Invertebrate Survey Report
LOHP 2019

Parkers Piece, New Fen, Bleyswycks Bank, Oak Tree Fen, Webbs Fen, Reeves Meadows, Carr Meadow

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Little Ouse Headwaters Project

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Contents

1 Summary

- A baseline survey of invertebrates was carried out at the Thelnetham LOHP complex, during 12 visits, between February and November 2019.
- 1,309 species were recorded during the survey visits. Seventy-four of these species are designated as Nationally Scarce (Notable, NS) and sixteen species are designated as Nationally Rare (Red Data Book, NR).
- Two taxa were recorded that are Nationally Threatened. These are the jumping spider *Marpissa radiata* (IUCN Vulnerable) and the variegated mud-loving beetle *Heterocerus fusculus* (IUCN Vulnerable). In addition, three species with IUCN 'Near Threatened' status were recorded: the water scavenger beetle *Enochrus nigritus*, the leaf beetle *Chrysolina marginata* and the Small Heath butterfly *Coenonympha pamphilus.*
- Five NERC (Natural Environment and Rural Communities Act 2006) Section 41 species were recorded; two moths, one butterfly, one beetle and one wasp. The NERC legislation requires that the presence of these species needs to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity.
- No fully legally-protected species were found during the survey.
- The survey demonstrated the importance of the wetland aquatic and terrestrial invertebrate fauna at Parkers Piece, Oak Tree Fen, Webbs Fen and Bleyswycks Bank, with those assemblages at the former two sites of particular significance.
- Another significant invertebrate habitat identified in the survey was the short turf breck-type grassland at Parkers Piece.
- Analysis indicated the 'favourability' of dead wood resources for invertebrate assemblages at both New Fen and Oak Tree Fen.
- Recommendations are given for habitat creation and management of existing habitats that will further enhance the significance of this important fen complex.

2 Scope of Survey

This survey was commissioned by The Little Ouse Headwaters Project (LOHP), 'a local Charity dedicated to the restoration, conservation and promotion of enjoyment of the wildlife and landscape of the Little Ouse valley on the Suffolk/Norfolk borders'.

The remit of the survey was to carry out a baseline survey, to identify and report on terrestrial and aquatic invertebrate species across a number of sites owned and managed by the organisation. The sites, represented by eight adjacent or corridor-linked compartments, form part of a fen-habitat restoration scheme and are situated immediately south of the Little Ouse river.

Results of the survey were used to evaluate the quality of the site, compartment by compartment and to offer recommendations for management that focus on the creation of new habitat and the preservation and maintenance of significant habitat and related insect assemblages.

This report summarises the results of twelve site survey visits between February 25th and November 18th 2019.

3 Introduction

The following Table gives a code letter (the first initial of each compartment name), the full compartment name, photographs of each of the eight compartments of the site complex and some of the important aquatic or grassland target features within each. The eight compartments are also illustrated in **Fig. 1** below.

Table 1 – Compartments and examples of target survey areas

Site Code	Photograph	Name
P		**Parkers Piece** – '*Phragmites* pool'
P		**Parkers Piece** – wet seasonally-inundated *Juncus* grassland looking east towards *Phragmites* pool

Site Code	Photograph	Name
P		**Parkers Piece** – 'main ditch' looking north
P		**Parkers Piece** – small 'sinkhole' pool on south perimeter
P	[no image available]	**Parkers Piece** – short-turf grassland near road
N		**New Fen** looking south-west

Site Code	Photograph	Name
N		**New Fen** 'main ditch' centre of site
N		**New Fen** 'east ditch inundation' (north-east corner of compartment)
B		**Bleyswycks Bank** pool

Site Code	Photograph	Name
B		**Bleyswycks Bank** *Juncus* grassland looking south-east
O		**Oak Tree Fen** 'main shallow pool' aka 'large pool'
O		**Oak Tree Fen** 'small southernmost pool'

Site Code	Photograph	Name
O		**Oak Tree Fen** 'small northernmost pool'
O		**Oak Tree Fen** 'carr pool' aka 'established pool'
W		**Webbs Fen** pool looking south

Site Code	Photograph	Name
W		**Webbs Fen** *Juncus* grassland
Rn		**Reeves Meadows** (north) looking south
Rs		**Reeves Meadows** (south) looking south

Site Code	Photograph	Name
R		**Reeves Meadows** (river ditch) near junction of **Reeves Meadows** south and north, east side
C		**Carr Meadow** looking north-west
C		**Carr Meadow** 'well'

Site Code	Photograph	Name
C		**Carr Meadow** 'field pond' along western boundary hedgerow

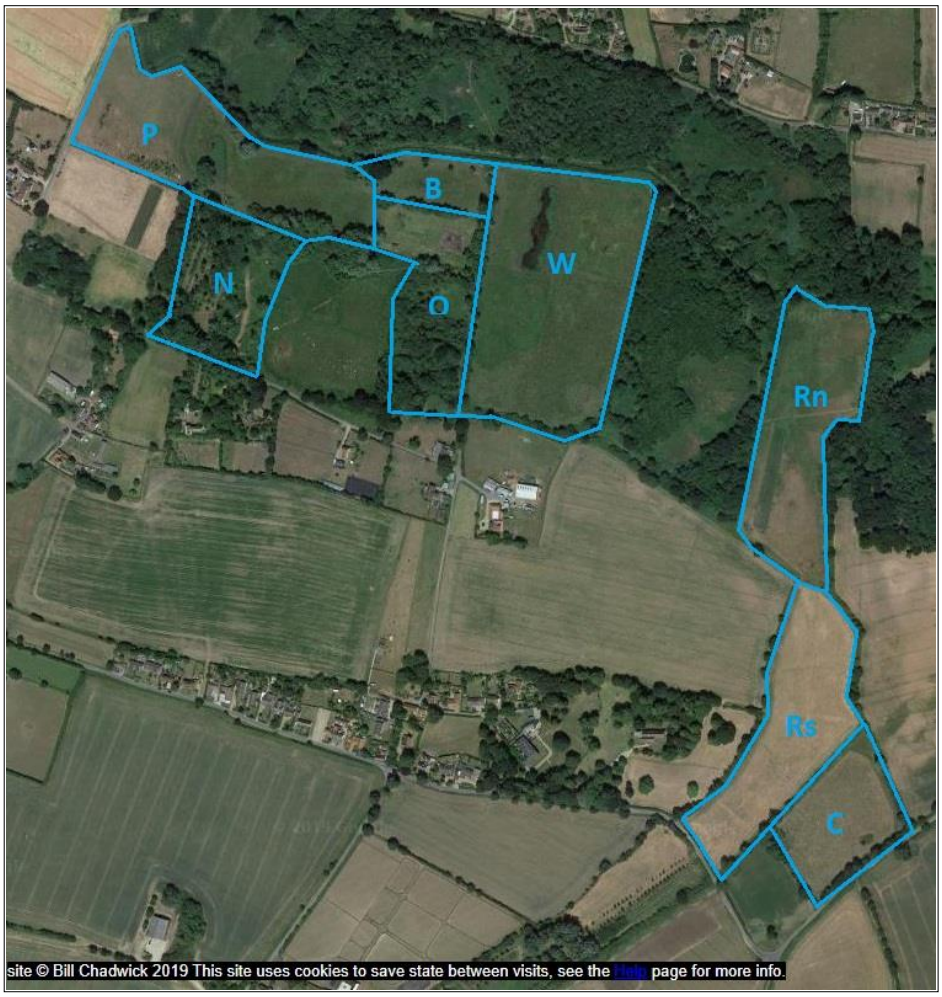

Fig. 1 - LOHP sites at Thelnetham, Compartments, west to east (P – Parkers Piece, N - New Fen, B – Bleyswycks Bank, O – Oak Tree Fen, W – Webbs Fen, Rn – Reeves Meadows (north), Rs – Reeves Meadows (south), C – Carr

Meadow).

4 Methodology

4.1 Field Survey

The following insect groups were targeted during the survey:

- Coleoptera (beetles – all families)
- Dermaptera (earwigs)
- Diptera (larger Brachycera, Tephritidae, Tipulidae and allies and Syrphidae (hoverflies))
- Hemiptera (true bugs including aquatic species, not psyllids or aphids)
- Hymenoptera (mainly sawflies, but also ants, some bees and wasps)
- Lepidoptera (butterflies and moths)
- Neuroptera (lacewings and allies)
- Mecoptera (scorpionflies)
- Odonata (dragonflies and damselflies)
- Orthoptera (bush crickets and grasshoppers)
- Plecoptera (stoneflies - adults)
- Trichoptera (caddisflies - adults)

The following non-insect groups were targeted during the survey:

- Araneae (spiders)
- Mollusca (aquatic and terrestrial)
- Isopoda (woodlice)

The lead surveyor specialises in British Beetles and True Bugs so these groups are particularly well-represented in the resulting samples.

A variety of field techniques were used in the survey. Sweep-netting was conducted by sweeping vegetation with a large heavy-duty net on a metal frame. Beating employed the use of a collapsible sheet on a frame of wood and plastic, and a pole, to beat branches and dislodge arboreal invertebrates from tree and scrub foliage. Particular attention was paid to any standing dead or dying wood such as old dead boughs as these can support scarce and threatened saproxylic species (i.e. those that require dead wood as a medium in which to develop).

Grubbing (searching at ground level) and sieving with a bowl and standard mesh plastic garden sieve, were methods that were regularly employed across the site on most visits. These methods were most useful as a means of sampling invertebrates in decaying vegetation, wet litter, moss and under vegetative mats. Cattle dung was sieved to sample the dung fauna on several visits. Natural refugia were lifted such as large stones and logs.

Aquatic sampling was carried out using a standard heavy duty fine-mesh water net. This was used both in a sweeping motion through submerged vegetation and also as a skimming device to retrieve floating water beetles from the water surface immediately following their displacement by the use of trampling and puddling activity in shallow water.

Close observation was used. This involved either studying small areas of exposed or sparsely-vegetated ground for invertebrates or looking closely at vegetation and blossom to find invertebrates resting or feeding.

Moth-trapping was carried out by James Symonds, using a Robinson Mercury-Vapour trap. This was operated in the northern open section of Oak Tree Fen during one June evening.

Photographs were taken of invertebrates and habitats during the survey.

A certain amount of identification was carried out in the field, but where positive identification required the use of microscopic examination and identification literature (‘keys’), specimens were collected. The bio-catches from each habitat and compartment were kept separate from one another.

Pitfall trapping was used at selected sampling points across the site. Targeted areas were the muddy draw-down zones of pool margins where expected significant terrestrial wetland assemblages might be recorded, and areas of short turf grassland that had the potential to support species of insolated (sun-exposed) habitats and breck-type assemblages. Wet *Juncus* grassland was also sampled for wetland-associated taxa using this method. Pitfall-trapping is a useful method that utilises beakers sunk into the ground, flush with the ground surface, to passively collect diurnal and nocturnal ground-active species such as ground beetles, ground bugs and rove beetles as well as ground-active spiders. The beaker holes are dug with a bulb-corer and the beakers dropped neatly into the holes. The beakers are then charged with saturated salt solution and a coarse-mesh gauze placed over the opening to prevent reptiles, amphibians and small mammals from falling in. The beakers are then left in situ and serviced by emptying the contents after a period of between one and four weeks. Figs. 2 and 3 show the locations of pitfall-trapping during the survey. Table 2 details locations of the pitfall trap lines. Fig. 4 shows part of a line of pitfall traps in situ at the reed-fringed margin of the Carr Pool at Oak Tree Fen.

Fig. 2. Locations of pitfall traps in Compartments west to east from Parkers Piece to Webbs Fen (blue = 13-21.05.2019, red = 01-08.07.2019, maroon = 02-06.09.2019)

Fig. 3. Locations of pitfall traps in Reeves Meadows north and Carr Meadow (blue = 13-21.05.2019, red = 01-08.07.2019)

Fig. 4. Pitfall traps installed at edge of 'Carr pool' at Oak Tree Fen 13.05.2019

Table 2 – Pitfall-trapping Locations

Compartment (code letter)	**Location Description**	**Grid Reference**	**Trapping Period**
Parkers Piece (P)	Grassland pasture central site area	TM01207900	13-21.05.2019
Parkers Piece	West edge of *Phragmites* pool	TM01307896	13-21.05.2019
Parkers Piece	Short-turf grassland immediately east of minor road	TM01157898	01-08.07.2019
Parkers Piece	South-east edge of *Phragmites* pool	TM01337893	01-08.07.2019
Parkers Piece	Short-turf grassland immediately east of minor road	TM01167900 and TM01197908	02.09.2019 – 06.09.2019
New Fen (N)	North edge and north-east corner of compartment along ditch inundation	TM01397886	13-21.05.2019
New Fen	Edge of central ‘main’ ditch just south of footbridge	TM01367880	01-08.07.2019
Bleyswycks Bank (B)	North edge and north-east corner of pool margin	TM01577894	13-21.05.2019
Bleyswycks Bank	*Juncus* grassland west of pool	TM01537893	01-08.07.2019
Oak Tree Fen (O)	South-east edge of main shallow pool	TM01607886	13-21.05.2019
Oak Tree Fen	East edge of established/carr pool in reed-bed	TM01587882	13-21.05.2019
Oak Tree Fen	West edge of main pool on draw-down zone	TM01587887	01-08.07.2019
Oak Tree Fen	West and north edges of northernmost small pool	TM01537890	01-08.07.2019
Webbs Fen (W)	Immediately to NW of pool in wet *Juncus* grassland	TM01697895	13-21.05.2019
Webbs Fen	Immediately to NW of pool in wet *Juncus* grassland	TM01707894	01-08.07.2019
Reeves Meadows (north) (Rn)	Adjacent to and running approx. in n-w alignment to scraped strip	TM02017870	13-21.05.2019
Reeves Meadows (north)	Traversing scraped strip e-w alignment	TM01997870	01-08.07.2019
Carr Meadow (C)	East margin of well, grading into dry grassland	TM02127818	13-21.05.2019
Carr Meadow	north-centre of hedgerow pond, grading into dry grassland (n-s-alignment)	TM02047814	01-08.07.2019

Nine lines, each containing 7 pitfall traps were placed at selected sites on May 13th (indicated by blue highlighted locations in Fig. 2). These were emptied and removed one week later on May 21st. The process was repeated on July 1st using different locations in order to maximise the number of species recorded and sampling of the assemblage diversities present (see sites indicated in red highlight in Figs. 2 and 3), with the exception of the Webbs Fen site which relied on the use of a temporary exclusion zone of electric fencing to keep cattle from damaging the traps and for which, the spatial arrangement of the trap lines was more limited. On a return visit to empty pitfall traps on July 8th, it was noted that most of the Carr Meadow traps had been trampled by cattle and/or sheep and so the catch from here was much reduced. There was to be a further programme of trapping on September 2nd but following a period of drought, the ground was baked hard during this visit and only 7 pitfalls were set with much difficulty, all at the western edge of Parkers Piece (see maroon highlighted locations in Fig. 2) and mostly using remnant holes dug in the previous session. These few traps were emptied and removed on September 6th.

Table 3 below lists the sites visited for general survey on each date and the personnel who surveyed. The weather conditions on each date were generally optimal for invertebrate survey and have not been recorded. No precipitation was experienced during any survey visits. For site codes and photographs, see **Table 1**.

Table 3. Survey dates, sites visited and personnel

Date	Sites Visited	Personnel
February 25, 2019	P,O,W,Rn,Rs	SL (Steve Lane) AB (Andy Brown)
May 13, 2019	P,N,B,O,W,Rn,Rs	SL, AB
May 14, 2019	P,N,O,W,Rs,C	SL
May 21, 2019	P,N,B,O,W,Rn,C	SL
June 3, 2019	B,O,W	SL, JS (James Symonds)
June 17, 2019	B,O,Rn,Rs	SL, AB
July 1, 2019	P,N,B,O,W,Rn,Rs,C	SL, AB
July 8, 2019	P,N,B,O,W,Rn,Rs	SL, AB
September 2, 2019	P,N,B,O,W	SL, AB, JS
September 6, 2019	P,N,B,O	SL
September 10, 2019	Rn,Rs,C	SL
November 18, 2019	P,N,B	SL, AB, MC (Martin Collier)

4.2 Interpretation & Analysis

The result of any site survey depends both on the amount of effort put into recording that location and the inherent ecological value of the site which is influenced by its size, geographical location, surrounding landscape and habitat biodiversity. For comparison to be most accurate, all locations within a site would have to be surveyed with the same measured effort, using standardised sampling techniques. The lead surveyor's preferred methodology is to intuitively spend more time on areas that are obviously more diverse and that have the potential to support rare species or assemblages. An 'exhaustive approach' is taken, meaning that sampling is only stopped in a 'productive' area when new species cease to be recorded there. By using these criteria, there is a greater likelihood of finding at least some of the scarcer species on the site, and often many more. A standardised methodology can miss these scarce species and produce a generalised list of nothing but common species.

The software 'ISIS' (Invertebrate Species-habitat Information System) was developed largely by Natural England in 2006 for the purpose of analysing species composition of a surveyed locality, and interpreting this data in terms of habitat/species associations and species richness. Shortfalls in this database tool resulted in the development of a successor 'Pantheon', in 2018. This was created by The Centre for Ecology & Hydrology in association with Natural England and improves on the ISIS process by adding, amongst other criteria, associated habitats and resources and

habitat fidelity scores, against each taxon in a survey list. The Pantheon database deals with around 11,000 invertebrate species, including all of the most familiar and widely surveyed insect Orders.

In common with ISIS, the Pantheon programme is most effectively used where **standardised sampling techniques** have been employed in survey work. It enables comparison of resulting data from a fixed frequency of site visits over a fixed time period and could indicate whether the ecological value of a site in terms of its invertebrate fauna, is either improving or deteriorating. This interpretation tool is much less useful for the present survey which is based on a 'snapshot' sample taken over a relatively short period and one that is naturally biased towards finding the scarcer invertebrates that the site supports. Even so, it can still be a useful tool for producing a hierarchy of significance in terms of species habitat associations and assemblages at any given site and in particular for comparing habitats which are surveyed at approximately the same time of the year as each other, using approximately the same techniques and with approximately the same amount of effort.

The scoring systems in Pantheon use species richness, threat status, rarity and characteristic species for each broad biotope, habitat and resource. The two Pantheon generated scores used in this survey's interpretation of habitats and associated invertebrate assemblages are SQI and Conservation Status:

Conservation Status - threat and rarity status from published reviews. The conservation status is also used to generate the Species Quality Indices (see below). Statuses in square brackets indicates that these are considered out of date and should be used with caution.

SQI - each species recorded from a site list is scored according to its conservation status and the SQI is calculated by dividing this score by the number of species in the sample and multiplying by 100. SQI's for species lists with 15 or fewer species are understandably unreliable.

Pantheon, like ISIS, can identify whether a site is in a favourable or unfavourable condition. Thus if a site is considered 'favourable' in the analysis, then it can be loosely construed that the state of the habitat analysed is favourable for the indicator species which are present and for the assemblage for that habitat-type as a whole. The term can indicate if the conservation management at a site is favourable for that particular habitat.

5 Limitations

Natural England published guidelines for conducting invertebrate surveys (Drake *et. al.,* 2007) in which they suggest that 'a reasonable thorough survey of a terrestrial habitat can be made through seven visits at monthly intervals between April and October', but that 'four or five visits over this period will capture most species'. The timing and frequency of the 2019 survey visits of the LOHP site complex were ideal for sampling species through all seasons. The only limitation that might have impacted on the survey results was the lack of rainfall in late summer that prevented the installation of pitfall trap lines at the site at the beginning of September. The previous two pitfall sessions had already been highly successful in recording the ground-active fauna at the site, so it was felt that the loss of data from a third pitfall session would not be significant. To compensate for the lack of pitfall-trapping at this time, an extra day was afforded at the site in which systematic grubbing was carried out at various locations.

6 Results and Interpretation

A total of 1309 invertebrate species (not including aggregates of species, species complexes and unresolved species pairs) was recorded during twelve days of field survey. This total includes 638 Coleoptera (beetles), 216 Hemiptera (true bugs), 126 Diptera (flies), 115 Lepidoptera (butterflies and moths) and 73 Araneae (spiders). A full species list is given in the Table in the **Appendix** of this report.

No species that are afforded **full** protection under UK or International legislation were recorded during the survey. However, three NERC Act 2006, Section 41 Lepidoptera, one Hymenopteran and one Coleoptera species of BAP Priority status were recorded. These are Cinnabar Moth, *Tyria jacobaeae*, Small Heath butterfly *Coenonympha pamphilus*, White Ermine *Spilosoma lubricipeda*, 5-Banded Weevil-wasp *Cerceris quinquefasciata* and Scarce Four-dot Pin-palp *Bembidion quadripustulatum.* This legislation requires that the presence of these species needs to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity.

6.1 Nationally Rare and Nationally Scarce Species

Invertebrate surveys conducted between the late 1980s and 2010 relied in their interpretation of species recorded, on published Red Data Books and Lists of Scarce and Threatened Species which created British-specific rarity statuses for individual taxa, based on restricted distribution rather than population threat or risk. At the time, the term ‘Nationally Scarce’, originally coined for plants, was applied to invertebrate species that were known to occur in 16 to 100 10km squares (hectads).

Early assessments of invertebrate taxa used the term ‘Nationally Notable’ for these Nationally Scarce species and, for some taxa, this category was further split into ‘Notable A’ (Na) for species occurring in 16 to 30 hectads of the National Grid and ‘Notable B’ (Nb) for those occurring in 31 to 100 hectads. A further category used was ‘Red Data Book’ which equates to ‘Nationally Rare’. This category was used for species that occurred in 15 or fewer hectads in Britain. It was further subdivided depending on the perceived or actual degree of rarity, e.g. ‘RDB2’ as Vulnerable, ‘RDB1’ as Endangered, ‘RDBI’ as ‘Red Data Book Indeterminate’ and ‘RDBK’ as ‘Red Data Book Insufficiently Known’.

Recently, since 2010, IUCN Reviews have been produced for many invertebrate groups and these are continuing to be written. In the recent IUCN Reviews, the restricted distribution categories have now been standardised to ‘Nationally Rare’ (NR) and ‘Nationally Scarce’ (NS) without further subdivision. The GB system of assessing rarity based solely on distribution is used alongside IUCN criteria which, although they also use measures of geographical extent, are primarily concerned with assessing National and International Threat in terms of decline of species populations.

In this report, for the taxa found at the site, I have used the newly-adopted GB Rarity categories 'NS' (Nationally Scarce) and ‘NR’ (Nationally Rare) where these appear in IUCN Reviews. Otherwise, where no such IUCN reviews yet exist for the species recorded, I have had to resort to the older categorisations of Nationally Scarce 'Notable Nb', 'Notable Na' and 'Notable' and for Red Data Book species, 'RDB’ categories. The situation is currently complex, but it will eventually become more simple as further invertebrate groups are assessed for IUCN Reviews and the terminology becomes standardised.

Seventy-four species of Nationally Scarce (‘Notable A’, ‘Notable B’, ‘Notable’, ‘NS’) status were recorded during the survey.

Sixteen species of category Red Data Book status (considered to be Nationally Rare) were recorded and these are listed in **Table 4**. The main categories in the IUCN Reviews which deal with Threat status are, in order of increasing threat status; ‘Least Concern’, ‘Near Threatened’, ‘Vulnerable’, ‘Endangered’, ‘Critically Endangered’ and ‘Extinct’. Analysis for each species is based on the area that it occupies and/or population statistics with an emphasis on trends of decline and the magnitude of such trends. Three taxa with ‘Near Threatened’ IUCN status were recorded during the survey, along with two of ‘Vulnerable’ status. These taxa are also listed in **Table 4** below.

Individual accounts are provided for each Nationally Rare and Nationally Scarce species recorded during the survey.

Table 4 – Taxa recorded at LOHP sites with Nationally Rare (Red Data Book) British Rarity status and associated IUCN Threat Status. Square brackets indicates a taxon in need of status re-evaluation due to recent range expansion or which was formerly under-recorded.

Taxon	Description	British Rarity Status	IUCN Threat Status	Location at LOHP
[Aleochara verna]	A rove beetle	[RDBK]	Not evaluated	Parkers Piece
[Atomaria scutellaris]	A silken fungus beetle	[RDBK]	Not evaluated	Reeves Meadows (south), Carr Meadow
Cerceris quinquefasciata	5-banded Weevil-wasp	RDB3	Not evaluated	Parkers Piece
Chrysolina marginata	A leaf beetle	NR	**Near Threatened**	Parkers Piece
[Cistogaster globosa]	A parasitic fly	[RDB2]	Not evaluated	Reeves Meadows (south)
Coenonympha pamphilus	Small Heath butterfly	none	**Near Threatened**	Parkers Piece
Enochrus nigritus	A water scavenger beetle	NS	**Near Threatened**	Parkers Piece, New Fen, Bleyswycks Bank, Oak Tree Fen, Webbs Fen
[Heterocerus fusculus]	A variegated mud-loving beetle	[NR]	**[Vulnerable]**	Bleyswycks Bank, Oak Tree Fen, Carr Meadow
[Linnaemya picta]	A parasitic fly	[RDBK]	Not evaluated	Oak Tree Fen
Marpissa radiata	A jumping spider	NR	**Vulnerable**	Oak Tree Fen
Melanapion minimum	Sallow Guest Weevil	RDB3	Not evaluated	Parkers Piece
Myopa hirsuta	Hirsute Spring Beegrabber	RDB3	Not evaluated	Parkers Piece
Neobisnius procerulus	A rove beetle	RDBK	Not evaluated	Oak Tree Fen, Carr Meadow
Oxytelus piceus	A rove beetle	RDBK	Not evaluated	Parkers Piece
Pseudomedon obsoletus	A rove beetle	RDBI	Not evaluated	Webbs Fen
Ptilium affine	A featherwing beetle	RDBK	Not evaluated	Parkers Piece
Ptomaphagus varicornis	A round fungus beetle	RDBK	Not evaluated	Webbs Fen
Scopaeus laevigatus	A rove beetle	RDBI	Not evaluated	Bleyswycks Bank, Webbs Fen

6.2 The Species Accounts

Wetland Aquatic Species

Hydaticus seminiger – a diving beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This moderately large predatory diving beetle has very distinctive yellow banding on the elytral margins and yellow patterning on the otherwise dark pronotum. The size and patterning make it readily identifiable in the field. It is typically found in permanent ponds and dykes that are usually densely vegetated and at least partly shaded. Adults are active in most months of the year, but peak numbers are found in May and September. The main region of distribution of the species in Britain is east of an imaginary line drawn from the coast of west Dorset to the Wash, with a second region located mainly in Cheshire and Shropshire. There are a few scattered records outside of these two regions, which include populations in the Somerset Levels and some records from Wales and Scotland. At the LOHP site, a single adult was netted from the Bleyswycks Bank pool on May 13th and another individual was netted from the small south pool at Oak Tree Fen on July 1st 2019.

Rhantus frontalis – a diving beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This moderately large predator appears yellowish in the field although its dorsal surface is mainly finely-mottled with yellow and black colouration. It is found amongst vegetation in lowland pools that have at least partly exposed sand substrate. Its distribution in England is restricted, favouring the fens and marshes of East Anglia and the south-east, but with a number of outlying populations elsewhere. The beetle is also found very locally in Wales and in Scotland. Adults are most often observed in May and August although they have been recorded in most months of the year. At the LOHP site, the species was only found at Oak Tree Fen. Individuals were netted from the two small pools on May 13th and another was netted from the main shallow pool on July 1st 2019.

Helophorus nanus – a helophorid water beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This small helophorid beetle is typically found at fen sites amongst saturated mosses and grasses. It is widely distributed but localised throughout England and has also been recorded from Wales. Adults feed on decaying organic plant matter whereas the larvae are predatory. The adults can be found throughout the year but are most numerous in April and May. At the LOHP site an adult was netted after puddling the shallow water at the edge of the small northernmost pool at Oak Tree Fen on May 13th 2019.

Helophorus strigifrons – a helophorid water beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This small helophorid beetle is most often associated with fluctuating water levels and inundations, where there is plenty of sedge and rush litter. Adults feed on decaying organic plant matter whereas the larvae are predatory. The adults can be found throughout the year but are most numerous in April and September. The species is widely distributed throughout Britain. At the LOHP site an adult was netted from the inundations that occurred between the mown strips in the *Juncus* marsh at Parkers Piece on July 1st 2019.

Heterocerus fusculus – a variegated mud-loving beetle
Status: Nationally Rare (NR), IUCN Vulnerable
Like the other members of this genus, the present species is most easily observed in the field by splashing water onto bare muddy margins of pools, at which point the beetles rapidly emerge from their burrows in the mud and usually take flight. This particular species was until recently, believed to be restricted to the seepages at the base of coastal cliffs on the Isle of Wight until this author and a colleague noticed that they were finding the species in inland counties at actinic light traps. Thus the distribution of the species has been greatly misunderstood and inland records have undoubtedly been passed off by many, as aberrant dark-legged examples of the related *H. fenestratus*. Both the British Rarity and IUCN statuses of *H. fusculus* are therefore in need of re-evaluation and are very likely to be removed. At the LOHP site a specimen was obtained by the classic method from the draw-down zone of the well at Carr Meadow on July 1st. Otherwise, adults were recovered from pitfall traps at the margin of the Bleyswycks Bank pool, at the margin of the well at Carr Meadow and at the margin of the main shallow pool at Oak Tree Fen on May 21st and again from the last site in pitfall traps and also from traps set along the margin of the small northernmost pool at Oak Tree Fen, on July 8th 2019.

Cercyon granarius – a water scavenger beetle

Status: Nationally Scarce (NS), IUCN Least Concern
This small rotund and convex black species is associated with floating vegetation in fens, but also occasionally in other aquatic habitats. Adults have been recorded in most months of the year. The species is widespread but highly localised with scattered records across southern and midland England and Wales. At the LOHP site adults were recovered from pitfall traps from the north end of the pool at Webbs Fen on May21st and July 8th and other examples were found in pitfall trap samples from the main Oak Tree Fen pool and the small northernmost pool here, on July 8th 2019.

Enochrus nigritus – a water scavenger beetle
Status: Nationally Scarce (NS), IUCN Near Threatened
This is a small brownish water beetle with a very narrow dark longitudinal stripe along the elytral suture. It occurs in mesotrophic and base-rich fens in lowlands. An egg-case is produced, sometimes under water, and larval development may last between one and two months. Adults feed on algae and decaying plants whereas the larvae are predators. Adults are found throughout the year but are most numerous in April, July and September. *E. nigritus* has been recorded since 1980 from Hampshire, Sussex, Berkshire, Oxfordshire, Suffolk, Norfolk, Cambridgeshire, Huntingdonshire, Herefordshire, Anglesey and Cheshire. The species is particularly well-represented in East Anglian fens. Earlier records add Essex, Surrey and Hertfordshire. At the LOHP site, the species is widely distributed and plentiful. It occurred during the survey in every water body that was sampled with the exception of the Carr Meadow well and inundation. It was even found in both the main and east ditches of New Fen and a very small deep sink-hole at Parkers Piece. Puddling at the shallow water margins was the main method used to collect individuals on May 13th and 21st and on July 1st 2019.

Enochrus quadripunctatus – a water scavenger beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This is a slightly larger species than the last, but identical in form. It has a characteristic dark patterning on the thorax consisting of a large central dark area with four small satellite spots. The beetle occurs in lowland, base-rich stagnant water with some exposed mineral substrate and also in mesotrophic fens. An egg-case is produced, sometimes under water, and larval development may last between one and two months. Adults feed on algae and decaying plants whereas the larvae are predators. This species has expanded its range recently. It is found mainly in eastern Britain, in most counties from East Sussex northwards to two sites in Scotland, with most records centred around London and East Anglia. It is also found in Wales. At the LOHP site, the species was recorded by puddling shallow water margins at Parkers Piece (main pool), New Fen (east ditch), Bleyswycks Bank and Oak Tree Fen (small pool north and main shallow pool) in May and July 2019. It also appeared in pitfall traps at the latter site.

Wetland Terrestrial Species

Pardosa proxima – A wolf spider
Status: Nationally Scarce (NS), IUCN Least Concern
This highly active ground-dwelling predator, is associated with damp habitats and wetland localities, typically at the margins of streams. Many of its known sites in England, Wales and south-west Scotland are coastal. Adults are most often encountered in the field between May and July. At the LOHP site, adult males were recovered from pitfall traps on an extensive draw-down zone at the edge of the large shallow pool at Oak Tree Fen and from the western edge of the Phragmites pool at Parkers Piece, on May 21st 2019.

Trochosa spinipalpis – A wolf spider
Status: Nationally Scarce (NS), IUCN Least Concern
This is a relatively large brown predator that is ground-active in marshes, fens, wet heaths, bogs and damp grassland. The adults are usually encountered in the spring (April and May), although females can persist in the field into autumn, The species is widespread throughout England, Wales and Scotland, but very localised within this range. At the LOHP site, two adult males were collected from pitfall traps in the reed-fringed margin of the established carr pool at Oak Tree Fen on May 21st 2019 and another adult male was retrieved from a pitfall trap in less typical grassland habitat at Reeves Meadows (north) on the same date.

Marpissa radiata – A jumping spider
Status: Nationally Rare (NR), IUCN Vulnerable
This distinctive elongate predator has a distribution that is mainly restricted to the East Anglian fens, although it can be found with some reliability at a number of classic sites in this area. There are also records from elsewhere in Britain, from West Glamorgan and Somerset. Adults are present in the field mainly in June, August and September. Females

produce egg-sacs which are attached to the heads of *Phragmites.* At the LOHP site, an adult female was swept from *Phragmites* at the edge of the carr pool in Oak Tree Fen on June 3rd 2019.

Melanapion minimum – Sallow Guest Weevil
Status: Nationally Rare (Red Data Book RDB3), IUCN status not evaluated
This small black phytophagous weevil is associated with *Salix* species, both broad and narrow-leaved types, in wetland and fen habitats. The larvae are inquilines in the galls of sawflies of the genus *Pontania,* hence the vernacular name. The weevil is widely distributed but very highly localised in England and Wales. The majority of records are clustered in the fen regions of East Anglia where it can be found with some reliability. At the LOHP site, a single adult was beaten from *Salix* along the south edge of Parkers Piece wetland on July 1st 2019.

Anthracus consputus – a ground beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This is a small elongate pale brown ground beetle associated with sparsely vegetated soft mud near water. It predates smaller invertebrates in this habitat. The species is widely distributed in England and Wales, south of a line from the Humber to the Bristol Channel. Within this range, it is relatively scarce in the south-west and much of Wales. At the LOHP site, an adult was recovered from a pitfall trap sited on the bare mud draw-down zone at the margin of the small north pool at Oak Tree Fen on July 8th 2019.

Bembidion octomaculatum – a ground beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This diminutive ground-active predator is associated with bare mud at the margins of small pools where it can be found running rapidly on the substrate along with other ground beetle species that share the same habitat niche. Historically, it had been recorded from the Isle of Wight, Hampshire, Sussex, Kent, Surrey and Middlesex, but in 1992 (Hyman, 1992) it was presumed extinct, having last been observed in Britain in 1875, from Mickleham, Surrey. It reappeared in England relatively recently and is expanding its range such that it is no longer considered a true rarity, although its presence at any site in East Anglia should be regarded presently as significant. At the LOHP site, a single individual was collected from a pitfall trap on the muddy draw-down zone of the large shallow pool at Oak Tree Fen on May 21st 2019. This was followed by observation on June 3rd and September 2nd of several individuals at the edges of remaining water-retaining areas of this pool as it dried out in the summer of 2019.

Bembidion quadripustulatum – Scarce Four-dot Pin-palp
Status: Nationally Scarce (NS), IUCN Least Concern, UK BAP NERC S. 41 Species of Principal Importance in England
This is a small ground-active predator with pale-spotted wing-cases and black legs and antennae. It is a wetland inhabitant, found usually on draw-down zones on bare mud and clay at the edges of standing water, in both open and relatively shaded habitats. Adults are mainly encountered between April and July. It is locally, but widely distributed in suitable habitat throughout southern and eastern England and Wales, with scattered records as far north as Yorkshire. At the LOHP site, individuals were noted on the draw-down zones of the main shallow pool at Oak Tree Fen on May 21st, June 3rd and July 8th 2019. The first and last of these specimens were pitfall-trapped.

Blethisa multipunctata – a ground beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This moderately large dark ground beetle predator has characteristically deeply-pitted wing cases and is instantly recognisable in the field. It is a wetland specialist, inhabiting vegetation at the margins of lakes and pools, there being a particularly strong association with fen habitat. It is locally distributed throughout Britain. At the LOHP site, a single adult was recovered from a pitfall trap at the reed-fringed edge of the carr pool in Oak Tree Fen on May 21st 2019.

Oodes helopioides – a ground beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This is an unmistakeable ground beetle, resembling *Amara* in its ovoid shape, but having a more depressed and purely black appearance. It is unique amongst ground beetles in having an amphibious habit. The adult beetles can forage underwater and are thus semi-aquatic, yet they are most often observed by the recorder through sieving waterside vegetation and tussocks. As a wetland inhabitant, the beetle is most frequently associated with fens, grazing marshes, wet heaths, water meadows and pingos. The species is widespread but very locally distributed in England and Wales, with reports also from Scotland. Adults have been recorded throughout the year. At the LOHP site, this species is particularly well-established and was relatively frequently encountered during the survey. It occurred around water bodies at Parkers Piece (main pool and main ditch), New Fen (north-east corner inundation and also beside main ditch

near footbridge), Bleyswycks Bank (pool edge and also in *Juncus* grassland), Oak Tree Fen (carr pool and small pool north) and Webbs Fen (main pool). An indication of its abundance at the site complex is evidenced by the pitfall traps at Bleyswycks Bank pool which held seven individuals over the course of a week's trapping on May 21st 2019. Across all sites, adults were recorded in February, May, July and September 2019.

Pterostichus gracilis – a ground beetle
Status: Nationally Scarce (NS), IUCN Least Concern
In appearance this predator is unexceptional, representing a typical black ground beetle of the *Pterostichus* genus. It is found in damp, lush vegetation at the margins of lakes, ponds, reservoirs, riverbanks and other wetland habitats. The beetle is widely distributed but decidedly local in England and Wales, northwards to Lancashire with scattered outlier populations in Scotland. At the LOHP site, adults were collected from pitfall traps serviced on July 8th 2019, from the draw-down zone of the small north pool at Oak Tree Fen, the south-easternmost margin of the pool at Parkers Piece and the *Juncus* grassland near the northernmost edge of the pool in Webbs Fen.

Stenolophus teutonus – a ground beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This strikingly-coloured black and orange predatory species is typically found on bare ground at the edges of water, in gravel pits and around newly-created pools on sandy substrates. In Britain it is found in England mainly south of an imaginary line drawn from the Wash on the east coast to the Bristol Channel on the west coast, with the main swathe of distribution in the south-east, from Dorset through Hampshire, the Thames estuary and East Anglia. It has also been recorded from south Wales. The species is probably expanding its range Nationally and may no longer merit the status of Nationally Scarce. At the LOHP site, specimens were recovered from pitfall traps at the margins of the Bleyswycks Bank pool, the main shallow pool at Oak Tree Fen and immediately north of the pool at Webbs Fen on July 8th 2019.

Acalyptus carpini – a weevil
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This small grey weevil is a phytophage on *Salix* and is associated almost exclusively with fen sites across East Anglia, its main area of distribution. It has also been recorded elsewhere in southern England (e.g. south coast, south and east midlands) and Wales, but it is scarce in these regions. Adults overwinter and have been recorded in most months of the year. At the LOHP site, individuals were beaten off willows at Parkers Piece, New Fen and Oak Tree Fen on May 13th and 14th 2019.

Gymnetron veronicae – Brooklime Gall Weevil
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This small reddish or black weevil is found in wetland habitats, usually on acid or neutral soils, where it feeds on *Veronica* species, mainly brooklime *V. beccabunga*, but also water speedwell *V. anagallis-aquatica.* The adults which are mainly recorded between April and June, feed openly on the plant whereas the larvae feed in the fruits and are gall-causing. The species is widely distributed throughout England and Wales and has also been recorded from Scotland. At the LOHP site, a single adult was swept off water speedwell on the western edge of the pool at Webb's Fen on June 3rd 2019.

Notaris scirpi – a weevil
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This medium-sized grey-black weevil is strongly associated with wetland habitats where it feeds on lesser pond-sedge *Carex acutiformis* and reed-mace *Typha latifolia*. The larvae develop at the roots of the food-plants. Adults are active in the field between April and October. The species is widespread but locally distributed throughout England and Wales. It is fairly frequently encountered and possibly no longer merits its designated 'Notable' status. At the LOHP site an adult was recovered from a pitfall trap on the southern edge of the *Phragmites* pool at Parkers Piece, on July 8th 2019.

Ptilium affine – a featherwing beetle
Status: Nationally Rare (Red Data Book RDBK), IUCN status not evaluated
This is a minute species measuring a mere 0.7mm in length. Duff (2012) describes it as being associated with damp litter or possibly dung in fens. He states that adults have been recorded in May, July and August. The classic site for this beetle is Wicken Fen in Cambridgeshire where there is a degree of record continuity, the species having been recorded from here in the 19th Century, and in 1972 and 2007. Other records historically come apparently from East Gloucestershire and, rather vaguely in the literature, 'Norfolk'. Despite the species almost certainly being overlooked to some extent, due to its small size, it is nonetheless evidently a genuine rarity. At the LOHP site, a singleton was sieved by Martin Collier from a clump of fungi growing at the base of a willow along the southern edge of Parkers Piece at

TM014788 on November 18th 2019. This represents a first county record for West Suffolk. A note on the discovery is due for publication (Collier, *in prep.*).

Contacyphon pubescens – a marsh beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This small pale brown, soft-bodied beetle is associated with ponds, bogs and other wetland habitats. Adults occur amongst herbage and have been recorded in most months of the year, hibernating in the adult stage. The larvae are semi-aquatic, living in saturated vegetation in the field ground layer. The species is widely but locally distributed in England and Wales with a range that extends northwards to Easterness in Scotland. At the LOHP site an adult male and female were beaten off vegetation at New Fen on September 2nd 2019.

Neobisnius procerulus – a rove beetle
Status: Nationally Rare (Red Data Book RDBK), IUCN status not evaluated
This elongate predatory rove beetle is found in wetland habitats including gravel pits, flood meadows and reservoir margins. Its British distribution is restricted to southern England, East Anglia, the Midlands and South Wales. Adults have been recorded between May and September. At the LOHP site, a male was recovered from a pitfall trap at the draw-down zone margin of the large shallow pool at Oak Tree Fen on July 8th. A second male was collected from the same compartment, this time being observed crawling on wet mud on the dried-up small southernmost pool at Oak Tree Fen on September 6th. Yet another male was recorded on July 1st 2019. This individual was noted running on wet mud on the draw-down zone of the well at Carr Meadow.

Paederus fuscipes – a rove beetle
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This is a remarkably colourful species as are all the members of the genus. It has striking metallic blue elytra, the remainder of the beetle being black and red. It is a predator, found in marshes and bogs, on the margins of ponds and dykes and in permanently wet mires. It is also recorded in salt-marsh habitats. Its distribution is patchy throughout England and Wales, with most records from the coastal fringes. Adults have been recorded in most months of the year. At the LOHP site an adult was sieved from a *Deschampsia* tussock close to the large shallow pool at Oak Tree Fen on November 18th 2019.

Philonthus fumarius – a rove beetle
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This is a moderately large black rove beetle with red legs. It inhabits fens and marshes and in these habitats it can be found in reed or sedge debris where it predates on other invertebrates. The species is distributed throughout England and Wales, but with an apparent bias for eastern England, particularly East Anglia and the south-east. There are scattered records north into Scotland. At the LOHP site a specimen was swept at Parkers Piece wetland on May 13th 2019.

Platystethus nodifrons – a rove beetle
Status: Nationally Scarce (Notable), IUCN status not evaluated
This small, elongate black rove beetle is found at the undisturbed margins of ponds and in marshes with fluctuating water levels where it predates other invertebrates. It is recorded from southern England north to Yorkshire, north Wales and north Scotland with the majority of records in the Midlands and eastern England. Adults have been recorded all year round. At the LOHP site adults were found at Parkers Piece at the margins of the *Phragmites* pool on February 25th when a specimen was sieved from a *Deschampsia* tussock and also on May 14th and May 21st 2019.

Pseudomedon obsoletus – a rove beetle
Status: Nationally Rare (Red Data Book RDBI), IUCN status not evaluated
This small elongate black rove beetle inhabits marsh and reed-fen sites. In the author's experience, the beetle can be found by sieving reed litter heaps in winter. It is found in southern England north to Norfolk (although the NBN Gateway shows records also for northern England). Lott & Anderson (2011) stated that it was in decline. At the LOHP site a singleton was sieved from a *Juncus* tussock close to the pool at Webbs Fen on February 25th 2019.

Schistoglossa gemina – a rove beetle
Status: Nationally Scarce (Notable), IUCN status not evaluated
This diminutive non-descript black aleocharine rove beetle occurs in fens and marshes and is most often encountered in *Juncus* and *Deschampsia* tussocks near water bodies, inundations or saturated ground. Fen litter is also a source of records. Adults have been found from November through to July. The species is widely but locally distributed

throughout England and has also been recorded very sparsely in Wales and Scotland. At the LOHP site, adults were sieved from *Deschampsia* tussocks close to the main ditch at Parkers Piece on February 25th and near the main shallow pool at Oak Tree Fen on November 18th 2019.

Scopaeus laevigatus – a rove beetle
Status: Nationally Rare (Red Data Book RDBI), IUCN status not evaluated
This is an elongate predatory rove beetle that has been found at coastal sites on landslips and cliff seepages and inland on damp sand near water and at a reservoir edge. Adults have been recorded between April and October. Records are few and come from South Devon, Dorset, East Sussex, Surrey, Leicestershire and several sites in Wales. It appears to be expanding its range as predicted by Lott & Anderson (2011). At the LOHP site, a female was swept from wet *Juncus* grassland at Webbs Fen on May 14th and another female was sieved from vegetation litter on the floor of the dried-up Bleyswycks Bank pool on September 6th 2019.

Stenus circularis – a rove beetle
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This small black rove beetle is a predator on small soft-bodied invertebrates. Hyman (1994) and Lott & Anderson (2011) state that the beetle has a preference for dry grassland, heathland, quarries and coastal sands, but Denton (2013) describes it as 'Rare in litter amongst seasonally flooded wetlands especially on floodplains. An easily overlooked species possibly best located by sieving fen litter...'. In East Anglia, it is known from at least three wetland sites. Its distribution in Britain is southern with a record from Wales and the rest in south and east England. Adults have been found in the field from February to May, July, November and December. At the LOHP site, an adult was recovered from a pitfall trap in draw-down zone mud at the margin of the main shallow pool at Oak Tree Fen on July 8th and another specimen was sieved from the vegetation litter heap at Parkers Piece, close to the New Fen gate on November 18th 2019.

Neoascia interrupta – Bulrush Neoascia
Status: Nationally Scarce, IUCN Least Concern
This is the only British Neoascia hoverfly to have yellow spots at the basal corners of tergite 4. The species is a relatively recent addition to the British list, but it is currently widespread, if localised in southern Britain north to Yorkshire, with an eastern bias to records. Its typical habitat is in ponds, ditches and lake margins where it occupies wetland swamp containing Bulrush *Typha latifolia*. Many of its British sites are within coastal grazing marsh but it has also been recorded from suburban brownfield locations. The adult flight period is between April and September. The larvae are associated with rotting vegetation in submerged or semi-aquatic situations. At the LOHP site, an adult female was swept at Parkers Piece on May 13th 2019.

Tabanus maculicornis – Narrow-winged Horsefly
Status: Nationally Scarce (NS), IUCN Least Concern
This is a large, mainly dark horsefly, characterised by the narrow wing alulae and the extensively orange antennae. It is widespread in the southern half of England and Wales, where it frequents mainly wooded habitats, usually in the vicinity of wetland features such as streams, marshy grassland or seepages. The larvae live in the saturated ground layer of grassland/wetland and are predatory on smaller soft-bodied invertebrates. Adult females attack mammals to take a blood meal. Like other *Tabanus* the present species alights on the legs of its hosts, which at LOHP are likely to be the grazing cattle. Males do not bite. At the LOHP site, an adult male was netted off the gated entrance between Oak Tree Fen and Bleyswycks Bank, on July 1st 2019.

Aphrophora major – a froghopper
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This is a large brown froghopper, which in the literature is supposedly associated with bog myrtle *Myrica gale*. However, it has been widely reported from wetland sites where the food-plant is absent. At these localities, the bug has been swept or beaten off willows *Salix*. Many of the records appear to come from bogs or wet heaths. The larvae produce spittle as a protective covering during their development. This insect is widespread but localised in Britain, being found primarily in East Anglia and in localised 'pockets', from north Warwickshire across to Shropshire, in Yorkshire, around Dorset and Hampshire and in Devon and South Wales. Adults have been recorded between June and September. At the LOHP site, adults were swept at New Fen on September 2nd and at Parkers Piece on September 6th 2019.

Megamelodes lequesnei – a planthopper
Status: Nationally Scarce (Notable B), IUCN status not evaluated

This small plant-hopper is associated with wetland habitats. Its British distribution stronghold is in East Anglia (particularly in The Broads), a region which appears to account for around 80% of all records. Elsewhere, there are scattered record in Wales and in England north to Derbyshire. Little is known about the life cycle of this species in Britain. The bug may utilise *Juncus* as a food-plant. At the LOHP site, adult males were swept from the *Juncus* grassland east of the *Phragmites* pool at Parkers Piece on July 1st and September 6th 2019.

Salda littoralis – a shorebug
Status: Nationally Scarce (NS), IUCN Least Concern
This is a large and distinctive shorebug that is associated with sparsely vegetated draw-down zones of rivers and lakes or in other muddy areas where bare substrate is interspersed with vegetation mats. It is also found in brackish habitats. The species is distributed predominantly along the coastal fringes of England, Wales and Scotland. At the LOHP site, individuals were recovered from pitfall traps at Bleyswycks Bank in *Juncus* grassland and at Webbs Fen at the north end of the pool in *Juncus* grassland on July 8th 2019.

Micropterix mansuetella – Black-headed Gold
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This attractive gold-metallic micro-moth is locally distributed throughout England and Scotland where it occurs in damp woods and fens. The food-plant is not known. The flight period is in May and June. At the LOHP site, several adults were swept off willows at the edge of carr habitat at Oak Tree Fen on June 3rd 2019.

Senta flammea – Flame Wainscot
Status: Nationally Scarce (Notable A), IUCN status not evaluated
This moth is an inhabitant of open reed-beds in East Anglia, Sussex, Kent and around Poole Harbour, Dorset. The adult flight period is from May to July. The larval food-plant is common reed *Phragmites australis.* At the LOHP site, adults were attracted to an MV light trap set by James Symonds at Oak Tree Fen on the night of June 3rd 2019.

Earias clorana – Cream-bordered Green Pea
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This attractive green moth flies from May to August in fens, marshes and damp woods and heaths. The larval food-plants are sallows and willows *Salix sp.* The species occurs mainly south of an imaginary line drawn from The Humber estuary on the east coast to The Severn estuary on the west coast of England. At the LOHP site, adults were attracted to an MV light trap set by James Symonds at Oak Tree Fen on the night of June 3rd 2019.

Grassland short-turf Species

Argenna subnigra – A meshweb spider
Status: Nationally Scarce (NS), IUCN Least Concern
This is a small nondescript, mainly ground-active predator that inhabits waste ground, dunes and sparsely vegetated short-turf grassland. It is most commonly found near the coast. The species is widely but very locally distributed in England and Wales, with most records in south-east England. Adults are usually found in the field in May and June. At the LOHP site, an adult male was taken from a pitfall trap in short turf pasture grassland on free-draining substrate at Parkers Piece on May 21st 2019.

Alopecosa cuneata – A wolf spider
Status: Nationally Scarce (NS), IUCN Least Concern
This moderately large predator is marked with a relatively distinct white longitudinal banding pattern on the abdomen. It is ground-dwelling and is typically associated with dunes systems and short-turf grassland in England and Wales. Regionally it is perhaps most frequent in the Breckland area of East Anglia. Adults are usually encountered in May, although they have been recorded between April and August. At the LOHP site, adult males were collected from pitfall traps in short turf pasture grassland on free-draining substrate at Parkers Piece on May 21st 2019.

Amara lucida – a ground beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This small ovoid bronze ground beetle is most often encountered in coastal regions of England and Wales where it inhabits sandy areas such as dune systems and is also found on coastal shingle. There is however, a cluster of records from the Breckland region and environs in East Anglia and other scattered inland records, mainly in the east of England. The larvae are predatory, whereas the adults are phytophagous, feeding on seeds. At the LOHP site, an adult was

collected from a pitfall trap sited at Parkers Piece close to the road in short-turf flower-rich grassland on free-draining substrate on July 8th 2019.

Panagaeus bipustulatus – a ground beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This is a striking red and black ground beetle with a strong and distinctive aroma! It occurs in a range of short-turf grassland habitats including calcareous grassland, dry meadows, sand dunes, coastal shingle, heathland, sand pits and coastal sandstone under-cliffs. The species is probably predatory. Its British distribution is distinctly southern. The beetle occurs south of a line from The Humber estuary on the east coast to the tip of Pembrokeshire on the Welsh coastline. At the LOHP site, a single adult was collected from a pitfall trap sited near the road in short-turf sparsely-vegetated grassland at Parker Piece on July 8th 2019.

Chrysolina marginata – a leaf beetle
Status: Nationally Rare (NR), IUCN Near Threatened
This is a distinctive moderately large leaf beetle with a reddish-brown dorsal surface and yellowish-orange elytral margins. It is typically found in open free-draining grassland habitats, for example sandpits, breck heath and grey dunes. The adults feed nocturnally on yarrow *Achillea millefolium*, hiding beneath the basal rosettes during the day. The beetle has a very scattered and highly localised distribution in England, Scotland and Wales. It is perhaps most often recorded in eastern England. Hubble (2014) reported a large reduction in range. Although he suggested that it may be under-recorded due to its nocturnal habits, he concluded that there has been a 'real and highly significant decline'. In East Anglia, the species may not be so adversely affected. In this region, it is widely recorded and has been found recently by the authors: in Norfolk at Snettisham, Cranwich Heath, Stanford and Holme; in Suffolk at Brandon, and in Cambridgeshire at Upware. At the LOHP site, a single adult was recovered from a pitfall trap sited at at Parkers Piece near the road in short-turf flower-rich grassland on free-draining substrates on September 6th 2019.

Hippodamia variegata – Adonis Ladybird
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This is a medium-sized brick-red ladybird with a varying number of black spots and characteristic black and white patterning on the thorax. Like most ladybirds, it is a predator of aphids. Its distribution extends throughout southern, eastern and central England as far north as Cumbria and Tyne and Wear. In Cornwall, Wales and Scotland it becomes rather more scarce. It was formerly only commonly found on the English coast, but since the 1980s, it turned up increasingly at inland post-industrial sites and other areas of short-turf grassland and disturbed grassland habitat, so although formerly considered Nationally Scarce, it is now so regularly encountered in suitable habitat, that it can only qualify as locally distributed at such time as its British Rarity status is re-evaluated. At the LOHP site, individuals were both pitfall-trapped and swept at Parkers Piece, in short-turf flower-rich grassland close to the road on July 8th 2019.

Platynaspis luteorubra – a ladybird
Status: Nationally Scarce (Notable A), IUCN status not evaluated
This is a small but distinctive black, hairy ladybird with red spots on its wing-cases. It is found in a variety of habitats including woodland, grassland, hedgerows and coastal shingle, but it is perhaps most frequently encountered in short turf on free draining substrates. It is probably predatory both as larva and adult, on aphids. It is found in England south of an imaginary line drawn from the Wash on the east coast to the Bristol Channel on the west coast. Within this range, the majority of records come from the south-east around the home counties west of the Thames estuary. Isolated outliers occur in south Wales and Nottinghamshire. At the LOHP site, a single adult was swept at Parkers Piece, in short-turf flower-rich grassland close to the road on July 8th 2019.

Atomaria scutellaris – a silken fungus beetle
Status: Nationally Rare (Red Data Book RDBK), IUCN status not evaluated
This is a diminutive yellow-brown beetle which usually has distinctive but diffuse paler patterning on the wing cases. It was first recorded in Britain from the Scilly Isles in 1968 and has since expanded its range to include extensive swathes of the southern and eastern coastlines of England along with smaller coastal stretches in Cornwall and south Wales. There are also inland records from North Norfolk into the breckland region and also from the Thames gateway. The beetle is typically found in grassland and disturbed ground where the soil is free-draining and sandy. It is particularly frequent on dune systems. At the LOHP site, a specimen was recovered from a pitfall trap at Carr Meadow on May 25th 2019 and another individual was swept at Reeves Meadows (south) on September 10th 2019.

Oxytelus piceus – a rove beetle
Status: Nationally Rare (Red Data Book RDBK), IUCN status not evaluated

This small rove beetle has distinctive yellow elytra and is separated from a superficially similar, more common species *O. laqueatus* by the size of the eyes of the female and by underside characteristics on the abdominal segments of the male. The species is found in herbivore dung, apparently favouring dung on sandy soils in short-turf grassland. It is very locally distributed in England and Wales north to Lincolnshire. There are very few records of the species outside of an apparent stronghold in Norfolk where it occurs fairly reliably on grazed breck heath. In the author's experience, adults are active in the field between May and September. At the LOHP site, a female was sieved from cattle dung at Parkers Piece on May 13th 2019.

Cistogaster globosa – a parasitic fly
Status: Nationally Rare (Red Data Book RDB2), IUCN status not evaluated
This is a small but distinctive fly, with a more-or-less shiny globose abdomen and the wings partly splayed when at rest. It parasitises the Bishop's Mitre shieldbug *Aelia acuminata*. The fly lays an egg on the dorsal surface of the host's abdomen and the larva when fully fed within the host, leaves the bug and pupates in the ground. The fly is typically found in dry grassland habitats. Adults have been observed to seek nectar on Wild Carrot *Daucus carota*. The fly is mainly found in southern England with a concentration of records in the south-east into East Anglia. It appears to be expanding its range and may no longer merit the status of RDB2. At the LOHP site a male was swept at Reeves Meadows (south) on September 10th 2019.

Drymus latus – a groundbug
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This dark brown groundbug is associated with short-turf grassland and sparsely-vegetated habitats. Its food-plants are not known. The species is found very locally in east and south-east England, with scattered records north to Yorkshire and also into north Wales. At the LOHP site an adult was swept in pasture grassland at Carr Meadow on September 10th 2019.

Megalonotus praetextatus – a groundbug
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This is a distinctive medium-sized glossy dark ground bug with pale wing markings. It requires well-drained soils with a warm, sheltered aspect such as those in sand dune systems, gravel pits, sandy grasslands and the East Anglian Brecks. In such situations it is frequently associated with stork's-bill *Erodium*. Adults are active in the field between April and September. The bug is predominantly southern and coastal in south and east England and South Wales, but with inland records from the Brecks and other areas of southern England. At the LOHP site, an adult was recovered from a pitfall trap at Parkers Piece near the road in short-turf flower-rich grassland on free-draining substrates on July 8th 2019.

Rhopalus parumpunctatus - a rhopalid bug
Status: Nationally Scarce (NS), IUCN Least Concern
This is a reddish-brown bug that can be differentiated from similar species in the genus by the abdominal markings, the form of the scutellum and the dark spots on the wing veins. It is highly active in dry, sandy habitats such as grey dunes and breck heath. The adults are flower-visiting and there is an association with many plant species, particularly mouse-ear *Cerastium.* The bug is locally distributed east of an imaginary line drawn from the Wash on the east coast to west Dorset on the south coast. It is also recorded from the Welsh coastline. It is particularly plentiful in the Breckland region of East Anglia and its environs. Adults are recorded mainly between May and September. At the LOHP site, adults were swept from grassland at Parkers Piece (close to the road), New Fen and Reeves Meadows (north) in July and September 2019.

Cerceris quinquefasciata - 5-banded Weevil-wasp
Status: Nationally Rare(Red Data Book RDB3), IUCN status not evaluated, UK BAP NERC S. 41 Species of Principal Importance in England
This black and yellow-banded solitary wasp is associated with dry open sandy situations. Although widely distributed in southern England, this is currently a rare species with modern records only from Kent, Essex, Suffolk, Norfolk and Oxfordshire. Its main strongholds appear to be The Breckland regions and the Suffolk Sandlings of East Anglia. Adults visit flowers of creeping thistle and bramble for food sources. The wasp nests in loose 'colonies' in dry open sandy situations such as tracks and pathways, often where the sand is compacted. They stock the nests with prey items for the developing larvae, which include small weevils of the genus *Sitona* and the family Apionidae. The species is preyed upon by the ruby-tailed wasp parasitoid *Hedychrum niemelai*. The adult flight season is from mid-July to late August. At the LOHP site two males were swept off flowers in the short-turf flower-rich area of Parkers Piece, close to the road, on July 8th 2019.

Nysson dimidiatus – Small-spurred Digger Wasp
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This small red and black wasp is a cleptoparasite of the wasp *Harpactus tumidus* but may also use *Lindenius albilabris.* All three are inhabitants of short-turf exposed sandy grassland habitats including heathland, sand dunes and sandpits. The wasp flies from June to September. In Britain it is very locally recorded in southern England and Wales, extending northwards up to Yorkshire. At the LOHP site an adult was recovered from pitfall traps at Parkers Piece in the short-turf flower-rich area close to the road, on July 8th 2019.

Sphecodes crassus – Swollen-thighed Blood Bee
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This is a bee of dry, short turf grassland on free draining substrates. Typical sites include heathland and disturbed locations such as quarries. The adults fly from early April to late September and are cleptoparasites on *Lasioglossum* bees. The species is frequently recorded in the extreme south-east of England with a distribution that extends north to Northumberland. It is recorded around the Welsh coastline and there is an outlier record near Edinburgh in Scotland. At the LOHP site an adult was swept off flowers in the short-turf flower-rich area of Parkers Piece, close to the road, on July 8th 2019.

Grassland generalist Species

Drassodes pubescens - A ground spider
Status: Nationally Scarce (NS), IUCN Least Concern
This relatively large pale brown predatory species is found in heathland and grassland habitats, where it is often recorded in tussocks or under refugia. The ground-dwelling adults are mainly present in the field between May and July. Its distribution extends throughout England, Wales and Scotland, but it is highly localised and becomes rare outside of southern England. At the LOHP site, adult males were recovered from pitfall traps on an extensive draw-down zone at the edge of the large shallow pool at Oak Tree Fen and from short-turf grassland on free-draining substrate at Parkers Piece, on July 8th 2019.

Oxystoma cerdo – An apionid weevil
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This small grey-black weevil is distributed locally throughout Great Britain, but is perhaps most commonly encountered in the Midlands and the south-east. It is typically found in grassland, sometimes in tall herb communities within other habitats. The adults and larvae feed on vetches, particularly tufted vetch *Vicia cracca*, the larvae developing in the seed pods. Adults have been found between May and September. This species has increased in the last 15-20 years and it is probably no longer truly Nationally Scarce. At the LOHP site, the species was collected at Reeves Meadows (north) on September 10th 2019.

Syntomus truncatellus – a ground beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This small black predatory ground beetle inhabits open grassland sites such as grassland verges, field edges and grey dunes. Its main area of distribution is in eastern England although it is distributed throughout England and Wales with scattered records north to Yorkshire and outliers in Scotland. It appears to be common and widespread in much of East Anglia. At the LOHP site, the species was pitfall-trapped at Parkers Piece near the road in short-turf flower-rich grassland on free-draining substrates on July 8th 2019 and it was also recorded on November 18th at Oak Tree Fen by Martin Collier.

Longitarsus ganglbaeuri – a flea beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This small yellow flea beetle is very similar to a number of other species in the genus and is difficult to identify. It is phytophagous on plants in the ragwort group, particularly on groundsel *Senecio vulgaris* and sticky groundsel *Senecio viscosus* and as such, it is typically found on disturbed ground, for example at the margins of arable fields. It has been recorded from a variety of habitats. Adults cause 'shot-holing' feeding damage to the leaves of the food-plant whereas the larvae probably feed at the roots. Adults have been found in the field during most months of the year. At the LOHP site, an adult female was recovered from a pitfall trap at Reeves Meadows (north) on July 8th 2019.

Calosirus terminatus – a weevil
Status: Nationally Scarce (Notable B), IUCN status not evaluated

This small black weevil has characteristic reddish colouration towards the apex of the wing-cases, and reddish legs. It is a phytophage on wild carrot *Daucus carota* and is typically found in grassland habitats including waste ground and roadside verges. The species is mainly found in southern England and Wales and many records are coastal. Adults are active in the field between March and October. At the LOHP site, a single adult was swept in grassland at Oak Tree Fen on June 3rd 2019.

Ceutorhynchus atomus – a weevil
Status: Nationally Scarce (Notable A), IUCN status not evaluated
This is a very small black weevil for which the food-plant is thale cress (*Arabidopsis thaliana*). It is found primarily on disturbed ground, particularly in sandy and chalky districts. Habitats occupied include waste ground brown-field sites as well as coastal salt-marsh and shingle. Adults are most often encountered in the field from early April into July. The beetle is widely but very locally distributed throughout Britain. East Anglian records are mainly from the Breckland district and environs. At the LOHP site, an adult was swept at New Fen on May 14th 2019.

Ceutorhynchus constrictus – a weevil
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This nondescript grey weevil is associated with garlic mustard *Allliaria petiolata* its food-plant, in grassland, open woodland and verge habitats. It has been recorded throughout Britain although it is particularly scarce in the south-west and northern areas of its range. Adults are most often encountered in the field between April and July. The larvae feed in the plant's seed-pods. At the LOHP site many were swept off the host-plant at New Fen on May 13th and 14th 2019.

Gocianus punctiger – a weevil
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This grey weevil inhabits grassland sites where it feeds on dandelion *Taraxacum* sp. Typical habitats include road verges, waste places, dunes, trackways and open rough ground. The eggs are laid in the stem of the plant and the larvae feed inside the flower-heads. The species is locally distributed throughout England and Wales (where it is mainly coastal) and has also been recorded from Scotland. Adults are active in the field mainly between May and August. At the LOHP site an adult was recovered from a pitfall trap at Parkers Piece near the road in short-turf flower-rich grassland on free-draining substrates on July 8th 2019.

Hypera meles – a weevil
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This is a weevil of grassland habitats including roadside verges and field margins where it feeds on clovers, particularly white clover *Trifolium repens*. The larvae probably feed externally on the food-plant. The adults are found in the field mainly between April and September. It is distributed locally throughout England as far north as Yorkshire and it has also been found in Wales. Most records appear to come from the Midlands and eastern England. At the LOHP site, an individual was recovered from a pitfall trap at Reeves Meadows (north) and another was swept in grassland at Parkers Piece, both on May 21st 2019.

Rhinocyllus conicus – a weevil
Status: Nationally Scarce (Notable A), IUCN status not evaluated
This medium-sized elongate grey weevil is found in grassland where it is phytophagous on spear thistle *Cirsium vulgare* and musk thistle *Carduus nutans*. The adults are active from April to September and are known to hibernate in the turf mat and under bark. Until relatively recently, this species was more-or-less confined geographically to the south coast of England, but it has since expanded its range significantly, colonising inland counties in England and is certainly increasing, so its 'Notable A' status is likely to be obsolete and requires re-evaluation. The species is found as far north as Yorkshire and has also been recorded in Wales. At the LOHP site, specimens were swept off thistles at Webbs Fen on June 3rd and at Parkers Piece on both July 1st and 7th and a single was retrieved from a pitfall trap at Reeves Meadows (north) also on July 7th 2019.

Grypus equiseti – Horsetail Weevil
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This cryptically-coloured grey, black and white weevil occurs in a variety of grassland habitats including brownfield, verges and wetland, where it is associated with its food-plants field horsetail *Equisetum arvense* and marsh horsetail *Equisetum palustre*. The larvae feed in the stems. Adults have been observed in the field between March and September. The species is recorded widely across England, Wales and Scotland. At the LOHP site, an adult was recovered from a pitfall trap at Webbs Fen at the northern end of the pool, on May 21st 2019.

Cercyon obsoletus – a scavenger beetle
Status: Nationally Scarce (Notable), IUCN status not evaluated
This small rotund and convex black species is associated primarily with dung on pasture, but it has also been recorded from other decaying organic matter such as carrion and compost. Adults have been recorded from March to October and are most numerous in May. The species is widely distributed throughout England, Wales and Scotland (where it is more localised). At the LOHP site an adult was found in cattle dung at Bleyswycks Bank on May 13th 2019.

Cryptopleurum crenatum - a scavenger beetle
Status: Nationally Scarce (Notable), IUCN status not evaluated
This small rotund and convex black species is associated primarily with dung on pasture, but it has also been noted among vegetation in wetland sites. The adult stage is most frequently encountered in May but has been recorded in most months of the year. This is a very locally distributed species in England and Wales. The majority of records appear to come from south-east England. At the LOHP site an adult was sieved from cattle dung at Parkers Piece on July 1st 2019.

Ptomaphagus varicornis – a round fungus beetle
Status: Nationally Rare (Red Data Book RDBK), IUCN status not evaluated
This black species is similar to two others in the same genus but it is easily identified by the pale terminal antennal segment. The species favours chalky and sandy districts and is possibly associated with rabbit burrows, although information in the literature is vague. It is very locally distributed in southern England as far north as Derbyshire. There are more records for eastern England than elsewhere. It may be undergoing range expansion. At the LOHP site an individual was recovered from a pitfall trap at Webbs Fen on May 21st 2019.

Phalacrus championi – a shining flower beetle
Status: Nationally Scarce (Notable A), IUCN status not evaluated
This small, shiny, convex beetle inhabits salt-marshes and other coastal habitats, and is also found inland along river margins and occasionally on chalk hills, in woodland and at sandy sites. The larvae feed on the spores of smut fungus on grasses and sedges. It is widely distributed but very local in England with a range that extends into Scotland as far north as Easterness. Adults have been recorded in most months of the year. At the LOHP site, an adult was swept at Reeves Meadows (north) on June 17th 2019.

Aleochara brevipennis – a rove beetle
Status: Nationally Scarce (Notable), IUCN status not evaluated
This small, nondescript brown rove beetle is an inhabitant of the ground layer in grassland habitats and is usually recorded either in pitfall traps or by sieving grass tussocks. Both the adults and the larvae are probably predatory on smaller invertebrates. The adults have been found all year round. The species is widely distributed but local in Britain. Some sources suggest that there have been recent declines, particularly in southern England. At the LOHP site adults were recovered from pitfall traps at Bleyswycks bank at the pool margin on July 8th and at the margin of the reed-bed pool at Parkers Piece on May 21st and an individual was sieved from a *Deschampsia* tussock at Oak Tree Fen on November 18th 2019.

Aleochara verna – a rove beetle
Status: Nationally Rare (Red Data Book RDBK), IUCN status not evaluated
This small aleocharine rove beetle is found principally in dung, although it also occurs in other decaying organic matter. It is widely but locally distributed throughout Britain, although it appears to be very scarce in Scotland. There is very little information in the literature about the phenology of the species in Britain. In the author's experience, adults have been recorded between June and September. Welch (1997) rightly suggested that the species is probably worthy only of 'Nationally Scarce' status. At the LOHP site an adult was recovered from a pitfall trap at Parkers Piece near the road in short-turf flower-rich grassland on free-draining substrates on July 8th 2019. The presence of cattle dung or simply the trap contents themselves may have attracted the specimen to the trap site.

Pycnota paradoxa – a rove beetle
Status: Nationally Scarce (Notable), IUCN status not evaluated
This small nondescript aleocharine rove beetle is believed to be primarily an inhabitant of mole's nests in grassland habitats and possibly also in woodland. However, there are instances of specimens being collected from deep within a badger sett and also from field mouse runs, so it may be that the requirement of the beetle is for subterranean mammal nests in general. The beetle is predatory on smaller invertebrates. Adults have been recorded from February to May and in August, September and November. The species is recorded from southern England. At the LOHP site a single female

was sieved from a heap of dried cut grass (from mowings) in the middle of the field at Reeves Meadows (south) on September 10th. It is quite likely that the source of the beetle was a field mouse nest or run associated with the heap.

Sunius melanocephalus – a rove beetle
Status: Nationally Scarce (Notable), IUCN status not evaluated
This colourful but small elongate predatory rove beetle is associated with open grassland habitats on damp soils, but is also found in drier short turf habitats in for example 'The Breckland region' of East Anglia. The adult has been recorded all year round. The species is widely distributed throughout central and southern England and Wales. At the LOHP site, an adult was sieved from a *Deschampsia* tussock near the main ditch at Parkers Piece on February 25th and another individual was recovered from pitfall traps in short-turf pasture grassland in the same compartment on May 21st 2019.

Coenonympha pamphilus – Small Heath
Status: IUCN Near Threatened
The familiar Small Heath butterfly *Coenonympha pamphilus* needs no introduction. It inhabits rough dry grassland and heath sites where its larvae feed on grasses, particularly bents and fescues. The adults' flight period extends from mid-May to mid-September, with at least two generations produced annually. Small Heath has declined significantly within its British range. It is currently designated as Near Threatened which indicates that after all available data has been evaluated for this taxon, it currently fails to qualify as threatened (within a spectrum of localised to complete extinction), but only narrowly so. Were the British populations to deteriorate further in England, Wales and Scotland in future years, the species may qualify as being Vulnerable in future IUCN Reviews. At the LOHP site, single adults were recorded along the south-western fence-line perimeter of Parkers Piece, in flight over dry pasture grassland on September 2nd and 6th, at New Fen on September 6th and at Reeves Meadows (south) on June 17th 2019.

Valenzuela atricornis – a bark-louse
Status: Nationally Scarce (NS), IUCN status not evaluated
This is a small yellow fully-winged species that belies the popular name for the group of insects to which it belongs. This species has no association with bark or indeed with trees. It is always found in the ground layer in grassland, often in damp situations. There is very little information available on its habits or distribution in Britain, but the author has encountered it several times in East Anglia either in short-turf grassland or, as at LOHP, in wet litter in marsh habitats. At the LOHP site, several adults were sieved from litter below *Phragmites* at the edge of the pathway/ditch at Oak Tree Fen on September 6th and adults were also swept in the damp reedy area in the north-west corner of Reeves Meadows (north) on September 10th 2019.

Woodland/scrub deadwood Species

Platyrhinus resinosus - Cramp-ball Fungus Weevil
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This is a large and unmistakeable beetle that is cryptically-coloured for camouflage against the bark of stumps and logs. It inhabits broad-leaved woodland, isolated trees and hedgerow habitats where it is associated with *Daldinia* (King Alfred's cakes) fungus on ash. Adults have been found in hibernation beneath bark in the winter. Their main period of activity is between April and July when they are usually noted walking on trunks and logs. Its main distribution occurs in a broad swathe from Somerset up eastwards through the Midland counties into Yorkshire, but there are scattered records elsewhere in England and Wales. At the LOHP site, single adults were located at Oak Tree Fen on May 13th and September 6th 2019.

Malthinus frontalis – A soldier beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This is a small soft-bodied and winged elongate dark brown soldier beetle that develops in dead wood and inhabits mainly broad-leaved woodland. It has also been recorded from isolated mature trees and those in hedgerows. The adults which are field-active between late May and August, are usually found by beating tree branches. In the IUCN Review (Alexander 2014), the species is stated to be declining significantly, although in distribution terms, it is found more-or-less throughout Britain. At the LOHP site, an adult was beaten from the hedgerow at the western perimeter of Reeves Meadows (south) on June 17th 2019.

Malthodes pumilus – A soldier beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This diminutive grey soldier beetle is easily overlooked due to its small size and appearance. The following information is taken directly from Alexander (2014): "*A poorly known species ecologically due to the wide range of situations in*

which it is to be found. It has been thought to develop in decaying heartwood of large old trees because many localities are ancient wood-pastures and well-wooded riverbanks. It can be swept in large numbers, for instance, beneath the canopy of old oaks in Moccas Park. However, it also occurs quite regularly on calcareous grassland sites in southern England, albeit usually those with some scrub. It may be that it is associated with epiphytes and saxicolous lichens, etc, rather than decaying wood, the common factor being bare surfaces which have been colonized by lichens. The larval habits remain very unclear however". Adults are found in the field between May and July. In this author's experience, adults were found frequently in Cambridgeshire by beating old dead lichen-covered ash and elm boughs in hedgerows. The species is widespread throughout Britain, but apparently more sparsely distributed in Scotland and Wales. It was recorded from only around 80 hectads between 1980 and 2012. At the LOHP site, a single adult was swept at Oak Tree Fen on July 1st 2019.

Tillus elongatus – a chequered beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This elongate beetle of ancient broad-leaved and pasture woodland is a predator on beetles of the family Ptinidae (*Ptilinus pectinicornis* and *Anobium* in particular), which it seeks out in larval galleries under the bark of dead standing trees. Adults can be found by beating flowering shrubs and have been recorded between April and September. It is widely distributed throughout England except for northern England where it is particularly scarce. It has also been found in Wales. At the LOHP site, an adult was beaten off the western perimeter hedgerow at Reeves Meadows (south), close to the entrance gate, on June 17th 2019.

Magdalis cerasi – a weevil
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This dull black weevil is distributed locally throughout England and Wales where it occurs in woodland, scrub and hedgerows on oak and also on shrubs of the Rosaceae, particularly hawthorn. The larvae feed inside branches and dead twigs. Adults can be found between May and August. At the LOHP site, individuals were beaten off shrubs at New Fen on May 14th and Reeves Meadows (north) on June 17th 2019.

Abdera biflexuosa – a false darkling beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This small elongate and somewhat cylindrical beetle is mainly black, but characteristically patterned with transverse undulating yellow bars on the wing-cases. It is distributed throughout England as far as north-east England and is also found in Wales. The species is an inhabitant of ancient broad-leaved woodland, parkland, hedgerows and isolated trees. The larvae probably develop in twigs, with records from oak, ash and lime. Adults have been recorded from April to August. At the LOHP site an adult was beaten off oak boughs in the north-west corner of Bleyswycks Bank on June 17th 2019.

Mordellistena variegata – a tumbling flower beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This is a small tumbling flower beetle that has a typically elongated terminal abdominal segment and a jumping habit when captured or disturbed. The beetle is a fuscous brown colour and is patterned with darker markings. The larvae develop in decaying wood. Adults are most often encountered visiting flowers such as umbellifers in and at the edge of 'wooded' habitats. The species is primarily distributed in midland, south-east and eastern England, being very scarce elsewhere in the country. Adults are active in the field between July and September. At the LOHP site an adult was beaten from the hedgerow at the perimeter of Carr Meadow on July 1st 2019.

Orsodacne cerasi – a ravenous leaf beetle
Status: Nationally Scarce (NS), IUCN Least Concern
This yellowish beetle occurs in deciduous and mixed woodland habitats throughout much of England and Wales. It is perhaps most frequent in the west of England. Adults feed on anthers and pollen of various flowering plants and shrubs, favouring white flowers. They are active in the field between April and September. The larvae possibly develop in oak shoots. At the LOHP site, adults were recorded in some numbers at New Fen where they were observed on, and beaten off of flowering hawthorn on May 13th and May 21st 2019.

Woodland/Scrub generalist Species

Rhagonycha lutea – a soldier beetle
Status: Nationally Scarce (NS), IUCN Least Concern

This moderately small, elongate soldier beetle with soft wing cases is distinctive in having buff-coloured wings with black tips. A similar colour pattern is present in the associated common soldier beetle *Rhagonycha fulva*, but that species has a reddish rather than buff ground colour and is present in the field generally later in the season. *R. lutea* is usually associated with woodland or scrubby calcareous grassland where adults can be found from late May through to mid-July. It is a predatory species. Its distribution extends through England and Wales, northwards up into Yorkshire. It has also been recorded rarely in Scotland. At the LOHP site, an adult was beaten off foliage along the eastern perimeter of Carr Meadow on July 1st 2019.

Apterygida media – Hop-garden Earwig
Status: Nationally Scarce (NS), IUCN Least Concern
This earwig can be differentiated from the common earwig *Forficula auricularia* by the fact that the wings do not protrude beyond the wing-cases. There are also other distinctive differences. The insect is altogether more slender in appearance than its ubiquitous relative. The species inhabits hedges, thickets and woodland edge habitats in warm localities and is restricted in its distribution in Britain, to East Anglia and the south-east. At the LOHP site, two adult males were beaten off shrubs in the south-westernmost corner of New Fen next to the road on September 2nd 2019.

Myopa hirsuta – Hirsute Spring Bee-grabber
Status: Nationally Rare (Re Data Book RDB3), IUCN status not evaluated
This hairy conopid fly attacks and parasitises bees. It is a scarce species in Britain, occurring mainly in the East Anglian breckland region, but also at a number of coastal sites and at some inland heaths. The adults are usually noted in and around sallow blossom in April. At the LOHP site, an adult male was swept and photographed at Parkers Piece on May 13th 2019.

Linnaemya picta – a parasitic fly
Status: Nationally Rare (Red Data Book RDBK), IUCN status not evaluated
This is a nondescript medium-sized fly. It was recorded in Kent in the 1950s but misidentified at that time and it wasn't until 2009 when it was again found in Kent but correctly determined, that the species was formally added to the British list. Since then, awareness of the species by entomologists has resulted in it being recorded widely across south-east England, with records from Bedfordshire, Oxfordshire, Cambridgeshire, Suffolk, Essex & Berkshire. Consequently, it no longer merits the British Rarity status of Nationally Rare. The fly parasitises the larvae of Noctuid moths including *Agrotis* species. At the LOHP site an adult was swept off vegetation at the woodland/footpath interface towards the south end of Oak Tree Fen on September 6th 2019.

Tipula livida – a cranefly
Status: Nationally Scarce (Notable), IUCN status not evaluated
This relatively large cranefly was first discovered new to Britain in the 1950s. It is associated with trees in woodland habitats. Adults have been recorded from May to late July. The larvae inhabit the woodland ground layer in damp soil where they feed on detritus. The species is infrequent in Britain with scattered records in southern England extending as far north as Yorkshire and also into North Wales. At the LOHP site, an adult female was swept at the north end of Reeves Meadows (north) on June 17th 2019.

Cosmopterix zieglerella – Hedge Cosmet
Status: Nationally Scarce (Notable B), IUCN status not evaluated
This small beautifully coloured micro-moth flies from May to July in hedge, scrub and woodland habitats where the food-plant hop *Humulus lupulus* grows. The larvae mine the leaves of the plant. The distribution of the species is primarily across south-east England and East Anglia, but it extends westwards along the English south coast and there are outlier populations in midland England. At the LOHP site, larval leaf mines were located by James Symonds at Parkers Piece on September 2nd 2019.

Fig. 5 Cramp-ball Fungus weevil *Platyrhinus resinosus*

Fig. 6 Conopid fly *Physocephala rufipes*

Fig. 7 Jumping plant-louse *Trichochermes walkeri*

Fig. 8 Snake-fly *Xanthostigma xanthostigma*

Fig. 9 Tumbling flower beetle *Mordellochroa abdominalis*

Fig. 10 Small Yellow Underwing *Panemeria tenebrata*

6.3 BAP Priority Species (Research Only) Lepidoptera

A number of Lepidoptera species are of National BAP Priority (Research Only) status and as such they fall under the NERC Act 2006, legislation Section 41. Species "of principal importance for the purpose of conserving biodiversity" are covered under section 41, which requires that these species need to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity.

There is often a misconception among Ecological Consultants that these BAP (Research Only) Lepidoptera species are highly significant. However, for the most part, they are not treated Nationally through formal individual Species Action Plans and are not intended to play a role in site protection. There is valid concern however, that these Lepidoptera have declined in the UK in the last 25 to 35 years, despite still being common and widespread, so they are flagged as Priority BAP species to encourage awareness of their presence at sites and to promote recording and monitoring.

At the survey sites, species which fall into this category are The Cinnabar moth *Tyria jacobaeae*, a ragwort feeder of widespread and relatively common distribution, and White Ermine moth *Spilosoma lubricipeda*.

6.4 Analysis

Table 5 below shows the distribution across the sites by habitat, of all **British Rarity-designated** (Nationally Scarce and Nationally Rare) invertebrates recorded in 2019.

Table 5

Site	Aquatic	Wetland	Total Aquatic + Wetland	Short-turf Grassland	Grassland generalist	Dead wood	Scrub & Arboreal generalist	Total Species recorded (all species)
Parkers Piece	3	13	16	13	10	0	1	612
New Fen	2	4	6	1	3	2	1	385
Bleyswycks Bank	4	4	8	0	1	1	0	245
Oak Tree Fen	7	17 (19)	24 (26)	0	5	2	1	500
Webbs Fen	2	7	9	0	3	0	0	270
Reeves Meadows (north)	0	1	1	1	6	1	1	297
Reeves Meadows (south)	0	0	0	2	2	2	0	235
Carr Meadow	1	1	2	2	0	1	1	286

From **Table 5** it is evident by comparing the total numbers of invertebrates with British Rarity status for each site, that the most significant wetland assemblage in terms of rarity is from Oak Tree Fen which produced 24 species (26 if we include two wetland moth taxa that were attracted to an MV light trap at that site). This site is followed by, in order of significance, Parkers Piece, Webbs Fen, Bleyswycks Bank and finally New Fen. The only site of significance for short turf grassland specialists with British Rarity status is Parkers Piece, but this significance is impressively high. Parkers Piece also has an impressive complement of 10 non-specific grassland-generalist assemblage invertebrates with rarity significance, followed by Reeves Meadows (north) with only 6. In the above analysis, dead wood and arboreal invertebrates with British Rarity status appear to be more-or-less evenly distributed across the site. It is not surprising that Webbs Fen has no representatives in this category as the only arboreal habitat in this sub-site is along its shared boundaries. The total species recorded reflects the amount of survey effort expended in each compartment which is

itself a reflection of the habitat biodiversity. Parkers Piece and Oak Tree Fen can both be seen as being significantly biodiverse, with New Fen third in terms of total species recorded. The remaining sites have relatively similar lesser totals. The interpretation of these totals is straightforward. Parkers Piece, Oak Tree Fen and to a lesser extent, New Fen, offer habitat mosaics containing woodland (or at least stands of trees), aquatic, marsh/fen and grassland habitats which support a greater diversity of invertebrate taxa than the other sites that are less habitat-diverse.

Table 6 shows the Pantheon analysis for habitat and assemblages

Table 6 – Pantheon Analysis

Site	Broad biotope	Habitat	Habitat subcategory	No. of species	% representation	SQI	Reported condition
Bleyswycks Bank	open habitats	short sward & bare ground	bare sand & chalk	1	<1	100	Unfavourable (1 of 19 species)
Bleyswycks Bank	open habitats		scrub edge	3	1	100	Unfavourable (3 of 11 species)
Bleyswycks Bank	open habitats		scrub-heath & moorland	1	<1	100	Unfavourable (1 of 9 species)
Bleyswycks Bank	tree-associated	decaying wood	bark & sapwood decay	7	1	143	Unfavourable (7 of 19 species)
Bleyswycks Bank	tree-associated	decaying wood	epiphyte fauna	1	5	100	Unfavourable (1 of 3 species)
Bleyswycks Bank	tree-associated	decaying wood	heartwood decay	2	1	100	Unfavourable (2 of 6 species)
Bleyswycks Bank	wetland	peatland	moss & tussock fen	2	4	400	Unfavourable (2 of 6 species)
Bleyswycks Bank	wetland	peatland	reed-fen & pools	5	4	160	Unfavourable (5 of 11 species)
Bleyswycks Bank	wetland	running water	riparian sand	2	3	600	Unfavourable (2 of 5 species)
Carr Meadow	open habitats	short sward & bare ground	open short sward	3	2	100	Unfavourable (3 of 13 species)
Carr Meadow	open habitats		rich flower resource	4	2	100	Unfavourable (4 of 15 species)
Carr Meadow	open habitats		scrub edge	5	2	100	Unfavourable (5 of 11 species)
Carr Meadow	open habitats		scrub-heath & moorland	1	<1	100	Unfavourable (1 of 9 species)
Carr Meadow	tree-associated	decaying wood	bark & sapwood decay	7	1	100	Unfavourable (7 of 19 species)
Carr Meadow	tree-associated	decaying wood	epiphyte fauna	2	10	100	Unfavourable (2 of 3 species)
Carr Meadow	tree-associated	decaying wood	fungal fruiting bodies	1	1	100	Unfavourable (1 of 7 species)
Carr Meadow	tree-associated	decaying wood	heartwood decay	1	<1	100	Unfavourable (1 of 6 species)
Carr Meadow	wetland	marshland	open water on disturbed mineral sediments	1	2	100	Unfavourable (1 of 6 species)
Carr Meadow	wetland	marshland	undisturbed fluctuating	1	3	100	Unfavourable (1 of 4 species)

Site	Broad biotope	Habitat	Habitat subcategory	No. of species	% representation	SQI	Reported condition
			marsh				
Carr Meadow	wetland	running water	riparian sand	1	2	800	Unfavourable (1 of 5 species)
New Fen	open habitats	short sward & bare ground	bare sand & chalk	3	<1	200	Unfavourable (3 of 19 species)
New Fen	open habitats	short sward & bare ground	open short sward	6	3	100	Unfavourable (6 of 13 species)
New Fen	open habitats		rich flower resource	1	<1	100	Unfavourable (1 of 15 species)
New Fen	open habitats		scrub edge	6	3	150	Unfavourable (6 of 11 species)
New Fen	tree-associated	decaying wood	bark & sapwood decay	25	5	112	Favourable
New Fen	tree-associated	decaying wood	epiphyte fauna	1	5	100	Unfavourable (1 of 3 species)
New Fen	wetland	marshland	open water on disturbed mineral sediments	2	5	100	Unfavourable (2 of 6 species)
New Fen	wetland	peatland	moss & tussock fen	3	7	300	Unfavourable (3 of 6 species)
New Fen	wetland	peatland	reed-fen & pools	3	3	200	Unfavourable (3 of 11 species)
New Fen	wetland	running water	seepage	1	2	100	Unfavourable (1 of 6 species)
Oak Tree Fen	open habitats	short sward & bare ground	bare sand & chalk	1	<1	100	Unfavourable (1 of 19 species)
Oak Tree Fen	open habitats	short sward & bare ground	exposed sea-cliff	2	5	250	
Oak Tree Fen	open habitats	short sward & bare ground	open short sward	3	2	200	Unfavourable (3 of 13 species)
Oak Tree Fen	open habitats		rich flower resource	3	1	100	Unfavourable (3 of 15 species)
Oak Tree Fen	open habitats		scrub edge	3	1	100	Unfavourable (3 of 11 species)
Oak Tree Fen	open habitats		scrub-heath & moorland	2	<1	100	Unfavourable (2 of 9 species)
Oak Tree Fen	tree-associated	decaying wood	bark & sapwood decay	16	3	163	Unfavourable (16 of 19 species)
Oak Tree Fen	tree-associated	decaying wood	epiphyte fauna	1	5	100	Unfavourable (1 of 3 species)
Oak Tree Fen	tree-associated	decaying wood	fungal fruiting bodies	2	2	250	Unfavourable (2 of 7 species)

Site	Broad biotope	Habitat	Habitat subcategory	No. of species	% representation	SQI	Reported condition
Oak Tree Fen	tree-associated	decaying wood	heartwood decay	1	<1	100	Unfavourable (1 of 6 species)
Oak Tree Fen	wetland	marshland	open water on disturbed mineral sediments	2	5	100	Unfavourable (2 of 6 species)
Oak Tree Fen	wetland	marshland	undisturbed fluctuating marsh	2	5	250	Unfavourable (2 of 4 species)
Oak Tree Fen	wetland	peatland	moss & tussock fen	4	9	500	Unfavourable (4 of 6 species)
Oak Tree Fen	wetland	peatland	reed-fen & pools	7	6	250	Unfavourable (7 of 11 species)
Oak Tree Fen	wetland	running water	riparian sand	1	2	800	Unfavourable (1 of 5 species)
Parkers Piece	open habitats	short sward & bare ground	bare sand & chalk	16	4	287	Unfavourable (16 of 19 species)
Parkers Piece	open habitats	short sward & bare ground	open short sward	12	6	100	Unfavourable (12 of 13 species)
Parkers Piece	open habitats		rich flower resource	6	2	100	Unfavourable (6 of 15 species)
Parkers Piece	open habitats		scrub edge	5	2	100	Unfavourable (5 of 11 species)
Parkers Piece	open habitats		scrub-heath & moorland	1	<1	100	Unfavourable (1 of 9 species)
Parkers Piece	tree-associated	decaying wood	bark & sapwood decay	16	3	119	Unfavourable (16 of 19 species)
Parkers Piece	tree-associated	decaying wood	epiphyte fauna	1	5	100	Unfavourable (1 of 3 species)
Parkers Piece	tree-associated	decaying wood	fungal fruiting bodies	1	1	100	Unfavourable (1 of 7 species)
Parkers Piece	wetland	marshland	open water on disturbed mineral sediments	1	2	100	Unfavourable (1 of 6 species)
Parkers Piece	wetland	marshland	undisturbed fluctuating marsh	4	11	300	Favourable
Parkers Piece	wetland	peatland	moss & tussock fen	4	9	325	Unfavourable (4 of 6 species)
Parkers Piece	wetland	peatland	reed-fen & pools	10	9	167	Unfavourable (10 of 11 species)
Reeves Meadows (n)	open habitats	short sward & bare ground	bare sand & chalk	4	<1	175	Unfavourable (4 of 19 species)
Reeves Meadows (n)	open habitats	short sward & bare	open short sward	6	3	100	Unfavourable (6 of 13 species)

Site	Broad biotope	Habitat	Habitat subcategory	No. of species	% representation	SQI	Reported condition
		ground					
Reeves Meadows (n)	open habitats		rich flower resource	3	1	100	Unfavourable (3 of 15 species)
Reeves Meadows (n)	open habitats		scrub edge	4	2	100	Unfavourable (4 of 11 species)
Reeves Meadows (n)	open habitats		scrub-heath & moorland	3	<1	100	Unfavourable (3 of 9 species)
Reeves Meadows (n)	tree-associated	decaying wood	bark & sapwood decay	8	2	138	Unfavourable (8 of 19 species)
Reeves Meadows (n)	tree-associated	decaying wood	epiphyte fauna	1	5	100	Unfavourable (1 of 3 species)
Reeves Meadows (n)	tree-associated	decaying wood	fungal fruiting bodies	1	1	100	Unfavourable (1 of 7 species)
Reeves Meadows (n)	wetland	peatland	reed-fen & pools	2	2	100	Unfavourable (2 of 11 species)
Reeves Meadows (s)	open habitats	short sward & bare ground	open short sward	6	3	100	Unfavourable (6 of 13 species)
Reeves Meadows (s)	open habitats		rich flower resource	6	2	100	Unfavourable (6 of 15 species)
Reeves Meadows (s)	open habitats		scrub edge	5	2	160	Unfavourable (5 of 11 species)
Reeves Meadows (s)	tree-associated	decaying wood	bark & sapwood decay	13	3	123	Unfavourable (13 of 19 species)
Reeves Meadows (s)	tree-associated	decaying wood	epiphyte fauna	3	15	100	Favourable
Reeves Meadows (s)	tree-associated	decaying wood	heartwood decay	2	1	400	Unfavourable (2 of 6 species)
Webbs Fen	open habitats	short sward & bare ground	bare sand & chalk	1	<1	400	Unfavourable (1 of 19 species)
Webbs Fen	open habitats	short sward & bare ground	open short sward	2	1	100	Unfavourable (2 of 13 species)
Webbs Fen	open habitats		scrub edge	1	<1	100	Unfavourable (1 of 11 species)
Webbs Fen	tree-associated	decaying wood	bark & sapwood decay	6	1	100	Unfavourable (6 of 19 species)
Webbs Fen	wetland	marshland	open water on disturbed mineral sediments	2	5	100	Unfavourable (2 of 6 species)
Webbs Fen	wetland	marshland	undisturbed fluctuating marsh	3	8	250	Unfavourable (3 of 4 species)
Webbs Fen	wetland	peatland	moss & tussock fen	2	4	600	Unfavourable (2 of 6 species)
Webbs Fen	wetland	peatland	reed-fen & pools	1	<1	400	Unfavourable (1 of 11 species)

Site	Broad biotope	Habitat	Habitat subcategory	No. of species	% representation	SQI	Reported condition
Webbs Fen	wetland	running water	riparian sand	1	2	400	Unfavourable (1 of 5 species)

The highlighted rows are those for which **any** reliability can be placed on the resulting statistics. The results from the Pantheon analysis are disappointing. They fail to reinforce most of the indications about the quality of the wetland invertebrate assemblages and habitats that emerge from the straightforward analysis of **Table 5.** The author has contacted one of the originators of Pantheon to discuss this outcome. The explanation for the discrepancy is that the SQI score that Pantheon uses is based on the sum of the conservation scores of the British Rarity-designated species in a sample divided by the **total number of species** in that sample multiplied by 100. It follows that whenever samples become large, the larger the sample, the more diluted becomes the number of rarity-status species, whatever the quality of the site, and the smaller the overall percentage of these in the analysis and the smaller the resulting SQI. I was informed that Pantheon only really works where standardised sampling is employed at a site because in that situation, the total species collected is usually not very large and often quite small. In the present survey, the total species collected far exceeds the expected number in an average survey by usual sampling methods and Pantheon is not used to dealing with such a large quantity of representative taxa. In this contract whereby the LOHP site complex has been more-or-less exhaustively sampled, the interpretation of the results is better achieved by using one's own experience, knowledge and intuition as a surveyor (see assignment of species to habitats in 'Species Accounts' section and also **Table 5**).

The dung fauna is worthy of mention. This is restricted to the grazed locations in the LOHP complex which during the survey comprised Parkers Piece, Bleyswycks Bank, Webbs Fen and Carr Meadow. Altogether, forty species were recorded that rely on dung for prey species or as a direct requirement for their own developmental stages. Of these four species are particularly noteworthy: the rove beetles *Aleochara verna* and *Oxytelus piceus* and the scavenger beetles *Cercyon obsoletus* and *Cryptopleurum crenatum.* Three of these occurred at Parkers Piece and one at Bleyswycks Bank. The invertebrate dung fauna is in general better represented in dung that is deposited on dry and free-draining pasture than in wet or seasonally-inundated ground.

7 Discussion and Recommendations

Parkers Piece

Discussion: This area is the 'jewel in the crown' of this part of the LOHP complex and the earliest to be restored to fen habitat. The resulting wetland produced an impressive 16 wetland-associated British Rarity invertebrates including 3 truly aquatic species. This interest is secondary only to the combined interest of the Oak Tree Fen pool complex. Pantheon analysis indicated that the 'undisturbed fluctuating marsh' here is 'Favourable' for significant invertebrate communities, which suggests that the conservation management here has been particularly successful at providing optimum quality fluctuating marsh habitat for its associated invertebrate assemblage. The 'reed-fen and pools' and 'moss and tussock fen' habitats scored highly on SQI values but since these habitats were only represented in the analysis by 4 and 10 indicator species respectively, both failing to reach the minimum threshold of 15 species, we have to conclude that the resulting SQI scores are unreliable. Although caution is required in the interpretation of Pantheon, and particularly so in the present survey, these SQI analysis results should not be entirely dismissed and invite comparison with the results for the other sites for the same habitats, which shows unsurprisingly, that Parkers Piece has the better quality wetland habitats and thus associated invertebrates in this part of the LOHP complex. Eutrophication was noted of the main pool which may be due in part to faecal deposition by livestock. However, the dung from grazing cattle has its own specialist invertebrate fauna which at Parkers Piece, supports at least three Nationally Scarce or Rare beetle species. Unexpectedly, the survey found that the short turf floristically-rich grassland that runs parallel to the minor road at the westernmost edge of the site, supports an impressive breck-grassland invertebrate assemblage. No fewer than 13 species with British Rarity status associated with short-turf sun-exposed grassland, were recorded here during the year, many by pitfall trapping. These species include the beetles *Amara lucida, Chrysolina marginata* and *Platynaspis luteorubra,* the true bug *Megalonotus praetextatus,* the 5-banded Weevil- wasp *Cerceris quinquefasciata,* the Small-spurred Digger Wasp *Nysson dimidiatus* and the blood bee *Sphecodes crassus.* It is no surprise that Pantheon analysis delivered a significantly high and reliable SQI score of 287 for the short sward and bare ground 'bare sand and chalk' sub-category based on a reliable sample size of 16 representative indicator species.

Recommendations: There is an opportunity at Parkers Piece to expand the area of sparsely-vegetated and floristically rich, short-turf grassland, perhaps doubling its extent. Currently the best habitat runs from the gateway fencing in a more-or-less linear swathe of perhaps 10 metres width, parallel to the road, reaching to about 10 metres from the information sculpture. An equivalent area could be created along the northern perimeter of the site interior to the electric fence-line. This could be achieved by scarification of a strip of ground here and planting seed collected from the existing area. On the July 8th visit, the surveyors witnessed most of the west section of grassland (including the significant short-turf habitat) being mown. This operation, which was essentially implemented to cut and remove nettles on the nearby bank, only left about one third of the flower-rich short sward habitat intact. The contractor mentioned the need to remove ragwort. Before the mowing commenced, the sward here contained ragwort, yarrow, lady's bedstraw and red and white clover, all of which were in flower and were certainly providing a rich source of nectar at the time of the visit. The mowing removed most of the flowers and significantly reduced the site's usefulness as a pollen and nectar resource. It is recommended that any future mowing of this immediate area be carried out **after** the flowering season to allow both the regeneration of annuals here and to maximise the resource for flower-visiting invertebrates. Any flowering ragwort can be hand-picked as a control method, although it should be mentioned that the plant itself is a very useful resource for certain beetles and the Cinnabar moth *Tyria jacobaeae*. A more drastic management approach here could be to remove the 'nettle bank' entirely and to scarify the resulting ground, perhaps even taking it back to the mineral substrate. This might provide a substantial area for ground-nesting bees and wasps whilst also enhancing the habitat for insolated ground breck-assemblages. Moving the earth to a new receptor site will likely present difficulty. The original plan was to move the substrate off-site but no neighbouring landowners were prepared to take it and other options were too costly (R. Langston *pers comm.*). The created fen habitat in this compartment appears to be looking after itself and is considered 'favourable' in the Pantheon analysis. The dung fauna here will be best supported by ensuring that the cattle are not treated with endectocides, or that treatment is carried out only when there is an absolute requirement necessitated by an emergent health issue. Prophylactic treatments with endectocides have almost certainly contributed to significant declines in dung-feeding Coleoptera in Britain in recent decades (Lane & Mann, 2016).

New Fen

Discussion: The rapidity with which the fen flora community has colonised the eastern section of New Fen from the adjacent Thelnetham Fen Nature Reserve which is managed by Suffolk Wildlife Trust and lies within the Blo' Norton and Thelnetham Fens SSSI, is both impressive and encouraging. Any management that can enhance the spread of this community is obviously desirable. The survey has shown that fen invertebrate assemblages are already moving into the area following this habitat re-creation. It is noted here that this area was once part of the original Thelnetham Fen and although the colonisation of fen flora from the adjacent SSSI is assumed, it is also possible that some or all of this colonisation may have come naturally from the survival of species in the seed-bank here (R. Langston *pers comm.*). The west section of the site has been shown in the survey to support a range of species which are dependent during their life cycle on dead wood and flowering scrub resources. Of all the sites in the complex, it is New Fen that leads the league table for saproxylic fauna. Pantheon analysis scored the resource of sapwood and decay highly at New Fen as 'Favourable' which indicates that the habitat here is of high quality for supporting invertebrates in this assemblage.

Recommendations: The practice of dead wood provision in the management of New Fen is already clearly well-established, but it is worth noting that standing dead wood is more favourable as a development niche for invertebrate larval stages than stacked logs which have a much shorter 'shelf-life' and relatively quickly become wet in their decay. Each of these resources have the capacity to attract different species, so in truth, having both present is advantageous. As a rule of thumb though, if standing dead wood poses no threat to safety, it should always be left in situ. The flowering scrub in this area is a valuable resource for flower-visiting adults of species which depend during their larval development on dead wood. It would be desirable to maintain diversity in the scrub layer here, by incorporating a variety of native flowering shrub species and by incorporating spatial diversity within the site design (e.g. managing the area to include open areas and scrub 'clusters').

Bleyswycks Bank

Discussion: The main features of invertebrate significance at Bleyswycks Bank are the pool and surrounding *Juncus*-dominated wetland which between them were found to support eight species with British Rarity designations. The pool evidenced eutrophication by July, a situation which may have been exacerbated by cattle dung contamination. The pool also became choked by *Typha* and clubrush by late summer and had more-or-less dried out by September. However, the decaying reed-mace litter that remained in the pool was found to support an assemblage of wetland beetles including the Red Data Book *Scopaeus laevigatus* (which was also found at Webbs Fen).

Recommendations: Reduction of eutrophication by fencing off the pool to prevent livestock access is probably not an option because it would ruin the aesthetics of the site and make management of the pond for plant removal *etc* difficult.

Oak Tree Fen

Discussion: The wetland habitat at this site vies closely with Parkers Piece as the most significant within the complex. This is perhaps not surprising considering the presence of four pools here, each differing in size, depth and relative shading. The main shallow pool is perhaps the most biodiverse with an associated 8 terrestrial wetland invertebrates of British Rarity status and a further 5 truly aquatic species in this category. The small northernmost pool was found to support a combined total of 9 British Rarity species by comparison, and the small southernmost pool 4, whilst the established carr pool adjacent to the wet woodland produced 5 species, but only one of which was wholly aquatic in habit. These pools treated as a unit, are a huge asset to the site complex, not least because they appeared to be less susceptible than others to seasonal eutrophication in the summer months and thus retained a healthy fauna, including that of the draw-down zones. Unfortunately they were less productive as a habitat once they had completely dried-out in late summer, but such features are at the mercy of the climate and the nature of the ground. The lack of access by grazing stock may be a positive influence on this area, particularly for the health of the water bodies. Pantheon analysis showed an SQI score based on a reliable sample size of 16 species, of '163' for the 'sapwood and decay' habitat-related invertebrate assemblage here. Whilst the SQI score is not particularly high, it is at least a statistically reliable figure and tells us that there is significance here for dead wood invertebrates.

Recommendations: The diversity of the site complex as a whole will likely be enhanced by keeping Oak Tree Fen out-of-bounds to livestock. The grassland sward in the two meadow areas could instead be managed by implementing a mowing regime that can allow for structural tall sward 'islands' amidst short turf vegetation or vice-versa. The draw-down zones of the north section pools ought to be largely self-maintaining if the area is subject to seasonal winter and early spring inundation followed by a drying-out period. However, given the importance of this marginal habitat at the site for its invertebrate assemblage, remedial measures could be introduced to safeguard it from excessive vegetation cover in a very dry year (perhaps by exceptional light grazing for a few days only?). The wet woodland/carr area is

currently quite dense in places and occasionally impenetrable. Whilst this undoubtedly creates an attractive high humidity resource for crane-flies and other invertebrates that develop in humid soils and wet-rotting wood, there is an opportunity to enhance this habitat by creating a small 'glade' in the drier south section of the woodland by selectively felling some of the trees. This could perhaps be integrated with a discrete footpath that enters the wood from the existing ditch-side footpath near the south perimeter and winds its way through dry and then wet woodland to emerge at the carr pool and cross the meadow. Although this will cause fragmentation of a rather small habitat block, it would allow for an area where sunlight can penetrate the canopy and at the same time enhance the habitat diversity and structure here.

Webbs Fen

Discussion: With the exception of the pool and associated *Phragmites* reed-bed and the boundary hedges, Webbs presents a rather uniform and expansive area of rushy grassland. *Juncus* is used directly as a food-plant by only a handful of species that were recorded during the survey. The only species that is Nationally Scarce amongst these is *Megamelodes lequesnei* which was recorded only at Parkers Piece and may not utilise *Juncus* as a food-plant anyway (there is a possibility that it uses *Carex* instead). Where *Juncus* is important is in retaining humidity of the ground layer in marshy grassland that is subject to a fluctuating water table and seasonal inundation. Where the growth of the plant is dense, this effect is likely to be amplified. Structurally, *Juncus* is also important as a hibernation refuge for invertebrates which congregate in the base of the plant with the onset of frosts in the autumn. The survey has shown Webbs to support seven British Rarity status (Nationally Scarce or Rare) wetland inhabiting species, a score only bettered by Parkers Piece and Oak Tree Fen. Some of these taxa were recorded in and around the *Juncus* grassland. Notwithstanding these positive aspects, the splayed collapse of *Juncus* when tussock stems die, is known to be restrictive on the growth of other fen flora, a phenomenon that is of concern at Webbs Fen, and which is already in the process of being addressed (R. Langston *pers comm.*). The large pool at this site appeared to suffer from eutrophication, a situation which may be caused or exacerbated by the presence of herbivore dung from grazing livestock.

Recommendations: It is imperative that some of the best wet areas of dense *Juncus* are retained for invertebrate interest at Webbs. However, options should be explored to create a series of shallow scrapes and/or deeper small pools at this site so as to enhance the invertebrate fauna by creating further wetland features here. It is recommended that any newly created features be permanently fenced off from the rest of the site, perhaps with an access gate for pedestrians from the main river walk footpath or from the south edge of the site. The fencing would allow the pools to develop without the direct impact of dung deposition by livestock.

Reeves Meadows (north)

Discussion: There is little to separate the north and south areas of Reeves Meadows in terms of the importance of their respective invertebrate diversities as evidenced by the survey, although there are distinct features for invertebrates in both areas, which is why they are treated individually in this report. Neither area supports any wetland-associated invertebrates of significance and the ditch that holds the canalised tributary to the River Ouse, when casually sampled, produced only a single common mollusc species *Anisus vortex.* Reeves Meadows (north) had a greater number of grassland-associated invertebrates with British Rarity status than its southern counterpart. This is undoubtedly due to the floral diversity in this area which is likely to be further-enhanced by the mowing regime that has been adopted here. The area of grassland that was pitfall-trapped in the first trapping session evidenced some characteristics of disturbance, possibly due to rabbit activity, such that the vegetation was interspersed with small patches of bare ground. This habitat is presently better represented by the floristically rich short-turf habitat at Parkers Piece, but this section of Reeves Meadows (north) provides a solid starting point for further management that focusses on ground disturbance. Other positive features in this area are the stands of aspens, the wet, densely-vegetated area in the north-west corner and the older oaks present on the river bank at the northern perimeter.

Recommendations: It is suspected that the river tributary is contaminated by high nutrient levels and some testing of the water quality would be desirable to either strengthen or negate this argument. It would be desirable to continue the mowing regime in the northernmost section that creates 'islands' of tall sward vegetation amidst the short-turf and creates interface gradients of sward height. This appeared to be particularly successful in 2019 and the flower-rich islands were noticeably 'busy' in use as feeding stations for nectarivores and pollinators. Elsewhere in Reeves Meadows north, some thought could be given to heavy-duty scarification of the sparsely-vegetated short turf areas in the south-west section. This could perhaps be carried out on a rotational basis. The aim would be to create an area of breck-type grassland. The survey has already evidenced the presence of a significant invertebrate breck-type assemblage at Parkers Piece, so there is a faunal assemblage waiting in the wings to colonise newly created habitat. Rob Hawke's work at the

Stanford Military Training grounds in the Norfolk breckland has shown that grassland plots which are turf-stripped by various mechanical means, can be rapidly colonised by a number of Nationally significant invertebrate species that are attracted to insolated habitat mosaics (R. Hawkes PhD thesis *in prep.* pers comm.). There is no reason that quality breck habitat could not eventually exist at Reeves Meadows north, but persistent nutrient levels in this ex-agricultural land might be slow to work out of the soil, so any scrapes would be very much trial and error. It is hoped that the immediate effect wouldn't be one of dense thistles and nettles. Rabbit activity here is desirable and should not be discouraged if possible.

Reeves Meadows (south)

Discussion: This, the poorer cousin of Reeves Meadows (north) has, in its current state, very little to offer for invertebrate significance. The hedge running up the western perimeter is undoubtedly its best feature and this produced a relatively large assemblage of species including the British Rarity status beetles *Malthinus frontalis* and *Tillus elongatus* both of which rely directly or indirectly on dead wood for their development. The grassland in this area appears particularly poor and the raised bank that runs along the tributary ditch which looked promising early in the contract as a sun-exposed site for Hymenoptera, became a hemlock-dominated rank grassland sward later in the season, so its potential as a short-turf sun-exposed habitat for invertebrates quickly faded.

Recommendations: This, the more low-lying of the two Reeves Meadows, might present an opportunity for wetland creation. It is recommended that a large expanse be developed as a complex of pools and scrapes. The excavated spoil could be trialled as a south-facing bee bank, although it is suspected that persisting high nutrients in this ex-agricultural land may manifest as thistles and nettles in any such feature. The suggestion made to the surveyors that the sward here could be grazed off, topped or cut as a hay crop for a number of years before new habitat is created is a sensible solution to reduce high nutrient levels.

Carr Meadow

Discussion: This perhaps along with Reeves Meadows (south) was found to be the poorest site for invertebrate interest during the survey, producing only 285 species compared to Parkers Piece with 596, and only 6 species were found that have any British Rarity designation. The perimeter hedgerow surrounding the site is its best feature for invertebrates, there being good diversity in tree species, their age and structure.

Recommendations: The only specific recommendations for this site would be to dig a deeper pool at the site of the existing hedgerow pond situated along the western hedge perimeter, and to perhaps permanently fence this off to prevent contamination by livestock dung. The creation of additional water bodies would be a bonus.

8 References

BEE, L., OXFORD, G. & SMITH, H. (2017). *Britain's Spiders: A Field Guide*. Princeton University Press, Oxford, UK.

ALEXANDER, K.N.A. 2014. *A review of the beetles of Great Britain: The Soldier Beetles and Their Allies.* Species Status No.16. Natural England Commissioned Reports, Number 134.

COLLIER, M.J. (*in prep.*). *Ptilium affine* Erichson (Ptiliidae) in Suffolk.

DENTON, J. 2013. Provisional atlas of the Camphor Beetles (Staphylinidae: Steninae) of Britain and Ireland. Internet publication.

DRAKE, M.D., LOTT, D.A., ALEXANDER, K.N.A. & WEBB, J.R. (2007) Natural England Research Report NERR005: *Surveying terrestrial and freshwater invertebrates for conservation evaluation*, 1st Edition

DUFF, A.G. (ed.) 2018. *Checklist of Beetles of the British Isles*. 3rd edition. Iver: Pemberley Books.

HUBBLE, D.S. 2014. *A review of the scarce and threatened beetles of Britain. The leaf beetles and their allies. Chrysomelidae, Megalopodidae and Orsodacnidae.* Species Status No.19. Natural England Commissioned Reports, Number 161.

HYMAN, P.S. (revised PARSONS, M.S.). 1992. *A review of the scarce and threatened Coleoptera of Great Britain.* Part 1. UK Nature Conservation: 3. Joint Nature Conservation Committee, Peterborough.

HYMAN, P.S. (revised PARSONS, M.S.). 1994. *A review of the scarce and threatened Coleoptera of Great Britain.* Part 2. UK Nature Conservation: 12. Joint Nature Conservation Committee, Peterborough.

LANE, S.A. & MANN, D.J. 2016. *A review of the beetles of Great Britain: The stag beetles, dor beetles, dung beetles, chafers and their allies - Lucanidae, Geotrupidae, Trogidae and Scarabaeidae*: Species Status No.31. Natural England Commissioned Reports, Number 224.
LOTT, D.A. & ANDERSON, R. 2011. The Staphylinidae (rove beetles) of Britain and Ireland Parts 7 & 8: Oxyporinae, Steninae, Euaesthetinae, Pseudopsinae, Paederinae, Staphylininae. *Handbooks for the Identification of British Insects* **12**(7).
WELCH, C. 1997. The British species of the genus Aleochara Gravenhorst (Staphylinidae). Coleopterist 6(1): 1-45

9 Appendix: Species List

Nationally Rare (NR, Red Data Book) and Nationally Scarce (NS, Na/Nb Notable) species are highlighted in orange highlight.
The vernacular names have been taken from a number of different literature and internet sources, as well as from 'MapMate'
For definitions of British Rarity codes, see section 6.1
For IUCN Classification interpretation see e.g. Alexander (2014). Where there is no entry in this field, it means that the taxon has not yet been evaluated under IUCN criteria
A 'YES' in the voucher retained column indicates that a voucher specimen has been retained (usually by Steve Lane, but occasionally this may have been donated to another person)
Entries in italics relate to indeterminate species, species complexes *etc*

Associated Habitat Codes Key:
a = aquatic species
g = grassland species
gb = short turf grassland/disturbed ground species
s = scrub/woodland species, includes saproxylics
w = wetland species

The 'Association' column lists plant associations where these are few, and also dung, carrion etc

Site Code Key:
A = Parkers Piece
B = New Fen
C = Bleyswycks Bank
D = Oak Tree Fen
E = Webbs Fen
F = Reeves Meadows (north)
G = Reeves Meadows (south)
H = Carr Meadow

Months - number refers to number of month e.g. '5' = May, '7' = July

A datasheet of raw data has been given to Rowena Langston (LOHP) prior to this report

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
?	*?*	*ostracods*		*?*			*a*		*H*	*5*
Amphipoda – Crustaceans	Crangonyctidae	Crangonyx pseudogracilis		None			a		ABDH	5
Annelida –	*?*	*leech sp*		*None*			*a*		*C*	*5*

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Worms, leeches etc		*unidentified*								
Araneae – Spiders	Anyphaenidae – Buzzing spiders	Anyphaena accentuata	Buzzing Spider	None	Least Concern		s		D	5
Araneae	Araneidae- Orbweb spiders	Araneus diadematus	Garden Spider	None	Least Concern				FH	9
Araneae	Araneidae	Araneus marmoreus		None	Least Concern				BFH	9
Araneae	Araneidae	Araneus quadratus	Four-spotted Orbweb Spider	None	Least Concern				B	9
Araneae	Araneidae	Araniella opisthographa	Cucumber Spider	None	Least Concern				AEF	5,6
Araneae	Araneidae	Argiope bruennichi	Wasp Spider	None	Least Concern		s		C	9
Araneae	Araneidae	Cyclosa conica		None	Least Concern		s		B	9
Araneae	Araneidae	Gibbaranea gibbosa	Humped Orbweb Spider	None	Least Concern		s		H	7
Araneae	Araneidae	Hypsosinga pygmaea		None	Least Concern		g		F	5
Araneae	Araneidae	Nuctenea umbratica	Walnut Orbweb Spider	None	Least Concern		s		AD	5,9
Araneae	Clubionidae – Sac spiders	Clubiona comta		None	Least Concern		s		D	5
Araneae	Clubionidae	Clubiona lutescens		None	Least Concern				D	6
Araneae	Clubionidae	Clubiona stagnatilis		None	Least Concern		w		D	9
Araneae	Corinnidae – Ant-like sac spiders	Phrurolithus festivus		None	Least Concern				F	7
Araneae	Dictynidae – Meshweb spiders	Argenna subnigra		NS	Least Concern		gb		A	5

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Araneae	Dictynidae	Dictyna latens		None	Least Concern		g		F	6
Araneae	Dictynidae	Dictyna uncinata		None	Least Concern		s		DG	6
Araneae	Gnaphosidae – Ground spiders	Drassodes pubescens		NS	Least Concern		g		AD	7
Araneae	Gnaphosidae	Drassyllus pusillus		None	Least Concern		g		BFH	5
Araneae	Gnaphosidae	Haplodrassus signifer		None	Least Concern		g		F	5
Araneae	Gnaphosidae	Zelotes latreillei		None	Least Concern		g		FH	5
Araneae	Linyphiidae – Money spiders	Centromerita bicolor		None	Least Concern		g		C	11
Araneae	Linyphiidae	Dicymbium nigrum		None	Least Concern				C	11
Araneae	Linyphiidae	Diplocephalus permixtus		None	Least Concern		w		A	5
Araneae	Linyphiidae	Diplocephalus picinus		None	Least Concern		s		B	5
Araneae	Linyphiidae	Diplostyla concolor		None	Least Concern				F	2
Araneae	Linyphiidae	Drapetisca socialis		None	Least Concern		s		A	9
Araneae	Linyphiidae	Erigone atra		None	Least Concern				ABCDEFG	5,6,7,11
Araneae	Linyphiidae	Erigone dentipalpis		None	Least Concern				ACDE	5,7
Araneae	Linyphiidae	Gnathonarium dentatum		None	Least Concern		w		ACE	2,7,9
Araneae	Linyphiidae	Hylyphantes graminicola		None	Least Concern		s		E	6
Araneae	Linyphiidae	Meioneta rurestris		None	Least Concern		g		A	7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Araneae	Linyphiidae	Micrargus herbigradus sens. str.		None	Least Concern				C	11
Araneae	Linyphiidae	Neriene clathrata		None	Least Concern				A	11
Araneae	Linyphiidae	Oedothorax apicatus		None	Least Concern		g		A	7
Araneae	Linyphiidae	Oedothorax fuscus		None	Least Concern				E	7
Araneae	Linyphiidae	Oedothorax gibbosus		None	Least Concern		w		CDEH	5,7
Araneae	Linyphiidae	Oedothorax retusus		None	Least Concern				ACDE	5,7
Araneae	Linyphiidae	Prinerigone vagans		None	Least Concern	YES	w		D	7
Araneae	Linyphiidae	Walckenaeria nudipalpis		None	Least Concern		w		C	11
Araneae	Linyphiidae	Walckenaeria vigilax		None	Least Concern		w		E	6
Araneae	Lycosidae – Wolf spiders	Alopecosa cuneata		NS	Least Concern		gb		A	5
Araneae	Lycosidae	Alopecosa pulverulenta		None	Least Concern		g		ADEFH	5
Araneae	Lycosidae	Arctosa leopardus		None	Least Concern		w		ABCDEH	5,7
Araneae	Lycosidae	Pardosa amentata		None	Least Concern				ABCDEH	5,7
Araneae	Lycosidae	Pardosa palustris		None	Least Concern		g		ACDF	5,7
Araneae	Lycosidae	Pardosa prativaga		None	Least Concern				ABCDEFH	5,7
Araneae	Lycosidae	Pardosa proxima		NS	Least Concern	YES	w		AD	5
Araneae	Lycosidae	Pardosa pullata		None	Least Concern				EF	5,7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Araneae	Lycosidae	Pirata hygrophilus		None	Least Concern		w		ABDEH	5,7
Araneae	Lycosidae	Pirata latitans		None	Least Concern		w		ABCDE	5,7
Araneae	Lycosidae	Pirata piraticus		None	Least Concern		w		ABCDE	5,7
Araneae	Lycosidae	Trochosa ruricola		None	Least Concern		w		ABDEH	5,7
Araneae	Lycosidae	Trochosa spinipalpis		NS	Least Concern	YES	w		DF	5
Araneae	Philodromidae – Running crab spiders	Philodromus cespitum		None	Least Concern		s		A	7
Araneae	Philodromidae	Tibellus oblongus		None	Least Concern		g		EFH	5,6,7,9
Araneae	Pisauridae – Nurseryweb spiders	Pisaura mirabilis	Nurseyweb Spider	None	Least Concern				ABCEFGH	5,6,7,9,11
Araneae	Salticidae – Jumping spiders	Marpissa radiata		NR	VULNERABLE	YES	w		D	6
Araneae	Salticidae	Salticus cingulatus		None	Least Concern				AF	6,7
Araneae	Segestriidae – Tubeweb spiders	Segestria senoculata		None	Least Concern		s		A	5
Araneae	Tetragnathidae – Long-jawed orbweb spiders	Metellina mengei		None	Least Concern				D	5,6
Araneae	Tetragnathidae	Pachygnatha clercki		None	Least Concern		w		ADH	5,7
Araneae	Tetragnathidae	Pachygnatha degeeri		None	Least Concern				ACDEH	5,7
Araneae	Tetragnathidae	Tetragnatha extensa	Common Stretch Spider	None	Least Concern		w		F	6

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Araneae	Tetragnathidae	Tetragnatha montana		None	Least Concern		w		AD	5,6
Araneae	Tetragnathidae	Tetragnatha nigrita		None	Least Concern				A	7
Araneae	Theridiidae – Comb-footed spiders	Enoplognatha ovata sens. str.	Common Candy-striped Spider	None	Least Concern		s		BDGH	6,7
Araneae	Theridiidae	Neottiura bimaculata		None	Least Concern		s		A	7
Araneae	Theridiidae	Paidiscura pallens		None	Least Concern		s		BD	5
Araneae	Thomisidae – Crab spiders	Diaea dorsata	Green Crab Spider	None	Least Concern		s		B	9
Araneae	Thomisidae	Xysticus cristatus		None	Least Concern		g		FH	5
Araneae	Thomisidae	Xysticus kochi		None	Least Concern		g		F	5
Araneae	Thomisidae	Xysticus ulmi		None	Least Concern		w		AD	5
Cladocera – Water Fleas	*Daphniidae*	*Daphnia sp*		*?*			*a*		*ACDEH*	*5*
Coleoptera – Beetles	Anthicidae – Ant-like flower beetles	Anthicus antherinus		None	Least Concern		g		AFG	2,5,6
Coleoptera	Anthicidae	Notoxus monoceros	Monoceros Beetle	None	Least Concern		gb		AF	5,6,7
Coleoptera	Anthicidae	Omonadus floralis		None	Least Concern				G	5
Coleoptera	Anthribidae – Fungus weevils	Platyrhinus resinosus	Cramp-ball Fungus Weevil	NS (Nb)			s	Cramp-ball fungus on ash	D	5,9
Coleoptera	Apionidae – Apionid weevils	Apion frumentarium		None			g	docks	ACF	5,6,9
Coleoptera	Apionidae	Aspidapion radiolus		None			g	mallow	B	9

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Apionidae	Betulapion simile		None			s	birch	A	5
Coleoptera	Apionidae	Ceratapion carduorum		None			g	thistles	A	7
Coleoptera	Apionidae	Ceratapion gibbirostre		None			g	thistles	BF	7,9
Coleoptera	Apionidae	Ceratapion onopordi		None			g	thistles	AB	7,9
Coleoptera	Apionidae	Eutrichapion viciae		None			g	Vicia and Lethyrus	F	9
Coleoptera	Apionidae	Holotrichapion pisi		None			g	Medicago	BFH	9
Coleoptera	Apionidae	Malvapion malvae		None			g	mallow	G	6
Coleoptera	Apionidae	Melanapion minimum	Sallow Guest Weevil	NR (RDB3)		YES	w	willows	A	7
Coleoptera	Apionidae	Oxystoma cerdo		NS (Nb)			g	Vicia	F	9
Coleoptera	Apionidae	Perapion hydrolapathi		None			g	docks	AE	5,6
Coleoptera	Apionidae	Protapion apricans		None			g	red clover	AG	6,7
Coleoptera	Apionidae	Protapion assimile		None			g	clovers	G	9
Coleoptera	Apionidae	Protapion fulvipes	White Clover Seed Weevil	None			g	clovers	ABCGH	5,6,7,9
Coleoptera	Apionidae	Protapion nigritarse		None			g	clovers	A	5,7
Coleoptera	Apionidae	Protapion trifolii		None			g	clovers	ABCDEFGH	5,6,7
Coleoptera	Apionidae	Pseudapion rufirostre		None			g	mallow	G	6
Coleoptera	Apionidae	Taeniapion urticarium		None			g	nettles	H	5

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Biphyllidae – False skin beetles	Biphyllus lunatus		None			s	in cramp-ball fungus on ash	DH	9
Coleoptera	Cantharidae – Soldier beetles	Cantharis cryptica		None	Least Concern				BDF	5,6
Coleoptera	Cantharidae	Cantharis decipiens		None	Least Concern		s		ABCDH	5
Coleoptera	Cantharidae	Cantharis figurata		None	Least Concern		w		BD	5,6
Coleoptera	Cantharidae	Cantharis lateralis		None	Least Concern		g		ABCDEFGH	5,6,7
Coleoptera	Cantharidae	Cantharis nigra (now known as flavilabris)		None	Least Concern		g		ABDGH	6,7
Coleoptera	Cantharidae	Cantharis nigricans		None	Least Concern				BEF	5,6
Coleoptera	Cantharidae	Cantharis pallida		None	Least Concern		w		ABDEF	6,7
Coleoptera	Cantharidae	Cantharis pellucida		None	Least Concern		s		BCDFG	5,6
Coleoptera	Cantharidae	Cantharis rufa		None	Least Concern		g		A	7
Coleoptera	Cantharidae	Cantharis rustica		None	Least Concern		g		AEFGH	5,6
Coleoptera	Cantharidae	Cantharis thoracica (now known as nigra)		None	Least Concern		w		B	7
Coleoptera	Cantharidae	Malthinus flaveolus		None	Least Concern		s		BDGH	6,7
Coleoptera	Cantharidae	Malthinus frontalis		NS	Least Concern		s		G	6
Coleoptera	Cantharidae	Malthinus seriepunctatus		None	Least Concern		s		DGH	6,7
Coleoptera	Cantharidae	Malthodes		None	Least Concern	YES	w		D	6

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
		dispar								
Coleoptera	Cantharidae	Malthodes marginatus		None	Least Concern		s		BDG	5,6
Coleoptera	Cantharidae	Malthodes minimus		None	Least Concern		g		BH	7
Coleoptera	Cantharidae	Malthodes pumilus		NS	Least Concern	YES	s		D	7
Coleoptera	Cantharidae	Rhagonycha fulva		None	Least Concern		g		ABGH	7
Coleoptera	Cantharidae	Rhagonycha limbata		None	Least Concern				GH	5,6,7
Coleoptera	Cantharidae	Rhagonycha lutea		NS	Least Concern		s		H	7
Coleoptera	Cantharidae	Rhagonycha testacea		None	Least Concern		w		BDE	5,6
Coleoptera	Cantharidae	Silis ruficollis		None	Least Concern		w		ADEF	6,7
Coleoptera	Carabidae – Ground beetles	Acupalpus dubius		None	Least Concern		w		ACDEF	2,5,6,11
Coleoptera	Carabidae	Acupalpus parvulus		None	Least Concern		w		DE	5,7
Coleoptera	Carabidae	Agonum emarginatum		None	Least Concern		w		ABCDEH	2,5,7
Coleoptera	Carabidae	Agonum fuliginosum		None	Least Concern		w		AB	2,5,7
Coleoptera	Carabidae	Agonum gracile		None	Least Concern		w		AC	2,5,7
Coleoptera	Carabidae	Agonum marginatum		None	Least Concern		w		D	5
Coleoptera	Carabidae	Agonum viduum		None	Least Concern		w		ABCDE	2,5,7
Coleoptera	Carabidae	Amara aenea		None	Least Concern		gb		AF	5,7
Coleoptera	Carabidae	Amara		None	Least Concern		g		A	5

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
		anthobia								
Coleoptera	Carabidae	Amara bifrons		None	Least Concern		gb		A	9
Coleoptera	Carabidae	Amara communis		None	Least Concern		g		ADEH	5,7
Coleoptera	Carabidae	Amara convexior		None	Least Concern		gb		AFH	5
Coleoptera	Carabidae	Amara lucida		NS	Least Concern		gb		A	7
Coleoptera	Carabidae	Amara lunicollis		None	Least Concern		g		AFH	5,7
Coleoptera	Carabidae	Amara ovata		None	Least Concern		g		B	7,9
Coleoptera	Carabidae	Amara plebeja		None	Least Concern				CF	7
Coleoptera	Carabidae	Amara similata		None	Least Concern		g		A	7
Coleoptera	Carabidae	Amara tibialis		None	Least Concern		gb		A	7,9
Coleoptera	Carabidae	Anchomenus dorsalis		None	Least Concern		g		F	7
Coleoptera	Carabidae	Anisodactylus binotatus		None	Least Concern		g		ABDEH	5,7,9
Coleoptera	Carabidae	Anthracus consputus		NS	Least Concern		w		D	7
Coleoptera	Carabidae	Badister bullatus		None	Least Concern				F	2,5
Coleoptera	Carabidae	Bembidion articulatum		None	Least Concern		w		BCDH	5,7,9
Coleoptera	Carabidae	Bembidion assimile		None	Least Concern		w		ABCDE	2,5,7,11
Coleoptera	Carabidae	Bembidion biguttatum		None	Least Concern		w		ACDH	5,7,11
Coleoptera	Carabidae	Bembidion clarkii		None	Least Concern		w		E	7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Carabidae	Bembidion dentellum		None	Least Concern		w		ABCDH	5,7,9
Coleoptera	Carabidae	Bembidion doris		None	Least Concern		w		ACDE	5,7
Coleoptera	Carabidae	Bembidion gilvipes		None	Least Concern		w		A	2
Coleoptera	Carabidae	Bembidion guttula		None	Least Concern				H	7
Coleoptera	Carabidae	Bembidion illigeri		None	Least Concern		w		B	7
Coleoptera	Carabidae	Bembidion lampros		None	Least Concern		g		CF	7
Coleoptera	Carabidae	Bembidion lunulatum		None	Least Concern		w		ABCDEH	5,7
Coleoptera	Carabidae	Bembidion mannerheimii		None	Least Concern				D	9
Coleoptera	Carabidae	Bembidion obtusum		None	Least Concern		g		ADG	5,9
Coleoptera	Carabidae	Bembidion octomaculatum		NS	Least Concern	YES	w		D	5,6,9
Coleoptera	Carabidae	Bembidion properans		None	Least Concern		g		ACDF	2,5,7
Coleoptera	Carabidae	Bembidion quadrimaculatum		None	Least Concern		g		ADF	5,7
Coleoptera	Carabidae	Bembidion quadripustulatum	Scarce Four-dot Pin-palp	NS	Least Concern	YES	w		D	5,6,7
Coleoptera	Carabidae	Bembidion varium		None	Least Concern		w		H	7
Coleoptera	Carabidae	Blethisa multipunctata		NS	Least Concern	YES	w		D	5
Coleoptera	Carabidae	Bradycellus harpalinus		None	Least Concern				C	11

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Carabidae	Bradycellus verbasci		None	Least Concern		g		G	9
Coleoptera	Carabidae	Calathus cinctus		None	Least Concern		gb		A	9
Coleoptera	Carabidae	Calathus fuscipes		None	Least Concern		g		A	9
Coleoptera	Carabidae	Calodromius spilotus		None	Least Concern		s		ABCG	5,7,9
Coleoptera	Carabidae	Carabus granulatus		None	Least Concern		w		CD	5,7
Coleoptera	Carabidae	Chlaenius nigricornis		None	Least Concern		w		ABCDE	5,7
Coleoptera	Carabidae	Clivina fossor		None	Least Concern		g		CH	5,11
Coleoptera	Carabidae	Demetrias atricapillus		None	Least Concern		g		AFGH	2,5,6,7,9,11
Coleoptera	Carabidae	Demetrias imperialis		None	Least Concern		w		AD	5,9
Coleoptera	Carabidae	Dromius quadrimaculatus		None	Least Concern		s		ABCD	5,6,7,9
Coleoptera	Carabidae	Dyschirius aeneus		None	Least Concern		w		BD	7
Coleoptera	Carabidae	Dyschirius luedersi		None	Least Concern		w		CDEH	5,6,7
Coleoptera	Carabidae	Elaphrus cupreus	Copper Peacock	None	Least Concern		w		ABCD	5,7
Coleoptera	Carabidae	Elaphrus riparius	Green-socks Peacock	None	Least Concern		w		D	5,7
Coleoptera	Carabidae	Harpalus affinis		None	Least Concern		g		AF	5,7
Coleoptera	Carabidae	Harpalus rufipes	Strawberry Seed Beetle	None	Least Concern		g		AFH	7
Coleoptera	Carabidae	Harpalus tardus		None	Least Concern		gb		F	5

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Carabidae	Leistus ferrugineus		None	Least Concern		g		F	2
Coleoptera	Carabidae	Leistus fulvibarbis		None	Least Concern		s		A	7
Coleoptera	Carabidae	Loricera pilicornis	Hair-trap Ground Beetle	None	Least Concern				ABCDE	5,7
Coleoptera	Carabidae	Microlestes maurus		None	Least Concern		gb		A	2
Coleoptera	Carabidae	Microlestes minutulus		None	Least Concern		gb		CF	5,7
Coleoptera	Carabidae	Nebria brevicollis		None	Least Concern				ABDEFH	2,5,7
Coleoptera	Carabidae	Notiophilus biguttatus		None	Least Concern				ADF	5,9
Coleoptera	Carabidae	Oodes helopioides		NS	Least Concern		w/a		ABCDE	2,5,7,9
Coleoptera	Carabidae	Ophonus rufibarbis		None	Least Concern		g		A	7
Coleoptera	Carabidae	Oxypselaphus obscurus		None	Least Concern				ACDE	2,6,7,9,11
Coleoptera	Carabidae	Panagaeus bipustulatus		NS	Least Concern		gb		A	7
Coleoptera	Carabidae	Paradromius linearis		None	Least Concern		g		ABD	6,7,9,11
Coleoptera	Carabidae	Paranchus albipes		None	Least Concern		w		B	7
Coleoptera	Carabidae	Poecilus cupreus	Copper Greenclock	None	Least Concern		g		ADE	2,5
Coleoptera	Carabidae	Poecilus versicolor	Rainbow Greenclock	None	Least Concern		g		ABCDEFH	2,5,7
Coleoptera	Carabidae	Pterostichus diligens		None	Least Concern		w		AEF	2
Coleoptera	Carabidae	Pterostichus gracilis		NS	Least Concern		w		ADE	7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Carabidae	Pterostichus madidus	Black Clock	None	Least Concern				BH	5,7
Coleoptera	Carabidae	Pterostichus melanarius		None	Least Concern		g		CDEFH	5,7
Coleoptera	Carabidae	Pterostichus minor		None	Least Concern		w		ABCDE	5,7
Coleoptera	Carabidae	Pterostichus niger		None	Least Concern				CD	7
Coleoptera	Carabidae	Pterostichus nigrita		None	Least Concern		w		ABCDEH	2,5,7
Coleoptera	Carabidae	Pterostichus rhaeticus		None	Least Concern		w		C	5
Coleoptera	Carabidae	Pterostichus strenuus		None	Least Concern				ACDEGH	2,5,7,9
Coleoptera	Carabidae	Pterostichus vernalis		None	Least Concern				ACDEH	2,5,7
Coleoptera	Carabidae	Stenolophus mixtus		None	Least Concern		w		ABCDEH	2,5,7,11
Coleoptera	Carabidae	Stenolophus teutonus		NS	Least Concern		w		CDE	7
Coleoptera	Carabidae	Stomis pumicatus		None	Least Concern				DH	5,7
Coleoptera	Carabidae	Syntomus foveatus		None	Least Concern		gb		AF	5,7
Coleoptera	Carabidae	Syntomus truncatellus		NS	Least Concern		g		AD	7,11
Coleoptera	Carabidae	Trechus quadristriatus		None	Least Concern				BH	9
Coleoptera	Cerambycidae – Longhorn beetles	Agapanthia villosoviridescens	Golden-bloomed Grey Longhorn Beetle	None	Least Concern		g	umbellifers	G	6
Coleoptera	Cerambycidae	Clytus arietis	Wasp Beetle	None	Least Concern		s	dead wood	DF	5,6

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Cerambycidae	Grammoptera ruficornis	Common Grammoptera	None	Least Concern		s	dead wood	ABCDEGH	5,6,7
Coleoptera	Cerambycidae	Leiopus linnei		None	Data Deficient (DD)		s	dead wood	CG	6
Coleoptera	Cerambycidae	Phytoecia cylindrica	Umbellifer Longhorn Beetle	None	Least Concern		g	umbellifers	F	5,6
Coleoptera	Cerambycidae	Pogonocherus hispidus	Lesser Thorn-tipped Longhorn Beetle	None	Least Concern		s	dead wood	B	9
Coleoptera	Cerambycidae	Pseudovadonia livida	Fairy-ring Longhorn Beetle	None	Least Concern		g	Marasmius oreades	AFGH	6,7
Coleoptera	Cerambycidae	Rutpela maculata	Black-and-yellow Longhorn Beetle	None	Least Concern		s	dead wood	F	6
Coleoptera	Cerambycidae	Tetrops praeustus	Plum Longhorn Beetle	None	Least Concern		s	dead wood	BG	5,6
Coleoptera	Chrysomelidae – Leaf beetles	Altica lythri		None	Least Concern		w	willowherbs	ABCEG	5,6,7,9,11
Coleoptera	Chrysomelidae	Altica palustris		None	Least Concern		g	willowherbs	BD	5
Coleoptera	Chrysomelidae	Aphthona euphorbiae		None	Least Concern				ABCDEFGH	5,6,7,9
Coleoptera	Chrysomelidae	Aphthona lutescens		None	Least Concern		w	purple loosestrife	E	6
Coleoptera	Chrysomelidae	Aphthona nonstriata		None	Least Concern		w	yellow flag	ABD	2,5,7,9,11
Coleoptera	Chrysomelidae	Batophila aerata		None	Least Concern	YES	s	brambles	C	11
Coleoptera	Chrysomelidae	Bruchidius varius		None	Least Concern		g	red clover	BCDF	5,6
Coleoptera	Chrysomelidae	Bruchus rufimanus	Bean Beetle	None	Least Concern			Fabaceae	ABCFG	5,6,9

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Chrysomelidae	Cassida rubiginosa	Thistle Tortoise Beetle	None	Least Concern		g	thistles	ACGH	5,6,7
Coleoptera	Chrysomelidae	Cassida vibex		None	Least Concern		g	thistles and knapweeds	BF	5,9
Coleoptera	Chrysomelidae	Chaetocnema concinna		None	Least Concern			Polygonaceae	CD	5,7
Coleoptera	Chrysomelidae	Chaetocnema hortensis		None	Least Concern			Poaceae	ADG	5,7,11
Coleoptera	Chrysomelidae	Chaetocnema picipes		None	Least Concern			Polygonaceae	G	5
Coleoptera	Chrysomelidae	Chrysolina marginata		NR	NEAR THREATENED	YES	gb	yarrow	A	9
Coleoptera	Chrysomelidae	Chrysolina polita		None	Least Concern			ground ivy, mints	A	5
Coleoptera	Chrysomelidae	Crepidodera aurata	Willow Flea Beetle	None	Least Concern			willows	ABDFG	5,9
Coleoptera	Chrysomelidae	Crepidodera aurea		None	Least Concern			poplars/aspen	FG	5,6,9
Coleoptera	Chrysomelidae	Crepidodera fulvicornis		None	Least Concern			willows	B	5
Coleoptera	Chrysomelidae	Crepidodera plutus		None	Least Concern			willows	ABCDEFH	5,6,7,9
Coleoptera	Chrysomelidae	Cryptocephalus fulvus		None	Least Concern		gb	sheep sorrel, st john’s wort	A	7
Coleoptera	Chrysomelidae	Cryptocephalus moraei		None	Least Concern		g	st john’s wort	B	7
Coleoptera	Chrysomelidae	Cryptocephalus pusillus		None	Least Concern		s		AFGH	7,9
Coleoptera	Chrysomelidae	Donacia marginata		None	Least Concern		w/a	branched bur-reed	A	5
Coleoptera	Chrysomelidae	Donacia vulgaris		None	Least Concern		w/a	bur-reeds and reedmace	D	7
Coleoptera	Chrysomelidae	Epitrix pubescens		None	Least Concern			woody nightshade	H	9

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Chrysomelidae	Galerucella calmariensis		None	Least Concern		w	purple loosestrife	ABE	6,7
Coleoptera	Chrysomelidae	Galerucella sagittariae		None	Least Concern		w	polygonaceae	CE	5,6
Coleoptera	Chrysomelidae	Galerucella tenella		None	Least Concern		w	meadowsweet	B	7
Coleoptera	Chrysomelidae	Gastrophysa polygoni		None	Least Concern		g	knotgrass	D	5
Coleoptera	Chrysomelidae	Hippuriphila modeeri		None	Least Concern		g	horse-tails	AE	5,6,9
Coleoptera	Chrysomelidae	Longitarsus flavicornis		None	Least Concern		g	ragwort	AF	9
Coleoptera	Chrysomelidae	Longitarsus ganglbaueri		NS	Least Concern	YES	g	groundsels	F	7
Coleoptera	Chrysomelidae	Longitarsus luridus		None	Least Concern		g		AF	5,9
Coleoptera	Chrysomelidae	Longitarsus parvulus		None	Least Concern				ABCDEH	5,6,7,9
Coleoptera	Chrysomelidae	Longitarsus pratensis		None	Least Concern		g	plantains	AB	9
Coleoptera	Chrysomelidae	Longitarsus rubiginosus		None	Least Concern			Calystegia mainly	DEGH	9
Coleoptera	Chrysomelidae	Longitarsus succineus		None	Least Concern		g	ragwort, yarrow	A	9
Coleoptera	Chrysomelidae	Neocrepidodera ferruginea		None	Least Concern				AFG	6,7,9
Coleoptera	Chrysomelidae	Neocrepidodera transversa		None	Least Concern				ABEFH	6,7,9
Coleoptera	Chrysomelidae	Oulema melanopus	Cereal Leaf Beetle	None	Least Concern		g	Poaceae	G	9
Coleoptera	Chrysomelidae	Oulema obscura		None	Least Concern		g	Poaceae	CD	5,9
Coleoptera	Chrysomelidae	Oulema rufocyanea		None	Least Concern		g	Poaceae	G	9

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Chrysomelidae	Phaedon armoraciae		None	Least Concern		w	mainly brooklime, possibly other waterside plants	BDE	5,6,7
Coleoptera	Chrysomelidae	Phaedon cochleariae		None	Least Concern			Brassicaceae	ABC	2,5,7
Coleoptera	Chrysomelidae	Phaedon tumidulus	Celery Leaf Beetle	None	Least Concern			cow parsley, hogweed	G	5
Coleoptera	Chrysomelidae	Phratora vitellinae	Brassy Willow Beetle	None	Least Concern			willows/poplars	B	7,9
Coleoptera	Chrysomelidae	Phyllobrotica quadrimaculata	Skullcap Leaf Beetle	None	Least Concern	YES	w	skullcap	B	7,9
Coleoptera	Chrysomelidae	Phyllotreta astrachanica		None	Least Concern			Brassicaceae	BG	5
Coleoptera	Chrysomelidae	Phyllotreta atra		None	Least Concern			Brassicaceae	C	5
Coleoptera	Chrysomelidae	Phyllotreta exclamationis		None	Least Concern		w	Brassicaceae	BD	5,7
Coleoptera	Chrysomelidae	Phyllotreta nigripes		None	Least Concern			Brassicaceae	CFGH	5,9,11
Coleoptera	Chrysomelidae	Phyllotreta ochripes		None	Least Concern			garlic mustard and other Brassicaceae	ABDE	5,6,7,11
Coleoptera	Chrysomelidae	Phyllotreta undulata	Lesser Striped Flea Beetle	None	Least Concern			Brassicaceae	ABDH	5,7
Coleoptera	Chrysomelidae	Phyllotreta vittula		None	Least Concern			Poaceae and Brassicaceae	ADFGH	5,9,11
Coleoptera	Chrysomelidae	Plagiodera versicolora		None	Least Concern		w	willows	ABCDE	2,5,6,7
Coleoptera	Chrysomelidae	Psylliodes chrysocephala		None	Least Concern			Brassicaceae	ABCDEFGH	5,7,9
Coleoptera	Chrysomelidae	Psylliodes napi		None	Least Concern			Brassicaceae	BF	5,6
Coleoptera	Chrysomelidae	Psylliodes picina		None	Least Concern		w	purple loosestrife	D	11

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Chrysomelidae	Pyrrhalta viburni	Guelder-rose Leaf Beetle	None	Least Concern		s	guelder rose	E	9
Coleoptera	Chrysomelidae	Sphaeroderma testaceum		None	Least Concern			thistles	ABEFGH	6,7,9
Coleoptera	Ciidae – Minute tree-fungus beetles	Cis boleti		None			s	fungi on dead wood	A	5
Coleoptera	Ciidae	Ennearthron cornutum		None			s	fungi on dead wood	F	6
Coleoptera	Cleridae – Chequered beetles	Tillus elongatus		NS	Least Concern		s		G	6
Coleoptera	Coccinellidae – Ladybirds	Adalia decempunctata	10-spot Ladybird	None			s		AD	5
Coleoptera	Coccinellidae	Calvia quattuordecimguttata	Cream-spot Ladybird	None			s		BCDFGH	5,6,7,9
Coleoptera	Coccinellidae	Chilocorus renipustulatus	Kidney-spot Ladybird	None			s		AD	6,9
Coleoptera	Coccinellidae	Coccidula rufa	Red Marsh Ladybird	None			w		ABCDEG	2,5,6,7,9,11
Coleoptera	Coccinellidae	Coccidula scutellata		None		YES	w		CD	5,7
Coleoptera	Coccinellidae	Coccinella septempunctata	7-spot Ladybird	None					ABCDEFGH	2,5,6,7,9,11
Coleoptera	Coccinellidae	Exochomus quadripustulatus	Pine Ladybird	None			s		F	9
Coleoptera	Coccinellidae	Harmonia axyridis	Harlequin Ladybird	None					ABCDEFGH	2,5,6,7,9
Coleoptera	Coccinellidae	Hippodamia variegata	Adonis' Ladybird	NS (Nb)			gb		A	7
Coleoptera	Coccinellidae	Platynaspis luteorubra		NS (Na)		YES	gb		A	7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Coccinellidae	Propylea quattuordecimpunctata	14-spot Ladybird	None					ABDFGH	5,6,7
Coleoptera	Coccinellidae	Psyllobora vigintiduopunctata	22-spot Ladybird	None			g	mildews on hogweed, ragwort etc	BDFGH	5,7,9
Coleoptera	Coccinellidae	Rhyzobius litura	Pointed-keeled Rhyzobius	None			g		ADEFGH	2,5,6,7,9,11
Coleoptera	Coccinellidae	Scymnus frontalis		None			gb		ABF	5,6,7
Coleoptera	Coccinellidae	Scymnus haemorrhoidalis		None			w		A	2
Coleoptera	Coccinellidae	Stethorus punctillum		None			s		G	6
Coleoptera	Coccinellidae	Subcoccinella vigintiquattuorpunctata	24-spot Ladybird	None			g		AFH	5,7,9
Coleoptera	Coccinellidae	Tytthaspis sedecimpunctata	16-spot Ladybird	None			g		ABCDEFGH	2,5,6,7,9,11
Coleoptera	Cryptophagidae – Silken fungus beetles	Atomaria basalis		None			w		C	11
Coleoptera	Cryptophagidae	Atomaria fuscata		None					DE	5
Coleoptera	Cryptophagidae	Atomaria linearis	Pygmy Beetle	None			g		CDEF	5,6,7
Coleoptera	Cryptophagidae	Atomaria mesomela		None			w		C	9
Coleoptera	Cryptophagidae	Atomaria nigrirostris		None			s		CD	5
Coleoptera	Cryptophagidae	Atomaria nitidula		None					A	2
Coleoptera	Cryptophagida	Atomaria		NR (RDBK)			g		GH	5,9

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
	e	scutellaris								
Coleoptera	Cryptophagidae	Atomaria testacea		None			g		F	5
Coleoptera	Cryptophagidae	Ootypus globosus		None		YES	g	dung	C	11
Coleoptera	Cryptophagidae	Telmatophilus typhae		None			w	reedmace	C	5
Coleoptera	Curculionidae – True weevils	Acalles misellus		None			s	dead wood	A	5
Coleoptera	Curculionidae	Acalyptus carpini		NS (Nb)			w	willows	ABD	5
Coleoptera	Curculionidae	Amalorrhynchus melanarius		None		YES	w	watercress	DG	6
Coleoptera	Curculionidae	Anthonomus pedicularius		None			s	hawthorn	B	5
Coleoptera	Curculionidae	Anthonomus rubi	Strawberry Blossom Weevil	None			g	cinquefoils etc	A	5,9
Coleoptera	Curculionidae	Archarius pyrrhoceras		None			s	oak	F	6
Coleoptera	Curculionidae	Archarius salicivorus	Willow Gall Weevil	None				willows	A	5
Coleoptera	Curculionidae	Calosirus terminatus		NS (Nb)		YES	g	wild carrot	D	6
Coleoptera	Curculionidae	Ceutorhynchus alliariae		None			g	garlic mustard	B	5
Coleoptera	Curculionidae	Ceutorhynchus atomus		NS (Na)		YES	g	thale cress	B	5
Coleoptera	Curculionidae	Ceutorhynchus constrictus		NS (Nb)			g	garlic mustard	B	5
Coleoptera	Curculionidae	Ceutorhynchus contractus	Cabbage Leaf Weevil	None				Brassicaceae	B	5
Coleoptera	Curculionidae	Ceutorhynchus obstrictus		None				Brassicaceae	BG	5

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Curculionidae	Ceutorhynchus pallidactylus	Cabbage Stem Weevil	None				Brassicaceae	ABDFH	5,6,7,11
Coleoptera	Curculionidae	Ceutorhynchus typhae		None				Brassicaceae	AC	5,7
Coleoptera	Curculionidae	Curculio glandium	Acorn Weevil	None			s	oaks	AC	5,9
Coleoptera	Curculionidae	Datonychus melanostictus		None			w	water mint	A	2,5
Coleoptera	Curculionidae	Dorytomus melanophthalmus		None				willows	F	6
Coleoptera	Curculionidae	Dorytomus rufatus		None				willows	B	9
Coleoptera	Curculionidae	Euophryum confine		None			s	dead wood	DE	5,6,7
Coleoptera	Curculionidae	Exomias araneiformis	Strawberry Fruit Weevil	None					B	7
Coleoptera	Curculionidae	Exomias pellucidus	Hairy Spider Weevil	None					BGH	5,6,7
Coleoptera	Curculionidae	Glocianus distinctus		None			g	Hieracium, Crepis, Hypochoeris	F	6
Coleoptera	Curculionidae	Glocianus punctiger		NS (Nb)			g	dandelions	A	7
Coleoptera	Curculionidae	Gymnetron veronicae	Brooklime Gall Weevil	NS (Nb)		YES	w	brooklime, water speedwell	E	6
Coleoptera	Curculionidae	Hadroplontus litura		None			g	thistles	E	9
Coleoptera	Curculionidae	Hypera meles		NS (Na)			g	clovers	AF	5
Coleoptera	Curculionidae	Hypera rumicis		None			g	docks	A	5
Coleoptera	Curculionidae	Leiosoma deflexum		None				Ranunculaceae	E	7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Curculionidae	Magdalis armigera		None			s	elm	G	6
Coleoptera	Curculionidae	Magdalis cerasi		NS (Nb)			s	Rosaceae	BF	5,6
Coleoptera	Curculionidae	Mecinus pyraster		None			g	plantains	F	6
Coleoptera	Curculionidae	Microplontus rugulosus		None			gb	mayweeds	F	7
Coleoptera	Curculionidae	Mogulones asperifoliarum		None			g	Boraginaceae	B	7
Coleoptera	Curculionidae	Nedyus quadrimaculatus	Small Nettle Weevil	None				nettles	ABCDEFGH	5,6,7,9
Coleoptera	Curculionidae	Otiorhynchus ovatus		None			gb		A	9
Coleoptera	Curculionidae	Pachyrhinus lethierryi		None			s	cypresses	E	6
Coleoptera	Curculionidae	Parethelcus pollinarius		None				nettles	ABFH	6,7
Coleoptera	Curculionidae	Phyllobius glaucus		None			s		CF	5,6
Coleoptera	Curculionidae	Phyllobius maculicornis	Green Leaf Weevil	None			s		FGH	5,6
Coleoptera	Curculionidae	Phyllobius pomaceus	Green Nettle Weevil	None				nettles	ABCDEF	5,6
Coleoptera	Curculionidae	Phyllobius pyri	Common Leaf Weevil	None			s		EFG	5,6
Coleoptera	Curculionidae	Phyllobius roboretanus	Small Green Nettle Weevil	None			g		BFGH	5,6,7
Coleoptera	Curculionidae	Phyllobius virideaeris		None			g		AFG	6,7
Coleoptera	Curculionidae	Polydrusus cervinus		None			s		BD	5,6
Coleoptera	Curculionidae	Polydrusus pterygomalis		None			s		BCDE	5,6

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Curculionidae	Rhamphus oxyacanthae		None			s	hawthorn	G	9
Coleoptera	Curculionidae	Rhinocyllus conicus		NS (Na)			g	thistles	AEF	6,7
Coleoptera	Curculionidae	Rhinoncus inconspectus		None			w	polygonaceae	ACDEG	2,5,7,9,11
Coleoptera	Curculionidae	Rhinoncus pericarpius		None				docks	D	6
Coleoptera	Curculionidae	Rhinoncus perpendicularis		None			w	polygonaceae	ACD	5,6,7
Coleoptera	Curculionidae	Rhinusa antirrhini		None			g	toadflax	F	7
Coleoptera	Curculionidae	Sciaphilus asperatus	Strawberry Root Weevil	None					G	6
Coleoptera	Curculionidae	Scolytus intricatus		None			s	Oak, dead wood	C	6
Coleoptera	Curculionidae	Sitona hispidulus		None			g	clovers	AF	5,9
Coleoptera	Curculionidae	Sitona lepidus		None			g	clovers	A	5
Coleoptera	Curculionidae	Sitona lineatus		None				Fabaceae	ABCDEFGH	2,5,6,7,9,11
Coleoptera	Curculionidae	Tachyerges salicis		None				willows	D	9
Coleoptera	Curculionidae	Trichosirocalus troglodytes		None			g	plantains	A	7
Coleoptera	Curculionidae	Tychius picirostris		None			g	clovers	AFG	2,5,6,7
Coleoptera	Dermestidae – Larder beetles	Anthrenus verbasci	Varied Carpet Beetle	None	NA (Not Applicable)				ABG	6,7
Coleoptera	Dryopidae – Long-toed water beetles	Dryops ernesti		None	Least Concern		w		ACDEH	5,7,11
Coleoptera	Dryopidae	Dryops luridus		None	Least Concern		a		D	7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Dytiscidae – Diving beetles	Agabus bipustulatus		None	Least Concern		a		ABDEH	5,6,7
Coleoptera	Dytiscidae	Agabus nebulosus		None	Least Concern		a		DH	5,7
Coleoptera	Dytiscidae	Agabus sturmii		None	Least Concern		a		ABDE	5,7
Coleoptera	Dytiscidae	Colymbetes fuscus		None	Least Concern		a		ABCDH	5,7
Coleoptera	*Dytiscidae*	*Dytiscus larva*					*a*		*DE*	*5,7*
Coleoptera	Dytiscidae	Dytiscus marginalis	Great Diving Beetle	None	Least Concern		a		CH	5
Coleoptera	Dytiscidae	Graptodytes granularis		None	Least Concern		a		AB	5
Coleoptera	Dytiscidae	Hydaticus seminiger		NS	Least Concern		a		CD	5,7
Coleoptera	Dytiscidae	Hydroglyphus geminus		None	Least Concern		a		B	5
Coleoptera	Dytiscidae	Hydroporus angustatus		None	Least Concern		a		ABCD	5
Coleoptera	Dytiscidae	Hydroporus palustris		None	Least Concern		a		ADE	5,7
Coleoptera	Dytiscidae	Hydroporus planus		None	Least Concern		a		ABCDH	5,7
Coleoptera	Dytiscidae	Hydroporus pubescens		None	Least Concern		a		D	5
Coleoptera	Dytiscidae	Hydroporus striola		None	Least Concern		a		A	7
Coleoptera	Dytiscidae	Hydroporus tessellatus		None	Least Concern		a		AD	5,7
Coleoptera	Dytiscidae	Hygrotus impressopunctatus		None	Least Concern		a		ACDE	5,7
Coleoptera	Dytiscidae	Hygrotus inaequalis		None	Least Concern		a		ADE	5,7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Dytiscidae	Hyphydrus ovatus	Cherrystone Beetle	None	Least Concern		a		D	5
Coleoptera	Dytiscidae	Ilybius ater	Mud-dweller	None	Least Concern		a		D	5,7
Coleoptera	Dytiscidae	Ilybius chalconatus		None	Least Concern		a		AH	5,7
Coleoptera	Dytiscidae	Ilybius fuliginosus		None	Least Concern		a		CD	7
Coleoptera	Dytiscidae	Laccophilus hyalinus		None	Least Concern		a		H	5
Coleoptera	Dytiscidae	Laccophilus minutus		None	Least Concern		a		CD	5,7
Coleoptera	Dytiscidae	Liopterus haemorrhoidalis	Piles Beetle	None	Least Concern		a		ABCDE	5,7
Coleoptera	Dytiscidae	Rhantus exsoletus		None	Least Concern		a		D	7
Coleoptera	Dytiscidae	Rhantus frontalis		NS	Least Concern		a		D	5,7
Coleoptera	Dytiscidae	Rhantus suturalis	Supertramp	None	Least Concern		a		D	7
Coleoptera	Elateridae – Click beetles	Adrastus pallens		None					AB	7
Coleoptera	Elateridae	Agriotes acuminatus		None			g		D	6
Coleoptera	Elateridae	Agriotes lineatus		None			g		E	6
Coleoptera	Elateridae	Agriotes obscurus		None			g		ADEFGH	2,5,7
Coleoptera	Elateridae	Agriotes pallidulus		None					ABDF	5,6
Coleoptera	Elateridae	Agriotes sputator		None			g		AFGH	5,6,7
Coleoptera	Elateridae	Aplotarsus incanus		None			w		E	5

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Elateridae	Athous bicolor		None			g		AH	7
Coleoptera	Elateridae	Athous haemorrhoidalis		None			s		BCDEFG	5,6
Coleoptera	Elateridae	Dalopius marginatus		None					ABCDE	5
Coleoptera	Elateridae	Denticollis linearis		None			s	dead wood	ABD	5,6
Coleoptera	Elateridae	Hemicrepidius hirtus		None				dead wood	FH	6,7
Coleoptera	Elateridae	Hypnoidus riparius		None			w (also upland grassland)		E	5
Coleoptera	Elateridae	Limonius poneli		None			g		FGH	5,6
Coleoptera	Erirhinidae – Wetland weevils	Grypus equiseti	Horsetail Weevil	NS (Nb)			g	horse-tails	E	5
Coleoptera	Erirhinidae	Notaris acridulus		None			w	Glyceria	CDE	5,6
Coleoptera	Erirhinidae	Notaris scirpi		NS (Nb)			w	Carex, Typha, Scirpus	A	7
Coleoptera	Erirhinidae	Tanysphyrus lemnae	Duckweed Weevil	None			w	duckweeds	AE	5,7
Coleoptera	Eucnemidae – False click beetles	Epiphanis cornutus		None		YES	s	dead wood	D	6
Coleoptera	*Gyrinidae – Whirligig beetles*	*Gyrinus sp*					*a*		*BD*	*5,7*
Coleoptera	Gyrinidae	Gyrinus substriatus	Common Whirligig	None	Least Concern		a		CDH	5
Coleoptera	Haliplidae – Crawling water beetles	Haliplus lineatocollis		None	Least Concern		a		BDH	5,7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Haliplidae	Haliplus obliquus		None	Least Concern		a		A	5
Coleoptera	Haliplidae	Haliplus ruficollis		None	Least Concern		a		A	5
Coleoptera	Helophoridae – Helophorid water beetles	Helophorus aequalis		None	Least Concern		a		DH	5,7
Coleoptera	Helophoridae	Helophorus brevipalpis		None	Least Concern		a		A	7
Coleoptera	Helophoridae	Helophorus minutus		None	Least Concern		a		ADEH	5,7
Coleoptera	*Helophoridae*	*Helophorus minutus complex females*					*a*		*ACD*	*5*
Coleoptera	Helophoridae	Helophorus nanus		NS	Least Concern	YES	a		D	5
Coleoptera	Helophoridae	Helophorus obscurus		None	Least Concern		a		DH	5,7
Coleoptera	Helophoridae	Helophorus strigifrons		NS	Least Concern		a		A	7
Coleoptera	Heteroceridae – Variegated mud-loving beetles	Heterocerus fenestratus		None	Least Concern		w		CDH	5,7,9
Coleoptera	*Heteroceridae*	*Heterocerus fenestratus/fusculus*					*w*		*B*	*5*
Coleoptera	Heteroceridae	Heterocerus fusculus		NR	VULNERABLE	YES	w		CDH	5,7
Coleoptera	Histeridae – Clown beetles	Atholus duodecimstriatus		None	Least Concern	YES	g	dung/manure	H	9
Coleoptera	Histeridae	Kissister minimus		None	Least Concern	YES	gb		A	5,7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Histeridae	Margarinotus purpurascens		None	Least Concern	YES	gb		AF	5,7
Coleoptera	Histeridae	Margarinotus ventralis		None	Least Concern	YES	g	dung	AC	5
Coleoptera	Hydraenidae – Minute moss beetles	Hydraena riparia		None	Least Concern		a		A	5
Coleoptera	*Hydraenidae*	*Hydraena riparia complex female*					*a*		*ADH*	*5,7*
Coleoptera	Hydraenidae	Ochthebius minimus		None	Least Concern		a		ABCDEH	5,11
Coleoptera	Hydrophilidae – Water scavenger beetles/Scavenger beetles	Anacaena bipustulata		None	Least Concern		a		B	9
Coleoptera	Hydrophilidae	Anacaena globulus		None	Least Concern		w		B	5,7
Coleoptera	Hydrophilidae	Anacaena limbata		None	Least Concern		a		ABDEH	5,7
Coleoptera	Hydrophilidae	Anacaena lutescens		None	Least Concern		a		ACDEH	5
Coleoptera	Hydrophilidae	Berosus signaticollis		None	Least Concern		a		AD	5,7
Coleoptera	Hydrophilidae	Cercyon granarius		NS	Least Concern		a		DE	5,7
Coleoptera	Hydrophilidae	Cercyon haemorrhoidalis		None	Least Concern			dung	A	5
Coleoptera	Hydrophilidae	Cercyon lateralis		None	Least Concern			dung	A	5
Coleoptera	Hydrophilidae	Cercyon marinus		None	Least Concern		w		CDE	5,7
Coleoptera	Hydrophilidae	Cercyon		NS (Notable)	Least Concern			dung	C	5

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
		obsoletus								
Coleoptera	Hydrophilidae	Cercyon pygmaeus		None	Least Concern			dung	A	5
Coleoptera	Hydrophilidae	Cercyon sternalis		None	Least Concern		w		ABCDE	5,7,9
Coleoptera	Hydrophilidae	Cercyon tristis		None	Least Concern		w		ABCD	5,7,11
Coleoptera	Hydrophilidae	Cercyon ustulatus		None	Least Concern		w		ACDE	5,7
Coleoptera	Hydrophilidae	Coelostoma orbiculare		None	Least Concern		a		ABDEH	5,7
Coleoptera	Hydrophilidae	Cryptopleurum crenatum		NS (Notable)		YES		dung	A	7
Coleoptera	Hydrophilidae	Cymbiodyta marginellus		None	Least Concern		a		B	5
Coleoptera	Hydrophilidae	Enochrus nigritus		NS	NEAR THREATENED		a		ABCDE	5,7
Coleoptera	Hydrophilidae	Enochrus quadripunctatus		NS	Least Concern		a		ABCD	5,7
Coleoptera	Hydrophilidae	Helochares lividus		None	Least Concern		a		DH	5,7
Coleoptera	Hydrophilidae	Hydrobius fuscipes sensu stricto					a		ABCDEH	5,7
Coleoptera	Hydrophilidae	Hydrobius subrotundus					a		ABDE	5
Coleoptera	Hydrophilidae	Laccobius bipunctatus		None	Least Concern		a		AD	7
Coleoptera	Hydrophilidae	Megasternum concinnum		None	Least Concern				A	5
Coleoptera	Hydrophilidae	Sphaeridium bipustulatum		None	Least Concern			dung	E	9

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Hydrophilidae	Sphaeridium scarabaeoides		None	Least Concern			dung	AH	5
Coleoptera	Kateretidae – Short-winged flower beetles	Brachypterolus pulicarius		None			g	toadflax	F	6
Coleoptera	Kateretidae	Brachypterus glaber		None				nettles	BEH	5,6
Coleoptera	Kateretidae	Brachypterus urticae	Nettle Pollen Beetle	None				nettles	BG	5,6
Coleoptera	Kateretidae	Kateretes pusillus		None			w	Carex	CD	5,6
Coleoptera	Kateretidae	Kateretes rufilabris		None			w	Carex, Juncus	E	6
Coleoptera	Lampyridae – Glow-worms	Lampyris noctiluca	Glow-worm	None	Least Concern				ADG	2,5,9,11
Coleoptera	Latridiidae – Minute brown scavenger beetles	Cartodere bifasciata		None					ACEFGH	5,6,9
Coleoptera	Latridiidae	Cartodere nodifer		None					B	9
Coleoptera	Latridiidae	Corticaria impressa		None					FG	2,9
Coleoptera	Latridiidae	Corticarina minuta		None					ACEFG	2,5,9,11
Coleoptera	Latridiidae	Cortinicara gibbosa		None					ABDFGH	2,5,6,7,9,11
Coleoptera	Latridiidae	Enicmus histrio		None					AB	2,5
Coleoptera	Latridiidae	Enicmus transversus		None					A	5
Coleoptera	Leiodidae – Round fungus beetles	Catops grandicollis		None					G	9
Coleoptera	Leiodidae	Catops morio		None					A	2

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Leiodidae	Catops nigricans		None					H	5
Coleoptera	Leiodidae	Colon brunneum		None		YES			D	6
Coleoptera	Leiodidae	Ptomaphagus subvillosus		None					A	5,9
Coleoptera	Leiodidae	Ptomaphagus varicornis		NR (RDBK)					E	5
Coleoptera	Melandryidae – False darkling beetles	Abdera biflexuosa		NS	Least Concern	YES	s	dead wood	C	6
Coleoptera	Melandryidae	Orchesia undulata		None	Least Concern	YES	s	dead wood	D	6
Coleoptera	Melyridae – Soft-winged flower beetles	Anthocomus rufus		None	Least Concern		w	reedbeds	ABCF	9
Coleoptera	Melyridae	Cordylepherus viridis		None	Least Concern				AEFGH	5,6,7
Coleoptera	Melyridae	Dasytes aeratus		None	Least Concern		s		ABCE	5
Coleoptera	Melyridae	Malachius bipustulatus	Common Malachite Beetle	None	Least Concern				ABF	5,6
Coleoptera	Mordellidae – Tumbling flower beetles	Mordellistena variegata		NS	Least Concern		s		H	7
Coleoptera	Mordellidae	Mordellochroa abdominalis		None	Least Concern		s		BD	5
Coleoptera	Nanophyidae – Nanophyid weevils	Nanophyes marmoratus	Loosestrife Weevil	None			w	purple loosestrife	ABF	7,9,11
Coleoptera	Nitidulidae – Pollen beetles	Epuraea aestiva		None					ABD	5
Coleoptera	Nitidulidae	Epuraea biguttata		None					A	7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Nitidulidae	Epuraea silacea		None			s		D	5
Coleoptera	Nitidulidae	Glischrochilus hortensis		None					B	5
Coleoptera	Nitidulidae	Meligethes aeneus	Common Pollen Beetle	None					ABDEFGH	5,6,7,9
Coleoptera	Nitidulidae	Meligethes morosus		None				white deadnettle	F	5
Coleoptera	Nitidulidae	Meligethes nigrescens		None			g	white clover	D	5
Coleoptera	Nitidulidae	Meligethes ruficornis		None				black horehound	G	5
Coleoptera	Nitidulidae	Pria dulcamarae		None				woody nightshade	BF	9
Coleoptera	Noteridae – Burrowing water beetles	Noterus clavicornis	Larger Noterus	None	Least Concern		a		ACE	5,7
Coleoptera	Oedemeridae – False blister beetles	Ischnomera cyanea		None	Least Concern		s	dead wood	C	5
Coleoptera	Oedemeridae	Oedemera lurida		None	Least Concern		g		ABFGH	5,6,7
Coleoptera	Oedemeridae	Oedemera nobilis	Swollen-thighed Beetle	None	Least Concern		g		ABEFGH	5,6,7,9
Coleoptera	Orsodacnidae – Ravenous leaf beetles	Orsodacne cerasi		NS	Least Concern	YES	s		B	5
Coleoptera	Phalacridae – Shining flower beetles	Olibrus aeneus		None			g	mayweeds mainly	AFG	5,9
Coleoptera	Phalacridae	Olibrus affinis		None			g	Tragopogon, Hypochoeris	G	9
Coleoptera	Phalacridae	Olibrus corticalis		None			g	ragworts, fleabanes	DFGH	9
Coleoptera	Phalacridae	Olibrus		None			g		A	7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
		liquidus								
Coleoptera	Phalacridae	Phalacrus championi		NS (Na)			g	smutted grasses and Carex	F	6
Coleoptera	Phalacridae	Phalacrus fimetarius		None			g	smutted Brachypodium	G	6
Coleoptera	Phalacridae	Stilbus testaceus		None			g		DFGH	2,5,9
Coleoptera	Ptiliidae – Feather-winged beetles	Ptenidium fuscicorne		None			w		A	11
Coleoptera	Ptiliidae	Ptenidium intermedium		None		YES	w		AD	6,11
Coleoptera	Ptiliidae	Ptilium affine		NR (RDBK)		YES	w	damp litter, dung?	A	11
Coleoptera	Ptinidae – Furniture and spider beetles	Anobium punctatum	Woodworm	None	Least Concern		s	dead wood	AB	7,9
Coleoptera	Ptinidae	Grynobius planus		None	Least Concern		s	dead wood	C	6
Coleoptera	Ptinidae	Hemicoelus fulvicornis		None	Least Concern		s	dead wood	ABFGH	6,7
Coleoptera	Ptinidae	Ochina ptinoides	Ivy Boring Beetle	None	Least Concern		s	dead ivy branches	BEFG	6,7
Coleoptera	Ptinidae	Ptinomorphus imperialis		None	Least Concern		s	dead wood	AD	5
Coleoptera	Pyrochroidae – Cardinal beetles	Pyrochroa coccinea	Black-headed Cardinal Beetle	None	Least Concern		s	dead wood	B	5
Coleoptera	Pyrochroidae	Pyrochroa serraticornis	Common Cardinal Beetle	None	Least Concern		s	dead wood	ABD	5,6
Coleoptera	Rhynchitidae – Tooth-nosed snout weevils	Involvulus caeruleus	Apple Twig Cutter	None		YES	s	Rosaceae	BGH	9
Coleoptera	Rhynchitidae	Neocoenorrhin	Strawberry	None			s	Rosaceae	D	6

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
		us germanicus	Rhynchites							
Coleoptera	Rhynchitidae	Tatianaerhynchites aequatus	Apple Fruit Rhynchites	None			s	hawthorn	ABGH	5,6
Coleoptera	Salpingidae – Narrow-waisted bark beetles	Salpingus planirostris		None	Least Concern		s	dead wood	ABC	5,6,9
Coleoptera	Scarabaeidae – Scarab beetles	Agrilinus ater		None	Least Concern			dung	AC	5
Coleoptera	Scarabaeidae	Aphodius fimetarius		None	Least Concern			dung	AH	2,5,9
Coleoptera	Scarabaeidae	Colobopterus erraticus		None	Least Concern		g	dung	AH	5
Coleoptera	Scarabaeidae	Esymus pusillus		None	Least Concern		g	dung	A	5
Coleoptera	Scarabaeidae	Hoplia philanthus	Welsh Chafer	None	Least Concern		g		FG	6,7
Coleoptera	Scarabaeidae	Melinopterus prodromus		None	Least Concern			dung	AH	5
Coleoptera	Scarabaeidae	Melinopterus sphacelatus		None	Least Concern			dung	H	5
Coleoptera	Scarabaeidae	Onthophagus similis		None	Least Concern			dung	ABCDEF	5,7,9
Coleoptera	Scarabaeidae	Otophorus haemorrhoidalis		None	Least Concern		g	dung	AH	5,7,9
Coleoptera	Scarabaeidae	Phyllopertha horticola	Bracken Chafer	None	Least Concern		g		F	6
Coleoptera	Scarabaeidae	Serica brunnea	Brown Chafer	None	Least Concern		g		B	
Coleoptera	Scarabaeidae	Teuchestes fossor		None	Least Concern			dung	AC	5
Coleoptera	Scarabaeidae	Volinus sticticus		None	Least Concern			dung	AE	5,9

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Scirtidae – Marsh beetles	Contacyphon coarctatus		None	Least Concern		a/w		ABCDH	5,6,7,9
Coleoptera	Scirtidae	Contacyphon hilaris		None	Least Concern		a/w		B	7
Coleoptera	Scirtidae	Contacyphon laevipennis		None	Least Concern		a/w	reedbeds	A	5
Coleoptera	Scirtidae	Contacyphon padi		None	Least Concern		a/w		ABCDE	5,6,9
Coleoptera	Scirtidae	Contacyphon palustris		None	Least Concern		a/w		BD	5,6,7
Coleoptera	Scirtidae	Contacyphon pubescens		NS	Least Concern	YES	a/w		B	9
Coleoptera	Scirtidae	Contacyphon variabilis		None	Least Concern		a/w		AF	9
Coleoptera	Scirtidae	Microcara testacea		None	Least Concern		a/s		CD	5,6
Coleoptera	Scraptiidae – False flower beetles	Anaspis fasciata		None	Least Concern		s	dead wood	ABEF	5,6
Coleoptera	Scraptiidae	Anaspis frontalis		None	Least Concern		s	dead wood	ABDG	5,6
Coleoptera	Scraptiidae	Anaspis garneysi		None	Least Concern		s	dead wood	C	5
Coleoptera	Scraptiidae	Anaspis maculata		None	Least Concern		s	dead wood	ABCDEFGH	5,6,7
Coleoptera	Scraptiidae	Anaspis pulicaria		None	Least Concern				BGH	6,7
Coleoptera	Scraptiidae	Anaspis regimbarti		None	Least Concern		s	dead wood	ABE	5,6
Coleoptera	Silphidae – Carrion beetles	Ablattaria laevigata		None			gb	snails	G	5
Coleoptera	Silphidae	Nicrophorus vespillo		None				carrion	E	5
Coleoptera	Silphidae	Oiceoptoma thoracicum		None				carrion	E	9

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Silphidae	Phosphuga atrata	Black Snail Beetle	None				snails	D	2
Coleoptera	Silphidae	Silpha tristis		None			g	slugs?	AH	5
Coleoptera	Silphidae	Thanatophilus sinuatus		None				carrion	A	5
Coleoptera	Silvanidae – Silvanid beetles	Psammoecus bipunctatus		None			w		ACDE	2,5,6,9,11
Coleoptera	Staphylinidae – Rove beetles	Achenium depressum		None					A	5
Coleoptera	Staphylinidae	Alaobia trinotata		None					G	9
Coleoptera	Staphylinidae	Aleochara bipustulata		None					A	7
Coleoptera	Staphylinidae	Aleochara brevipennis		NS (Notable)			g		ACD	5,7,11
Coleoptera	Staphylinidae	Aleochara intricata		None				dung	AH	5,9
Coleoptera	Staphylinidae	Aleochara lanuginosa		None				dung	ACH	5,9
Coleoptera	Staphylinidae	Aleochara spadicea		None				mole nests	A	2
Coleoptera	Staphylinidae	Aleochara tristis		None		YES		dung	AH	7,9
Coleoptera	Staphylinidae	Aleochara verna		NR (RDBK)				dung	A	7
Coleoptera	Staphylinidae	Aloconota gregaria		None					DG	6
Coleoptera	Staphylinidae	Amischa analis		None					ACDEF	2,5,11
Coleoptera	Staphylinidae	Amischa decipiens		None					ACEG	2,9,11
Coleoptera	Staphylinidae	Amischa forcipata		None					ACDE	5

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Staphylinidae	Amischa nigrofusca		None					AE	2,7,11
Coleoptera	Staphylinidae	Anotylus nitidulus		None					E	7
Coleoptera	Staphylinidae	Anotylus rugosus		None					ABCEF	2,5,7,11
Coleoptera	Staphylinidae	Anotylus sculpturatus		None					D	5
Coleoptera	Staphylinidae	Astenus lyonessius		None			g		A	11
Coleoptera	Staphylinidae	Atheta aquatica		None		YES			D	9
Coleoptera	Staphylinidae	Atheta graminicola		None			w		C	9
Coleoptera	Staphylinidae	Atheta xanthopus		None					F	9
Coleoptera	Staphylinidae	Autalia rivularis		None				dung	A	5
Coleoptera	Staphylinidae	Bisnius fimetarius		None					AH	2,9
Coleoptera	Staphylinidae	Bryaxis bulbifer		None			w		D	11
Coleoptera	Staphylinidae	Carpelimus corticinus		None			w		ABCDE	2,5,7
Coleoptera	Staphylinidae	Carpelimus elongatulus		None			w		A	2
Coleoptera	Staphylinidae	Carpelimus rivularis		None			w		ABCD	5,6
Coleoptera	Staphylinidae	Cordalia obscura		None		YES			BDE	2,7,9,11
Coleoptera	Staphylinidae	Datomicra sordidula		None				dung?	H	9
Coleoptera	Staphylinidae	Dilacra luteipes		None		YES	w		B	7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Staphylinidae	Dimetrota atramentaria		None				dung	A	5
Coleoptera	Staphylinidae	Dinaraea angustula		None					AE	2
Coleoptera	Staphylinidae	Dropephylla ioptera		None			s		ABCD	5,11
Coleoptera	Staphylinidae	Drusilla canaliculata		None			g		FH	5
Coleoptera	Staphylinidae	Erichsonius cinerascens		None			w		E	2
Coleoptera	Staphylinidae	Eusphalerum minutum		None		YES	w?		B	5
Coleoptera	Staphylinidae	Falagrioma thoracica		None		YES	w		D	9
Coleoptera	Staphylinidae	Gabrius breviventer		None			w		ABCDE	2,5,11
Coleoptera	*Staphylinidae*	*Gabrius sp female*					*w*		*AC*	*5*
Coleoptera	Staphylinidae	Gabrius trossulus		None			w		D	11
Coleoptera	Staphylinidae	Geostiba circellaris		None					AD	2,11
Coleoptera	Staphylinidae	Gyrohypnus angustatus		None			g		C	11
Coleoptera	Staphylinidae	Gyrohypnus fracticornis		None				dung	AH	2,9
Coleoptera	Staphylinidae	Heterothops niger		None				mole nests	A	2
Coleoptera	Staphylinidae	Hygronoma dimidiata		None			w		AD	5,11
Coleoptera	Staphylinidae	Ischnosoma splendidum		None					DE	2,11
Coleoptera	Staphylinidae	Lathrobium brunnipes		None					AD	2,11

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Staphylinidae	Lathrobium fulvipenne		None					H	7
Coleoptera	Staphylinidae	Lathrobium geminum		None					AC	2,11
Coleoptera	Staphylinidae	Lathrobium longulum		None					AC	2,11
Coleoptera	Staphylinidae	Lesteva longoelytrata		None			w		B	5
Coleoptera	Staphylinidae	Lesteva sicula		None			w		D	11
Coleoptera	Staphylinidae	Liogluta longiuscula		None		YES			A	11
Coleoptera	*Staphylinidae*	*Meotica sp*					*w*		*D*	*11*
Coleoptera	Staphylinidae	Metopsia clypeata		None					G	9
Coleoptera	Staphylinidae	Micropeplus fulvus		None					A	11
Coleoptera	*Staphylinidae*	*Mocyta fungi agg.*							*ABCDFG*	*2,6,7,9,11*
Coleoptera	Staphylinidae	Mycetota laticollis		None					CD	9
Coleoptera	Staphylinidae	Nehemitropia lividipennis		None					H	9
Coleoptera	Staphylinidae	Neobisnius procerulus		NR (RDBK)		YES	w		DH	7,9
Coleoptera	Staphylinidae	Ochthephilum fracticorne		None					AD	2,11
Coleoptera	Staphylinidae	Ocyusa picina		None			w		AC	5,9
Coleoptera	Staphylinidae	Omalium caesum		None					AD	11
Coleoptera	Staphylinidae	Omalium excavatum		None					H	9
Coleoptera	Staphylinidae	Omalium		None					A	11

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
		italicum								
Coleoptera	Staphylinidae	Omalium rivulare		None					AD	9,11
Coleoptera	Staphylinidae	Ontholestes murinus		None				dung, carrion	H	5
Coleoptera	Staphylinidae	Othius laeviusculus		None					AH	9
Coleoptera	Staphylinidae	Oxypoda brevicornis		None					B	7
Coleoptera	Staphylinidae	Oxypoda elongatula		None			w		ACDE	2,6,11
Coleoptera	Staphylinidae	Oxypoda opaca		None				dung mainly	A	2
Coleoptera	Staphylinidae	Oxypoda tarda		None		YES			G	6
Coleoptera	Staphylinidae	Oxytelus laqueatus		None				dung	AEH	5,9
Coleoptera	Staphylinidae	Oxytelus piceus		NR (RDBK)		YES		dung	A	5
Coleoptera	Staphylinidae	Paederus fuscipes		NS (Nb)		YES	w		D	11
Coleoptera	Staphylinidae	Paederus riparius		None			w		ACD	6,7,9,11
Coleoptera	Staphylinidae	Pella limbata		None			g		F	5
Coleoptera	Staphylinidae	Philonthus carbonarius		None					A	5,7
Coleoptera	Staphylinidae	Philonthus cognatus		None					ACGH	5,7
Coleoptera	Staphylinidae	Philonthus concinnus		None					F	5
Coleoptera	Staphylinidae	Philonthus debilis		None					D	11
Coleoptera	Staphylinidae	Philonthus fumarius		NS (Nb)			w		A	5

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Staphylinidae	Philonthus intermedius		None					AH	5
Coleoptera	Staphylinidae	Philonthus jurgans		None					D	9
Coleoptera	Staphylinidae	Philonthus laminatus		None					H	7
Coleoptera	Staphylinidae	Philonthus micantoides		None			w		A	7
Coleoptera	Staphylinidae	Philonthus parvicornis		None				dung	H	9
Coleoptera	Staphylinidae	Philonthus quisquiliarius		None			w		ABCDE	5,6,7,9
Coleoptera	Staphylinidae	Philonthus sanguinolentus		None				dung	H	9
Coleoptera	Staphylinidae	Philonthus splendens		None				dung, carrion	H	5
Coleoptera	Staphylinidae	Philonthus tenuicornis		None					CH	5,9
Coleoptera	Staphylinidae	Philonthus varians		None					ACDH	5,6,11
Coleoptera	Staphylinidae	Platystethus cornutus		None			w		D	5
Coleoptera	Staphylinidae	Platystethus nitens		None			w		H	7
Coleoptera	Staphylinidae	Platystethus nodifrons		NS (Notable)			w		A	2,5
Coleoptera	Staphylinidae	Proteinus ovalis		None					AF	2,11
Coleoptera	Staphylinidae	Pseudomedon obsoletus		NR (RDBI)		YES	w		E	2
Coleoptera	Staphylinidae	Pycnota paradoxa		NS (Notable)		YES		subterranean mammal nests	G	9
Coleoptera	Staphylinidae	Quedius cruentus		None					D	5,6

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Staphylinidae	Quedius fuliginosus		None					AB	2,7
Coleoptera	Staphylinidae	Quedius levicollis		None			gb		G	9
Coleoptera	Staphylinidae	Quedius maurorufus		None			w		E	6
Coleoptera	Staphylinidae	Quedius molochinus		None					AH	2,7
Coleoptera	Staphylinidae	Quedius schatzmayri		None					F	5
Coleoptera	Staphylinidae	Quedius semiobscurus		None			g		GH	7,9
Coleoptera	Staphylinidae	Rugilus erichsonii		None					H	5
Coleoptera	Staphylinidae	Rugilus rufipes		None					AH	5,11
Coleoptera	Staphylinidae	Rybaxis longicornis		None			w		BCDEF	5,7,9
Coleoptera	Staphylinidae	Schistoglossa gemina		NS (Notable)		YES	w		AD	2,11
Coleoptera	Staphylinidae	Scopaeus laevigatus		NR (RDBI)		YES	w		CE	5,9
Coleoptera	Staphylinidae	Stenus aceris		None			g		G	9
Coleoptera	Staphylinidae	Stenus bifoveolatus		None			w		ABD	2,5
Coleoptera	Staphylinidae	Stenus binotatus		None			w		C	5
Coleoptera	Staphylinidae	Stenus boops		None			w		ACDE	2,5,7
Coleoptera	Staphylinidae	Stenus brunnipes		None			g		AGH	7,9,11
Coleoptera	Staphylinidae	Stenus canaliculatus		None			w		C	7
Coleoptera	Staphylinidae	Stenus		None			w		ADE	2,5,7,11

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
		cicindeloides								
Coleoptera	Staphylinidae	Stenus circularis		NS (Nb)		YES	w		AD	7,11
Coleoptera	Staphylinidae	Stenus comma		None			w		D	6
Coleoptera	Staphylinidae	Stenus formicetorum		None			w		B	5
Coleoptera	Staphylinidae	Stenus fulvicornis		None			g		A	11
Coleoptera	Staphylinidae	Stenus impressus		None					F	2
Coleoptera	Staphylinidae	Stenus ossium		None			g		FG	2,9
Coleoptera	Staphylinidae	Stenus pallipes		None			w		ADE	2,6,11
Coleoptera	Staphylinidae	Stenus picipes		None					ABF	6,7,11
Coleoptera	Staphylinidae	Stenus solutus		None			w		D	5
Coleoptera	Staphylinidae	Sunius melanocephalus		NS (Notable)			g		A	2,5
Coleoptera	Staphylinidae	Sunius propinquus		None			g		A	2
Coleoptera	Staphylinidae	Tachinus marginellus		None	Least Concern			dung	AD	5,11
Coleoptera	Staphylinidae	Tachinus rufipes		None	Least Concern				AH	7
Coleoptera	Staphylinidae	Tachyporus atriceps		None	Least Concern			moss	D	9
Coleoptera	Staphylinidae	Tachyporus chrysomelinus		None	Least Concern				AG	2,6,7
Coleoptera	Staphylinidae	Tachyporus dispar		None	Least Concern				GH	5,9

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Staphylinidae	Tachyporus hypnorum		None	Least Concern				ABCDEFGH	2,5,6,7,9,11
Coleoptera	Staphylinidae	Tachyporus nitidulus		None	Least Concern				ABDEFG	2,5,6,7,11
Coleoptera	Staphylinidae	Tachyporus obtusus		None	Least Concern		w		ADG	5,9
Coleoptera	Staphylinidae	Tachyporus pallidus		None	Least Concern		w		DF	2,11
Coleoptera	Staphylinidae	Tachyporus pusillus		None	Least Concern				F	5
Coleoptera	Staphylinidae	Tachyporus solutus		None	Least Concern				AG	5
Coleoptera	Staphylinidae	Tasgius melanarius		None					A	11
Coleoptera	Staphylinidae	Tasgius morsitans		None			g		B	7
Coleoptera	Staphylinidae	Tetartopeus quadratus		None			w		ACD	2,5,7,9,11
Coleoptera	Staphylinidae	Tetartopeus terminatus		None			w		A	2
Coleoptera	Staphylinidae	Tychus niger		None					D	11
Coleoptera	Staphylinidae	Xantholinus gallicus		None			gb		D	11
Coleoptera	Staphylinidae	Xantholinus linearis		None					AF	2,5,7
Coleoptera	Staphylinidae	Xantholinus longiventris		None					ABEFG	2,5
Coleoptera	Staphylinidae	Xylodromus depressus		None		YES			C	5
Coleoptera	Staphylinidae	Zyras collaris		None			w		E	5
Coleoptera	Tenebrionidae – Darkling beetles	Isomira murina		None	Least Concern		gb		EFG	6

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Coleoptera	Tenebrionidae	Lagria hirta		None	Least Concern				BH	7
Coleoptera	*Throscidae – Throscid beetles*	*Trixagus carinifrons complex female*							*A*	*5*
Coleoptera	Throscidae	Trixagus dermestoides		None			s		DF	6,7
Coleoptera	Throscidae	Trixagus leseigneuri		None		YES	s		BC	6,7
Coleoptera	Throscidae	Trixagus obtusus		None					ADH	2,6,7
Coleoptera	Zopheridae – Cylindrical bark beetles	Bitoma crenata		None	Least Concern		s	dead wood	B	5
Dermaptera – Earwigs	Forficulidae – Earwigs	Apterygida media	Hop-garden Earwig	NS (Nb)	Least Concern	YES	s		B	9
Dermaptera	Forficulidae	Forficula auricularia	Common Earwig	None	Least Concern				ABCDFGH	2,5,6,7,9
Diptera – True Flies	Agromyzidae – Leaf-miner flies	Agromyza flaviceps		None					A	9
Diptera	Asilidae – Robber flies	Choerades marginatus	Golden-haired Robberfly	None	Least Concern		s		G	9
Diptera	Asilidae	Dioctria atricapilla	Violet Black-legged Robberfly	None	Least Concern		g		FG	6,7
Diptera	Asilidae	Dioctria baumhaueri	Stripe-legged Robberfly	None	Least Concern		s		H	5
Diptera	Asilidae	Dioctria rufipes	Common Red-legged Robberfly	None	Least Concern				ADG	5,6
Diptera	Asilidae	Dysmachus trigonus	Fan-bristled Robberfly	None	Least Concern		gb		A	7
Diptera	Asilidae	Leptogaster cylindrica	Slender - striped Robberfly	None	Least Concern		g		AFGH	6,7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Diptera	Bibionidae – St Mark’s flies	Bibio leucopterus		None					A	5
Diptera	Bibionidae	Bibio marci	St Mark’s Fly	None					GH	5
Diptera	Bibionidae	Dilophus febrilis	Fever Fly	None					ACG	5
Diptera	Bibionidae	Dilophus femoratus		None			g		FH	5
Diptera	Chloropidae – Grass flies	Lipara lucens		None			w		D	6
Diptera	Conopidae – Thick-headed flies	Myopa hirsuta	Hirsute Spring Beegrabber	NR (RDB3)			s		A	5
Diptera	Conopidae	Physocephala rufipes		None			g		B	7
Diptera	Dolichopodidae – Long-legged flies	Argyra diaphana		None					BEF	5,6
Diptera	Dolichopodidae	Dolichopus latilimbatus		None					A	9
Diptera	Dolichopodidae	Dolichopus pennatus		None					CE	5,6
Diptera	Dolichopodidae	Dolichopus picipes		None			w/s		AD	5
Diptera	Dolichopodidae	Syntormon aulicus		None					E	6
Diptera	Empididae – Danceflies	Empis aemula		None					D	5,6
Diptera	Empididae	Empis livida		None					AH	7
Diptera	Empididae	Empis lutea		None					B	7
Diptera	Empididae	Empis stercorea		None			g		B	5
Diptera	Empididae	Empis tessellata		None					AEFG	5,6

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Diptera	Empididae	Empis trigramma		None					H	5
Diptera	*Empididae*	*Hilara sp.*							*A*	*5*
Diptera	Empididae	Rhamphomyia atra		None					H	5
Diptera	Empididae	Rhamphomyia barbata		None					D	6
Diptera	Empididae	Rhamphomyia flava		None					D	6
Diptera	Hybotidae – Danceflies (part)	Hybos femoratus		None					B	7
Diptera	Limoniidae – Short-palped craneflies	Austrolimnophila ochracea		None			s		D	6
Diptera	Limoniidae	Dicranophragma nemorale		None					A	7,9
Diptera	Limoniidae	Ellipteroides lateralis		None			w		ADH	6,7
Diptera	Limoniidae	Erioconopa trivialis		None					AE	5,9
Diptera	Limoniidae	Helius longirostris		None			w		AD	6,7
Diptera	Limoniidae	Ilisia maculata		None			s/w		AD	5,6
Diptera	Limoniidae	Ilisia occoecata		None			s/w		D	6
Diptera	Limoniidae	Limonia phragmitidis		None			w		AB	5
Diptera	Limoniidae	Limonia stigma		None			w		B	7
Diptera	Limoniidae	Metalimnobia quadrinotata		None			w		D	5
Diptera	Limoniidae	Phylidorea ferruginea		None			w		C	5

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Diptera	Limoniidae	Pilaria discicollis		None			w		E	5,6
Diptera	Limoniidae	Pseudolimnophila lucorum		None			s/w		D	6
Diptera	Micropezidae – Stilt-legged flies	Neria cibaria		None			s		DE	6
Diptera	Muscidae – Houseflies and allies	Mesembrina meridiana	Noon Fly	None			s		ACD	6,7
Diptera	Opomyzidae – Opomyzid flies	Geomyza tripunctata		None					G	6
Diptera	Opomyzidae	Opomyza florum		None					AB	9
Diptera	Pediciidae – Hairy-eyed craneflies	Tricyphona immaculata		None			w		D	5
Diptera	Ptychopteridae – Fold-winged craneflies	Ptychoptera albimana		None			s/w		H	5
Diptera	Ptychopteridae	Ptychoptera contaminata		None			s/w		AE	5,6,7,9
Diptera	Rhagionidae – Snipeflies	Chrysopilus asiliformis	Little Snipefy	None	Least Concern				B	7
Diptera	Rhagionidae	Chrysopilus cristatus	Black Snipefly	None	Least Concern		g		ABDEFH	6,7
Diptera	Rhagionidae	Rhagio scolopaceus	Downlooker Snipefly	None	Least Concern		s		ABDE	5,6
Diptera	Scathophagidae – Dungflies	Cordilura impudica		None			w		AD	5
Diptera	Scathophagidae	Scathophaga stercoraria	Yellow Dungfly	None				dung	ACE	5,6
Diptera	Scathophagidae	Scathophaga suilla		None					CD	5

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Diptera	Sciomyzidae – Snail-killing flies	Ilione albiseta		None			w		AE	6,9
Diptera	Sciomyzidae	Pherbina coryleti		None			w		A	7
Diptera	Sciomyzidae	Sepedon sphegea		None			w		E	6
Diptera	Sciomyzidae	Sepedon spinipes		None			w		ACD	5
Diptera	Stratiomyidae – Soldierflies	Beris chalybata	Murky-legged Black Legionnaire	None	Least Concern		s		ABD	5,6
Diptera	Stratiomyidae	Beris vallata	Common Orange Legionnaire	None	Least Concern		s		ADEF	6,7
Diptera	Stratiomyidae	Chloromyia formosa	Broad Centurion	None	Least Concern		g	dung	ABDF	6,7
Diptera	Stratiomyidae	Microchrysa flavicornis	Green Gem	None	Least Concern		s	dung	G	9
Diptera	Stratiomyidae	Nemotelus nigrinus	All-black Snout	None	Least Concern		w		E	6
Diptera	Stratiomyidae	Nemotelus pantherinus	Fen Snout	None	Least Concern		w		B	7
Diptera	Stratiomyidae	Odontomyia tigrina	Black Colonel	None	Least Concern		w		A	5
Diptera	Stratiomyidae	Pachygaster atra	Dark-winged Black	None	Least Concern		s		ABH	7
Diptera	Stratiomyidae	Pachygaster leachii	Yellow-legged Black	None	Least Concern		s		BH	7
Diptera	Stratiomyidae	Stratiomys singularior	Flecked General	None	Least Concern		w		A	7
Diptera	Syrphidae – Hoveflies	Baccha elongata		None	Least Concern		s		E	9
Diptera	Syrphidae	Cheilosia pagana		None	Least Concern				E	9

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Diptera	Syrphidae	Chrysogaster solstitialis		None	Least Concern		w		FG	6
Diptera	Syrphidae	Chrysotoxum bicinctum		None	Least Concern		g/s		F	6
Diptera	Syrphidae	Epistrophe eligans		None	Least Concern		s		EH	5
Diptera	Syrphidae	Episyrphus balteatus		None	Least Concern				ABFGH	5,6,7
Diptera	Syrphidae	Eristalis arbustorum		None	Least Concern		g		B	9
Diptera	Syrphidae	Eristalis pertinax		None	Least Concern				AG	5,6
Diptera	Syrphidae	Eristalis tenax		None	Least Concern				G	6
Diptera	Syrphidae	Eupeodes corollae		None	Least Concern		g		F	6
Diptera	Syrphidae	Eupeodes luniger		None	Least Concern				P	5
Diptera	Syrphidae	Helophilus pendulus		None	Least Concern				ADEH	5,6,9
Diptera	Syrphidae	Leucozona lucorum		None	Least Concern		s		F	6
Diptera	Syrphidae	Melanogaster hirtella		None	Least Concern		w		AE	5,6
Diptera	Syrphidae	Melanostoma mellinum		None	Least Concern				ABH	5,7,9
Diptera	Syrphidae	Neoascia interrupta		NS	Least Concern		w		A	5
Diptera	Syrphidae	Neoascia tenur		None	Least Concern		w		ACE	5,6
Diptera	Syrphidae	Pipiza noctiluca		None	Least Concern		s		A	5
Diptera	Syrphidae	Platycheirus albimanus		None	Least Concern				G	9

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Diptera	Syrphidae	Platycheirus peltatus		None	Least Concern				A	5
Diptera	Syrphidae	Platycheirus rosarum		None	Least Concern		w		BD	5,6,9
Diptera	Syrphidae	Rhingia campestris		None	Least Concern			dung	ABDE	5,9
Diptera	Syrphidae	Scaeva pyrastri		None	Least Concern		g		B	7
Diptera	Syrphidae	Sphaerophoria scripta		None	Least Concern		g		ABEH	5,7,9
Diptera	Syrphidae	Syritta pipiens		None	Least Concern		g		A	5,9
Diptera	Syrphidae	Syrphus ribesii		None	Least Concern				BH	7
Diptera	*Syrphidae*	*Syrphus sp*							*DEH*	*7*
Diptera	Syrphidae	Tropidia scita		None	Least Concern		w		DE	6
Diptera	Syrphidae	Volucella bombylans		None	Least Concern				G	6
Diptera	Syrphidae	Volucella pellucens	Pied Hoverfly	None	Least Concern		s		F	6
Diptera	Syrphidae	Xylota segnis		None	Least Concern		s		B	5
Diptera	Tabanidae – Horseflies	Chrysops caecutiens	Splayed Deer Fly	None	Least Concern		s/w		AB	7
Diptera	Tabanidae	Haematopota crassicornis	Black-horned Cleg	None	Least Concern				CE	6,7
Diptera	Tabanidae	Haematopota pluvialis	Notch-horned Cleg	None	Least Concern				DE	7
Diptera	Tabanidae	Hybomitra bimaculata	Hairy-legged Horsefly	None	Least Concern		s/w		G	6
Diptera	Tabanidae	Tabanus maculicornis	Narrow-winged Horsefly	NS	Least Concern	YES	s/w		D	7
Diptera	Tachinidae – Parasitic flies	Cistogaster globosa		NR (RDB2)			gb	Aelia acuminata	G	9

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Diptera	Tachinidae	Eriothrix rufomaculata		None			g		BFH	9
Diptera	Tachinidae	Linnaemya picta		NR (RDBK)			s		D	9
Diptera	Tachinidae	Tachina fera		None					F	9
Diptera	Tephritidae – Picture-winged flies	Tephritis cometa		None			g		F	9
Diptera	Tephritidae	Tephritis formosa		None			g		G	6
Diptera	Tephritidae	Terellia ruficauda		None			g		E	9
Diptera	Tephritidae	Urophora cardui		None			g		B	7
Diptera	Tephritidae	Urophora stylata		None			g		AFH	6,7
Diptera	Tephritidae	Xyphosia miliaria		None			g		E	9
Diptera	Therevidae – Stiletto flies	Thereva nobilitata	Common Stiletto	None	Least Concern		g		FH	6,7
Diptera	Tipulidae – Long-palped craneflies	Nephrotoma appendiculata	Spotted Cranefly	None			g		AGH	5
Diptera	Tipulidae	Nephrotoma cornicina		None			g		H	7
Diptera	Tipulidae	Nephrotoma flavescens		None			g		ABDGH	6,7
Diptera	Tipulidae	Nephrotoma flavipalpis		None			s/g		E	9
Diptera	Tipulidae	Nephrotoma quadrifaria		None			s		C	6
Diptera	Tipulidae	Nigrotipula nigra	Chocolate Cranefly	None			w		H	7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Diptera	Tipulidae	Tipula lateralis		None			w		E	5,9
Diptera	Tipulidae	Tipula livida		NS (Notable)		YES	s		F	6
Diptera	Tipulidae	Tipula luna		None			w		ABC	5
Diptera	Tipulidae	Tipula paludosa		None			w		C	9
Diptera	Tipulidae	Tipula vernalis		None			g		FG	5
Ephemeroptera – Mayflies	*?*	*nymph*					*a*		*ADE*	*5,7*
Glomerida – Pill Millipedes	Glomeridae	Glomeris marginata	Pill Millipede	None	Least Concern		s		B	5,7
Hemiptera – True Bugs	Acanthosomatidae – Keeled shieldbugs	Acanthosoma haemorrhoidale	Hawthorn Shieldbug	None			s	hawthorn	ABGH	6,9
Hemiptera	Acanthosomatidae	Elasmucha grisea	Parent Bug	None			s	birch, alder	ADEF	5,6,9
Hemiptera	Anthocoridae – Flower bugs	Anthocoris confusus		None			s		CFH	5,7,9
Hemiptera	Anthocoridae	Anthocoris nemoralis		None			s		ABGH	6,7,9
Hemiptera	Anthocoridae	Anthocoris nemorum	Common Flower Bug	None					ABCDEFGH	5,6,7,9
Hemiptera	Anthocoridae	Buchananiella continua		None			s		B	7
Hemiptera	Anthocoridae	Cardiastethus fasciiventris		None			s		CFGH	5,6,7,9
Hemiptera	Anthocoridae	Temnostethus gracilis		None			s		EH	9
Hemiptera	Anthocoridae	Temnostethus pusillus		None			s		AG	5,6,7,9
Hemiptera	Aphrophoridae – Froghoppers	Aphrophora alni	Alder Spittlebug	None			s		ABCDFGH	6,7,9

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Hemiptera	Aphrophoridae	Aphrophora major		NS (Nb)		YES	w/s		AB	9
Hemiptera	Aphrophoridae	Aphrophora salicina		None			s		D	6
Hemiptera	Aphrophoridae	Neophilaenus campestris		None			g		F	6
Hemiptera	Aphrophoridae	Neophilaenus lineatus		None			g		ABDEFGH	7,9
Hemiptera	Aphrophoridae	Philaenus spumarius	Common Froghopper	None					ABCDFGH	6,7,9
Hemiptera	Aradidae – Flatbugs	Aneurus avenius		None			s	dead wood	ABD	5,9
Hemiptera	Aradidae	Aradus depressus		None			s	dead wood	B	5
Hemiptera	Berytidae – Stiltbugs	Berytinus minor		None			g	Fabaceae	D	5
Hemiptera	Cercopidae – Froghoppers (part)	Cercopis vulnerata	Red-and-black Froghopper	None					ADEFGH	5,6
Hemiptera	Cicadellidae – Leafhoppers	Acericerus vittifrons		None			s	field maple	G	9
Hemiptera	Cicadellidae	Agallia consobrina		None					BD	9
Hemiptera	Cicadellidae	Alebra albostriella		None			s	oak	CDF	9
Hemiptera	Cicadellidae	Allygus mixtus		None			s		A	9
Hemiptera	Cicadellidae	Anaceratagallia ribauti		None			g		A	7
Hemiptera	Cicadellidae	Aphrodes makarovi		None					BH	7
Hemiptera	Cicadellidae	Arthaldeus pascuellus		None			g		ACDEGH	6,7,9
Hemiptera	Cicadellidae	Athysanus argentarius		None			g		FH	9

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Hemiptera	Cicadellidae	Balclutha punctata		None					H	7
Hemiptera	Cicadellidae	Cicadella viridis		None			w		ABCEF	7,9,11
Hemiptera	Cicadellidae	Cicadula persimilis		None			g		G	9
Hemiptera	Cicadellidae	Cicadula quadrinotata		None			w		ACD	6,7,9
Hemiptera	Cicadellidae	Conosanus obsoletus		None			w		AE	9
Hemiptera	Cicadellidae	Deltocephalus pulicaris		None			g		ABD	7,9
Hemiptera	Cicadellidae	Empoasca vitis		None			s		C	9
Hemiptera	Cicadellidae	Errastunus (Adarrus) ocellaris		None			g		DEFGH	6,7,9
Hemiptera	Cicadellidae	Eupterycyba jucunda		None			s	alder	F	9
Hemiptera	Cicadellidae	Eupteryx aurata	Potato Leafhopper	None				nettles mainly	BDF	6,9
Hemiptera	Cicadellidae	Eupteryx decemnotata		None			g	Lamiaceae	B	9
Hemiptera	Cicadellidae	Eupteryx florida		None			g	Lamiaceae	B	9
Hemiptera	Cicadellidae	Eupteryx thoulessi		None			w	water mint	A	9
Hemiptera	Cicadellidae	Eupteryx urticae		None				nettles	FH	9
Hemiptera	Cicadellidae	Eupteryx vittata		None					BD	6,7,9
Hemiptera	Cicadellidae	Euscelis incisus		None			g		ABFG	5,7,9
Hemiptera	Cicadellidae	Evacanthus acuminatus		None					B	7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Hemiptera	Cicadellidae	Evacanthus interruptus		None					B	7
Hemiptera	Cicadellidae	Iassus lanio		None			s	oak	AB	7,9
Hemiptera	Cicadellidae	Idiocerus herrichi		None			s	white willow (mainly)	A	9
Hemiptera	Cicadellidae	Idiocerus stigmaticalis		None			s	white willow/crack willow	ACDH	7,9
Hemiptera	Cicadellidae	Lamprotettix nitidulus		None			s		BH	9
Hemiptera	Cicadellidae	Linnavuoriana sexmaculata		None			s	willows	A	11
Hemiptera	Cicadellidae	Macropsis albae		None			s	white willow (mainly)	A	7
Hemiptera	Cicadellidae	Macropsis cerea		None			s	willows	A	7
Hemiptera	Cicadellidae	Macropsis scotti		None			s	brambles	D	9
Hemiptera	Cicadellidae	Macropsis scutellata		None				nettles	B	9
Hemiptera	Cicadellidae	Macrosteles viridigriseus		None			w		C	9
Hemiptera	Cicadellidae	Megophthalmus scabripennis		None			g		A	7
Hemiptera	Cicadellidae	Mocydia crocea		None					H	9
Hemiptera	Cicadellidae	Notus flavipennis		None			w	Carex	D	6
Hemiptera	Cicadellidae	Oncopsis avellanae		None			s	hazel	D	6
Hemiptera	Cicadellidae	Oncopsis flavicollis		None			s	birch	DF	6
Hemiptera	Cicadellidae	Planaphrodes bifasciata		None				Poaceae?	AB	7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Hemiptera	Cicadellidae	Psammotettix cephalotes		None			g		AH	9
Hemiptera	Cicadellidae	Streptanus sordidus		None		YES	g		ACDE	6,7
Hemiptera	Cicadellidae	Zyginidia scutellaris		None			g		CDG	6,9,11
Hemiptera	Cixiidae – Lacehoppers	Cixius nervosus		None			s		BDH	6,7
Hemiptera	Cixiidae	Cixius similis		None		YES	s/w		F	9
Hemiptera	Coreidae – Leatherbugs	Coreus marginatus	Dock Bug	None	Least Concern			docks	AG	5,6
Hemiptera	Coreidae	Coriomeris denticulatus	Denticulate Leatherbug	None	Least Concern		gb	black medick, clovers	A	7
Hemiptera	Coreidae	Gonocerus acuteangulatus	Box Bug	None	Least Concern		s	hawthorn, buckthorn etc	BG	9
Hemiptera	Coreidae	Syromastus rhombeus	Rhombic Leatherbug	None	Least Concern		gb	sandworts, spurreys etc	A	9
Hemiptera	Corixidae – Water boatmen	Callicorixa praeusta		None	Least Concern		a		D	7
Hemiptera	Corixidae	Corixa punctata	Common Water Boatman	None	Least Concern		a		D	7
Hemiptera	Corixidae	Hesperocorixa linnaei		None	Least Concern		a		AD	5,7
Hemiptera	Corixidae	Hesperocorixa moesta		None	Least Concern		a		BDE	5,7
Hemiptera	Corixidae	Hesperocorixa sahlbergi		None	Least Concern		a		BCD	5
Hemiptera	Corixidae	Micronecta scholtzi		None	Least Concern		a		E	7
Hemiptera	*Corixidae*	*nymph*					*a*		*ADE*	*5*
Hemiptera	Corixidae	Sigara limitata		None	Least Concern		a		D	7
Hemiptera	Cydnidae –	Legnotus	Bordered	None	Least Concern		g	bedstraws	BFG	5,6

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
	Burrowing shieldbugs	limbosus	Shieldbug							
Hemiptera	Cydnidae	Tritomegas bicolor	Pied Shieldbug	None	Least Concern		g	white deadnettle	AEG	5
Hemiptera	Delphacidae – Planthoppers	Chloriona smaragdula		None			w	Phragmites	D	6
Hemiptera	Delphacidae	Conomelus anceps		None			w	Juncus	ACDE	2,7,9,11
Hemiptera	Delphacidae	Delphax pulchellus		None			w	Phragmites	A	7
Hemiptera	Delphacidae	Dicranotropis hamata		None			g		F	9
Hemiptera	Delphacidae	Ditropis pteridis		None				bracken	F	6
Hemiptera	Delphacidae	Euides basilinea		None			w	Phragmites	AF	6,7
Hemiptera	Delphacidae	Florodelphax leptosoma		None			w		E	5,7
Hemiptera	Delphacidae	Hyledelphax elegantulus		None			g		F	6
Hemiptera	Delphacidae	Javesella dubia		None					CD	5,6
Hemiptera	Delphacidae	Javesella pellucida		None			g		G	9
Hemiptera	Delphacidae	Megamelodes lequesnei		NS (Nb)		YES	w	Juncus?	A	7,9
Hemiptera	Delphacidae	Megamelus notula		None			w		A	9
Hemiptera	Delphacidae	Stenocranus major		None			w	Phalaris	ABGH	5,9
Hemiptera	Gerridae – Pondskaters	Gerris lacustris	Common Pondskater	None			a		DH	5
Hemiptera	Gerridae	Gerris odontogaster		None			a		BD	5,7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Hemiptera	Lygaeidae – Groundbugs	Chilacis typhae	Reedmace Bug	None			w	reedmace	AC	7,9
Hemiptera	Lygaeidae	Cymus glandicolor		None			w	sedges	A	5
Hemiptera	Lygaeidae	Cymus melanocephalus		None			w		ABCEH	2,5,6,7
Hemiptera	Lygaeidae	Drymus latus		NS (Nb)			gb		H	9
Hemiptera	Lygaeidae	Drymus ryei		None					E	5
Hemiptera	Lygaeidae	Drymus sylvaticus		None					G	5
Hemiptera	Lygaeidae	Emblethis denticollis		None		YES	gb	common stork’s-bill	A	9
Hemiptera	Lygaeidae	Heterogaster urticae	Nettle Groundbug	None				nettles	ABDFH	2,5,6,7,9
Hemiptera	Lygaeidae	Ischnodemus sabuleti	European Cinchbug	None			g/w	grasses and reeds	ABCDEFH	2,5,6,11
Hemiptera	Lygaeidae	Kleidocerys resedae	Birch Catkin Bug	None			s	birch (mainly)	ABDEFGH	5,6,9
Hemiptera	Lygaeidae	Megalonotus chiragra		None			gb		AF	5,7
Hemiptera	Lygaeidae	Megalonotus praetextatus		NS (Nb)			gb		A	7
Hemiptera	Lygaeidae	Nysius huttoni		None			g		AG	7,9
Hemiptera	Lygaeidae	Pachybrachius fracticollis		None			w		AB	5,11
Hemiptera	Lygaeidae	Peritrechus geniculatus		None			g		AD	7
Hemiptera	Lygaeidae	Peritrechus nubilus		None			g		A	7
Hemiptera	Lygaeidae	Scolopostethus affinis		None					CF	2,5

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Hemiptera	Lygaeidae	Scolopostethus puberulus		None			g/w		B	7
Hemiptera	Lygaeidae	Scolopostethus thomsoni		None					BFG	6,7
Hemiptera	Lygaeidae	Stygnocoris fuligineus		None			g		AF	2,7
Hemiptera	Lygaeidae	Stygnocoris rusticus		None			g		A	9
Hemiptera	Lygaeidae	Trapezonotus desertus		None			gb		A	7
Hemiptera	Microphysidae – Minute bladdder bugs	Loricula elegantula		None			s	lichens	ACDFG	6,7
Hemiptera	Microphysidae	Loricula pselaphiformis		None			s	lichens	G	6
Hemiptera	Microphysidae	Myrmedobia exilis		None		YES			D	9
Hemiptera	Miridae – Plant or capsid bugs	Amblytylus nasutus		None			g		ABFGH	6,7
Hemiptera	Miridae	Apolygus lucorum		None					B	7
Hemiptera	Miridae	Apolygus spinolae		None					BF	9
Hemiptera	Miridae	Atractotomus mali		None			s	hawthorn, apple	B	7
Hemiptera	Miridae	Blepharidopterus angulatus	Black-kneed Capsid	None			s		EF	9
Hemiptera	Miridae	Campyloneura virgula		None			s		AB	7
Hemiptera	Miridae	Capsus ater		None			g		ABDF	6,7
Hemiptera	Miridae	Chlamydatus saltitans		None			gb	Fabaceae	A	7,9
Hemiptera	Miridae	Closterotomus fulvomaculatus		None					D	6

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Hemiptera	Miridae	Closterotomus norwegicus		None			g		ABH	7
Hemiptera	Miridae	Deraeocoris flavilinea		None			s		AFH	6,7
Hemiptera	Miridae	Deraeocoris lutescens		None			s		BCDFGH	5,6,9
Hemiptera	Miridae	Deraeocoris ruber		None					BDH	7
Hemiptera	Miridae	Dicyphus constrictus		None					B	7
Hemiptera	Miridae	Dicyphus epilobii		None				hairy willowherb	BG	9
Hemiptera	Miridae	Dicyphus globulifer		None				campions	AB	7,9
Hemiptera	Miridae	Dicyphus pallidus		None		YES		hedge woundwort	B	7
Hemiptera	Miridae	Dryophilocoris flavoquadrimaculatus		None			s	oaks	C	5
Hemiptera	Miridae	Europiella artemisiae		None			g	mugwort	AF	9
Hemiptera	Miridae	Grypocoris stysi		None			s	nettles etc	D	6
Hemiptera	Miridae	Halticus luteicollis		None				bedsraws, white bryony	B	7
Hemiptera	Miridae	Harpocera thoracica		None			s	oaks	AC	5
Hemiptera	Miridae	Heterotoma planicornis		None					ABGH	7
Hemiptera	Miridae	Leptopterna dolabrata	Meadow Plant Bug	None			g	grasses	ABDFGH	6,7
Hemiptera	Miridae	Leptopterna ferrugata		None			gb	grasses	A	7
Hemiptera	Miridae	Liocoris tripustulatus		None				nettles	ABDFH	5,6,7,9,11

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Hemiptera	Miridae	Lygocoris pabulinus	Common Green Capsid	None					DEH	6,9
Hemiptera	Miridae	Lygus rugulipennis		None					AF	7,9
Hemiptera	*Miridae*	*Lygus sp indet pratensis complex*							*A*	*5*
Hemiptera	Miridae	Malacocoris chlorizans		None			s		D	9
Hemiptera	Miridae	Megacoelum infusum		None			s	oaks	A	9
Hemiptera	Miridae	Megaloceroea recticornis		None			g		ABGH	7
Hemiptera	Miridae	Miris striatus		None			s		B	5 (nymph)
Hemiptera	Miridae	Neolygus viridis		None			s		DH	6,7
Hemiptera	Miridae	Notostira elongata		None			g		AEFGH	6,9
Hemiptera	Miridae	Orthonotus rufifrons		None			s	nettles	B	7
Hemiptera	Miridae	Orthops basalis		None				umbellifers	B	7
Hemiptera	Miridae	Orthops campestris		None				umbellifers	BF	6,7,9
Hemiptera	Miridae	Orthops kalmii		None				umbellifers	B	9
Hemiptera	Miridae	Orthotylus flavosparsus		None			g	chenopods	F	9
Hemiptera	Miridae	Orthotylus ochrotrichus		None					B	7
Hemiptera	Miridae	Phylus coryli		None			s	hazel	G	6
Hemiptera	Miridae	Phytocoris tiliae		None			s		C	9

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Hemiptera	Miridae	Phytocoris ulmi		None			s	hawthorn (mainly)	H	7
Hemiptera	Miridae	Phytocoris varipes		None			g		FH	9
Hemiptera	Miridae	Pilophorus clavatus		None			s	sallows	B	9
Hemiptera	Miridae	Pilophorus perplexus		None			s	oak (mainly)	H	9
Hemiptera	Miridae	Pinalitus cervinus		None			s		BG	9
Hemiptera	Miridae	Plagiognathus arbustorum		None					ABDGH	6,7,9
Hemiptera	Miridae	Plagiognathus chrysanthemi		None			g	Compositae	ABH	7
Hemiptera	Miridae	Polymerus unifasciatus		None			g	bedstraws	A	7
Hemiptera	Miridae	Psallus ambiguus		None			s	hawthorn, sallow, alder	E	6
Hemiptera	Miridae	Psallus assimilis		None			s	field maple	G	6
Hemiptera	Miridae	Psallus perrisi		None			s	oaks	EF	6
Hemiptera	Miridae	Psallus salicis		None			s	alder	F	9
Hemiptera	Miridae	Psallus varians		None			s	oaks	F	6
Hemiptera	Miridae	Rhabdomiris striatellus		None			s	oaks	C	5
Hemiptera	Miridae	Stenodema calcarata		None					ADEFG	5,6
Hemiptera	Miridae	Stenodema laevigata		None					FG	6,9
Hemiptera	Miridae	Stenotus binotatus		None			g		ABGH	7
Hemiptera	Miridae	Teratocoris		None		YES	w	sedges?	A	7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
		viridis								
Hemiptera	Miridae	Trigonotylus caelestialium		None			g		H	9
Hemiptera	Miridae	Trigonotylus ruficornis		None			g		G	6
Hemiptera	Nabidae – Damsel bugs	Himacerus apterus	Tree Damsel Bug	None			s		BDFG	7(nymph),9
Hemiptera	Nabidae	Himacerus mirmicoides	Ant Damsel Bug	None			g		ABDF	5,7,9,11
Hemiptera	Nabidae	Nabis ferus		None					ABDG	2,5,9
Hemiptera	Nabidae	Nabis limbatus	Marsh Damsel Bug	None			g/w		ABEF	9
Hemiptera	Nabidae	Nabis rugosus	Common Damsel Bug	None					ADFGH	5,6,9
Hemiptera	Nepidae – Waterscorpions	Nepa cinerea	Waterscorpion	None	Least Concern		a		AB	5,7
Hemiptera	Notonectidae – Backswimmers	Notonecta glauca	Common Backswimmer	None	Least Concern		a		D	7
Hemiptera	*Notonectidae*	*Notonecta sp nymphs*					*a*		*ABCDEH*	*5,7*
Hemiptera	Pentatomidae – Typical shieldbugs	Aelia acuminata	Bishop's Mitre Shieldbug	None	Least Concern		g	Poaceae	ABFG	5,6,9
Hemiptera	Pentatomidae	Dolycoris baccarum	Hairy Shieldbug	None	Least Concern				ABG	5,7,9
Hemiptera	Pentatomidae	Eurydema oleracea	Crucifer Shieldbug	None	Least Concern			Brassicaceae	ABFG	5,9
Hemiptera	Pentatomidae	Eysarcoris venustissimus	Woundwort Shieldbug	None	Least Concern			hedge woundwort	FG	9
Hemiptera	Pentatomidae	Palomena prasina	Common Green Shieldbug	None	Least Concern				ABDFG	5,6,9
Hemiptera	Pentatomidae	Pentatoma	Red-legged	None	Least Concern		s		ABDGH	7,9

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
		rufipes	Shieldbug							
Hemiptera	Pentatomidae	Podops inuncta	Turtle Shieldbug	None	Least Concern		g	grasses	AGH	5
Hemiptera	Pentatomidae	Zicrona caerulea	Blue Shieldbug	None	Least Concern			Altica species (mainly)	A	11
Hemiptera	Piesmatidae – Beetbugs	Piesma maculatum		None			g	chenopods	CF	5,7
Hemiptera	Pleidae – Pygmy backswimmers	Plea minutissima		None	Least Concern		a		E	7
Hemiptera	Psyllidae – Jumping plant lice	Livia juncorum		None			w	Juncus	BD	7
Hemiptera	Psyllidae	Psylla alni		None			s	alder	EF	9
Hemiptera	Rhopalidae – Rhopalid bugs	Brachycarenus tigrinus		None	NA (Not Applicable)		gb		A	7
Hemiptera	Rhopalidae	Corizus hyoscyami		None	Least Concern		g		B	9
Hemiptera	Rhopalidae	Rhopalus parumpunctatus		NS	Least Concern		g		ABF	7,9
Hemiptera	Rhopalidae	Rhopalus subrufus		None	Least Concern		g		B	9
Hemiptera	Rhopalidae	Stictopleurus abutilon		None	NA (Not Applicable)		g		AB	9
Hemiptera	Rhopalidae	Stictopleurus punctatonervosus		None	NA (Not Applicable)		g		F	9
Hemiptera	Saldidae – Shorebugs	Chartoscirta cincta		None	Least Concern		w		ACD	5,7
Hemiptera	Saldidae	Salda littoralis		NS	Least Concern	YES	w		CE	7
Hemiptera	Saldidae	Saldula saltatoria	Common Shorebug	None	Least Concern		w		ABDE	5,7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Hemiptera	Scutelleridae – Tortoise Shieldbugs	Eurygaster testudinaria	Tortoise Shieldbug	None	Least Concern		g	grasses	BCG	9
Hemiptera	Tingidae – Lacebugs	Kalama tricornis		None	Least Concern		gb		A	7,9
Hemiptera	Tingidae	Physatocheila dumetorum		None	Least Concern		s	hawthorn (mainly)	ABDGH	5,9
Hemiptera	Tingidae	Tingis ampliata		None	Least Concern			creeping thistle	AB	5
Hemiptera	Tingidae	Tingis cardui	Spear Thistle Lacebug	None	Least Concern			spear thistle	AH	5
Hemiptera	Triozidae	Trichochermes walkeri		None			s	Rhamnus cathartica	B	9
Hemiptera	Veliidae – Water crickets	Microvelia reticulata		None	Least Concern		a		E	5
Hymenoptera – Ants, Bees, Wasps and relatives	Apidae – Bees	Andrena fulva	Tawny Mining Bee	None					A	5
Hymenoptera	Apidae	Andrena haemorrhoa	Early Mining Bee	None					A	5
Hymenoptera	Apidae	Andrena subopaca	Impunctate Mini-mining Bee	None					G	5
Hymenoptera	Apidae	Apis mellifera	Honey Bee	None					ABGH	5,6,7
Hymenoptera	Apidae	Bombus hypnorum	Tree Bumblebee	None					ADFGH	6,7
Hymenoptera	Apidae	Bombus lapidarius	Red-tailed Bumblebee	None					AG	6,7
Hymenoptera	Apidae	Bombus lucorum agg.	White-tailed Bumblebee	None					BDG	6,7
Hymenoptera	Apidae	Bombus pascuorum	Common Carder Bee	None					ABCDEFGH	5,7,9
Hymenoptera	Apidae	Bombus pratorum	Early Bumblebee	None					D	6

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Hymenoptera	Apidae	Nomada leucophthalma	Early Nomad Bee	None					H	5
Hymenoptera	Apidae	Nomada panzeri	Panzer's Nomad	None					A	5
Hymenoptera	Argidae – Argid sawflies	Arge melanochroa		None					F	6
Hymenoptera	Cephidae – Stem-boring sawflies	Calameuta pallipes		None					E	6
Hymenoptera	Cephidae	Cephus pygmeus	Wheat Stem Borer	None			g	grasses	AG	5,6
Hymenoptera	Chrysididae – Cuckoo wasps	Chrysis mediata		None					D	6
Hymenoptera	Colletidae – Bees (part)	Colletes hederae	Ivy Bee	None			s	ivy	FG	9
Hymenoptera	Crabronidae – Digger wasps	Cerceris quinquefasciata	5-banded Weevil-wasp	NR (RDB3)			gb	weevils	A	7
Hymenoptera	Crabronidae	Crabro cribrarius	Slender Bodied Digger Wasp	None			gb	flies	A	7
Hymenoptera	Crabronidae	Lindenius albilabris		None			gb		A	7
Hymenoptera	Crabronidae	Nysson dimidiatus	Small Spurred Digger Wasp	NS (Nb)			gb	?Lindenius albilabris, Harpactus tumidus	A	7
Hymenoptera	Crabronidae	Oxybelus uniglumis	Common Spiny Digger Wasp	None			gb	flies	AF	7
Hymenoptera	Cynipidae – Gall wasps	Andricus quercuscalicis	Knopper Oak Gall Wasp	None			s	oaks	A	9
Hymenoptera	Cynipidae	Neuroterus quercusbaccarum	Spangle Gall Wasp	None			s	oaks	A	9
Hymenoptera	Formicidae – Ants	Formica fusca	Negro Ant	None					F	6

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Hymenoptera	Formicidae	Lasius flavus	Yellow Meadow Ant	None			g		A	2
Hymenoptera	Formicidae	Lasius fuliginosus	Jet Ant	None			s		H	9
Hymenoptera	*Formicidae*	*Lasius niger sens. lat.*	*Small Black Ant*	*None*			*g*		*AFGH*	*2,5,6,7,9*
Hymenoptera	Formicidae	Myrmica ruginodis		None					A	2
Hymenoptera	Formicidae	Temnothorax nylanderi		None			s	nests in trees	BDG	6,7,9
Hymenoptera	Halictidae – End-banded furrow bees	Lasioglossum albipes	Bloomed Furrow Bee	None					G	9
Hymenoptera	Halictidae	Lasioglossum malachurum	Sharp-collared Furrow Bee	None			g		A	7
Hymenoptera	Halictidae	Sphecodes crassus	Swollen-thighed Blood Bee	NS (Nb)			g		A	7
Hymenoptera	Halictidae	Sphecodes ephippius	Bare-saddled Blood Bee	None			g		A	7
Hymenoptera	Halictidae	Sphecodes puncticeps	Sickle-jawed Blood Bee	None			g		A	7
Hymenoptera	Pompilidae – Spider-hunting wasps	Priocnemis fennica		None			?w		D	7
Hymenoptera	Pompilidae	Priocnemis parvula		None			gb	spiders	F	7
Hymenoptera	Tenthredinidae – Common sawflies	Amauronematus fallax		None			s	willows	AF	5
Hymenoptera	Tenthredinidae	Athalia circularis		None					BE	6,7,9
Hymenoptera	Tenthredinidae	Athalia rosae	Turnip Sawfly	None				Brassicaceae	ABE	7,9
Hymenoptera	Tenthredinidae	Athalia		None			w	skullcap	B	7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
		scutellariae								
Hymenoptera	Tenthredinidae	Dolerus aericeps		None			w	horse-tails	EF	5,6,9
Hymenoptera	Tenthredinidae	Dolerus ferrugatus		None			w	Juncus	A	7
Hymenoptera	Tenthredinidae	Dolerus niger		None				Graminaceae	G	5
Hymenoptera	Tenthredinidae	Dolerus nigratus		None				Graminaceae	B	5
Hymenoptera	Tenthredinidae	Dolerus pratensis		None			w	horse-tails	D	5
Hymenoptera	Tenthredinidae	Dolerus vestigialis		None			w	horse-tails	F	5
Hymenoptera	Tenthredinidae	Eutomostethus ephippium		None				grasses	ABDH	5,7
Hymenoptera	Tenthredinidae	Eutomostethus gagathinus		None			w	Juncus, Carex	D	6
Hymenoptera	Tenthredinidae	Eutomostethus luteiventris		None			w	Juncus effusus	E	6
Hymenoptera	Tenthredinidae	Halidamia affinis		None				cleavers, hedge bedstraw	B	5
Hymenoptera	Tenthredinidae	Hoplocampa crataegi		None			s	hawthorn	ABD	5
Hymenoptera	Tenthredinidae	Hoplocampa pectoralis		None			s	hawthorn	E	5
Hymenoptera	Tenthredinidae	Macrophya duodecimpunctata		None			w	sedges, grasses	D	6
Hymenoptera	Tenthredinidae	Nematus bergmanni		None			s	willows	A	7
Hymenoptera	Tenthredinidae	Nematus oligospilus		None			s	willows	EH	5,9
Hymenoptera	Tenthredinidae	Selandria serva		None			w	sedges, rushes grasses	C	5

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Hymenoptera	Tenthredinidae	Tenthredo arcuata		None			g	white clover	E	9
Hymenoptera	Tenthredinidae	Tenthredo mesomela		None					D	6
Hymenoptera	Tenthredinidae	Tenthredo notha		None			g	white clover, tufted vetch	F	6
Hymenoptera	Vespidae – Social, potter and mason wasps	Vespula vulgaris	Common Wasp	None					CD	5
Isopoda – Woodlice	Armadillidiidae	Armadillidium vulgare	Common Pill Woodlouse	None					AFGH	2,5,7,9
Isopoda	Asellidae	Asellus aquaticus	Two-spotted Water Hog-louse	None			a		ABDH	5,7
Isopoda	Oniscidae	Oniscus asellus	Common Shiny Woodlouse	None					DF	2
Isopoda	Philosciidae	Philoscia muscorum	Common Striped Woodlouse	None					ABDEFH	2,5,9
Isopoda	Porcellionidae	Porcellio scaber	Common Rough Woodlouse	None					DFGH	2,7,9
Ixodida – Ticks	Ixodidae	Ixodes ricinus	Castor Bean Tick	None					BDGH	5,9
Julida – Snake Millipedes	Julidae	Cylindroiulus punctatus	Blunt-tailed Snake-millipede	None					B	9
Julida	Julidae	Ommatoiulus sabulosus	Striped Millipede	None					F	9
Julida	Julidae	Tachypodoiulus niger	White-legged Snake-millipede	None					B	7
Lepidoptera – Moths and Butterflies	Adelidae – Longhorns	Cauchas rufimitrella	Meadow Longhorn	None				cuckoo flower, garlic mustard	D	5

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Lepidoptera	Adelidae	Nemophora degeerella	Yellow-barred Longhorn	None			s		D	6
Lepidoptera	Argyresthiidae – Argent moths	Argyresthia goedartella	Golden Argent	None			s	birch, alder	D	9
Lepidoptera	Argyresthiidae	Argyresthia pruniella	Cherry Fruit Moth	None			s	cherry	H	7
Lepidoptera	Argyresthiidae	Argyresthia retinella	Netted Argent	None			s	birch	D	6
Lepidoptera	Choreutidae – Metal-marks	Anthophila fabriciana	Nettle Tap	None				nettles	ADEFH	5,6,9
Lepidoptera	Coleophoridae – Casebearer moths	Coleophora follicularis	Agrimony Case-Bearer	NS (Nb)				hemp agrimony, common fleabane	D	6
Lepidoptera	Coleophoridae	Coleophora lusciniaepennella	Osier Case-Bearer	None			s	willows	B	5
Lepidoptera	Cosmopterigidae – Cosmet moths	Cosmopterix zieglerella	Hedge Cosmet	NS (Nb)			s	hops	A	9
Lepidoptera	Cosmopterigidae	Limnaecia phragmitella	Bulrush Cosmet	None			w	reedmace	C	9
Lepidoptera	Crambidae – Crambid moths	Agriphila geniculea	Elbow-stripe Grass-veneer	None			g	grasses	E	9
Lepidoptera	Crambidae	Anania hortulata	Small Magpie	None				nettles	D	6
Lepidoptera	Crambidae	Cataclysta lemnata	Small China-mark	None			a	duckweeds	AB	7
Lepidoptera	Crambidae	Chrysoteuchia culmella	Garden Grass-veneer	None			g	grasses	A	7
Lepidoptera	Crambidae	Crambus lathoniellus	Hook-streak Grass-veneer	None			g	grasses	D	6
Lepidoptera	Crambidae	Elophila nymphaeata	Brown China-mark	None			a	pondweeds, frogbit, bur-reeds	D	6

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Lepidoptera	Crambidae	Eudonia pallida	Marsh Grey	None			w	mosses	D	6
Lepidoptera	Crambidae	Parapoynx stratiotata	Ringed China-mark	None			a	pondweeds	D	6
Lepidoptera	Crambidae	Pleuroptya ruralis	Mother of Pearl	None				nettles	D	9
Lepidoptera	Depressariidae – Depressariid moths	Agonopterix alstromeriana	Brown-spot Flat-body	None			g	hemlock	A	7
Lepidoptera	Elachistidae – Grass-miner moths	Elachista albidella	Cotton-grass Dwarf	None			w	sedges, cottongrass	D	6
Lepidoptera	Elachistidae	Elachista maculicerusella	Triple-spot Dwarf	None			w	reed canary grass, Phragmites	D	6
Lepidoptera	Epermeniidae – Fringe-tufted moths	Epermenia falciformis	Large Lance-wing	None				angelica	D	6
Lepidoptera	Erebidae – Tiger and tussock moths etc	Calliteara pudibunda	Pale Tussock	None			s		D	6
Lepidoptera	Erebidae	Euclidia mi	Mother Shipton	None			g	Fabaceae	F	6
Lepidoptera	Erebidae	Orgyia antiqua	Vapourer	None			s		B	9
Lepidoptera	Erebidae	Rivula sericealis	Straw Dot	None			g	false brome, tor-grass, purple moor-grass	D	6
Lepidoptera	Erebidae	Schrankia costaestrigalis	Pinion-streaked Snout	None					D	6
Lepidoptera	Erebidae	Spilosoma lubricipeda	White Ermine	None					D	6
Lepidoptera	Erebidae	Spilosoma lutea	Buff Ermine	None					D	6

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Lepidoptera	Erebidae	Tyria jacobaeae	Cinnabar	None			g	ragworts	DEH	6,7
Lepidoptera	Geometridae – Geometrids	Cabera exanthemata	Common Wave	None			s	birches, alder, sallows	D	6
Lepidoptera	Geometridae	Campaea margaritaria	Light Emerald	None			s		D	6
Lepidoptera	Geometridae	Camptogramma bilineata	Yellow Shell	None					B	9
Lepidoptera	Geometridae	Colostygia pectinataria	Green Carpet	None			g	bedstraws	D	6
Lepidoptera	Geometridae	Epirrhoe alternata	Common Carpet	None				bedstraws, cleavers	B	9
Lepidoptera	Geometridae	Eupithecia exiguata	Mottled Pug	None			s		D	6
Lepidoptera	Geometridae	Eupithecia vulgata	Common Pug	None					D	6
Lepidoptera	Geometridae	Hypomecis punctinalis	Pale Oak Beauty	None			s		D	6
Lepidoptera	Geometridae	Lomaspilis marginata	Clouded Border	None			s		D	6
Lepidoptera	Geometridae	Timandra comae	Blood-vein	None				polygonaceae	D	6
Lepidoptera	Geometridae	Xanthorhoe montanata	Silver-ground Carpet	None					D	6
Lepidoptera	Glyphipterygidae – Glyphipterygid moths	Glyphipterix thrasonella	Speckled Fanner	None			w	rushes	D	6
Lepidoptera	Gracillariidae – Leaf-blotch miner moths	Phyllocnistis saligna	Willow Bent-wing	None			s	willows	D	9
Lepidoptera	Gracillariidae	Phyllonorycter heegeriella	Pale Oak Midget	None			s	oaks	E	9
Lepidoptera	Hepialidae – Swift moths	Korscheltellus lupulina	Common Swift	None					D	6

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Lepidoptera	Hesperiidae – Skippers	Ochlodes sylvanus	Large Skipper	None				cock’s-foot, false brome	ABDEH	6,7
Lepidoptera	Lycaenidae – Hairstreaks, coppers and blues	Celastrina argiolus	Holly Blue	None			s	holly, ivy	BC	5
Lepidoptera	Lycaenidae	Lycaena phlaeas	Small Copper	None			g	sorrels	A	7
Lepidoptera	Lycaenidae	Polyommatus icarus	Common Blue	None			g	Fabaceae	A	7
Lepidoptera	Micropterigidae – Mandibulate archaic moths	Micropterix calthella	Plain Gold	None					B	5
Lepidoptera	Micropterigidae	Micropterix mansuetella	Black-headed Gold	NS (Nb)			s		D	6
Lepidoptera	Momphidae – Mompha moths	Mompha epilobiella	Common Mompha	None				willowherbs	D	6
Lepidoptera	Noctuidae – Noctuids	Agrotis exclamationis	Heart and Dart	None					D	6
Lepidoptera	Noctuidae	Agrotis segetum	Turnip Moth	None					D	6
Lepidoptera	Noctuidae	Amphipyra pyramidea	Copper Underwing	None			s		B	5
Lepidoptera	Noctuidae	Apamea crenata	Clouded-bordered Brindle	None			g	grasses	D	6
Lepidoptera	Noctuidae	Apamea sordens	Rustic Shoulder-knot	None				grasses	D	6
Lepidoptera	Noctuidae	Apamea unanimis	Small Clouded Brindle	None				grasses	D	6
Lepidoptera	Noctuidae	Charanyca trigrammica	Treble Lines	None			g		D	6
Lepidoptera	Noctuidae	Diachrysia chrysitis	Burnished Brass	None			g		D	6

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Lepidoptera	Noctuidae	Diarsia rubi	Small Square-spot	None					D	6
Lepidoptera	Noctuidae	Hoplodrina ambigua	Vine's Rustic	None			g		A	9
Lepidoptera	Noctuidae	Lacanobia oleracea	Bright-line Brown-eye	None					D	6
Lepidoptera	Noctuidae	Mythimna albipuncta	White-point	None				grasses	D	6
Lepidoptera	Noctuidae	Mythimna pallens	Common Wainscot	None			g	grasses	D	6
Lepidoptera	Noctuidae	Mythimna pudorina	Striped Wainscot	None			w	grasses	D	6
Lepidoptera	Noctuidae	Ochropleura plecta	Flame Shoulder	None					D	6
Lepidoptera	Noctuidae	Oligia fasciuncula	Middle-barred Minor	None				grasses	D	6
Lepidoptera	Noctuidae	Oligia strigilis	Marbled Minor	None			g	grasses	D	6
Lepidoptera	Noctuidae	Panemeria tenebrata	Small Yellow Underwing	None			g	common and field mouse-ear	A	5
Lepidoptera	Noctuidae	Phlogophora meticulosa	Angle Shades	None					D	6
Lepidoptera	Noctuidae	Plusia festucae	Gold Spot	None			w	sedges, yellow flag, water plantain	D	6
Lepidoptera	Noctuidae	Senta flammea	Flame Wainscot	NS (Na)			w	Phragmites	D	6
Lepidoptera	Noctuidae	Xestia c-nigrum	Setaceous Hebrew Character	None					D	6
Lepidoptera	Noctuidae	Xestia xanthographa	Square-spot Rustic	None				grasses	G	9
Lepidoptera	Nolidae – Tuft moths	Earias clorana	Cream-bordered Green Pea	NS (Nb)			w	willows	D	6

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Lepidoptera	Notodontidae – Prominents and allies	Notodonta ziczac	Pebble Prominent	None			s	willows, poplars	D	6
Lepidoptera	Notodontidae	Phalera bucephala	Buff-tip	None			s		D	6
Lepidoptera	Notodontidae	Pheosia tremula	Swallow Prominent	None			s	willows, poplars	D	6
Lepidoptera	Nymphalidae – Nymphalids, fritillaries and browns	Aglais io	Peacock	None				nettles	AEF	2,5
Lepidoptera	Nymphalidae	Aglais urticae	Small Tortoiseshell	None				nettles	AF	6,7,9
Lepidoptera	Nymphalidae	Aphantopus hyperantus	Ringlet	None				grasses	ABDFH	7
Lepidoptera	Nymphalidae	Coenonympha pamphilus	Small Heath	None			g	grasses	ABG	6,9
Lepidoptera	Nymphalidae	Maniola jurtina	Meadow Brown	None			g	grasses	ABDEFGH	6,7
Lepidoptera	Nymphalidae	Pararge aegeria	Speckled Wood	None			s	grasses	ABCDEF	5,6,7,9
Lepidoptera	Nymphalidae	Polygonia c-album	Comma	None				nettle, elm, currant	ABEFG	7,9
Lepidoptera	Nymphalidae	Pyronia tithonus	Gatekeeper	None			s	grasses	B	7
Lepidoptera	Nymphalidae	Vanessa atalanta	Red Admiral	None				nettles	ABCDEG	6,7,9
Lepidoptera	Nymphalidae	Vanessa cardui	Painted Lady	None				thistles	ABDEH	7,9
Lepidoptera	Pieridae – Whites	Anthocharis cardamines	Orange-tip	None			g	cuckooflower, garlic mustard etc	ACDEFH	5
Lepidoptera	Pieridae	Gonepteryx rhamni	Brimstone	None			s	buckthorn, alder buckthorn	AD	5
Lepidoptera	Pieridae	Pieris brassicae	Large White	None				Brassicaceae	ABCFG	5,7,9

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Lepidoptera	Pieridae	Pieris napi	Green-veined White	None				Brassicaceae	ABCDEF	5,9
Lepidoptera	Pieridae	Pieris rapae	Small White	None				Brassicaceae	ABCEH	5,7,9
Lepidoptera	Plutellidae – Diamond-back moths	Plutella xylostella	Diamond-back Moth	None				Brassicaceae	A	9
Lepidoptera	Psychidae – Bagworms	Luffia ferchautella	Grey Bagworm	None			s	lichens on bark	D	6
Lepidoptera	Psychide	Psyche casta	Common Bagworm	None			s		D	6
Lepidoptera	Pterophoridae – Plume moths	Stenoptilia pterodactyla	Brown Plume	None				germander speedwell	H	7
Lepidoptera	Sphingidae – Hawk-moths	Deilephila elpenor	Elephant Hawk-moth	None			g	willowherbs, bedstraws	D	6
Lepidoptera	Sphingidae	Laothoe populi	Poplar Hawk-moth	None			s	poplars, willows	D	6
Lepidoptera	Sphingidae	Mimas tiliae	Lime Hawk-moth	None			s		D	6
Lepidoptera	Sphingidae	Sphinx ligustri	Privet Hawk-moth	None			s		D	6
Lepidoptera	Tortricidae – Tortrix moths	Bactra lancealana	Rush Marble	None			w	rushes	E	9
Lepidoptera	Tortricidae	Celypha lacunana	Common Marble	None					AD	6,7,9
Lepidoptera	Tortricidae	Celypha striana	Barred Marble	None				dandelions	A	7
Lepidoptera	Tortricidae	Dichrorampha sequana	Square-spot Drill	None			g	yarrow	F	6
Lepidoptera	Tortricidae	Epinotia tenerana	Nut Bud Moth	None			s	hazel, alder	D	9
Lepidoptera	Tortricidae	Grapholita compositella	Triple-stripe Piercer	None			g	Fabaceae	B	7
Lepidoptera	Tortricidae	Gypsonoma sociana	White Cloaked Shoot	None			s	poplars, sallows	A	7

Order	Family	Taxon	Vernacular	British Rarity	IUCN Classification	Voucher retained?	Habitat Code	Association	Site Code	Months
Lepidoptera	Tortricidae	Hedya salicella	White-backed Marble	None			s	poplars, sallows	AH	7
Lepidoptera	Tortricidae	Notocelia cynosbatella	Yellow-faced Bell	None			s	Rosaceae	D	6
Lepidoptera	Tortricidae	Notocelia trimaculana	Triple-blotched Bell	None			s	hawthorn	D	6
Lepidoptera	Tortricidae	Pammene aurana	Sycamore Piercer	None			s	sycamore	D	7
Lepidoptera	Tortricidae	Pandemis heparana	Dark Fruit-tree Tortrix	None			s		A	7
Lepidoptera	Tortricidae	Pseudargyrotoza conwagana	Yellow-spot Tortrix	None			s	ash, wild privet	D	6
Lithobiomorpha – Centipedes (part)	Lithobiidae – Centipedes (part)	Lithobius forficatus	Brown Centipede	None	Least Concern				ADH	2,5,7
Mecoptera – Scorpionflies	Panorpidae – Scorpionflies	Panorpa germanica		None			s		AG	6,9
Megaloptera – Alderflies	Sialidae – Alderflies	Sialis lutaria	Alder Fly	None			a		ACDEH	5,7
Neuroptera – Lacewings	Chrysopidae – Green lacewings	Chrysopa perla		None			s		F	6
Neuroptera	Chrysopidae	Chrysoperla carnea		None					A	9
Neuroptera	Hemerobiidae – Brown lacewings	Micromus variegatus		None			s		DG	6
Odonata – Dragonflies and Damselflies	Aeshnidae – Hawker dragonflies	Aeshna cyanea	Southern Hawker	None			a		BEG	7,9
Odonata	Aeshnidae	Aeshna mixta	Migrant Hawker	None			a		ACEG	9
Odonata	Aeshnidae	Anax imperator	Emperor	None			a		D	6

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Odonata	Calopterygidae – Demoiselles	Calopteryx splendens	Banded Demoiselle	None			a		F	7
Odonata	Coenagriidae – Red and blue/black damselflies	Coenagrion puella	Azure Damselfly	None			a		ADEG	5,6,7
Odonata	Coenagriidae	Enallagma cyathigerum	Common Blue Damselfly	None			a		DE	6,7
Odonata	Coenagriidae	Erythromma najas	Red-eyed Damselfly	None			a		E	9
Odonata	Coenagriidae	Ischnura elegans	Blue-tailed Damselfly	None			a		ACDEH	5,6,7,9
Odonata	Coenagriidae	Pyrrhosoma nymphula	Large Red Damselfly	None			a		ACD	5
Odonata	*damselfly*	*nymph*					*a*		*E*	*5*
Odonata	*dragonfly*	*nymph*					*a*		*ABEH*	*5,7*
Odonata	Libellulidae – Chasers, skimmers and darters	Libellula depressa	Broad-bodied Chaser	None			a		H	5
Odonata	Libellulidae	Libellula quadrimaculata	Four-spotted Chaser	None			a		D	6,7
Odonata	Libellulidae	Orthetrum cancellatum	Black-tailed Skimmer	None			a		DEF	5,6
Odonata	Libellulidae	Sympetrum sanguineum	Ruddy Darter	None			a		ABDE	7,9
Odonata	*Libellulidae*	*Sympetrum sp nymph*					*a*		*A*	*5*
Odonata	Libellulidae	Sympetrum striolatum	Common Darter	None			a		ABCDEFG	7,9,11
Opiliones – Harvestmen	Leiobunidae	Leiobunum rotundum		None			s		A	7
Opiliones	Phalangiidae	Platybunus triangularis		None			s		F	2

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Orthoptera – Bush-crickets, Grasshoppers and allies	Acrididae – Grasshoppers	Chorthippus brunneus	Common Field Grasshopper	None	Least Concern		g		AEFG	7,9
Orthoptera	Acrididae	Chorthippus parallelus	Meadow Grasshopper	None	Least Concern		g		AFG	7,9
Orthoptera	Conocephalidae – Coneheads	Conocephalus discolor	Long-winged Conehead	None	Least Concern		g		CFG	9
Orthoptera	Conocephalidae	Conocephalus dorsalis	Short-winged Conehead	None	Least Concern		w		AB	7
Orthoptera	Meconematidae – Bush-crickets (part)	Meconema thalassinum	Oak Bush Cricket	None	Least Concern		s		BGH	6,7 (includes nymphs)
Orthoptera	Phaneropteridae – Bush-crickets (part)	Leptophyes punctatissima	Speckled Bush Cricket	None	Least Concern		s		ABCDFGH	6,7,9 (includes nymphs)
Orthoptera	Tetrigidae – Ground-hoppers	Tetrix subulata	Slender Ground Hopper	None	Least Concern		w		ABCDEFH	5,6,7,9,11
Orthoptera	Tetrigidae	Tetrix undulata	Common Ground Hopper	None	Least Concern				AB	5,7
Orthoptera	Tettigoniidae – Bush-crickets (part)	Metrioptera roeselii	Roesel's Bush Cricket	None	Least Concern		g		ABCDEFGH	5,6,7,9 (includes nymphs)
Orthoptera	Tettigoniidae	Pholidoptera griseoaptera	Dark Bush Cricket	None	Least Concern		s		AGH	5,7,9 (includes nymphs)
Plecoptera – Stoneflies	Nemouridae	Nemoura cinerea		None			a		CD	5,6
Plecoptera	Nemouridae	Nemoura dubitans		NS (Notable)		YES	a		ABCDE	5
Plecoptera	Nemouridae	Nemurella pictetii		None			a		CDE	5,6,9
Polydesmida – Flat-back Millipedes	Polydesmidae	Polydesmus angustus	Common Flat-backed Millipede	None	Least Concern				AF	2

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Polydesmida	Polydesmidae	Polydesmus coriaceus		None	Least Concern				D	5
Pseudoscorpiones – Pseudoscorpions	Chernetidae	Chernes cimicoides	Common Tree-chernes	None			s		BC	5,6
Psocoptera – Bark Lice	Caeciliusidae	Valenzuela atricornis		NS		YES	g		DF	9
Psocoptera	Stenopsocidae	Stenopsocus stigmaticus		None			s		B	9
Pulmonata – Snails and slugs	Agriolimacidae	Deroceras laeve	Marsh Slug	None			w		E	2
Pulmonata	Cochlicopidae – Pillar snails	Cochlicopa lubrica	Slippery Moss Snail	None	Least Concern				AB	2,5,9,11
Pulmonata	Helicidae – Typical snails	Trochulus hispidus	Hairy Snail	None	Least Concern				B	7
Pulmonata	Helicidae	Cepaea hortensis	Pale-lipped Snail	None	Least Concern				AB	7,9
Pulmonata	Helicidae	Cepaea nemoralis	Brown-lipped Snail	None	Least Concern				A	5,7,9
Pulmonata	Hygromiidae – Leaf snails	Monacha cantiana	Kentish Snail	None	Least Concern		g		AFGH	5,7,9
Pulmonata	Lymnaeidae – Pond snails	Galba truncatula	Dwarf Pond Snail	None	Least Concern		w/a		D	7
Pulmonata	Lymnaeidae	Lymnaea fuscus	Marsh Pond Snail	None	Least Concern		a/w		A	5
Pulmonata	Lymnaeidae	Lymnaea stagnalis	Great Pond Snail	None	Least Concern		a		AE	5,9
Pulmonata	Lymnaeidae	Radix balthica	Wandering Pond Snail	None	Least Concern		a		ABD	5
Pulmonata	Oxychilidae – Oxychilid snails	Aegopinella nitidula	Smooth Glass Snail	None	Least Concern		s		A	2

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Pulmonata	Oxychilidae	Oxychilus	Glossy Glass Snail	None	Least Concern		s		H	7
Pulmonata	Physidae – Bladder snails	Aplexa hypnorum	Moss Bladder Snail	None	Least Concern		w		A	5
Pulmonata	Planorbidae – Ram’s-horn snails	Anisus vortex	Whirlpool Ram's-horn	None	Least Concern		a		F	5
Pulmonata	Planorbidae	Bathyomphalus contortus	Twisted Ram's-horn	None	Least Concern		a		AE	5,7
Pulmonata	Planorbidae	Planorbarius corneus	Great Ram's-horn	None	Least Concern		a		A	2
Pulmonata	Planorbidae	Planorbis planorbis	Margined Ram's-horn	None	Least Concern		a		D	5
Pulmonata	Succineidae – Amber snails	Oxyloma elegans	Pfeiffer's Amber Snail	None	Least Concern		w		B	5
Pulmonata	Succineidae	Succinea putris	Amber Snail	None	Least Concern		w		A	7
Pulmonata	Vertiginidae – Whorl snails	Vertigo pygmaea	Common Whorl Snail	None	Least Concern		w		C	11
Raphidioptera – Snakeflies	Raphidiidae	Xanthostigma xanthostigma		None			s		AB	5
Siphonaptera – Fleas	Hystrichopsyllidae	Hystrichopsylla talpae talpae	Mole Flea	None				mole nests	A	2
Trichoptera – Caddisflies	Beraeidae	Beraea pullata		None			a		B	5
Trichoptera	Limnephilidae – Limnephilids	Glyphotaelius pellucidus	Mottled Sedge	None			a		AD	5,7
Trichoptera	Limnephilidae	Grammotaulius nigropunctatus		None			a		A	9
Trichoptera	Limnephilidae	Limnephilus auricula		None			a		ABC	5,9
Trichoptera	Limnephilidae	Limnephilus incisus		None			a		A	5
Trichoptera	Limnephilidae	Limnephilus sparsus		None			a		D	5

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Trichoptera	Limnephilidae	Limnephilus vittatus		None			a		AD	5
Trombidiformes – Mites	*?*	*water mite sp*					*a*		*BD*	*5*