagonycha fulva				*		
Malachite Beetles						
Malachius bipustulatus		*				
Ladybirds						
Calvia 14-guttata		*				

1.4.3 North Meadow

Group/ Visit Date	29 Apr	21 May	18 Jun	18 Jul	21 Aug	12 Sept
Odonata: Dragonflies						
Aeshna mixta						*
Sympetrum striolatum						*
Orthoptera: Bush Crickets						
Pholidoptera griseoaptera						
Roeseliana roeselii				*		*
Conocephalus discolor				*	*	
Grasshoppers						
Pseudochorthippus parallelus				*		*
Heteroptera: True Bugs						
Dicyphus epilobii				*		
Closterotomus norwegicus						
Notostira elongata				*		
Stenodema calcarata						
Stenotus binotatus				*		
Coreus marginatus						*
Lepidoptera: Butterflies						
Ochlodes sylvanus				*		
Pieris brassicae				*	*	*
Pieris rapae					*	
Pieris napi						
Anthocharis cardamines						
Vanessa atalanta				*		
Polyommatus icarus						
Pararge aegeria				*		
Pyronia tithonus						
Maniola jurtina				*		
Aphantopus hyperantus				*		
Diptera: Hoverflies						
Cheilosia albitarsus						
Cheilosia proxima						
Eristalis pertinax						
Episyrphus balteatus						
Eumerus funeralis						*
Helophilus trivittatus					*	
Melanostoma scalare						*
Myathropa florea					*	
Platycheirus albimanus						
Platycheirus clypeatus	*					
Platycheirus rosarum						
Pipiza noctiluca					*	
Sphaerophoria scripta					*	
Syritta pipiens						*
Syrphus ribesii						
Xylota sylvarum			*			

Group/ Visit Date	29 Apr	21 May	18 Jun	18 Jul	21 Aug	12 Sept
Larger Brachycera						
Chrysopilus asiliformis			*			
Chrysopilus cristatus		*				
Tachinid Flies						
Eriothrix rufomaculata				*		
Alophora hemiptera					*	
Hymenoptera: Aculeates						
Ants						
Lasius niger				*		
Myrmica ruginodis						
Social Wasps						
Vespa crabro						
Vespula vulgaris						*
Spider Wasps						
Anoplius nigerrimus			*			
Social Wasps						
Vespula vulgaris						
Solitary Bees						
Hylaeus communis						
Andrena scotica		*				
Andrena subopaca						
Halictus tumulorum				*		
Lasioglossum calceatum				*		
Osmia bicornis						
Osmia leaiana					*	
Social Bees						
*Bombus lucorum/terrestris^*						
Bombus pascuorum	*				*	
Bombus pratorum						
Bombus sylvestris			*			
Bombus terrestris			*			
Bombus vestalis						
Apis mellifera			*	*		
Coleoptera: Soldier Beetles						
Cantharis flavilabris			*			
Cantharis pallida						
Rhagonycha fulva				*		
Malachite Beetles						
Malachius bipustulatus			*			
Cardinal Beetles						
Pyrochroa coccinea		*				

Note: *Bombus lucorum/terrestris^* = workers only seen, these two species can only be separated when queens or males are seen.

The Woodland

Major forage resources (nectar and pollen) were limited throughout the survey period, during the first two months of the survey period Bluebell (*Endymion non-scriptus*), Green Alkanet (*Pentaglossis sempervirens*) and Foxglove were the dominant resources with some willowherb (*Epilobium* sp,). Bramble (*Rubus fruticosus* agg.) and Foxglove dominated during the middle two months and by the end of the survey there were no major forage resources available save for a little Ragwort, (S*enecio* sp)and willowherb (*Epilobium* sp,).

1.4.4 North Woodland

Group/ Visit Date	**29 Apr**	**21 May**	**18 Jun**	**18 Jul**	**21 Aug**	**12 Sept**
Odonata: Dragonflies						
Sympetrum striolatum			*			*
Heteroptera: True Bugs						
Anthocoris nemorum	*					
Kleidocerys resedae						
Palomena prasina				*	*	
Lepidoptera: Butterflies						
Maniola jurtina				*		
Pararge aegeria					*	*
Diptera: Hoverflies						
Baccha elongata	*					
Melanostoma scalare			*			
Myathropa florea					*	
Eristalis arbustorum						
Eupeodes corollae						
Platycheirus albimanus	*		*			
Syrphus ribesii						
Syrphus torvus						*
Hymenoptera: Aculeates						
Ants						
Lasius niger				*		*
Social Wasps						
Vespa crabro						*
Vespula vulgaris						
Solitary Bees						
Osmia bicornis	*					
Social Bees						
Bombus pascuorum	*					
Bombus pratorum			*			
Bombus terrestris	*					
Bombus vestalis			*			
Apis mellifera				*		

1.4.5 Middle Woodland

Group/ Visit Date	29 Apr	21 May	18 Jun	18 Jul	21 Aug	12 Sept
Heteroptera: True Bugs						
Lepidoptera: Butterflies						
Pararge aegeria					*	*
Diptera: Hoverflies						
Eristalis nemorum						
Syrphus torvus		*				*
Xylota sylvarum						
Larger Brachycera						
Chrysopilus cristatus						
Hymenoptera: Aculeates						
Social Wasps						
Vespula vulgaris				*		
Solitary Bees						
Halictus tumulorum						
Social Bees						
*Bombus lucorum/terrestris^*						
Bombus pascuorum						
Coleoptera: Soldier Beetles						
Rhagonycha fulva				*		

1.4.6 South Woodland

Group/ Visit Date	29 Apr	21 May	18 Jun	18 Jul	21 Aug	12 Sept
Heteroptera: True Bugs						
Plagiognathus arbustorum			*			
Coreus marginatus	*					*
Lepidoptera: Butterflies						
Vanessa atalanta					*	*
Aglais io						
Parage aegeria			*		*	*
Diptera: Hoverflies						
Helophilus pendulus	*					
Myathropa florea				*	*	
Platycheirus albimanus	*					
Larger Brachycera						
Bombylius major	*					
Hymenoptera: Aculeates						
Social Wasps						
Vespula vulgaris				*	*	
Solitary Bees						
Andrena scotica		*				

Group/ Visit Date	**29 Apr**	**21 May**	**18 Jun**	**18 Jul**	**21 Aug**	**12 Sept**
Osmia bicornis	*					
Anthophora plumipes	*					
Social Bees						
Bombus hortorum						
*Bombus lucorum/terrestris^*						
Bombus pascuorum						
Bombus pratorum		*				
Apis mellifera		*				
Coleoptera: Ladybirds						
Harmonia axyridis		*				
Chafers						
*Lucanus cervus**					*	

Note: *Bombus lucorum/terrestris^* = workers only seen, these two species can only be separated when queens or males are seen.

1.5 Nationally Scarce Species Recorded

One Nationally Scarce species was recorded during the survey period, the Stag Beetle *Lucanus cervus*). Details of its national status is taken from the national review (Hyman & Parsons1992) listed in the references in Section 1.8. A description of status ratings is given at the end of this text in Section 1.5.1.

Chafers

Stag Beetle *Lucanus cervus* **(Nationally Scarce B)**

This species is widely distributed in southern and south-eastern England where it is typically found in areas with an abundance of mature deciduous trees, it can also be found in gardens.

A freshly dead (squashed) female was found beneath the bench at the southern end of the South Woodland on 21st August an unfortunate demise for this large and impressive species. The presence of this specimen would indicate a breeding population in the vicinity of the Meadow and woodland,

1.5.1 Explanation of rarity ratings

Red Data Book 1 Endangered; currently known from five or fewer 10km squares in Britain and in danger of extinction.

Red Data Book 2 Vulnerable; currently known from between six and ten 10km squares in Britain. Populations declining and considered likely to become endangered.

Red Data Book 3 Rare; currently known from between 11 and 15 10km squares in Britain. Small, thinly scattered local populations, but not at present considered to be vulnerable or endangered.

Nationally Scarce A; Very restricted national distribution, recorded from 16 - 30 10km squares in Britain since 1980.

Nationally Scarce B; Restricted national distribution, recorded from 31 - 100 10km squares in Britain since 1980.

Nationally Scarce; Restricted national distribution, recorded from 16 - 100 10km squares in Britain since 1980.

1.6 Other Species Recorded

In addition to insects, other species were to be recorded on a casual basis as they were encountered

1.6.1 Birds

Birds are generally covered by a breeding census (R.M Lord *pers comm*).

A female Kestrel (*Falco tinnunculus*)was seen to drop onto a small mammal in the North Meadow and fly southwards down the meadow with it on 18th June this is an interesting 'urban' record for the species.

1.7 Discussion

One consideration that must taken into account when comparing survey data is the weather, both during the survey period and between surveys. The weather experienced during the survey period in 2024 was largely favourable with dry and warm conditions. April had seen above average temperatures while May, June and July saw average temperatures for the time of year. The winter of 2023/2024 ahead of this survey was generally mild and wet (one of the mildest and wettest on record).

Ten new species in the groups surveyed were added to the site list, seven in the meadow and three species previously un recorded in the woodland, amongst the new meadow species surprisingly were two damselflies the Azure Damselfly *Coenagrion puella* and the Blue-tailed Damselfly (*Ischnura elegans*) both are common and widespread in wetland habitats, the former often occuring in high numbers at some sites away from the permanent water bodies they breed in, it is possible both species may have emerged from neaby Ballard Lake or even a nearby garden pond, neither are likely to have been overlooked previously so it was a surprise to record them for the first time during this survey. A single specimen of the hoverfly *Eupeodes latifasciatus*, was recorded in the south meadow in May, this is a common and widespread species of grassland habitat that has probably not been overlooked in previous surveys the tachinid fly *Alophora (Phasia) hemiptera* was recorded in the north meadow in August this is a distinctive member of the family that can often be found nectaring openly at flowers, the larvae of this species develop as parasites inside the common and widespread Green Shieldbug (*Palomena prasina*) which has been recorded in the meadow in past surveys and was present in the woodland during this survey. Roesel's Bush Cricket (*Roseliana roeselii*) was a surprise new addition being a common and wisespread species in almost any type of grassland habitat (including motorway verges), it occurred in all three meadows during the survey period. This is a highly migratory and dispersive species in hot weather, it is possible that it colonised the meadow during the hot conditions of the summer 2022. One new picture-winged fly species (*Urophora cardui*) was recorded when the distinctive gall this species causes in the stems of Creeping Thistle (*Cirsium arvense*) was discovered in the south meadow in Septmber, this species is not often encountered in sweep-net samples even when the host plant is 'swept' but the distinctive squash-ball - sized galls in the stem of the host plant are esy to find late in the summer, as was the case here. It is unlikely this species has been overlooked in the past so it was interesting to record it for the first time now. Two new species of solitary bee were recorded in the meadow Gwynne's Mining Bee *Andrena bicolor* andthe Lobe-spurred Furrow Bee *Lasioglossum pauxillum*, the former is a large and distinctive member of the genus that flies in early spring, it was recorded

in the middle meadow in April, it is easy to overlook amongst many other early spring solitary bees in this genus, the latter is a small species similar in appearance to a number of other species (to overcome the problems of solitary bee identification a small sample of those seen are collected for home identifiction meaning some species may always be missed) it is likely *L. pauxillum* could have been overlooked amongst the many similar-looking bees in this genus in the past, until relatively recently it was considered to be Nationally Scarce but has recently been undergoing a period of range expansion and spread (BWARS). One new solitary bee species a was recorded in the southern wodland in April the Haity-footed Flower Bee (*Anthophora plumipes*) this is a large and distinctive string-flying early spring species that nests in bare ground often in vertical 'cliffs' and does occur locally on the cliffs at Barton on Sea and Barton Common (*pers obs*). Due to the large size and behaviour of this species it is unlikely to have been overlooked in previous surveys.

The majority of species recorded in this survey can be classified as being common, widespread and generalist in their habitat requirements and most have been recorded here in previous surveys. Many of the species involved are also highly mobile, enabling them to colonise habitats quickly. The majority of these species will remain in stabilised habitats and it is likely that only a very few of these might be lost through natural dispersal unless the current management regimes are radically altered or entirely neglected. However, any such losses should be countered by the retention of the more specialist species and perhaps the colonisation of other more specialist species from sites nearby. A single species of cardinal beetle (*Pyrochroa coccinea*) was recorded in the north meadow in May this is a large, easily identified and distinctive species which is widespread in southern England and develops in dead wood, it is likely to have come from the woodland.

Overall, Ballard Water Meadow and woodland still continues to support a large and diverse range of insect species with a number of htem being Nationally Scarce as evidenced by this and previous surveys.

Table 1 below presents the total number of species recorded from each survey group from each of the surveys in 2020, 2021 and 2022 compared against the total number of species currently recognised as resident in Britain and shows that in each survey group ther is still scope for more species to be found/recorded here especially amongt some of the larger insect groups (terrestrial bugs, hoverflies, solitary bees and wasps Further survey may discover new species.

Table 1 All species recorded by habitat in 2020, 202 2022 and 2024 against the number of British species.

Survey Group	Meadow	Woodland	Total No. combined	No. of British sp
Mecoptera; Scorpion Flies	1	1	1	3
Neuroptera; Lacewings	2	1	2	46
Odonata; Damselflies	3	0	3	20
Odonata; Dragonflies	4	0	4	23
Orthoptera; Bush Crickets	4	1	6	11
Grasshoppers	3	0	3	11
Dermaptera; Earwigs	1	0	1	4
Dictyoptera; Cockroaches	1	0	1	3
Heteroptera; True Bugs	39	9	48	488*
Trichoptera; Caddisflies	4	1	5	199
Lepidoptera; Butterflies	19	8	20	59
Diptera; Hoverflies	35	19	40	265
Larger Brachycera	15	4	16	159
Snail-killing Flies	6	0	6	67
Picture-winged Flies	8	0	8	73
Conopid Flies	7	0	6	24
Tachinid Flies	4	0	3	247
Hymenoptera; Ants	4	0	4	53
Spider Wasps	1	0	1	41
Social Wasps	5	3	5	9
Solitary Wasps	3	2	5	126
Solitary Bees	22	9	31	224
Social Bees	8	10	11	23
Coleoptera; Soldier Beetles	6	0	6	25
Click Beetles	3	2	3	73
Malachite Beetles	2	0	2	2
Stag Beetles	0	1	1	4
Ladybirds	6	0	6	46
Longhorn Beetles	6	1	6	67

*Heteroptera; True Bugs, this total is for terrestrial species only.

1.6.1 Notes on the Insect Groups Recorded

Mecoptera and Neuroptera
There was no change in the number, or species in these two groups recorded.

Odonata
Two new species were recorded in the meadow and one in the woodland.

Orthoptera
All bush cricket species previously recorded were still present so it was surprising to record Roesel's Bush Cricket (*Roesliana roeselii*) across all three meadows for the first time. All previously recorded species could have been expected to still occur the cutting/grazing regime of the grassland

and retention of scrub edge should ensure all these species persist on site.

Dictyoptera
The absence of the Nationally Scarce Dusky Cockroach(*Ectobius lapponicus*), first recorded in 2021 was perhaps not surprising given scarcity of this species, but the preferred habitat of rough grassland with scrub and bramble still remains and should still support the species.

Trichoptera
No new species of Caddisfly were recorded during this survey. As previously reported the absence of permanent open water on site will probably always limit the number of species likely to be recorded here, some of the species that have been recorded here may have originated from the nearby Ballard Lake or any nearby garden ponds.

Heteroptera
No new Heteroptera were recorded. Almost all remaining species have been recorded in all previous surveys. However, the normally abundant mirid bug *Leptopterna dolobrata* was surprisingly absent in numbers from the net samples in the meadow during the July visit, this species is typically encountered by the dozen in each sweep-net sample in grassland sites but none or at least very few were seen here(often seep-net samples only contained one specimen of this species) perhaps as a result of the wet winter, future surveys should ensure if this is a 'one-off' occurence of whether it is part of a long term decline in the species.

Lepidoptera
No new butterfly species were recorded.

Hoverflies
Another good selection of hoverflies was recorded and included one new species in the meadow; *Eupeodes latifasciatus* a common and widespread speceis of grassland that can often be abundant in numbers but only a singleton was envountered here.

Diptera - Larger Brachycera
No new species within the larger brachycera were recorded but many of the previously recorded species were still present.

Diptera - Snail-killing Flies
No new species of snail-killing fly were added to the list. There is still scope for further species to be recorded on site.

Diptera - Picture-winged Flies
One new picture-winged fly species (*Urophora cardui*) was added to the list on the basis of the distinctive larval gall being found late in the survey.

Diptera - Conopid Flies
No new Conopid flies were recorded and it is possible that all species likely to occur here have already been recorded.

Diptera - Tachinid Flies
One new species of tachinid fly was recorded as were all previously recorded species the new species has been covered above.

Hymenoptera - Ants, Bees and Wasps
AntsFollowing the record of the first Yellow Meadow Ant (*Lasius flavus*) in 2022 more were recorded during this survey a small foundation nest mound was found in the middle meadow during

the May visit, this may have been made easier to find having been exposed by trampling by the winter cattle grazing another small foundation nest was found in the south -eastern corner of the southern meadow in June after the Hemlock Water Dropwort had been cut here , so exposing the nest, the cutting of the vegetation will be beneficial for this species which prefers open, sunny and exposed sites for its nests. The absence of the two 'red ' ants *Myrmica rubra* and *M. ruginodis* in the survey is something of a puzzle and could like so many declines be attributable to the mild wet winter affecting over-wintering nests. The appearance of the black ant *Lasius niger* in the woodland may be as a result o the coppice areas now being sufficiently open and sunny to now be suitable for this species.

Social Wasps

No new species of social wasp were recorded Hornets (*Vespa crabro*)were abundant in the meadow during the July visit,

Solitary wasps were again rather poorly represented considering the available habitats present and the relative abundance of nectar, pollen and potential invertebrate prey.

Solitary Bees

Two new species of solitary bee were recorded in the meadow and one in the woodland and have been discussed above.

Social Bees

Unsurprisingly, no new social/bumblebee species were recorded and all previously recorded species were present again, the species recorded here during each survey are those which are currently most common and widespread in Britain, it is unlikely that any new species in this group will be recorded, however 2024 was a poor year for bumblesbees, the wet winter may have affected hibrnating queens leading to few surviving to start new nests in the spring, many of the commoner bumblebee species were notable by their lack of numbers throughout the summer both here and at other survey sites in the south, indeed I failed to record two of the the commonest bumblebee species in my garden at all during this summer as a reflection of how poor the summer was for this group (*pers obs*).

Coleoptera - Soldier Beetles

No new species of Soldier beetle were recorded and all previously recorded species were also seen again. All species now recorded are amongst our most common and widespread species and can be found in almost any habitat.

Click Beetles

No new species were recorded and neither too were any of the previously recorded species.

Ladybirds

One new species of ladybird the Cream-spot (*Calvia 14-guttata*) a scrub species was swept from the lone Hawthorn in the Middle Meadow in April after having presumably hibernated either in it or in the vicinity, all other ladybird species recorded have previously been present.

Longhorn Beetles

No new species of longhorn beetle were recorded.

Chafers

Although not one of the target groups for survey, a single member of this group, the Nationally Scarce stag beetle was recorded in the southern woodland in August.

Conclusion
These changes in species numbers and composition illustrates how important regular survey is and that single season surveys will be affected by a range of variables. Previous summer and winter weather, as well as that in the days leading up to the survey, and in some cases, even the weather on the day of the survey will all have an impact. In regards this survey, each visit was conducted using the same survey technique - sweep-netting/general searching as in previous surveys. The best available day for survey was chosen, and, where possible, followed a run of a few fine days to ensure insect numbers would be at their maximum, thus giving the best chance of recording the highest number of species.

Overall, the small increase in species numbers, and the discovery of one new Nationally Scarce species illustrates how important this meadow and woodland are in both local and national context. If further survey were undertaken it is highly likely that a greater number of insect species could be recorded as has been illustrated by this survey in recording a range of species that had not been recorded in the previous three surveys.

1.7 Acknowledgements

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1.8 References

The following references were used for identification of species recorded during the survey and their national statuses. The NBN Atlas website was also accessed at various times during the survey www.nbnatlas.org

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Appendices

Appendix 1 All species recorded in the meadow in 2020, 2021, 2022 and 2024 combined

Appendix 2 All species recorded in the woodland in 2020, 2021, 2022 and 2024 combined

Appendix 3 All species recorded in 2020, 2021, 2022 and 2024combined

Appendix 1 All species recorded in the meadow in 2020, 2021, 2022 and 2024 combined

The following is a list of all the species recorded in the North, Middle and South Meadows in 2020, 2021, 2022 and 2024 combined.
Species marked ^ are new for 2024.

Mecoptera: Scorpion flies
Panorpa communis

Neuroptera: Lacewings
Chrysopa perla
Chrysoperla carnea

Odonata: Damselflies
*Coengrion puella^*
Enallagma cyathigerum
*Ischnura elegans^*

Dragonflies
Brachytron pratense
Aeshna mixta
Sympetrum striolatum
Libellula quadrimaculata

Orthoptera: Bush Crickets
Pholidoptera griseoaptera
Conocephalus discolor
Conocephalus dorsalis
Leptophyes punctatissima
Roseliana roeselii

Grasshoppers
Chorthippus albomarginatus
Chorthippus brunneus
Chorthippus parallelus

Dermaptera; Earwigs
Forficula auricularia

Dictyoptera: Cockroaches
*Ectobius lapponicus**

Heteroptera: True Bugs
Dicyphus epilobii
Deraeocoris ruber
Calocoris roseomaculatus
Closterotomus norwegicus
Capsus ater
Apolygus lucorum
Apolyguss spinolae
Lygcoris pabulinus
Lygus rugulipennis
Orthops baslais
Orthops campestris
Stenotus binotatus
Leptopterna dolobrata
Notostira elongata
Pithanus maerkelii
Stenodema calcarata
Stenodema laevigata
Trignotylus ruficornis
Lopus decolor
Macrotylus solitarius
Heterotoma planicornis
Plagiongnathus arbustorum
Plagiognathus chrysanthemi
Nabis flavommarginatus
Anthocoris nemorum
Scolopostethus decoratus
Stygnocoris rusticus
Drymus sylvaticus
Coreus marginatus
Rhopalus subrufus
Myrmus miriformis
Eurygaster testudinaria
Podops inuncta
Aelia acuminata
Dolycoris baccarum
Palomena prasina
Piezodorus lituratus
Zicrona caerulea
Acanthosoma haemorrhoidale

Lepidoptera: Butterflies
Thymelicus sylvestris
Thymelicus lineola
Ochlodes sylvanus
Pieris brassicae
Pieris rapae
Pieris napi
Anthocharis cardamines
Neozephyrus quercus
Lycaena phlaeas
Polyommatus icarus
Celastrina argiolus
Vanessa atalanta
Vanessa cardui
Aglais io
Aglais urticae
Polygonia c-album
Pararge aegeria
Melanargia galathea
Pyronia tithonus
Maniola jurtina

Trichoptera; Caddisflies
Limnephilus affinis
Limneophilus auricula
Limnephils centralis
Limnephilus lunatus

Diptera: Hoverflies
Baccha elongata
Cheilosia albitarsis
Cheilosia illustrata
Cheilosia pagana
Episyrphus balteatus
Eristalis arbustorum
Eristalis intricarius
Eristalis pertinax
Eristalis tenax
Eumerus funeralis
Eumerus strigatus
Eupeodes corollae
Eupeodes latifasciatus
Eupeodes luniger
Helophilus pendulus
Helophilus trivittatus
Melanogaster hirtella
Melanostoma mellinum
Melanostoma scalare
Merodon equestris
Myathropa florea
Paragus haemorrhous
Pipiza noctiluca
Platycheirus albimanus
Platycheirus clypeatus
Platycheirus rosarum
Rhingia campestris
Scaeva pyrastri
Scaeva selentica
Sphaerophoria scripta
Syritta pipiens
Syrphus ribesii
Volucella pellucens
*Volucella zonaria**
Xylota segnis
Xylota sylvarum

Larger Brachycera

Chrysopilus asiliformis
Chrysopilus cristatus
Rhagio lineola
Rhagio scolopaceus
Rhagio tringarius
Beris vallata
Oxycera rara
Chorisops tibialis
Chloromyia formosa
Sargus bipunctata
Sargus flavipes
Machimus atricapillus
Machimus cingulatus
Leptogaster cylindrica
Dioctria linearis

Snail-killing Flies
Pherbellia ventralis
Elgiva cucularia
Hydromya dorsalis
Ilione albiseta
Limnia unguicornis
Tetanocera arrogans

Picture-winged Flies
Urophora cardui ^
Urophora jaceana
Tephritis bardanae
Tephritis neesii
Chaetostomella cylindrica
Terellia colon
Xyphosia miliaria
Euleia heraclei

Conopid Flies
Conops ceriaeformis
Conops flavipes
Conops quadrifasciatus
*Leopoldius signatus**
Physocephala rufipes
Sicus ferrugineus

Tachinid Flies
Eriothrix rufomaculata
Thelaria nigriceps
Phasia obesa
*Alophora hemiptera^*

Hymenoptera: Aculeates

Ants
Lasius flavus
Lasius niger
Myrmica rubra
Myrmica ruginodis

Spider Wasps
Anoplius nigerrimus

Social Wasps
Vespa crabro
Dolichovespula media
Vespula rufa
Vespula germanica
Vespula vulgaris

Solitary Wasps
Ectemnius cephalotes
Pemphredon lugubris
Nysson spinosus

Solitary Bees
Hylaeus communis
Hylaeus confusus
*Andrena bicolor^*
Andrena scotica
Andrena nigroeanea
Andrena nitida
Andrena haemorrhoa
Andrena flavipes
Andrena semilaevis
Andrena subopaca
Andrena dorsata
Andrena wilkella
Halictus tumulorum
Lasioglossum leucozonium
Lasioglossum albipes
Lasioglossum calceatum
Lasioglossum minutissimum
*Lasioglossum pauxillum^*
Lasioglossum punctatissimum
Lasioglossum villosulum
Lasioglossum morio
Sphecodes ephippius
Sphecodes geofrellus
Chelostoma florisomne
Osmia bicornis
Osmia leaiana
Osmia spinulosa
Megachile willughbiella
Nomada fabriciana
Nomada flava
Nomada flavoguttata
Nomada goodeniana

Social Bees
Bombus hortorum
Bombus lapidarius
Bombus lucorum
Bombus pascuorum
Bombus pratorum
Bombus terrestris
Bombus vestalis
Apis mellifera

Coleoptera: Soldier Beetles
Cantharis flavilabris
Cantharus nigricans
Cantharis pallida
Cantharis rustica
Rhagonycha fulva
Rhagonycha testacea

Malachite Beetles
Malachius bipustulatus
Malthodes marginatus

Click Beetles
Agriotes acuminatus
Agriotes pallidulus
*Ampedus quercicola**

Ladybirds
*Calvia 14-guttata^*
Propylea 14-punctata
Harmonia axyridis
Coccinella 7-punctata
Tytthaspis 16-punctata
Subcoccinella 24-punctata

Longhorn Beetles
Grammoptera ruficornis
*Paracorymbia fulva**
*Stictoleptura scutellata**
Rutpela maculata
Stenurella melanura
Clytus arietis

Appendix 2 All species recorded in the woodland in 2020, 2021, 2022 and 2024 combined

The following is a list of all the species recorded in the woodland in 2020, 2021, 2022 and 2024 combined.

Species marked ^ are new for 2024.

Mecoptera: Scorpion flies
Panorpa communis

Neuroptera: Lacewings
Chrysoperla carnea

Odonata:Dragonflies
*Sympetrum striolatum^*

Orthoptera: Bush Crickets
Leptophyes punctatissima

Heteroptera: True Bugs
Apolygus lucorum
Liocoris tripustulatus
Stenodema calcarata
Stenodema laevigata
Stenotus binotatus
Psallus quercus
Anthocoris nemorum
Palomena prasina
Pentatoma rufipes

Trichoptera: Caddisflies
Limnephilus centralis

Lepidoptera: Butterflies
Pieris brassicae
Pieris napi
Pieris rapae
Celastrina argiolus
Aglais io
Argynnis paphia
Pararge aegeria
Vanessa atalanta
Maniola jurtina
Pyronia tithonus

Diptera: Hoverflies
Baccha elongata
Dasysyrphus albostriatus
Epistrophe eligans
Episyrphus balteatus
Eristalis nemorum
Eristalis tenax
Eupeodes corollae
Helophilus pendulus
Melanostoma scalare
Merodon equestris
Myathropa florea
Platycheirus albimanus
Sphaerophoria scripta
Syrphus ribesii
Syrphus torvus
Syrphus vitrepennis
Volucella pellucens
*Volucella zonaria**
Xylota sylvarum

Larger Brachycera
Chorisops tibialis
Chrysopilus cristatus
Microchrysa flavicornis
Bombylius major

Hymenoptera: Aculeates
Ants
*Lasius niger^*
Solitary Wasps
Trypoxylon figulus
Rhopalum inornata
Ectemnius cephalotes

Social Wasps
Vespa crabro
Vespula germanica
Vespula vulgaris

Solitary Bees
Hylaeus communis
Hylaeus confusus
Halictus tumulorum
Andrena haemorrhoa
Andrena flavipes
Andrena scotica
Andrena subopaca
Andrena dorsata
Osmia bicornis
Nomada flava
*Anthophora plumipes^*

Social Bees
Bombus hortorum
Bombus hypnorum
Bombus jonellus
Bombus lapidarius
Bombus pascuorum
Bombus pratorum
Bombus sylvestris
Bombus terrestris
Bombus vestalis
Apis mellifera

Coleoptera:Soldier Beetles
Rhagonycha fulva

Click Beetles
Agriotes pallidulus
Stenagostus rhombeus

Longhorn Beetles
Rutpela maculata

Appendix 3 All species recorded in 2020, 2021, 2022 and 2024 combined

The following lists cover all species recorded across the whole site in 2020, 2021, 2022 and 2024 combined. Recent name changes amongst some of the species have been incorporated so in some instances names differ from the lists included in the 2020 and 2021 reports.
Species highlighted with an asterisk (*) are Red Data Book or Nationally Scarce species, species highlighted with an 'N' are new species recorded here for the first time in 2024.

Mecoptera:
Scorpion flies 1 species
Panorpa communis

Neuroptera:
Lacewings 2 species
Chrysopa perla
Chrysoperla carnea

Odonata:
Damselflies 1 species
Coenagrion puella N
Enallagma cyathigerum
Ischura elegans N

Dragonflies 4 species
Brachytron pratense
Aeshna mixta
Libellula quadrimaculata
Sympetrum striolatum

Orthoptera:
Bush Crickets 6 species
Pholidoptera griseoaptera
*Metrioptera roseli*i
Conocephalus discolor
Conocephalus dorsalis
Leptophyes punctatissima

Grasshoppers 3 species
Chorthippus albomarginatus
Chorthippus brunneus
Pseudochorthippus parallelus

Dermaptera:
Earwigs 1 species
Forficula dentata(=auricularia)

Dictyoptera:
Cockroaches 1 species
*Ectobius lapponicus**

Heteroptera:
True Bugs 40 species
Gerris lacustris N
Dicyphus epilobii
Deraeocoris ruber
Calocoris roseomaculatus
Closterostomus norwegicus
Capsus ater
Apolygus lucorum
Apolygus spinolae
Lygocoris pabulinus
Lygus rugulipennis
Orthops basalis
Orthops campestris
Stenotus binotatus
Leptopterna dolobrata
Notostira elongata
Pithanus maerkelii
Stenodema calcarata
Stenodema laevigata
Trignotylus ruficornis
Heterotoma planicornis
Macrotylus solitarius
Plagiognathus arbustorum
Plagiognathus chrysanthemi
Psallus quercus
Nabis flavomarginatus
Anthocoris nemorum
Scolopostethus decoratus
Stygnocoris rusticus
Drymus sylvaticus
Coreus marginatus
Rhopalus subrufus
Myrmus miriformis
Eurygaster testidinaria
Aelia acuminata
Podops inuncta
Dolycoris baccarum
Piezodorus lituratus
Palomena prasina
Zicrona caerulea
Acanthosoma haemorrhoidale

Lepidoptera:
Butterflies 20 species
Thymelicus sylvestris
Thymelicus lineola
Ochlodes sylvanus
Pieris brassicae
Pieris rapae
P*ieris napi*
Anthocharis cardamines
Lycaena phlaeus
Neozephyrus quercus
Polyommatus icarus
Celastrina argiolus
Vanessa atalanta
Argynnis paphia N
Vanessa cardui
Aglais io
Polygonia c-album
Pararge aegeria
Melanargia galathea
Pyronia tithonus
Maniola jurtina

Trichoptera:
Caddisflies 5 species
Limnephilus auricula
Limnephilus affinis
Limnephilus centralis
Limnephilus hirsutus
Limnephilus lunatus
Diptera:
Hoverflies 40 species
Baccha elongata
Cheilosia albitarsus
Cheilosia illustrata
Cheilosia pagana
Dasysrphus albostriatus
Epistrophe eligans
Episyrphus balteatus
Eristalis arbustorum
Eristalis intricarius
Eristalis pertinx
Eristalis tenax
Eumerus funeralis
Eumerus strigatus
Eupeodes corollae
Eupeodes latifasciatus N
Eupeodes luniger
Helophilus pendulus
Helophilus trivittatus
Melanogaster hirtella
Melanostoma mellinum
Melanostoma scalare
Merodon equestris
Myathropa florea
Paragus haemorrhous
Pipiza noctiluca
Platycheirus albimanus
Platycheirus clypeatus
Platycheirus rosarum
Rhingia campestris
Scaeva pyrastri
Scaeva selentica
Sphaerophoria scripta
Syritta pipiens
Syrphus ribesii
Syrphus torvus
Syrphus vitrepennis
Volucella pellucens
*Volucella zonaria**
Xylota segnis
Xylota sylvarum

Larger Brachycera 16 species

Chrysopilus asiliformis
Chrysopilus cristatus

Rhagio lineola
Rhagio scolopaceus
Rhagio tringarius
Beris vallata
Oxycera rara N
Chorisops tibialis
Chloromyia formosa
Sargus bipunctata N
Sargus flavipes
Bombylius major
Machimus atricapillus
Machimus cingulatus
Leptogaster cylindrica
Dioctria linearis N

Snail-killing Flies 6 species
Pherbellia ventralis
Elgiva cucularia
Hydromya dorsalis
Ilione albiseta
Limnia unguicornis
Tetanocera arrogans

Picture-winged Flies 7 species
Urophora jaceana
Tephritis bardanae
Tephritis neesii
Chaetostomella cylindrica
Terellia colon
Xyphosia miliaria
Euleia heraclei

Conopid Flies 6 species
Conops ceriaeformis
Conops flavus N
Conops quadrifasciatus
*Leopoldius signatus**
Physocephala rufipes
Sicus ferrugineus

Tachinid Flies 3 species
Eriothrix rufomaculata
Thelaria nigriceps N
Phasia obesa

Hymenoptera: Aculeates
Ants 4 species
Lasius flavus N
Lasius niger
Myrmica rubra
Myrmica ruginodis

Spider Wasps 1 species
Anoplius nigerrimus

Social Wasps 5 species
Vespa crabro
Dolichovespula media
Vespula rufa
Vespula germanica
Vespula vulgaris

Solitary Wasps 5 species
Trypoxylon figulus
Ectemnius cephalotes
Pemphredon lugubris
Rhopalum inornata
Nysson spinosus

Solitary Bees 31 species
Hylaeus communis
Hylaeus confusus
Andrena bicolor N
Andrena nigroeanea
Andrena nitida
Andrena haemorrhoa
Andrena flavipes
Andrena semilaevis
Andrena scotica
Andrena subopaca
Andrena dorsata
Andrena wilkella
Halictus tumulorum
Lasioglossum leucozonium
Lasioglossum albipes
Lasioglossum calceatum
Lasioglossum minutissimum
*Lasioglossum pauxillum*N
Lasioglossum punctatissimum
Lasioglossum villosulum
Lasioglossum morio
Sphecodes ephippius
Sphecodes geofrellus
Chelostoma florisomne
Osmia bicornis
Osmia leaiana
Osmia spinulosa
Megachile willughbiella
Nomada fabriciana
Nomada goodeniana
Nomada flava
Nomada flavoguttata
Nomada striata
Anthophora plumipes N

Social Bees 11 species
Bombus hortorum
Bombus hypnorum
Bombus jonellus
Bombus lapidarius
Bombus lucorum
Bombus pascuorum
Bombus pratorum
Bombus sylvestris
Bombus terrestris
Bombus vestalis
Apis mellifera

Coleoptera:
Soldier Beetles 6 species
Cantharis flavilabris (=nigra)
Cantharis nigricans
Cantharis pallida
Cantharis rustica
Rhagonycha fulva
Rhagonycha testacea N

Malachite Beetles 2 species
Malachius bipustulatus
Malthodes marginalis

Click Beetles 3 species
Agriotes pallidulus
*Ampedus quercicola**
Stenagostus rhombeus

Ladybirds 6 species
Calvia 14-guttata N
Propylea 14-punctata
Harmonia axyridis
Coccinella 7-punctata
Tytthaspis 16-punctata
Subcoccinella 24-punctata

Longhorn Beetles 6 species
Grammoptera ruficornis
*Paracorymbia fulva**
*Stictoleptura scutellata**
Rutpela maculata
Stenurella melanura
Clytus arietis