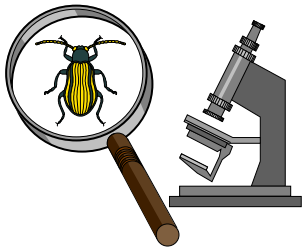

INSECT SURVEY AT MARKSTAKES COMMON, EAST SUSSEX

Report No.1:
for site visits on 21st June, 29th July & 13th September 2010

by
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1. Introduction

This survey was commissioned by Lewes District Council during summer 2010 in order to collect invertebrate baseline data for this poorly recorded site. Advice on management for invertebrates has also been requested. Three recording visits were made: on 21st June, 29th July and 13th September 2010.

2. Recording Areas

The site was divided into five recording areas, but others could be added later as necessary.

1)	North clearing	TQ397182 (default grid reference for centre of clearing).
2)	South clearing (heathy area)	TQ397179 (default grid reference for centre of clearing).
3)	South clearing (wet area)	TQ397178 (default grid reference for centre of clearing).
4)	Woodland	TQ398179 (default grid reference for woodland).
5)	High Pond	TQ398179

For the moment the sites will be referred to by name as no official compartmented site map is available. Recording time was divided unequally between the compartments since the object was to record as many species as possible, therefore the richest parts of the site received most attention.

3. Assessment for invertebrates

a) North clearing

This area is dominated by bracken but also supports many young trees and shrubs, including an unidentified species of cherry, thought to be an alien, which is producing numerous unwanted seedlings.

Photo 1: Brown Silver-line moth

Bracken is not generally considered to support many species insects, although it can be important for shade in summer to protect several species of spring flowering plants. The Brown Silver-line moth is common everywhere on bracken.

In addition to the cherry there are several sallow and hawthorn bushes as well as isolated crab apple trees, all of which are valuable as a food source for insects during their flowering season.

Although the aspect is slightly north facing, the clearing is sheltered, being surrounded by mature trees and conditions are therefore ideal for a variety of flying insects.

Work designed to reduce the area occupied by bracken is in progress and should add variety to the existing flora. However it is not yet known what the type of vegetation is likely to replace the bracken and therefore the exercise is somewhat experimental. It is hoped that a grassland habitat will develop but invasive plants such as Rosebay Willowherb and bramble will inevitably gain a foothold unless they are controlled.

Photo 2: Pebble Prominent larva on sallow leaf.

Photo 3: *Conopalpus testaceus*, tapped off foliage of an ancient oak tree.

At the southern extremity of the clearing there are several open grown ancient oak trees, a clear indication that much of the dense woodland is of relatively recent origin. The Nationally Scarce (Nb) beetle *Conopalpus testaceus*, a soft bodied species resembling a soldier beetle (but in a different family) is an example of a species associated with ancient oak trees although because it is nocturnal in habit it is likely to be somewhat under recorded.

b) South clearing (heathy area)

This recently cleared glade contains remnants of former heathland and heather is already beginning to regenerate. There is also some devil's-bit scabious, a good late summer resource for flying insects and this should be encouraged to spread.

The insects recorded were mainly off tree foliage, both at the margins of the clearing and on isolated young trees in the centre.

These included a solitary female of the spectacular crane fly *Dictenidia bimaculata*. This species breeds in dead wood, mainly in ancient forest habitats.

Photo 4: the dead wood associated crane-fly *Dictenidia bimaculata* on a birch log.

c) South clearing (wet area)

This damp clearing was the most interesting area of the common for flying insects. It is sheltered on all sides by mature woodland and consequently has a warm microclimate. There is an abundance of wild flowers, including Marsh Thistle, Ragwort and Devil's-bit Scabious, all of which attracted many species of insects.

Photo 5: female Silver-washed Fritillary feeding on a Marsh Thistle flower.

Among the more interesting butterflies seen were two or three females of the Silver-washed Fritillary. I remember seeing an example when I visited the common about 40 years ago, perhaps indicating the presence of a long-established breeding colony? Although not an especially rare butterfly it appears to be confined to certain favourable woodlands in East Sussex. Plashett Wood near Ringmer is by far the best site locally and a strong resident population has been present there for more than 40 years.

Several examples of the Common blue butterfly were also observed in the clearing. The female shown in the photo has the upperside of the wings brownish with a fringe of orange spots, unlike the entirely blue male. The larval foodplant is bird's-foot trefoil.

Photo 6: female Common Blue butterfly.

Photo 7: Vapourer moth caterpillar

The Vapourer moth is a common species and the chestnut-brown males can frequently be seen flying during the daytime during July, August and September. The fat-bodied wingless female lays her eggs on the empty pupal cocoon and the following spring the hairy caterpillars emerge to feed on the foliage of a variety of deciduous trees and shrubs. The colourful caterpillar, with its conspicuous tufts of golden hair, is unmistakable.

d) Closed canopy woodland

This area included all the remaining woodland and also a few smaller glades, some of which could justifiably be allocated separate site names and recording compartment numbers. There are several quite ancient oak and beech trees and these are potentially important for invertebrates.

Enclosed woodland is not an easy habitat to assess for insect diversity without setting various kinds of traps. Furthermore, insects must certainly be present in the tree canopy although little is known about this habitat niche. There are several ancient beech trees that almost certainly support some saproxylic insects and this habitat would benefit if some of the encroaching young trees were removed in order to allow more sunlight.

e) High Pond

This proved to be an interesting and well-managed acidic woodland pond. Although more recording is required, in the brief time spent sampling the emergent vegetation it was pleasing to discover two species of reed beetles. The larvae of this group of leaf beetles feed on submerged roots of various aquatic plants and take their oxygen from the plant tissues.

4. Species recorded on 21st June, 29th July and 13th September 2010

Species are listed in Table 1 below, with insect orders, families and genera in an alphabetical sequence.

The following symbols are used to show the date that each species was recorded:

+ = species recorded on 21st June 2010
@ = species recorded on 29th July 2010
# = species recorded on 13th September 2010

Table 1: Species recorded

SPECIES	North clearing	South Clearing 1	South Clearing 2	Woodland	High Pond
COLEOPTERA (Beetles)					
APIONIDAE (Weevils)					
Betulapion simile	@				
Exapion ulicis			+		
ANOBIIDAE (Woodworm beetles)					
Anobium fulvicorne		+			
Ptilinus pectinicornis		+			
CANTHARIDAE (Soldier beetles)					
Cantharis decipiens	+				
Cantharis pallida			+		+
Malthodes minimus	+	+			
Rhagonycha fulva	@		@		
Rhagonycha lignosa	+	+			
Rhagonycha lutea	+				
Rhagonycha testacea					+
CARABIDAE (Ground beetles)					
Acupalpus dubius					+
CERAMBYCIDAE (Longhorn beetles)					
Grammoptera ruficornis	+				
Leptura quadrifasciata			@		
Tetrops praeusta	+				
CHRYSOMELIDAE (Leaf beetles)					
Crepidodera aurea			+		
Crepidodera aurata	+				
Cryptocephalus pusillus	@		@		
Donacia marginata					+
Epitrix pubescens					#
Longitarsus dorsalis			+		
Plateumaris sericea					+
COCCINELLIDAE (Ladybirds)					
Calvia quattuordecimguttata			#		
Chilocorus bipustulatus	+				
Chilocorus renipustulatus	@				
Coccinella septempunctata	@		@ #		#
Halyzia sedecimguttata	@	+			
Harmonia axyridis	@	+			
Propylea quattuordecimpunctata			@		@
CURCULIONIDAE (Weevils)					
Anoplus plantaris	+	+			
Anthonomus pomorum	+				
Anthonomus rubi	+				
Archarius pyrrhoceras		+			
Archarius salicivorus	+				
Dorytomus rufatus	+				

Table 1: Species recorded - continued

SPECIES	North clearing	South Clearing 1	South Clearing 2	Woodland	High Pond
Orchestes signifer		+			
Phyllobius argentatus		+			
Polydrusus cervinus		+			
Polydrusus pterygomalis	+				
Rhamphus pulicarius	+				
Sitona lepidus			@		
Sitona lineatus	@				
Strophosoma melanogrammum		+			
ELATERIDAE (Click beetles)					
Agriotes acuminatus		+			
Agriotes pallidulus		+			
Athous haemorrhoidalis		+			
Melanotus castanipes		+			
KATERETIDAE					
Kateretes rufilabris			+		+
LATRIDIIDAE (Fungus beetles)					
Cortinicara gibbosa	+ @				
MALACHIIDAE (Malachite beetles)					
Malachius bipustulatus			+		
MELANDRYIDAE					
Conopalpus testaceus	@				
NITIDULIDAE (Pollen beetles)					
Meligethes obscurus			+		
OEDEMERIDAE					
Oedemera nobilis			+		
RHYNCHITIDAE (Weevils)					
Rhynchites aequatus	+				
Rhynchites caeruleus	+ @				
Deporaus betulae		+			
SCIRTIDAE					
Cyphon coarctatus					+
Cyphon padi					+
Cyphon variabilis					+
SCRAPTIIDAE					
Anaspis costai	@				
Anaspis fasciata		+			
Anaspis frontalis	@	+			
STAPHYLINIDAE (Rove beetles)					
Atheta laticollis				#	
Autalia impressa				#	
Stenus cicindeloides					+
TENEBRIONIDAE (Darkling beetles)					
Nalassus laevioctostriatus		+			
DERMAPTERA (Earwigs)					
FORFICULIDAE					
Forficula auricularia (Common Earwig)	+	+			
DIPTERA (Flies)					
CONOPIDAE (Thick-headed flies)					
Conops flavipes				@	
DOLICHOPODIDAE (Long-legged flies)					
Dolichopus discifer					+
Dolichopus plumipes					+

Table 1: Species recorded continued

SPECIES	North clearing	South Clearing 1	South Clearing 2	Woodland	High Pond
EMPIDIDAE (Dance flies)					
Rhamphomyia tibiella	+				
RHAGIONIDAE (Snipe flies)					
Rhagio linearis	@				
SCIOMYZIDAE (Snail-killing flies)					
Sepedon sphegea					+
SYRPHIDAE (Hover-flies)					
Episyrphus balteatus	@		@		
Ferdinandia cuprea			#		
Myathropa florea	+				
Scaeva pyrastri			@		
Volucella pellucens			@		
Xylota sylvarum			@		
TACHINIDAE (Parasitic flies)					
Eriothrix rufomaculata			@		
Tachina fera			@		
TEPHRITIDAE (Picture-winged flies)					
Tephritis formosa	@				
TIPULIDAE (Crane-flies)					
Dictenidia bimaculata		+			
HEMIPTERA -HETEROPTERA (Bugs)					
ACANTHOSOMATIDAE (Shield bugs)					
Elasmostethus interstinctus	#				
Elasmucha grisea	@				
COREIDAE (Squash-bugs)					
Coreus marginatus			#		
LYGAEIDAE (Ground bugs)					
Cymus melanocephalus					+
Kleidocerys resedae	#				
MIRIDAE (Capsid-bugs)					
Calocoris fulvomaculatus	+				
Cyllecoris histrionius		+			
Lygocoris contaminatus	+ @	+			
Lygus pratensis			#		
Monalocoris filicis	@				
Phylus melanocephalus	+	+			
Phylus palliceps		+			
Phytocoris tiliae	@			@	
Plagiognathus arbustorum	@				
Orthotylus marginalis	+		+		
PENTATOMIDAE (Shield-bugs)					
Dolycoris baccarum			+ @		
Pentatoma rufipes	@	+			
RHOPALIDAE					
Stictopleurus punctatonervosus			@		
TINGIDAE (Lace-bugs)					
Physatocheila dumetorum	@				
HEMIPTERA-HOMOPTERA (Bugs)					
CERCOPIDAE					
Aphrophora alni	+		+	@	

Table 1: Species recorded - continued

SPECIES	North clearing	South Clearing 1	South Clearing 2	Woodland	High Pond
CICADELLIDAE					
Cicadella viridis			@		
Oncopsis flavicollis	+ @	+			
Evacanthus acuminatus	+			@	
Iassus lanio			@		
DELPHACIDAE					
Conomelus anceps	@				
Ditropis pteridis	+	+			
ISSIDAE					
Issus coleoptratus	@ #	+			
HYMENOPTERA (Bees, wasps, ants, etc)					
APIDAE (Bees)					
Bombus pascuorum			@		
Nomada flavoguttata			@		
LEPIDOPTERA (Butterflies)					
LYCAENIDAE					
Polyommatus icarus (Common Blue)			@		
NYMPHALIDAE					
Inachis io (Peacock)			@		
Argynnis paphia (Silver-washed Fritillary)			@		
SATYRIDAE					
Maniola jurtina (Meadow Brown)	@		@	@	
Pyronia tithonus (The Gatekeeper)	@		@		
LEPIDOPTERA (Moths)					
ARCTIIDAE					
Tyria jacobaeae (Cinnabar)			@		
GEOMETRIDAE					
Petrophora chlorosata (Brown Silver-line)	+				
Xanthorhoe montanata (Silver-ground Carpet)	+				
LYMANTRIIDAE					
Orgyia recens (Vapourer)			+		
NOCTUIDAE					
Acronicta rumicis (Knotgrass)			#		
NOTODONTIDAE					
Notodonta ziczac (Pebble Prominent)	+				
ODONATA (Dragonflies)					
COENAGRIIDAE (Damselflies)					
Coenagrion puella (Azure damselfly)					+
Pyrrhosoma nymphula (Large Red Damselfly)					+
ORTHOPTERA (Grasshoppers & crickets)					
TETTIGONIIDAE (Bush-crickets)					
Leptophyes punctatissima (Speckled Bush-cricket)	+ #				
Meconema thalassinum (Oak Bush-cricket)	@	+			
TETRIGIDAE (Ground-hoppers)					
Tetrix undulata (Common Ground-hopper)		+			
Tetrix subulata (Slender Ground-hopper)			#		

5. Status and Ecology of species recorded

This section lists species in the same order as in Table 1 above. It should be remembered that National Statuses were set more than 20 years ago and do not necessarily reflect recent changes in geographical range. It has not been possible to give ecology details for every species.

Table 2: Status and Ecology of species recorded

SPECIES	National Status	Ecology
COLEOPTERA (Beetles)		
APIONIDAE (Weevils)		
Betulapion simile	Local	On birch
Exapion ulicis	Common	On gorse
ANOBIIDAE (Woodworm beetles)		
Anobium fulvicorne	Common	Larvae bore into dead twigs
Ptilinus pectinicornis	Common	Larvae bore into dead wood, often beech
CANTHARIDAE (Soldier beetles)		
Cantharis decipiens	Common	
Cantharis pallida	Common	In wetland habitats
Malthodes minimus	Common	
Rhagonycha fulva	Common	
Rhagonycha lignosa	Common	
Rhagonycha lutea	Nb	**Please refer to separate species account**
Rhagonycha testacea	Local	In wetland habitats
CARABIDAE (Ground beetles)		
Acupalpus dubius	Common	In wetland habitats
CERAMBYCIDAE (Longhorn beetles)		
Grammoptera ruficornis	Common	Woodland edge habitats, breeds in dead twigs
Leptura quadrifasciata	Local	Woodland habitats, breeds in dead wood
Tetrops praeusta	Local	Woodland edge habitats, breeds in dead twigs
CHRYSOMELIDAE (Leaf beetles)		
Crepidodera aurea	Common	On willows and poplars
Crepidodera aurata	Common	On willows
Cryptocephalus pusillus	Local	Woodland habitats, on a variety of deciduous trees
Donacia marginata	Common	Wetland habitats, larvae at roots of Sparganium
Epitrix pubescens	Common	On woody nightshade *Solanum dulcamara*
Longitarsus dorsalis	Nb	**Please refer to separate species account**
Plateumaris sericea	Common	Wetland habitats, larvae at roots of sedges
COCCINELLIDAE (Ladybirds)		
Calvia quattuordecimguttata	Common	An aphid predator, on tree foliage
Chilocorus bipustulatus	Local	A scale insect predator, on heather and cypress
Chilocorus renipustulatus	Common	A scale insect predator, often on willow
Coccinella septempunctata	Common	An aphid predator
Halyzia sedecimguttata	Common	Especially on sycamore, larvae feed on mildew.
Harmonia axyridis	Common	An aphid predator
Propylea quattuordecimpunctata	Common	An aphid predator
CURCULIONIDAE (Weevils)		
Anoplus plantaris	Common	On birch
Anthonomus pomorum	Common	On apple
Anthonomus rubi	Common	On Rosaceae
Archarius pyrrhoceras	Common	On oak
Archarius salicivorus	Common	On willow
Dorytomus rufatus	Common	On willow

Table 2: Status and Ecology of species recorded - continued

Orchestes signifer	Common	On oak, larvae mine the leaves
Phyllobius argentatus	Common	On a variety of deciduous tree foliage
Polydrusus cervinus	Common	On a variety of deciduous tree foliage
Polydrusus pterygomalis	Common	On a variety of deciduous tree foliage
Rhamphus pulicarius	Common	On willow, larvae mine the leaves
Sitona lepidus	Common	On clover (Trifolium) species
Sitona lineatus	Common	On Trifolium repens, Lotus corniculatus, etc.
Strophosoma melanogrammum	Common	On a variety of deciduous tree foliage
ELATERIDAE (Click beetles)		
Agriotes acuminatus	Common	Larvae live in the soil and feed on plant roots
Agriotes pallidulus	Common	Larvae live in the soil and feed on plant roots
Athous haemorrhoidalis	Common	Larvae live in the soil and feed on plant roots
Melanotus castanipes	Common	Larvae develop in dead wood
KATERETIDAE		
Kateretes rufilabris	Common	On rushes in wetland habitats
LATRIDIIDAE (Fungus beetles)		
Cortinicara gibbosa	Common	
MALACHIIDAE (Malachite beetles)		
Malachius bipustulatus	Common	Adults on flowers, larvae predatory
MELANDRYIDAE		
Conopalpus testaceus	Nb	**Please refer to separate species account**
NITIDULIDAE (Pollen beetles)		
Meligethes obscurus	Common	Breeds in flowers of wood sage
OEDEMERIDAE		
Oedemera nobilis	Common	Adults on flowers, larvae predatory
RHYNCHITIDAE (Weevils)		
Rhynchites aequatus	Common	On Rosaceae, especially hawthorn, larvae in fruits
Rhynchites caeruleus	Common	On Rosaceae, larvae in decaying shoot tissue
Deporaus betulae	Common	On birch, alder and hazel, larvae in rolled leaf
SCIRTIDAE		
Cyphon coarctatus	Common	In wetland habitats, larvae aquatic
Cyphon padi	Common	In wetland habitats, larvae aquatic
Cyphon variabilis	Common	In wetland habitats, larvae aquatic
SCRAPTIIDAE		
Anaspis costai	Local	Larvae probably live in dead wood on oak trees
Anaspis fasciata	Common	Adults on blossom, breeds in dead tree branches
Anaspis frontalis	Common	Adults on blossom, breeds in dead tree branches
STAPHYLINIDAE (Rove beetles)		
Atheta laticollis	Common	In woodland habitats in fungi
Autalia impressa	Common	In woodland habitats in fungi
Stenus cicindeloides	Common	In wetland habitats
TENEBRIONIDAE (Darkling beetles)		
Nalassus laevioctostriatus	Common	Usually in woodland habitats, breeds in dead wood
DERMAPTERA (Earwigs)		
FORFICULIDAE		
Forficula auricularia (Common Earwig)	Common	

Table 2: Status and Ecology of species recorded - continued

DIPTERA (Flies)		
CONOPIDAE (Thick-headed flies)		
Conops flavipes	Local	Parasitic on several species of bees
DOLICHOPODIDAE (Long-legged flies)		
Dolichopus discifer	Common	In wetland habitats
Dolichopus plumipes	Common	In wetland habitats
EMPIDIDAE (Dance flies)		
Rhamphomyia tibiella	Common	
RHAGIONIDAE (Snipe flies)		
Rhagio linearis	Common	
SCIOMYZIDAE (Snail-killing flies)		
Sepedon sphegea	Common	In wetland habitats
SYRPHIDAE (Hover-flies)		
Episyrphus balteatus	Common	
Ferdinandia cuprea	Common	
Myathropa florea	Common	
Scaeva pyrastri	Common	
Volucella pellucens	Common	
Xylota sylvarum	Common	
TACHINIDAE (Parasitic flies)		
Eriothrix rufomaculata	Common	
Tachina fera	Common	
TEPHRITIDAE (Picture-winged flies)		
Tephritis formosa	Common	Associated with *Sonchus* species
TIPULIDAE (Crane-flies)		
Dictenidia bimaculata	Local	**Please refer to separate species account**
HEMIPTERA -HETEROPTERA (Bugs)		
ACANTHOSOMATIDAE (Shield bugs)		
Elasmostethus interstinctus	Common	On birch
Elasmucha grisea (The Parent Bug)	Common	On birch
COREIDAE (Squash-bugs)		
Coreus marginatus	Common	On docks and related plants
LYGAEIDAE (Ground bugs)		
Cymus melanocephalus	Common	On rushes in wetland habitats
Kleidocerys resedae	Common	On foliage of a variety of trees and shrubs
MIRIDAE (Capsid-bugs)		
Calocoris fulvomaculatus	Common	In hedgerows and thickets on various plants
Cyllecoris histrionius	Common	On oak
Lygocoris contaminatus	Common	On birch
Lygus pratensis	Local	
Monalocoris filicis	Common	On bracken
Phylus melanocephalus	Common	On oak
Phylus palliceps	Common	On oak
Phytocoris tiliae	Common	On a variety of trees and shrubs
Plagiognathus arbustorum	Common	On various herbaceous plants
Orthotylus marginalis	Common	On willow
PENTATOMIDAE (Shield-bugs)		
Dolycoris baccarum	Common	On various herbaceous plants
Pentatoma rufipes	Common	On oak
RHOPALIDAE		
Stictopleurus punctatonervosus	**Local**	**Please refer to separate species account**
TINGIDAE (Lace-bugs)		
Physatocheila dumetorum	Local	On hawthorn

Table 2: Status and Ecology of species recorded - continued

HEMIPTERA-HOMOPTERA (Bugs)		
CERCOPIDAE		
Aphrophora alni	Common	
CICADELLIDAE		
Cicadella viridis	Common	On grasses in wetland habitats
Oncopsis flavicollis	Common	On birch
Evacanthus acuminatus	Common	
Iassus lanio	Common	On oak
DELPHACIDAE		
Conomelus anceps	Common	In wetland habitats
Ditropis pteridis	Common	On bracken
ISSIDAE		
Issus coleoptratus	Common	On ivy
HYMENOPTERA (Bees, wasps, ants, etc)		
APIDAE (Bees)		
Bombus pascuorum	Common	
Nomada flavoguttata	Common	A cleptoparasite of other solitary bees
LEPIDOPTERA (Butterflies)		
LYCAENIDAE		
Polyommatus icarus (Common Blue)	Common	Larvae feed on Bird's-foot trefoil
NYMPHALIDAE		
Inachis io (Peacock)	Common	Larvae feed on Stinging nettle *Urtica dioica*
Argynnis paphia (Silver-washed Fritillary)	Local	**Please refer to separate species account**
SATYRIDAE		
Maniola jurtina (Meadow Brown)	Common	Larvae feed on grasses
Pyronia tithonus (The Gatekeeper)	Common	Larvae feed on grasses
LEPIDOPTERA (Moths)		
ARCTIIDAE		
Tyria jacobaeae (Cinnabar)	Common	Larvae feed on ragwort and groundsel
GEOMETRIDAE		
Xanthorhoe montanata (Silver-ground Carpet)	Common	Larvae feed on low plants such as bedstraw
Petrophora chlorosata (Brown Silver-line)	Common	Larvae feed on bracken
LYMANTRIIDAE	Common	
Orgyia recens (Vapourer)	Common	Larvae feed on a variety of tree and shrub foliage
NOCTUIDAE		
Acronicta rumicis (Knot Grass)	Common	Larvae feed on a variety of herbaceous plants
NOTODONTIDAE		
Notodonta ziczac (Pebble Prominent)	Common	Larvae feed on sallow and poplar
ODONATA (Dragonflies)		
COENAGRIIDAE (Damselflies)		
Coenagrion puella (Azure damselfly)	Common	
Pyrrhosoma nymphula (Large Red Damselfly)	Common	
ORTHOPTERA (Grasshoppers & crickets)		
TETTIGONIIDAE (Bush-crickets)		
Leptophyes punctatissima (Speckled Bush-cricket)	Common	In hedgerows and woodland edge habitats
Meconema thalassinum (Oak Bush-cricket)	Common	On oak foliage, occasionally on other tree species
TETRIGIDAE (Ground-hoppers)		
Tetrix undulata (Common Ground-hopper)	Common	On exposed mud in wetland habitats
Tetrix subulatar (Slender Ground-hopper)	Common	On exposed mud in wetland habitats

6. Nationally Scarce species

Table 3: Nationally Scarce and other notable species recorded

Species	National Status	North Clearing	South Clearing 1	South Clearing 2	Woodland	High Pond
COLEOPTERA (Beetles)						
CANTHARIDAE (Soldier beetles)						
Rhagonycha lutea	Nb	+				
CHRYSOMELIDAE (Leaf beetles)						
Longitarsus dorsalis	Nb			+		
MELANDRYIDAE						
Conopalpus testaceus	Nb	@				
DIPTERA (Flies)						
TIPULIDAE (Crane-flies)						
Dictenidia bimaculata	Local		+			
HEMIPTERA-HETEROPTERA (Bugs)						
RHOPALIDAE						
Stictopleurus punctatonervosus	Local			@		
LEPIDOPTERA (Butterflies)						
NYMPHALIDAE						
Argynnis paphia (Silver-washed Fritillary)	Local			@		
RDB + Nat. Scarce species (Total = 11)		2	1	3	0	0

COLEOPTERA (Beetles)

CANTHARIDAE (Soldier beetles)

Nb *Rhagonycha lutea*

This pale orange-brown soldier beetle prefers woodland margins with long grass and scrub and is widely distributed but local in Britain. Both larvae and adults are probably predatory.

CHRYSOMELIDAE (Leaf beetles)

Nb *Longitarsus dorsalis*

Widespread but local in southern England. Phytophagous. Associated with ragwort *Senecio* growing on calcareous or sandy soils.

MELANDRYIDAE

Nb *Conopalpus testaceus*

Widespread but local in England. Found in ancient broad-leaved woodland, pasture woodland and old hedgerows. Breeds in dead branches of oak, sometimes also from hazel, apple and beech. Adults are occasionally beaten off tree foliage, especially oak. Known to be nocturnal and is attracted to mercury vapour light traps.

DIPTERA (Flies)

TIPULIDAE (Crane-flies)

Local *Dictenidia bimaculata*

Widespread but locally distributed in the British Isles. Breeds in dead wood, mainly in ancient forest habitats and is considered to be a good indicator of saproxylic invertebrate sites

HEMIPTERA-HETEROPTERA (Bugs)

RHOPALIDAE

RDB app. *Stictopleurus punctatonervosus*

Historically there are confirmed British records from Surrey (Charlwood in 1860, 1869 & 1870) and Sussex (Holm Bush before 1870). Presumed extinct, this bug was listed as "RDB app. – Extinct" by Kirby (1992) but about 15 years ago it was once again reported from a number of locations in south-east England. It therefore seems likely that this species is an occasional migrant that forms temporary colonies in southern Britain. It very closely resembles *S. abutilon*, another presumed extinct British species that has recently become established in several parts of southern England. It is a relatively large and conspicuous bug that is unlikely to have escaped notice by entomologists. Kirby (1992) states that in north-western Europe it is a species of dry open habitats but nothing else is stated on the biology other than the fact that it over-winters as an adult and confirmed British specimens have been found in May and September.

LEPIDOPTERA (Butterflies)

NYMPHALIDAE

Local *Argynnis paphia* (Silver-washed Fritillary)

Widespread but locally distributed in the southern half of England and Wales, with isolated populations further north. Found in both deciduous and coniferous woodland. Eggs are laid on the bark of trees, typically on the moss-covered north-facing side of the trunk between one and two metres from the ground. The caterpillar emerges and after eating its egg-shell it spins a silken pad on which it hibernates. In spring it descends to the ground and searches for Common dog violet plants upon which it feeds.

7. Status Category Definitions and Criteria for invertebrates

Criteria for the selection of species into the Red Data Book categories follow Shirt (1987), with minor modifications which are *italicised*. Categories **RDB K (Insufficiently known)** and **RDB I (Indeterminate)** are based on the criteria used by Wells, Pyle & Collins (1983). Criteria for the selection of **Nationally Notable** species follow Eversham (1983). For the purposes of site evaluation for the selection of **Sites of Special Scientific Interest (SSSI)** the term **Nationally Notable** is now replaced by the term **Nationally Scarce**, but the criteria remain unchanged (Nature Conservancy Council, 1989).

Status Categories

Red Data Book Category 1 (RDB 1) - Endangered

Definition.

Taxa in danger of extinction *in Great Britain* and whose survival is unlikely if the causal factors continue operating.

Included are those taxa whose numbers have been reduced to a critical level or whose habitats have been so dramatically reduced that they are deemed to be in immediate danger of extinction. Also included are *some* taxa that are *possibly* extinct.

Criteria.

Species which are known *or believed to occur* as only a single population within one 10 km square of the National Grid.

Species which only occur in habitats known to be especially vulnerable.
Species which have shown a rapid or continuous decline over the last twenty years and are now *estimated* to exist in five or fewer 10 km squares.
Species which are *possibly* extinct *but have been recorded this century* and if rediscovered would need protection.

Red Data Book Category 2 (RDB 2) - Vulnerable

Definition.

Taxa *believed* likely to move into the endangered category in the near future if the causal factors continue operating.

Included are taxa of which most or all of the populations are decreasing because of *over-exploitation*, extensive destruction of habitat or other environmental disturbance; taxa with populations that have been seriously depleted and whose ultimate security is not yet assured; and taxa with populations that are still abundant but are under threat from serious adverse factors throughout their range.

Criteria.

Species declining throughout their range.
Species in vulnerable habitats.

Red Data Book Category 3 (RDB 3) - Rare

Definition.

Taxa with small populations *in Great Britain* that are not at present endangered or vulnerable, but are at risk.

These taxa are usually localised within restricted geographical areas or habitats or are thinly scattered over a more extensive range.

Criterion.

Species which are estimated to exist in only fifteen or fewer 10 km squares. *This criterion may be relaxed where populations are likely to exist in over fifteen 10 km squares but occupy small areas of especially vulnerable habitat*

Red Data Book Category 4 (RDB 4) - Out of Danger

Definition.

Taxa formerly meeting the criteria of one of the above categories, but which are now considered relatively secure because effective conservation measures have been taken or the previous threat to their survival *in Great Britain* has been removed.

Red Data Book Category 5 (RDB 5) - Endemic

Definition.

Taxa which are not known to occur naturally outside *Great Britain.* Taxa within this category may also be in any of the other RDB categories *or not threatened at all.*

Red Data Book Appendix (RDB app.) - Extinct

Definition.

Taxa which were formerly native to Great Britain but have not been recorded since 1900.

Red Data Book Category I (RDB I) - Indeterminate

Definition.

Taxa *considered* to be Endangered, Vulnerable or Rare in Great Britain, but where there is not enough information to say which of the three categories (RDB 1 to 3) is appropriate.

Red Data Book Category K (RDB K) - Insufficiently Known

Definition.

Taxa in Great Britain that are suspected, but not definitely known, to belong to any of the above categories, because of lack of information.

Criteria.

Taxa recently discovered or recognised in Great Britain which may prove to be more widespread in the future.

Taxa with very few or perhaps only a single known locality but which belong to poorly recorded or taxonomically difficult groups.

Species known from very few localities but which occur in inaccessible habitats or habitats which are seldom sampled.

Species with very few or perhaps only a single known locality and of questionable native status, but not clearly falling into the category of recent colonist, vagrant or introduction.

Provisionally Red Data Book species - pRDB

RDB (Red Data Book) categories may require revision in the light of new information but a new **Red Data Book** has yet to be compiled. Such revisions are indicated as **pRDB**.

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Nationally Scarce Category A - Notable A (Na)

Definition.

Taxa which do not fall within **RDB** categories but which are none-the-less uncommon in Great Britain and are thought to occur in 30 or fewer 10 km squares of the National Grid or, for less well recorded groups, within seven or fewer vice-counties.

Nationally Scarce Category B - Notable B (Nb)

Definition.

Taxa which do not fall within **RDB** categories but which are none-the-less uncommon in Great Britain and are thought to occur in between 31 and 100 10 km squares of the National Grid or, for less well recorded groups, between eight and twenty vice-counties.

Nationally Scarce - Notable (N)

Definition.

Taxa which do not fall within **RDB** categories but which are none-the-less uncommon in Great Britain and are thought to occur in between 16 to 100 10 km squares of the National Grid. Species within this category are often too poorly known for their status to be more precisely estimated.

Species not included

Certain species may meet one or more of the above criteria but are not considered to warrant consideration in conservation evaluation. These fall into three categories:

1. Species associated with non-native plants in Great Britain, including species associated with pine, and other conifers, but not occurring in areas where pine is considered native.
2. Migrant and vagrant/accidental species - i.e., species with no established population.
3. Obligate synanthropic species.

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In addition to these established categories described above, a classification of the remaining species, based on the known distribution range, is being developed. Where possible a provisional national distribution range status under this system is given.

Distribution Terms

Distribution refers solely to the geographical extent of a species in the British Isles. Considerable confusion has been caused in the past by the varying meanings given to many assessments of species where geographic distribution has been confused with local abundance.
Distribution comments are based mainly upon national status as far as is known. The following criteria are applied to the categories given:-

Universal: Distributed throughout England and Wales, with at least some extension into Scotland.

Widespread: Distributed in about three-quarters of England and Wales, but not found to the north (southern widespread) or south (northern widespread) of the British Isles. (**N.B.** northern widespread species are found in Scotland as well.)

Restricted: Distributed in about half of England and Wales, or Scotland only.

****

RDB (Red Data Book) categories may require revision in the light of new information but a new **Red Data Book** has yet to be compiled. Such revisions are indicated as **pRDB**.

In addition to these established categories described above, a classification of the remaining species, based on the known distribution range, is being developed. Where possible a provisional national distribution range status under this system is given.

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