

Malthodes lobatus (Kiesenwetter) (Cantharidae) new to Britain

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On 24 July 2002, while surveying invertebrates on an area of chalk grassland at Whitehawk Hill, near Brighton, East Sussex (VC 14: TQ338053), one of us (MVLB) collected three female specimens of an unfamiliar cantharid of the genus *Malthodes*. The specimens were exceptionally small (around 1.5mm) and soft-bodied, with very reduced elytra lacking any yellow coloration. Only one species of this approximate size occurs in the British Isles, *Malthodes pumilus* (Brebisson). The three Brighton specimens differed from that species in having shorter elytra without any yellow, and in the proportions of the antennal segments. MVLB was unable to match them with any species in the General Collection of the Natural History Museum (BMNH), London, and they were provisionally labelled as "*Malthodes* ?sp. near *pumilus*". In February 2003, AK visited the BMNH Collections, and immediately recognised the three specimens as *Malthodes lobatus* Kiesenwetter, 1852.

Malthodes lobatus has not previously been recorded from the British Isles. Re-examination of the long series of *pumilus* in the BMNH's British Isles Collection, the Cambridge University Museum of Zoology, and the Hope Entomological Collections, Oxford, as well as the private collection of the National Recorder, K.N.A. Alexander, revealed no further British examples of *lobatus*. The species was also absent from the Natural History Museum's General Collection, but four examples from Northern Italy were found, standing under the older name *Malthodes apterus* Mulsant, 1862 in European accession material from the G.C. Champion collection, determined by Ganglbauer. In continental Europe *M. lobatus* is recorded from Italy, France, Germany, Austria, Poland, Serbia, Czech Republic, Slovakia (list based on Horion, 1953), The Netherlands (Brakman, 1966), and was recently added to the Swiss List (Scherler, 1981).

Identification

Malthodes lobatus (Fig.1) can be identified using continental literature (Wittmer, 1979), but his key relies quite heavily on males, which are extremely rare in *lobatus*. He mentions their rarity in his introduction, and states [our translation] that females of *lobatus* and *pumilus* can be separated by the very reduced elytra in *lobatus*, and reduced antennal segments in female *pumilus*. The elytra of female *lobatus* (Fig.1) rarely extend further than the hind coxae, and have a total length less than or equal to the combined length of the head and pronotum, while in *pumilus* they are always considerably longer than the combined head and pronotum. In most specimens we

have seen of *lobatus*, the soft elytra have collapsed against the abdomen, and are barely visible. Additionally, the hind wings of *pumilus* are quite developed and project from beneath the elytra, lying exposed on the abdomen, while *lobatus* is apterous or brachypterous. Most specimens of *pumilus* also have a yellow spot on the apex of the elytra, which is always absent in females of *lobatus*. Size is a difficult character to use, because of the soft bodies of these insects, but these two species are considerably smaller than other British representatives of the genus. Continental specimens of *lobatus* in the collection of AK are from 1.5-2.3mm (♀) and 2.3-2.8mm (♂). Should males be found, the terminal structures of the abdomen are figured in Wittmer (1979).



Figure 1. Habitus *Malthodes lobatus* (Kies), female, Wilson's Avenue, Whitehawk Hill, Brighton, M.V.L. Barclay leg. Specimen in British Isles Collection, BMNH

Collection

The beetles were collected using a 'McCullough' petrol-powered blow & vac tool, converted for entomological use (see Stewart & Wright, 1995), from an area of short rabbit-grazed sward adjoining an old hedgerow with elder *Sambucus nigra* L., blackthorn *Prunus spinosa* L., ash *Fraxinus excelsior* L., apple *Malus* etc. A sampling period of about one-two minutes was used, and the catch sieved into a white tray, the sides of which the *Malthodes* quickly climbed. All three *Malthodes* were taken in the same sample, along with very large numbers of the local staphylinid *Falagria thoracica* Stephens. Pitfall and flight interception trapping were also employed on the site, but collected no further examples of the *Malthodes*. Females of *Malthodes lobatus* are unable to fly.

In continental Europe, AK usually collects the species from shady grasses in warm, sunny woodlands, or from the margins of hedgerows. The females can be swept from grass or herbage (e.g. ground elder *Aegopodium*), often in large numbers, especially between mid-June and the end of July. Males are very rare, found individually, mostly between mid-June and early July.

The section of Whitehawk Hill where the specimens were collected is known locally as Wilson's Avenue. Until recently, the site was threatened by a housing development. It falls outside the area currently proposed for the South Downs National Park, but it is hoped that this will be revised in the light of this interesting new discovery. Part of the site was formerly used for allotments, and is now somewhat overgrown with nettles, willowherb, brambles etc. A second area, near the road, has also degenerated through being regularly cut without removal of the cut material. However, a large central area has been kept short by rabbit grazing, and still supports a characteristic downland flora and fauna; it was here that the *Malthodes*, and the majority of other species of interest, were collected. It is important that the site's integrity is maintained, and that scrubbing-over or nutrient-enrichment of the short, species-rich grassland is prevented. The ancient hedgerows add considerably to the interest of the site, and presumably provide the dead wood necessary for the larvae of the *Malthodes*.

A number of Nationally Scarce (Hyman, 1992) Coleoptera were recorded on the site, including *Panagaeus bipustulatus* (Fabricius) (Carabidae), *Athous campyloides* Newman (Elateridae), *Drilus flavescens* (Fourcroy) (Drilidae), *Scymnus schmidtii* Fuersch (Coccinellidae), *Scaphidema metallicum* (Fabricius) (Tenebrionidae), *Longitarsus dorsalis* (Fabricius) (Chrysomelidae), as well as the uncommon Hymenoptera *Psithyrus rupestris* (Fabricius) (Apidae), *Mutilla europaea* Linnaeus (Mutillidae), the neuropteran *Nothochrysa capitata* (Fabricius) (Chrysopidae), and, among the vertebrates, strong populations of Slowworm *Anguis fragilis* Linnaeus (Anguidae) and Common Lizard *Lacerta vivipara* Jacquin (Lacertidae).

It is difficult to decide whether *Malthodes lobatus* is a long-overlooked native species or a recent colonist in Britain. Since the females are unable to fly, natural

dispersal from the continent can effectively be ruled out. Continued investigation of material standing under *pumilus* in collections may shed further light on this question.

Acknowledgements

The authors are indebted to Jon Davies for arranging MVLB's visit to the site, and to Peter Hodge and Dave Bangs for valuable comments, to Darren J. Mann and James Hogan of the Hope Entomological Collections, and William Foster of the Cambridge University Museum of Zoology, for allowing MVLB to examine their series of *M. pumilus*, and to K.N.A. Alexander, the National Recorder for Cantharoidea, for making his material available. Thanks also to Howard Mendel and Darren J. Mann for comments on the manuscript.

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***Dorytomus taeniatus* (Fabricius) (Curculionidae) on grey poplar**

Bryan Sage

Waveney House, Waveney Close, Wells-next-the-Sea, Norfolk NR23 1HU

In his key to the true weevils (Part 1) Morris (2002) states in respect of this species that records of its occurrence on poplars *Populus* species require confirmation. On 29 June 2003 I obtained two of these weevils by beating grey poplars *Populus x canescens* (Aiton) by the River Wissey in the Stanford Military Training Area near Thetford, Norfolk (TL8396). The identification was confirmed by Professor M.G. Morris.

Reference

- MORRIS, M.G. 2002. True Weevils (Part 1). *Handbooks for the Identification of British Insects* 5(17b): 1-149. London: Royal Entomological Society.

The "Whitehawk Soldier Beetle" soldiers for the National Park

PRESS RELEASE by The Friends of Whitehawk Hill, July '03.

	Secretary FOWH. Tel: [REDACTED]
	, discover of the Whitehawk Soldier Beetle
	Whitehawk historian & community activist

The discovery of a totally new species of British beetle on Whitehawk Hill is a brilliant "leg-up" for a wonderful & much-neglected Brighton Downland site. Local people hope that it will substantially help their campaign to include Whitehawk Hill & its sister landscape of Sheepcote Valley in the new South Downs National Park. Over recent years local people & expert naturalists have begun to systematically study the wildlife of the Hill & have come up with some extraordinary discoveries:

- *Twenty four* nationally scarce or endangered species of insectⁱ have been discovered *just around one small section of the Hill, which is not scheduled for inclusion in the National Park.* One new "Red Data Book" rarity was only found there last weekend !
- Thirteen scarce or rare plant speciesⁱⁱ have been discovered on the Hill in recent years. Of these, *eight are found only in areas not recommended for inclusion in the National Park by the City Council.*

[REDACTED] Natural History Museum, who discovered the beetle, said: *"This is a major discovery. It's not every day that you find new beetles to the British Isles. The last new soldier beetle was found more than 50 years ago! When you start looking in detail at the site you find an incredibly rich & diverse chalk downland flora & fauna."*

[REDACTED] local Whitehawk historian & community activist said: *"Having lived in the area for over 60 years & played on Whitehawk Hill as a child, I have always thought that it was a unique place. A great deal of our play as youngsters involved the rich wildlife that has always been present on this great piece of downland, so the discovery of the Whitehawk Soldier Beetle is an exciting event to me. I certainly believe that it deserves to take its place along with all the other marvellous things contained within the rich natural & social history of Whitehawk Hill & the surrounding community."*

The discovery of the “Whitehawk Soldier Beetle” on the ex-allotmentsⁱⁱⁱ above Whitehawk is a ***warning shot*** to all of us who are debating the issue of the future South Downs National Park & its boundaries.

The messages this warning shot contains are:

- **Urban fringe Downland includes many of the very best Downland sites.**

Much urban fringe Downland is more biologically intact, & is more loved & used by local people, than more remote areas, whose inclusion in the National Park no-one questions. Sites such as Whitehawk Hill & the Sheepcote Valley, & Newhaven Cliffs, are extraordinarily rich in wildlife, history & prehistory, & contain some of the most dramatic & exhilarating landscapes on the whole long Downland chain.

- **Many fine Downland urban fringe sites lack recognition & status.**

The low status of urban fringe sites means that they often have not had the intensive attention from policy makers & from experts that they deserve. The recent discoveries on Whitehawk Hill were largely only made to resource the arguments around the proposed housing development. Newhaven Cliffs has never had a comprehensive survey of its invertebrate interest, yet it may well be the best site for Hymenoptera (bees & wasps) on the whole 80 mile South Downs chain.

- **We must judge these sites by their *quality*, not just the high profile of their advocates.**

Whitehawk Hill, Sheepcote Valley, Newhaven Cliffs, & other urban fringe sites, are adjacent to relatively poor communities who will not respond so readily to lobbying campaigns (such as that around the National Park boundary), as better off communities like adjacent Rottingdean. Yet local people love these Downland sites, & use them intensively.

The new Whitehawk Soldier Beetle can be a symbol of the rich interest which our neglected urban fringe Downland contains.

The story of the Whitehawk Soldier Beetle is only the first page in a book with many more pages to turn.

ⁱ Seventeen of these species were found by [REDACTED] & are listed in his report entitled **“Whitehawk Hill LNR, Brighton. Report No. 2. Insects recorded between June & August 2001.”**

Five additional species were listed in the report written on behalf of **Whitgift Homes** entitled **“Proposed development at Wilson Avenue, Brighton. Proof of Evidence on Ecological Issues”** by **Warren James Cresswell BSc PhD MIEEM.**

The **Whitehawk Soldier Beetle, *Malthodes lobatus***, was not recorded in the latter report, as it had to be fully researched, & sent for determination to the Referee for that family of beetles.

Additionally, the Red Data Book Category 2 (RDB2) **Downland Robberfly, *Machinus rusticus***, was discovered last weekend close to the discovery site of the Whitehawk Soldier Beetle, by Dave Bangs.

ⁱⁱ “Sussex Rare Plant Register of scarce & threatened vascular plants, bryophytes, charophytes, & lichens”. (2001). Edited by Mary Briggs MBE. Compiled by members of the Sussex Botanical Recording Society. Published by the Sussex Wildlife Trust on behalf of the SBRC & the Sussex Biodiversity Record Centre.

ⁱⁱⁱ This site was threatened by housing development, until last year, when local activists fought off the fifth & final developer’s bid. We now hope that the site will be included in the proposed Whitehawk Hill Local Nature Reserve (LNR). However, without the security of inclusion in the proposed National Park much of the area will remain vulnerable, in the long term, to threats arising from development.

APPENDIX VI: Biological Records 2019 - 2020

Vla City Plan Part 2 Site 30 Housing Allocation/Whitehawk Hill Local Nature Reserve, Breeding Bird Survey Report, 2019, [REDACTED]

Vlb City Plan Part 2 Site 30 Housing Allocation/Whitehawk Hill Local Nature Reserve, Entomological Survey Report, 23rd May 2019, [REDACTED]

Vlc City Plan Part 2 Site 30 Housing Allocation/Whitehawk Hill Local Nature Reserve, Entomological Survey Report, 22nd July 2019, [REDACTED]

Vld Whitehawk Hill Local Nature Reserve, Entomological Survey Report, 29th May 2019, [REDACTED]

Vle 'Bryophytes (Mosses and Liverworts) of Whitehawk Hill' Survey Report, 11th March 2020, [REDACTED] (incl. site 30 allocation) (*Many species recorded including one scarce species and one scarce subspecies*)

**City Plan Part 2 Site 30 Housing Allocation/
Whitehawk Hill Local Nature Reserve**

Breeding Bird Survey



for

Friends of Whitehawk Hill

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1. INTRODUCTION

1.1. Background and Aims

1.1.1. Breeding bird surveys were undertaken in relation to the inclusion of part of Whitehawk Hill Local Nature Reserve (the site) on the list of housing allocations in the Urban Fringe section of the City Plan Part 2.

1.1.2. The aims of the breeding bird surveys were to:

- identify the breeding bird species present and determine/estimate the number of breeding territories for each species within and immediately adjoining the proposed development area;
- evaluate the conservation importance of the site for breeding birds; and
- assess the probable impacts of development on breeding birds.

2. METHODOLOGY

2.1. Desk Study Records

- 2.1.1. Bird records contained within a data request report by the Sussex Biodiversity Record Centre were reviewed and relevant records noted.

2.2. Survey

- 2.2.1. The survey methodology was an adapted Common Bird Census methodology (CBC) which involved standard territory (registration) mapping techniques as detailed in Bibby et al. (2000)¹ and Gilbert et al (1998)². This method is based on the observation that many species during the breeding season are territorial. This is found particularly amongst passerines, where territories are often marked by conspicuous song, display, and periodic disputes with neighbouring individuals.
- 2.2.2. Five survey visits were undertaken between late March and mid May 2019 (29/03, 08/04, 21/04, 02/05 & 14/05) during appropriate weather and within three hours of sunrise. During each survey visit the Survey Area was following a repeatable transect (Figure 1). As far as possible the aim was to detect, locate and identify all individual birds. All suitable breeding habitats were included. All bird activity recorded by sight or sound was mapped using standard British Trust for Ornithology (BTO) codes, with a particular emphasis on behaviour indicative of breeding (nests, song, display, carrying food or nest material, recently fledged young etc.). The expected outcome of this technique is that mapped registrations fall into clusters, approximately coinciding with territories.

2.3. Evaluation

- 2.3.1. The conservation importance of the breeding bird populations and assemblage were determined with reference to the following.
- the presence of breeding species of recognised international conservation importance i.e. species listed on Annex I of EC Directive 79/409/EEC on the Conservation of Wild Birds 1979;
 - the presence of breeding species of recognised national conservation importance i.e. species listed on Schedule 1 of the Wildlife and Countryside Act 1981;
 - the presence of Birds of Conservation Concern (BoCC4) Red and Amber Listed species (Eaton et al 2015)³; and
 - the presence of Species of Principal Importance in England listed under Section 41 of the Natural Environment and Rural Communities Act 2006 (NERC Act); and
 - Birds of Sussex 1996 (Sussex Ornithological Society, 1996)

¹ Bibby, C.J., Burgess, N.D., Hill, D.A., & Mustoe, S.H. 2000. Bird Census Techniques: 2nd edition. Academic Press, London.

² Gilbert, G., Gibbons, D.W. & Evans, J. 1998. Bird Monitoring Methods. RSPB, Sandy.

³ Eaton M.A, Aebischer N.J, Brown A.F, Hearn R, Lock, L., Musgrove A.J, Noble D.G, Stroud, D., Gregory R.D. (2015). Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. British Birds 108, pp708–746.

3. RESULTS

3.1. Desk Study Records

3.1.1. A wide range of bird species have been recorded from within the Local Nature Reserve. Of particular note and relevance to the survey area are Dartford Warbler (Wildlife and Countryside Act, Schedule 1, BoCC Amber listed, Species of Principal Importance) and stonechat, which have been recorded breeding in the gorse scrub within the survey area in recent decades (personal communication David Bangs) as well yellowhammer (BoCC Red Listed, Species of Principal Importance), another species that frequently uses gorse scrub as breeding habitat.

3.2. Survey Results

3.2.1. A total of 19 bird species were recorded in the survey area, of which two are considered confirmed breeding species, 14 are considered to be probable breeding species, two possible breeding species and one species considered unlikely to have been using the site for breeding. All recorded species are listed in Table 1 with the probable number of territories and relevant conservation status. The breeding bird assemblage as a whole is typical of the habitats present, comprising scrub, including gorse scrub, scattered trees and open grassland.

3.2.2. Of particular note were the presence of breeding linnet and song thrush (BoCC Red listed) and dunnoek (BoCC amber listed). All three of these species are Species of Principal Importance under Section 41 of the NERC Act. These species are discussed in more detail below. In its context the presence of a probable breeding population of linnet, a characteristic Downland bird which uses gorse scrub as an important breeding habitat, is particularly noteworthy. The presence of a population of greenfinch is also worthy of note, as this species experienced a 65% decline in England between 2007 and 2017⁴.

Table 1 Recorded Bird Species

Species	Probable number of territories	Conservation status
Confirmed breeding species		
Robin <i>Erithacus rubecula</i>	2	
Blue tit <i>Cyanistes caeruleus</i>	At least 2	
Probable Breeding Species		
Linnet <i>Linaria cannabina</i>	At least 5	BoCC Red, s41 sp
Song thrush <i>Turdus philomelos</i>	1	BoCC Red, s41 sp
Dunnock <i>Prunella modularis</i>	At least 5	BoCC amber, s41 sp
Woodpigeon <i>Columba palumbus</i>	1	
Wren <i>Troglodytes troglodytes</i>	At least 7	

⁴ <https://app.bto.org/birdtrends/species.jsp?&s=grefi>

Species	Probable number of territories	Conservation status
Blackbird <i>Turdus merula</i>	3	
Chaffinch <i>Fringilla coelebs</i>	2	
Greenfinch <i>Chloris chloris</i>	2 - 3	
Chiffchaff <i>Phylloscopus collybita</i>	At least 4	
Blackcap <i>Sylvia atricapilla</i>	At least 4	
Whitethroat <i>Sylvia communis</i>	7	
Lesser whitethroat <i>Sylvia curruca</i>	2	
Great tit <i>Parus major</i>	2	
Magpie <i>Pica pica</i>	1	
Possible breeding species		
Goldfinch <i>Carduelis carduelis</i>	-	
Jay <i>Garrulus glandarius</i>	-	
Species unlikely to be breeding		
House sparrow <i>Passer domesticus</i>	-	BoCC Red, s41 sp

Song Thrush

- 3.2.3. One or two individuals were regularly recorded, including singing, mostly within the northern part of the survey area.

Dunnock

- 3.2.4. These were widely distributed across the survey area. A maximum of eight singing males was recorded during the first survey on the 29th of March and it is likely that the number of breeding territories/pairs is higher than the five suggested in Table 1.

Linnet

- 3.2.5. The centre of linnet breeding activity appeared to be among the gorse scrub immediately north of the allocation, although individuals were regularly recorded throughout the survey area. Linnets often breed colonially, and this appeared to be the case here. This can make it more difficult to accurately estimate the number of breeding pairs. It is likely that the estimate of at least five for the number breeding territories/pairs given in Table 1 is conservative, and that the true number is higher than this.

4. EVALUATION AND IMPACTS OF DEVELOPMENT

4.1. Evaluation

- 4.1.1. In relation to its area the survey area supports a good assemblage of breeding bird species typical of the habitats present. Of note are the presence of three BoCC4 Red and Amber listed species, particularly the presence of a breeding population of linnet, a characteristic Downland bird and as such a notable feature of the Local Nature Reserve. Combined with relatively recent records of Dartford warbler, yellowhammer and stonechat⁵, for all of which gorse scrub is a primary breeding habitat, this emphasises the particular importance of this habitat for supporting this characteristic group of bird species. The breeding bird assemblage in the survey area is considered to be of at least **Local (City Wide) Importance**.

4.2. Impacts of Development

- 4.2.1. As a result of direct habitat loss, habitat fragmentation, as well as disturbance both during and post-construction, it is considered that development of the allocated site would have a significant adverse impact on the breeding bird assemblage within the survey area, as well as on populations of the notable species present. It is considered likely that it would cause the loss of several of the species currently present. Of particular note would be the probable loss of the population of linnet, which is a notable and distinctive feature of the Local Nature Reserve.
- 4.2.2. Although several species (Dartford warbler, stonechat, yellowhammer) previously recorded and associated with the gorse scrub in the survey area were not recorded during these surveys it is understood, following consultation with the ranger for the Local Nature Reserve, that management aims for this habitat would improve its favourability for these species. These species, together with linnet, which was recorded, comprise a distinctive breeding bird assemblage of gorse scrub. Development would remove the opportunity for the restoration of this habitat and its associated bird assemblage.
- 4.2.3. Further, it is considered that it would be very difficult to satisfactorily mitigate these impacts. The location and extent of the allocation means that it would significantly fragment the core part of the Local Nature Reserve and more specifically, the habitats used by the populations of breeding birds recorded in these surveys. In addition, the distribution of the habitats present within the survey area and within the wider Local Nature Reserve reflect, in combination with management and other factors, local differences in environment, such as soils, topography and aspect. The gorse scrub in the survey area is long established and, for example, is clearly recorded in early photographs. Its presence in this area, and absence from other parts of the Local Nature Reserve, reflect an aspect of this local environmental variation. Development would cause a loss of this local variation and the habitats and species it supports.

⁵ Sussex Biodiversity Record Centre, 2018. Ecological data search for land at Whitehawk Hill LNR, Brighton

FIGURES



Figure 1 Survey transect

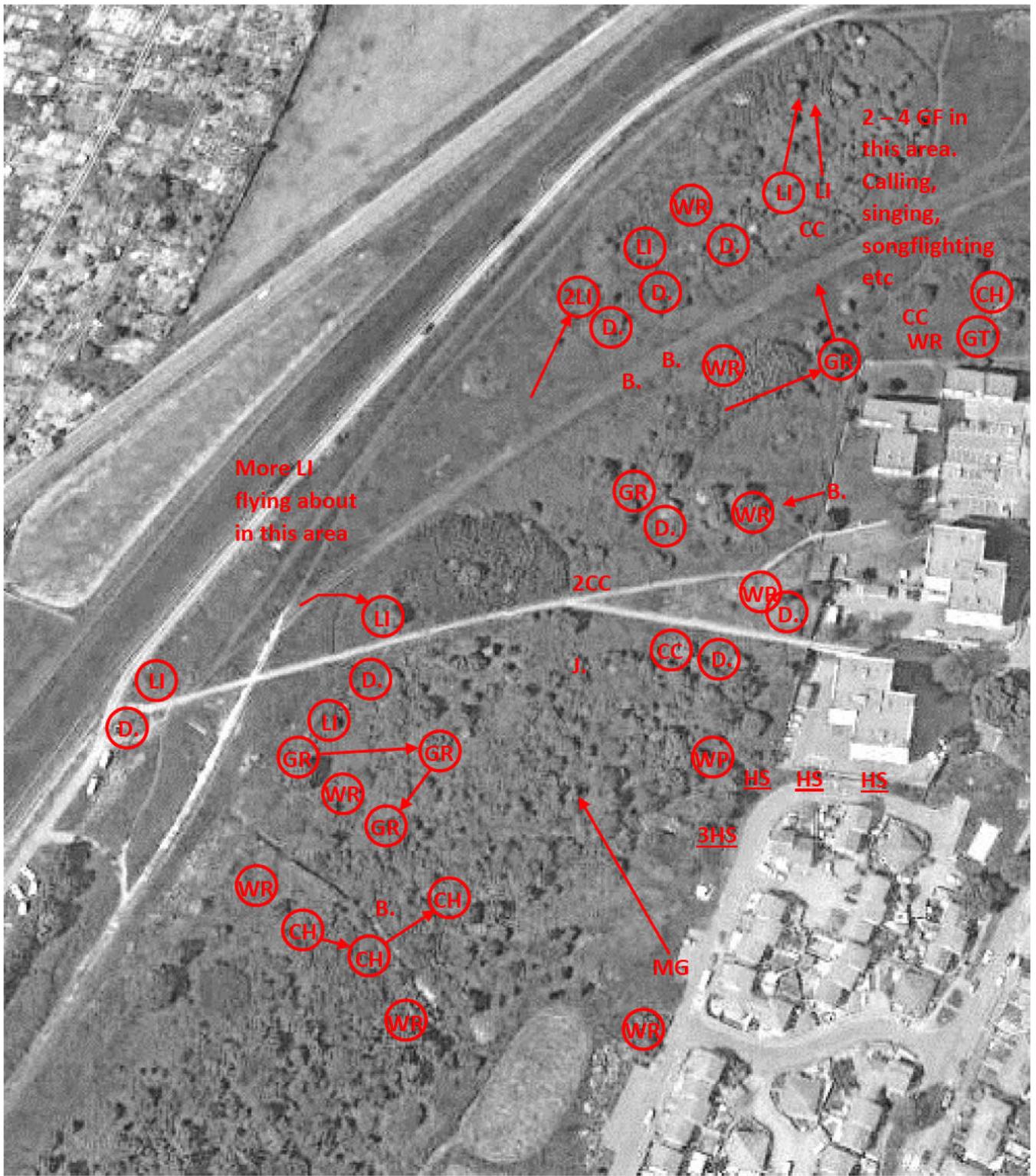


Figure 2a Survey results 29th March 2019



Figure 2b Survey results 8th April 2019

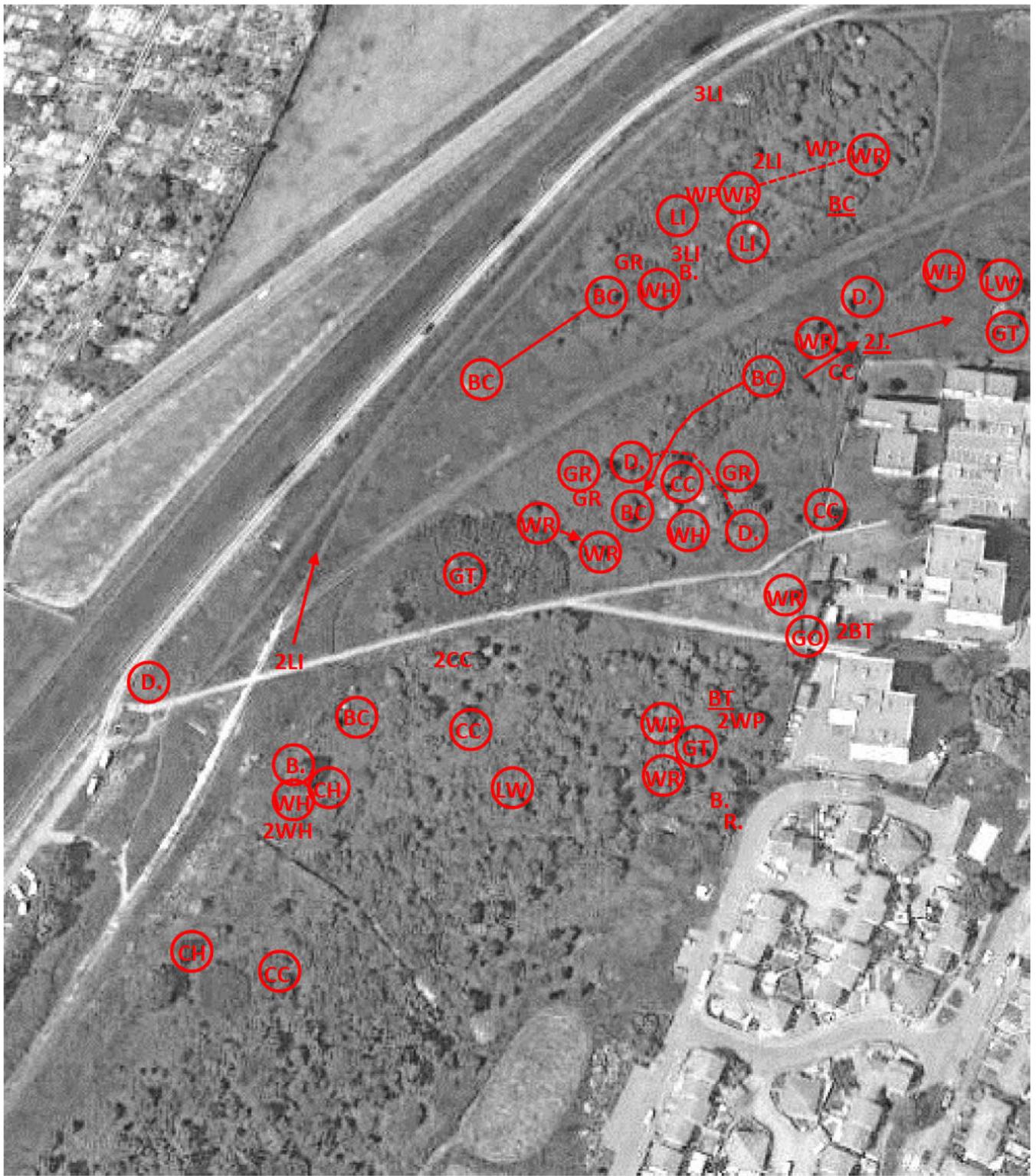


Figure 2c Survey results 21st April 2019

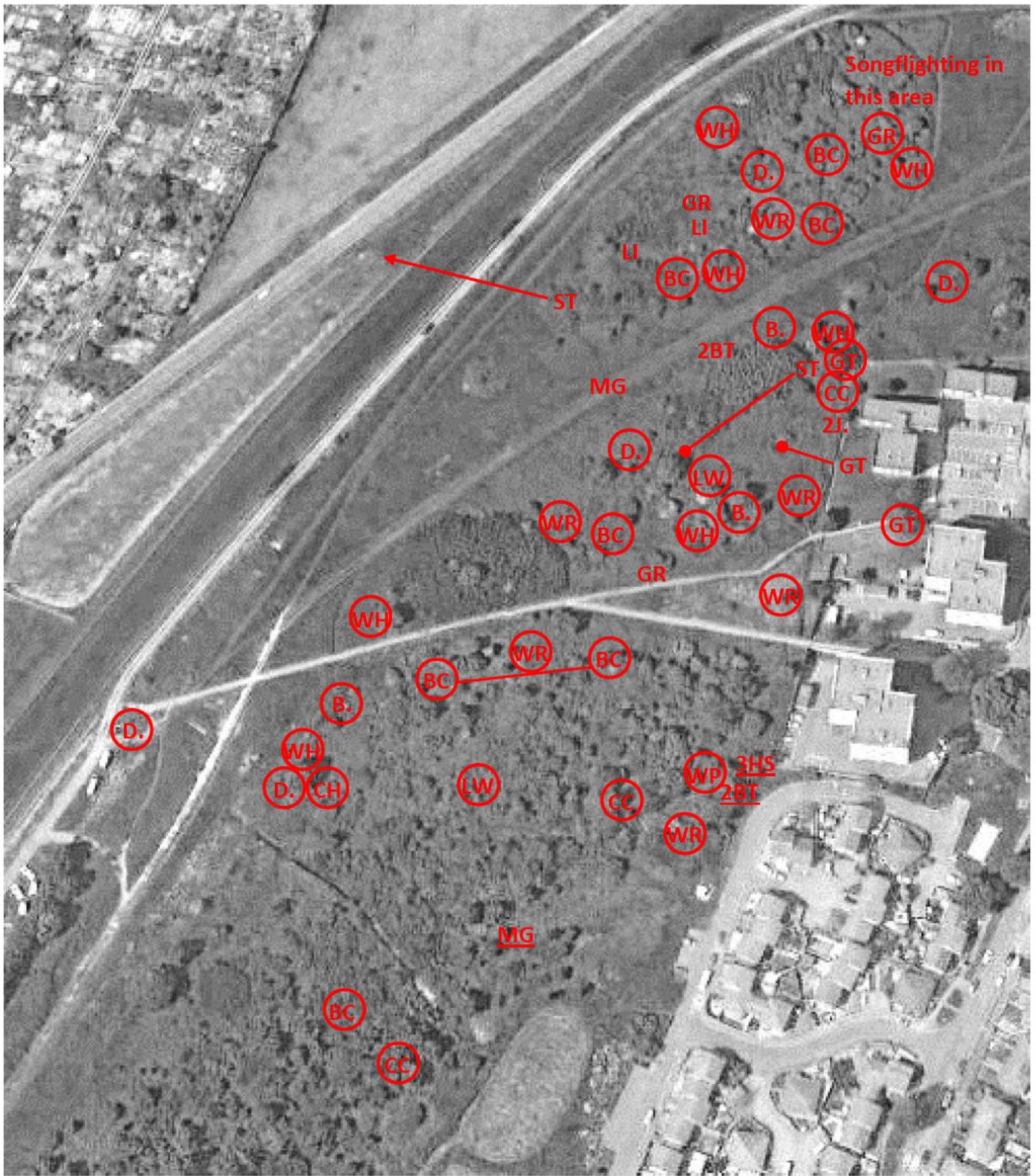


Figure 2d Survey results 2nd May 2019

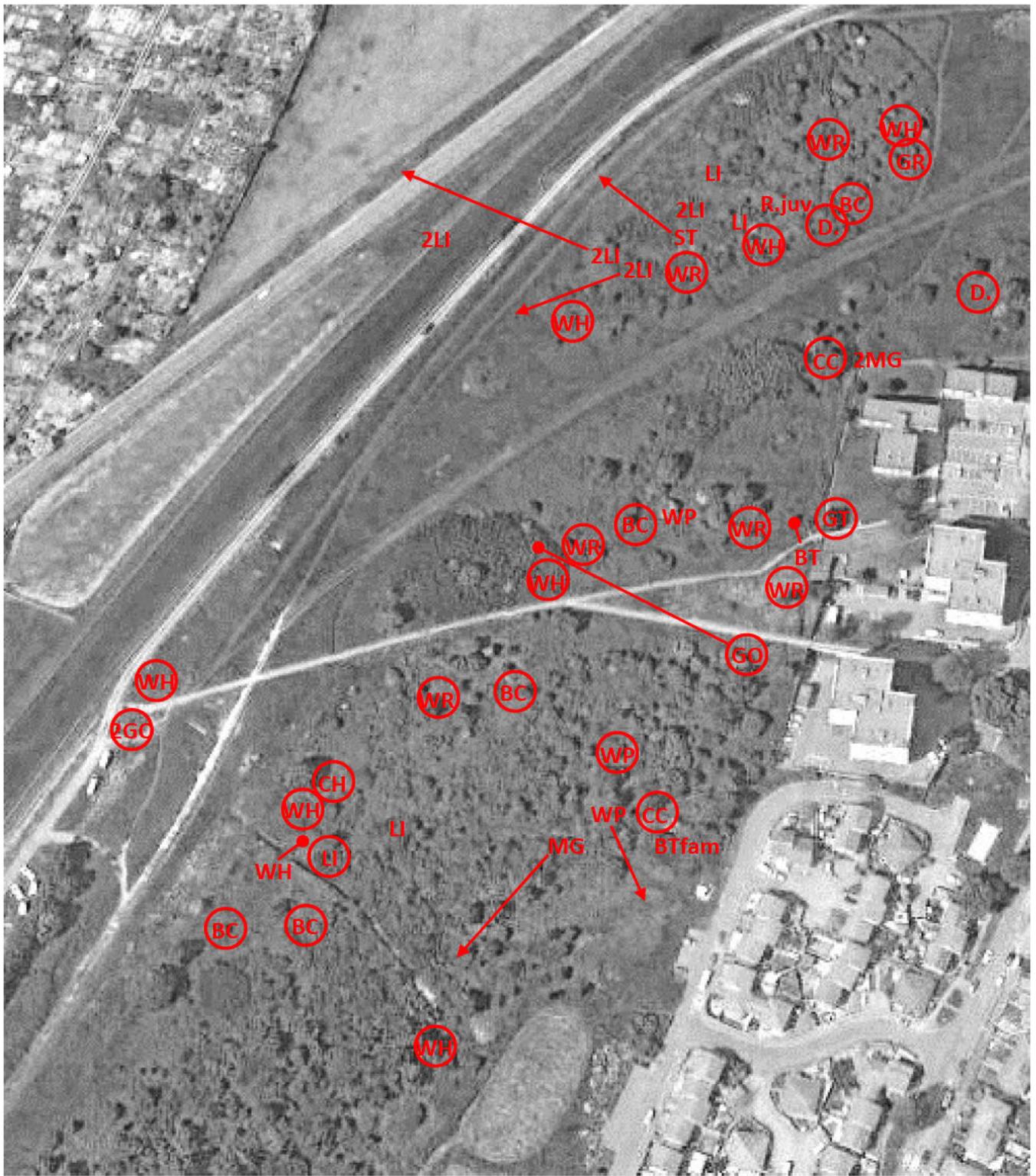


Figure 2e Survey results 14th May 2019

Key

WP Woodpigeon

WR Wren

B. Blackbird

ST Song thrush (BoCC Red, s41)

CH Chaffinch

GR Greenfinch

GO Goldfinch

D. Dunnock (BoCC Amber, s41)

R. Robin

CC Chiffchaff

LI Linnet (BoCC Red, s41)

MG Magpie

BC Blackcap

WH Whitethroat

LW Lesser whitethroat

GT Great tit

BT Blue tit

 Singing bird (greenfinch)

 Calling bird (greenfinch)

 Bird movement (landing place not seen)

 Bird movement (and landing place)

 Connects two different birds singing simultaneously

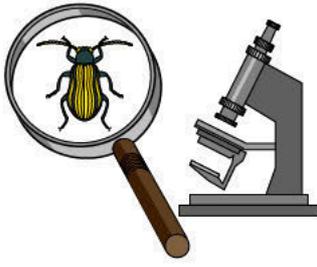
 Connects the probable same bird in two locations

juv Juvenile bird

fam Family – adult(s) attending juvenile(s)

BoCC – Red and Amber listed species in Birds of Conservation Concern 4: the Red List for Birds.
British Trust for Ornithology, 2015

s41 – Section 41 species/Species of Principal Importance listed under section 41 of the Natural
Environment and Rural Communities (NERC) Act 2006



WHITEHAWK HILL, BRIGHTON

Insect survey results for
23rd May 2019

by

1. INTRODUCTION

On 23rd May 2019 three hours was spent sampling insects in an area approximately 100 metres either side of the footpath leading from the racecourse underpass to Whitehawk estate in grid squares TQ332053, TQ333053 and TQ333054. Weather conditions were ideal with continuous sunshine and a temperature of around 21°C.

2. SITE EVALUATION

To record 65 species of beetles by sweeping vegetation with a net in an area of chalk grassland 200 x 50 metres in just 3 hours in my opinion indicates an extremely rich site. Its importance in terms of conservation value is enhanced by the presence of several highly notable species.

3. SPECIES LISTS

COLEOPTERA (Beetles)

APIONIDAE (Weevils)

Aspidapion radiolus

On mallow and hollyhock.

Ischnopterapion loti

On *Lotus corniculatus* Bird's-foot Trefoil.

Malvapion malvae

On mallow.

Perapion curtirostre

On *Rumex* species.

Protapion fulvipes

On clover.

Pseudapion rufirostre

On mallow.

Oxystoma pomonae

On vetches.

CANTHARIDAE (Soldier beetles)

Cantharis fusca

Nationally Scarce - see species account below.

Cantharis rustica

Common in grassland habitats.

CARABIDAE (Ground beetles)

Demetrias atricapillus

Common generally.

Paradromius linearis

Common generally.

CHRYSOMELIDAE (Leaf beetles)

Aphthona atrocaerulea

Local, on *Euphorbia*.

Bruchidius varius

Breeds in flowers of red clover.

Bruchus rufimanus

On vetches.

Bruchus rufipes

On vetches.

Cassida vibex

On thistles.

Chrysolina oricalcia

On Cow Parsley.

Phyllotreta nigripes

On various crucifers.

Phyllotreta nodicornis

On various crucifers.

Phyllotreta undulata

On various crucifers.

COCCINELLIDAE (Ladybirds)

Coccinella septempunctata
Harmonia axyridis (Harlequin ladybird)
Psyllobora vigintiduopunctata
Rhyzobius litura
Subcoccinella vigintiquattuorpunctata
Tytthaspis sedecimpunctata

Common generally.
Common generally.
Common generally.
Common generally.
In grassland habitats.
Common generally.

CURCULIONIDAE (Weevils)

Ceutorhynchus chalibaeus
Ceutorhynchus obstructus
Ceutorhynchus pallidactylus
Ceutorhynchus pictarsis
Ceutorhynchus pyrrhorhynchus
Hypera fuscocinerea
Mecinus janthinus
Mecinus labilis
Mecinus pascuorum
Mecinus pyraeter
Nedus quadrimaculatus
Pachyrhinus lethierryi
Phyllobius pyri
Phyllobius roboretanus
Phyllobius virideaeris
Rhinoncus pericarpus
Rhinusa collina
Sitona lepidus
Sitona lineatus
Trichosirocalus troglodytes
Tychius stephensi
Zacladus exiguus

On *Sisymbrium officinale* Hedge Mustard.
On various crucifers.
On various crucifers.
Local - see species account below.
On various crucifers.
Nationally Scarce - Nb - see species account below.
Nationally Scarce - Na - see species account below.
On *Plantago lanceolata* Ribwort Plantain.
On *Plantago lanceolata* Ribwort Plantain.
On *Plantago lanceolata* Ribwort Plantain.
On *Urtica dioica* Stinging Nettle.
On cypress and related species.
On a variety of deciduous trees.
In grassland habitats.
In grassland habitats.
On *Rumex* species.
Nationally Scarce - Na - see species account below.
On Leguminosae.
On Leguminosae.
On *Plantago lanceolata* Ribwort Plantain.
Local, on *Trifolium* and related species.
On Geranium species.

DRILIDAE

Drilus flavescens
ELATERIDAE (Click beetles)

Local - see species account below.

Agriotes obscurus
Agrypnus murinus
Athous haemorrhoidalis
Kibunea minuta
Prosternon tessellatum

In grassland habitats.
In grassland habitats.
In grassland habitats.
In grassland habitats.
Local - see species account below.

MALACHIIDAE (Malachite beetles)

Cordylepherus viridis
NITIDULIDAE (Pollen beetles)

In grassland habitats.

Brachypterolus pulicarius
Meligethes aeneus

On *Linaria vulgaris* Common Toadflax.
On flowers of a variety of plant species.

OEDEMERIDAE

Oedemera lurida
Oedemera nobilis

On flowers generally.
On flowers generally.

PHALACRIDAE

Phalacrus fimetarius

On flowers generally.

SCRAPTIIDAE

Anaspis fasciata
Anaspis maculata

On flowers generally.
On flowers generally.

STAPHYLINIDAE (Rove beetles)

Othius laeviusculus

Common generally.

Philonthus carbonarius

Common generally.

TENEBRIONIDAE (Darkling beetles)

Isomira murina

In grassland habitats.

DIPTERA (Flies)

ASILIDAE (Robber flies)

Dioctria baumhaueri

In grassland habitats.

Leptogaster cylindrica

In grassland habitats.

EMPIDIDAE (Dance flies)

Empis femorata

In grassland habitats.

TEPHRITIDAE (Picture-winged flies)

Chaetorellia jaceae

Associated with *Centaurea nigra* Hardheads.

Urophora jaceana

Associated with *Centaurea nigra* Hardheads.

Urophora quadrifasciata

Associated with *Centaurea nigra* Hardheads.

HEMIPTERA-HETEROPTERA (Bugs)

COREIDAE (Squash-bugs)

Coriomeris denticulatus

In grassland habitats.

Coreus marginatus

On *Rumex* species.

Syromastus rhombeus

In dry grassland habitats.

CYDNIDAE (Shield-bugs)

Legnotus limbosus

On bedstraws *Galium* species.

LYGAEIDAE (Ground bugs)

Heterogaster urticae

On *Urtica dioica* Stinging Nettle.

Peritrechus geniculatus

In grassland habitats.

MIRIDAE (Capsid-bugs)

Stenodema laevigata

Associated with grasses in grassland habitats.

PENTATOMIDAE (Shield-bugs)

Aelia acuminata

Local in grassland habitats.

Dolycoris baccarum

Common in grassland habitats.

Palomena prasina

Common in grassland habitats.

Peribalus strictus

Vagrant / Recent Colonist - see species account below.

Podops inuncta

In grassland habitats.

RHOPALIDAE

Rhopalus subrufus

In grassland habitats.

SCUTELLERIDAE (Shield-bugs)

Eurygaster testudinaria

In grassland habitats.

TINGIDAE (Lace bugs)

Tingis ampliata

On *Cirsium arvense* Creeping Thistle.

HEMIPTERA-HOMOPTERA (Bugs)

DELPHACIDAE

Criomorpha albomarginatus

In grassland habitats.

LEPIDOPTERA (Butterflies)

SATYRIDAE

Aglais urticae (Small Tortoiseshell)

Larva recorded on *Urtica dioica* Stinging Nettle.

Coenonympha pamphilus (Small Heath)

In grassland habitats.

4. NOTABLE SPECIES ACCOUNTS

COLEOPTERA (Beetles)

CANTHARIDAE (Soldier beetles)

- NS** *Cantharis fusca* **Nationally Scarce**
A large and conspicuous black and red soldier beetle which was formerly widespread in England and Wales but recently (post-1970) only recorded from four vice counties, all in southern England, suggesting that a decline has taken place. It is still locally plentiful in a few places, notably on the Somerset Levels. Recorded from a variety of unimproved habitats including fens, woodland edges river banks and coastal grasslands. Both adults and larvae are probably predatory.

CURCULIONIDAE (Weevils)

- Local** *Ceutorhynchus picitarsis* **Locally Scarce**
Associated with various yellow-flowered Cruciferae, including rape. There are very few Sussex records.

- Nb** *Hypera fuscocinerea* **Nationally Scarce - Nb**
Widespread but local in England and southern Scotland. Occurs in grassland habitats on dry soils. Phytophagous, associated with medick *Medicago*, Tufted Vetch *Vicia cracca*, and probably other closely related plants. The larvae feed externally on the host plant.

- Na** *Rhimusa collina* **Nationally Scarce - Na**
Very local in England and Wales with a scattered distribution. Phytophagous, the larvae develop in root galls on Common Toadflax *Linaria vulgaris*.

- Na** *Mecinus janthinus* **Nationally Scarce - Na**
First discovered in Britain in 1948, this small bluish weevil has been recorded since 1970 from East Kent, West Kent and South Essex, with older records for Surrey and Middlesex. Found on disturbed ground, grassland and road verges, often on chalky soils. Phytophagous. Associated with Common Toadflax *Linaria vulgaris*.

DRILIDAE

- Local** *Drilus flavescens* **Formerly Nationally Scarce - Na**
This beetle somewhat resembles a small soldier beetle. It has a very restricted range in Britain and there are recent records for only the Isle of Wight, Hampshire, Bedfordshire, Surrey, Kent and Sussex. Seldom found away from chalk grassland, the larvae feed on snails. No longer considered to be Nationally Scarce or threatened, even though the female is flightless.

ELATERIDAE (Click beetles)

- Local** *Prosternon tessellatum* **Local**
Usually associated with acidic grassland this species also occurs on chalk grassland such as Lullington Heath on the South Downs.

HEMIPTERA-HETEROPTERA (Bugs)

COREIDAE (Squash-bugs)

- Local** *Syromastus rhombeus* **Locally Scarce**
Formerly confined to sandy coasts this bug has recently colonised a number of dry grassland sites further inland.

PENTATOMIDAE (Shield-bugs)

- ??** *Peribalus strictus* **Vagrant / Recent Colonist**
Old records were presumed to be casual vagrants but there are several very recent records for south-east England that suggest this bug is now becoming established.

Report of visit to Whitehawk LNR, 22nd July, 2019

Background

An entomological survey and preliminary assessment at Whitehawk LNR was undertaken on 22nd July, 2019 at the invitation of Richard Bickers and Dave Bangs of the local volunteer group. The day was not good for surveying warmth-loving insects as a sea fog drove over the area, starting as we arrived. Despite the forecast, this fog did not fully disperse all day, with most recording limited to brief bursts of sunshine. Consequently the list included with this report is very much a basic one for this time of year. Time of year brings in another point to be remembered, the insect fauna changes over the course of a year, with different species being present at differing times.

It is also important to remember that the insects are a very large and diverse group, the survey and recognition of different insects very much depends on the survey methods and background of the surveyor. This survey concentrated on the aculeate Hymenoptera (Ants, Bees and Wasps) and the flower-visiting Diptera, notably Hoverflies (Syrphidae). Representatives from other groups were recorded as seen. A survey largely concentrating on Coleoptera (beetles) and Hemiptera (bugs) has been carried out by Peter Hodge, a very well-respected local entomologist earlier this year, as well as in earlier years, and the results recorded here should be noted along with the results from the Hodge survey.

Outcome of the Current Survey and Site Assessment

By far the most significant outcome was the finding of a number workers of the Section 41 bumblebee *Bombus humilis*. These were present over the entire length of the LNR, indicating the presence of several nests across the site. Though this is undoubtedly part of a larger metapopulation of this bee in the Brighton area (queens were found at Ladies Mile on a Spring survey), maintaining the entire grassland area is of paramount importance as successful nest density is likely to be of the order of 1 nest per square km., so Whitehawk LNR may only produce sexuals from one or two nests in a year. Successful nests are those which complete the cycle from initiation to production of new queens for hibernation. Losses of nests in bumblebees are of the order of 80% from founding to production of sexuals. Clearly, extending the area of grassland (see management comment) would be of even greater importance.

Otherwise, the survey recorded a good variety of insects within the target groups, including a species often thought of as emblematic of the South Downs, but actually quite restricted in modern times to the better open, calcareous grasslands - the Chalkhill Blue *Polyommatus coridon*. A further butterfly species of note is *Coenonympha pamphilus*, The Small Heath, listed under Section 41. Both these insects are associated with the short, sparse grasslands of the scarp slope. Both are listed as Near Threatened in the modern Red List revision for butterflies. It is clear that further visits in better conditions and at other times of the year would be expected to record a much larger variety of species.

Much of the site is suffering (as open chalk downland) from extensive management neglect, for whatever reason. However, sufficient downland remains - both short grassland on very thin soils on the escarpment and taller grassland on the slightly deeper soils of the summit, to support the insects recorded. The deeper soils and taller grassland are likely locations for the surface nests of *Bombus humilis*, so these should not all be cut or hard grazed at once.

Management to restrict, or hopefully reduce, the spread of scrub would be very beneficial, especially if this can be linked with cutting and 'pulse-grazing', preferably with cattle, rather than sheep as these have a better outcome as regards vegetation structure and slight poaching to create germination spaces within the turf. However, if sheep only are available, then rotating the grazing pattern over the site at different times of the year will be far better, long term, than no grazing at all.

There is a historic interest to the site in terms of entomology in Brighton as this was one site often visited by the Brazenors, father and son, who for many years ran a natural history shop in the Lanes. This was taken over by Watkins and Doncaster in the 1960's before they moved to Kent in the 1970s. The Brazenor collection of insects collected in the Brighton to Ditchling area was split between the Booth Museum, Brighton and the Leicester Museum. It contains quite a few specimens collected on what is now the LNR (as Brighton Racecourse/Sheepcote Valley).

Order	Family	Complete name	Old Conservation status	Post 2017 Conservation status RDB	Section 41	Distribution	Notes
060 ORTHOPTERA (Crickets and Grasshoppers)	Tettigoniidae (Bush Crickets)	Conocephalus fuscus	Nationally Scarce a	Least Concern		Southern Widespread	Long-winged Cone-head. Commonly found. Increasingly widespread throughout southern England.
140 LEPIDOPTERA (Butterflies and Moths)	Arctiidae (Tiger Moths)	Tyria jacobaeae			Section 41 species	Universal	The Cinnabar moth. Commonly found. Larvae feed on Ragwort.
140 LEPIDOPTERA (Butterflies and Moths)	Hesperiidae (Skipper Butterflies)	Thymelicus sylvestris		Least Concern		Southern Widespread	Small Skipper butterfly. Commonly found. The larva feeds on grasses, especially Holcus spp.
140 LEPIDOPTERA (Butterflies and Moths)	Lycaenidae (Blue Butterflies)	Aricia agestis		Least Concern		Southern Widespread	Brown Argus butterfly. Frequently found but local. A species associated with calcareous grassland, where the caterpillars feed on rockrose, or heathland/ heathy woodland, where they feed on cranesbill and storksbill. The larvae are attended by ants.
140 LEPIDOPTERA (Butterflies and Moths)	Lycaenidae (Blue Butterflies)	Lysandra coridon				Southern Restricted	Chalk Hill Blue Butterfly. Locally frequent, but localised. The larvae feed on Horse-shoe Vetch, Hippocrepis comosa growing in short turf.
140 LEPIDOPTERA (Butterflies and Moths)	Nymphalidae (Nymphalid, Fritillary and Brown Butterflies)	Coenonympha pamphilus	A UK BAP species	Near Threatened	Section 41 species	Universal	Small Heath butterfly. Locally commonly found, declining. The larva feeds on various species of grass.
140 LEPIDOPTERA (Butterflies and Moths)	Nymphalidae (Nymphalid, Fritillary and Brown Butterflies)	Maniola jurtina		Least Concern		Universal	Meadow Brown butterfly. Commonly found. The larva feeds on many species of grass, preferring the finer varieties. It occurs in open grassy situations.
140 LEPIDOPTERA (Butterflies and Moths)	Nymphalidae (Nymphalid, Fritillary and Brown Butterflies)	Melanargia galathea		Least Concern		Southern Widespread	Marbled White. Frequently found. The larvae feed on a number of grass species where there is a tussocky structure comprising coarser and finer grasses.
140 LEPIDOPTERA (Butterflies and Moths)	Nymphalidae (Nymphalid, Fritillary and Brown Butterflies)	Pyronia tithonus		Least Concern		Southern Widespread	Gatekeeper butterfly. Commonly found. The larva feeds on various grasses, narrow-bladed species being preferred.
150 COLEOPTERA (Beetles)	Cantharidae (Soldier Beetles)	Rhagonycha fulva		Least Concern		Universal	Commonly found. In a wide variety of habitats.
160 DIPTERA (Flies)	Asilidae (Robberflies)	Machimus atricapillus		Least Concern		Southern Widespread	Commonly found. Dry grasslands and scrub.
160 DIPTERA (Flies)	Conopidae (Thick-headed Flies)	Conops flavipes				Universal	Commonly found. The larvae are internal parasites on bumble bees and social wasps.
160 DIPTERA (Flies)	Syrphidae (Hoverflies)	Chrysotoxum bicinctum		Least Concern		Universal	Frequently found. Dry grasslands and heaths, often near scrub. Probably feeds on aphids on roots. There may also be an association with ants.
160 DIPTERA (Flies)	Syrphidae (Hoverflies)	Episyrphus balteatus		Least Concern		Universal	Very commonly found everywhere. A migratory species.
160 DIPTERA (Flies)	Syrphidae (Hoverflies)	Eristalis intricarius		Least Concern		Universal	Commonly found. Often in woodland clearings.
160 DIPTERA (Flies)	Syrphidae (Hoverflies)	Eristalis tenax		Least Concern		Universal	Very commonly found. The larvae live in organically rich wet mud.
160 DIPTERA (Flies)	Syrphidae (Hoverflies)	Melanostoma mellinum		Least Concern		Universal	Very commonly found. A grassland species.
160 DIPTERA (Flies)	Syrphidae (Hoverflies)	Platycheirus albimanus		Least Concern		Universal	Commonly found. The larvae are predatory.
160 DIPTERA (Flies)	Syrphidae (Hoverflies)	Sphaerophoria scripta		Least Concern		Universal	Very commonly found in the southern half of the British Isles. A grassland species, the larvae feed on aphids and Homoptera living in the ground layer.
160 DIPTERA (Flies)	Tachinidae (Parasite Flies)	Eriothrix rufomaculata				Universal	Commonly found. In grassland habitats
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Andreninae (Mining Bees)	Andrena bicolor				Universal	Very commonly found. Polylectic. Ground nesting.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Andreninae (Mining Bees)	Andrena minutuloides	Nationally Scarce a			Southern Restricted	Infrequently found. Strongly associated with sandy and calcareous grasslands. Polylectic.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Apinae (Bees)	Bombus hortorum				Universal	Very commonly found. Polylectic. Nests underground. Cavity nesting.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Apinae (Bees)	Bombus humilis	a UK-BAP species		Section 41 species	Southern Widespread	BAP species. Frequently found. A declining species, more frequent in coastal localities of the south-west. Associated with taller grasslands, but with plenty of perennial flowers present. Surface nesting.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Apinae (Bees)	Bombus lapidarius				Universal	Very commonly found. Nests underground in cavities. Polylectic.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Apinae (Bees)	Bombus pascuorum				Universal	Very commonly found. Polylectic. Nests in surface litter. Cavity nesting.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Apinae (Bees)	Bombus pratorum				Universal	Very commonly found. Polylectic. Nests underground as well as in aerial cavities, including bird boxes. Cavity nesting.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Apinae (Bees)	Bombus terrestris				Universal	Very commonly found. Polylectic. Nests underground. Cavity nesting.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Colletinae (Bees)	Hylaeus dilatatus				Southern Restricted.	Locally frequently found. Nests in dead Bramble stems. Polylectic. Cavity nesting Previously known as Hylaeus annularis
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Colletinae (Bees)	Hylaeus signatus	Nationally Scarce b			Southern Widespread	Locally frequently found. Oligolectic on Reseda. Local cyclical disturbance is essential to provide habitat for the Reseda. Cavity nesting and ground nesting.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Crabronidae (Solitary Wasps)	Cerceris rybyensis				Southern Restricted.	Locally commonly found. Heathland and downland. Preys on various solitary bees. Ground nesting.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Crabronidae (Solitary Wasps)	Ectemnius continuus				Universal	Commonly found in a variety of habitats. Dead-wood nesting. Preys on flies.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Formicidae (Ants)	Lasius flavus				Universal.	Commonly found. The large, dome-shaped nests are an indicator of long-established pasture.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Formicidae (Ants)	Lasius niger				Universal	Very commonly found. Dry habitats.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Formicidae (Ants)	Myrmica ruginodis				Universal	Commonly found in many habitats.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Halictinae (Mining Bees)	Halictus tumulorum				Universal	Commonly found. A eusocial species. Polylectic. Ground nesting.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Halictinae (Mining Bees)	Lasioglossum pauxillum	Nationally Scarce a			Southern Restricted	Commonly found. Polylectic and eusocial. Became much commoner during the 1990s, does not merit Nationally Scarce status now. Ground nesting.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Melittinae (Bees)	Melitta leporina	Nationally Scarce b			Southern Widespread	Infrequently found. Associated with legumes, especially White Clover, Trifolium repens. Ground nesting.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Melittinae (Bees)	Melitta tricincta	Nationally Scarce b			Southern Restricted	Locally commonly found. Oligolectic. Very strongly associated with Red Bartsia, Odontites verna, which provides the pollen with which the female stocks her nest. Ground nesting.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Vespididae (Social and Potter Wasps)	Vespula germanica				Universal	Very commonly found. Underground and cavity nesting.
190 ACULEATE HYMENOPTERA (Ants, Bees and Wasps)	Vespididae (Social and Potter Wasps)	Vespula vulgaris				Universal	Very commonly found. Underground and cavity nesting.



WHITEHAWK HILL, BRIGHTON

Insect survey results for
29th May 2019



1. INTRODUCTION

On 29th May 2019 two hours was spent sampling insects in the recently grazed area of the steep east-facing grassland at Whitehawk Hill centred around TQ331048. The weather was cool and cloudy with light rain during the afternoon.

2. SITE EVALUATION

In less than ideal weather conditions a reasonable species list was obtained in the short time spent sampling the site. It was especially good to find the Small Blue butterfly at the foot of the steep downland slope.

3. SPECIES LISTS

COLEOPTERA (Beetles)

APIONIDAE (Weevils)

Ceratapion onopordi

Common on thistles.

CARABIDAE (Ground beetles)

Demetrias atricapillus

Common generally.

Paradromius linearis

Common generally.

CHRYSOMELIDAE (Leaf beetles)

Sphaeroderma rubidum

Common on *Centaurea nigra* (Hardheads).

COCCINELLIDAE (Ladybirds)

Harmonia axyridis (Harlequin ladybird)

Common generally.

Psyllobora vigintiduopunctata

Common generally.

Rhizobius litura

Common generally.

Subcoccinella vigintiquatuorpunctata

In grassland habitats.

CURCULIONIDAE (Weevils)

Ceutorhynchus pallidactylus

On various crucifers.

Mecinus labilis

On *Plantago lanceolata* Ribwort Plantain.

Mecinus pascuorum

On *Plantago lanceolata* Ribwort Plantain.

Phyllobius roboretanus

In grassland habitats.

Phyllobius virideaeris

In grassland habitats.

Sitona lineatus

On Leguminosae.

DASCILLIDAE

Dascillus cervinus

Local, in dry grassland habitats.

DRILIDAE

Drilus flavescens

Local - see species account below.

ELATERIDAE (Click beetles)

Athous haemorrhoidalis

In grassland habitats.

Kibunea minuta

In grassland habitats.

MALACHIIDAE (Malachite beetles)

Cordylepherus viridis

In grassland habitats.

NITIDULIDAE (Pollen beetles)

Meligethes carinulatus

Common in flowers of *Lotus corniculatus* Bird's-foot Trefoil.

OEDEMERIDAE

Oedemera lurida

On flowers generally.

Oedemera nobilis

On flowers generally.

PHALACRIDAE

Olibrus affinis

On flowers in grassland habitats.

SCRAPTIIDAE

Anaspis maculata

On flowers generally.

Anaspis pulicaria

On flowers generally.

TENEBRIONIDAE (Darkling beetles)

Isomira murina

In grassland habitats.

DIPTERA (Flies)

CONOPIIDAE (Thick-headed flies)

Thecophora atra

Local, a cleptoparasite of bees.

SYRPHIDAE (Hover-flies)

Syrirta pipiens

Common.

TEPHRITIDAE (Picture-winged flies)

Chaetorellia jaceae

Associated with *Centaurea nigra* Hardheads.

Terellia colon

Associated with *Centaurea scabiosa* Greater Knapweed.

Urophora cuspidata

Associated with *Centaurea scabiosa* Greater Knapweed.

Urophora quadrifasciata

Associated with *Centaurea nigra* Hardheads.

HEMIPTERA-HETEROPTERA (Bugs)

MIRIDAE (Capsid-bugs)

Stenodema laevigata

Associated with grasses in grassland habitats.

PENTATOMIDAE (Shield-bugs)

Aelia acuminata (Bishop's Mitre)

Local, in grassland habitats.

HYMENOPTERA (Bees, wasps, ants, etc)

APIDAE (Bees)

Nomada flavoguttata (Little Nomad Bee)

Common, a cleptoparasite of several small *Andrena* species.

LEPIDOPTERA (Butterflies)

LYCAENIDAE

Aricia agestis (Brown Argus)

Local, in grassland habitats.

Cupido minima (Small Blue)

Very local, in grassland habitats.

ORTHOPTERA (Grasshoppers & crickets)

TETTIGONIIDAE (Bush-crickets)

Conocephalus discolor (Long-winged Cone-head)

Leptophyes punctatissima (Speckled Bush-cricket)

4. NOTABLE SPECIES ACCOUNTS

COLEOPTERA (Beetles)

DRILIDAE

Local *Drilus flavescens*

Formerly Nationally Scarce - Na

This beetle somewhat resembles a small soldier beetle. It has a very restricted range in Britain and there are recent records for only the Isle of Wight, Hampshire, Bedfordshire, Surrey, Kent and Sussex. Seldom found away from chalk grassland, the larvae feed on snails. No longer considered to be Nationally Scarce or threatened, even though the female is flightless.

29th May 2019.

Whitehawk Hill

21 March 2020 · by [REDACTED]

East Brighton

Just back in Brighton after a couple of weeks away I was invited by [REDACTED] to survey the bryophytes on Whitehawk Hill. I had been meaning to visit this area of chalk grassland surrounded by the housing estates of East Brighton for a while so I abandoned piles of laundry and set off. There was only one bryophyte record for the site of *Pseudoscleropodium purum* from the late 70's. In contrast, an impressive list of vascular plants have been recorded here. In fact this tetrad has the longest list of flowering plants in the county; 818 taxa recorded thanks mostly to the efforts of Tony Spiers. (The next highest total is 598).

[REDACTED] visited a couple of years ago and recorded over 60 beetle species in two hours on unpromising rough grassland. No pressure for a good haul of bryophytes then! The area around the tunnel that leads from the top of Elm Grove under the racecourse and onto the reserve was a good source of common bryophytes of rough ground, including *Syntrichia ruralis* subsp. *ruraliformis* and a small area of bare chalk amongst the rough grass was edged with *Didymodon fallax* and *Dicranella varia*.

A housing development is proposed for a section of the common land and I concentrated on this on my first visit. The area was mostly covered in bramble and gorse stubble after a megabash of the scrub a couple of weeks ago by local volunteers and a group from Extinction Rebellion. On the day of my foray more volunteers were litter picking; a daunting task as the brambles had been hiding tons of wind blown trash. The landscape wasn't at all promising but as I followed a downhill path a few leaves of yarrow caught my eye and looking closer at the bank found a small quantity of *Weissia controversa* var. *controversa* with well formed peristome teeth and leaves with a narrow nerve. Nearby, scraps of *Leicolea turbinata* and *Dicranella varia* revealed themselves.



Microbryum rectum

A reasonably sized Sycamore in uncleared copse was bare of epiphytes but was worth checking as the ground underneath was covered in *Microbryum rectum* with young, green capsules, *Fissidens incurvus* with inclined capsules and a square inch of *Barbula sardoa*.

These were the best finds but the usual array of chalk hill epiphytes were found in damper areas of young woodland. Blackthorn was host to *Cololejeunea minutissima* and *Frullania dilatata* and a damp elder copse added *Cryphaea heteromalla*, *Syntrichia laevipila* and *Zygodon conoideus*, all fruiting. This area is covered in gorse and previous records of acid-loving flowers suggest this may have once been an area of rare chalk-heath.

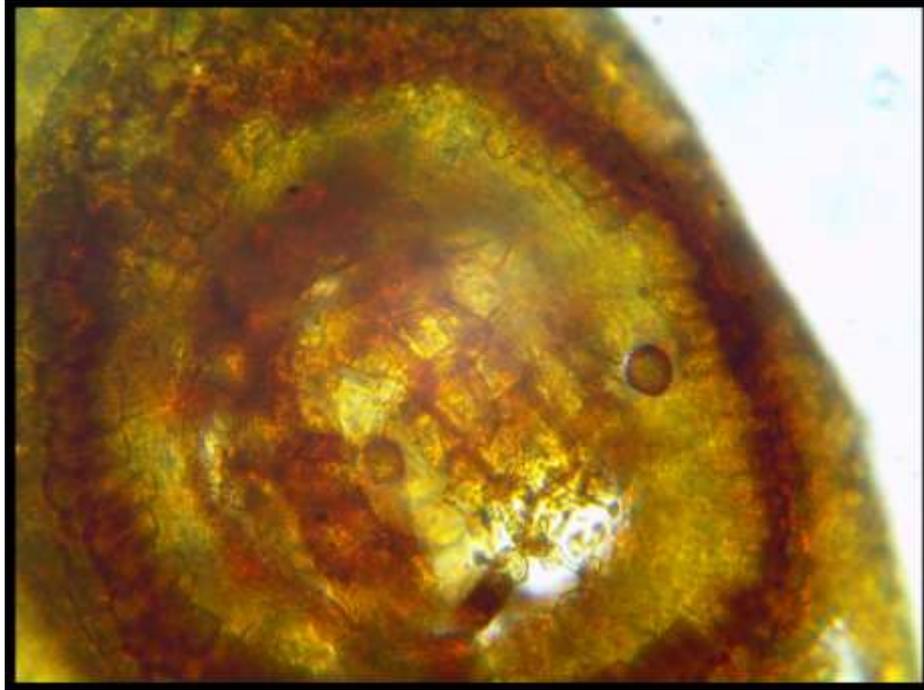
A brief foray onto the more pristine chalk grassland added *Weissia longifolia* var. *angustifolia* and *Didymodon luridus* so I was keen to return to look further. Monday morning was bright and windless, a perfect spring morning for sitting on a chalk hill looking at tiny lower plants. I returned to the small area of nice turf that I had started on during the previous visit. The main moss was *Homalothecium lutescens* but there was a small bunch of *Fissidens dubius*, brown shoots of *Didymodon fallax*, a fuzz of fruiting *Seligeria calycina* on a chalk fragment and one plant of *Microbryum rectum* given away by its lone capsule.

Scrub woodland nearby was carpeted in *Eurhynchium striatum*.



Ropey Rhynchostegium

The largest area of species rich turf was a long terrace near the bottom of the main sweep of hill. Here the *H. lutescens* was mixed with *Hypnum cupressiforme* var. *lacunosum* and there was a small but dense patch of *Mycrobryum curvicolium* with shy, drooping capsules. The *Weissia* in this area had capsules on a tall seta and the capsules seemed to have the narrow mouth of *W. brachycarpa*. I could only just detect a membrane over the capsule mouth so sent the sample to [REDACTED] who identified it as the much rarer *Weissia condensa* with a wide nerve on the leaves and small spores of 15-19 microns. A first for me!



Capsule mouth of *Weissia condensata* showing torn membrane. Photo: Tom Ottley

The hot weather was less welcome as I tramped the zig-zag paths that cross the reserve and climbed steps that separated the grassland and wooded area. Half way up the steps an area of old turf forced me to stop and rewarded me with some fronds of *Ctenidium molluscum*. The common mosses *Calliergonella cuspidata* and *Psp. purum* were growing in small quantities here and I didn't see them anywhere else on the reserve. More thrilling was a colony of *Weissia* which had the wide, pinkish nerve of *W. controversa* var. *crispata* but I needed to check this too. The good news is that Tom confirmed this. The bad news is the colony is in a vulnerable patch of turf with a path on one side and woodland on the other.



Future *Funaria* site

I couldn't see a way to reach an area of reputedly good turf buried within the overgrown woodland and took a detour around Whitehawk Fort. The grass was too long for bryophytes but a crumbling track hosted

an array of *Didymodons* and other mosses of rough ground and was edged by strands of *Brachythecium albicans*.



Looking across the reserve from Whitehawk Fort

I didn't find a long list of chalk hill mosses to match the flower and invertebrate lists but there were few nice finds including the two rare *Weissias*. *Weissia condensa* has been found in 14 tetrads in Sussex, mostly during the 1970's, 80's and 90's. Only two of these records, both from south facing slopes, are recent; [REDACTED] found it on Blackcap in 2016 and [REDACTED] found it on Mount Caburn in 2015. *W. controversa* var. *crispata* has been found in 16 tetrads, with a greater number of recent records, again mostly centred around Lewes and the downland on either side.

Tetrad TQ30H has gone from 51 species to 72 which isn't too bad for a largely urban tetrad.

Bryophytes (Mosses and Liverworts) of Whitehawk Hill

Survey 11 March 2020

Site of proposed housing development

Bryophyte	Grid reference	Habitat and notes
<i>Fissidens incurvus</i> (fruiting)	TQ33420524	On ground under Sycamore
<i>Microbryum rectum</i> (fr)	TQ33420524	On ground under Sycamore. A tiny moss with round, red capsules
<i>Barbula sardoa</i>	TQ33420524	On ground under Sycamore
<i>Rhynchostegium confertum</i>	TQ33420524	On Elder
<i>Brachythecium rutabulum</i>	TQ334054	On ground at edge of paths
<i>Barbula unguiculata</i>	TQ334054	On ground at edge of paths
<i>Dicranella varia</i>	TQ33420541	Banks by path. A chalk grassland species
<i>Leicolea turbinata</i>	TQ33420541	Banks by path
<i>Bryum rubens</i> (tubers)	TQ33420541	Banks by path
<i>Weissia controversa</i> var. <i>controversa</i>	TQ33350530	Banks by path
<i>Oxyrhynchium hians</i>	TQ33350530	Banks by path
<i>Rhynchostegiella tenella</i>	TQ33350530	On chalk fragments
<i>Weissia controversa</i> var. <i>controversa</i>	TQ33370537	Banks by rough path
<i>Fissidens taxifolius</i>	TQ33370537	On earth banks
<i>Rhynchostegium confertum</i>	TQ33370537	On Gorse
<i>Kindbergia praelonga</i> Common Feather-moss	TQ33370537	On ground in copse
<i>Metzgeria furcata</i>	TQ333054	On Elder in copse
<i>Cololejeunea minutissima</i>	TQ333054	On Blackthorn
<i>Frullania dilatata</i>	TQ333054	On Blackthorn
<i>Hypnum cupressiforme</i>	TQ333054	On Blackthorn
<i>Hypnum resupinatum</i>	TQ333054	On Blackthorn
<i>Orthotrichum diaphanum</i> (fr)	TQ33440537	On Elder in damp copse
<i>Orthotrichum affine</i>	TQ33440537	On Elder
<i>Cryphaea heteromalla</i> (fr)	TQ33440537	On Elder
<i>Syntrichia laevipila</i> (fr)	TQ33440537	On Elder
<i>Grimmia pulvinata</i> Hedgehog Moss	TQ33440537	On Elder, more commonly found on wall tops
<i>Bryum capillare</i> (fr)	TQ33440537	On Elder
<i>Zygodon conoideus</i> (fr)	TQ33440537	On Elder
<i>Metzgeria furcata</i>	TQ33440537	On Elder
<i>Amblystegium serpens</i>	TQ33440537	On Elder
<i>Syntrichia montana</i>	TQ334054	On tarmac path
<i>Tortula muralis</i> (fr) Wall Screw-moss	TQ334054	On tarmac path
<i>Bryum dichotomum</i> (bulbils)	TQ334054	Trampled path
<i>Bryum argenteum</i> Silver Moss	TQ333053	Bare chalk near tunnel
<i>Didymodon fallax</i>	TQ333053	Bare chalk near tunnel. A chalk grassland species
<i>Barbula convoluta</i>	TQ333053	

<i>Syntrichia ruralis</i> subsp. <i>ruraliformis</i>	TQ332053	On concrete near tunnel
<i>Pseudocrossidium hornschurchianum</i>	TQ332053	On concrete near tunnel

Survey 15 March 2020

Rest of the site

<i>Weissia longifolia</i> var. <i>angustifolia</i> (fr)	TQ33260505	Steep, exposed earth
<i>Didymodon luridus</i>	TQ33260505	Steep, exposed earth
<i>Homalothecium lutescens</i>	TQ33260505	Throughout a small area of chalk grassland. A typical cg species
<i>Seligeria calycina</i> (fr) Common Chalk Bristle	TQ33260505	On chalk fragments. Fairly common on chalk and flint on the downs
<i>Microbryum rectum</i> (fr)	TQ33260505	One fruiting plant amongst <i>W. longifolia</i>
<i>Fissidens dubius</i>	TQ33260505	In turf
<i>Didymodon fallax</i>	TQ33260505	Bare earth in turf
<i>Dicranella varia</i>	TQ33260505	Bare earth in turf
<i>Eurhynchium striatum</i> Stripe Moss	TQ33210500	On ground in copse
<i>Rhynchostegiella pumila</i>	TQ33230513	Earth bank under Elder
<i>Microbryum rectum</i> (fr)	TQ33170504	On bare earth
<i>Rhynchostegium confertum</i> (fr)	TQ33170504	On Elder
<i>Homalothecium sericeum</i>	TQ33170504	On Elder
<i>Zygodon viridissimus</i> (gemmae)	TQ33170504	On Sycamore
<i>Amblystegium serpens</i> (fr)	TQ33170504	On Sycamore
<i>Brachythecium rutabulum</i>	TQ33170504	Base of Sycamore
<i>Bryum rubens</i> (t)	TQ33170504	On bare earth
<i>Barbula sardoia</i>	TQ33170504	Earth by path
<i>Hypnum lacunosum</i>	TQ33190490	On east facing chalk grassland
<i>Microbryum curvicollellum</i> (fr)	TQ33190490	On east facing chalk grassland
<i>Weissia condensata</i>	TQ33190490	Bare earth on east facing grassland. A rare moss of sunny chalk slopes
<i>Oxyrhynchium hians</i>	TQ33190490	On east facing chalk grassland
<i>Weissia condensata</i>	TQ33160494	Bare earth on east facing grassland. A rare moss of sunny chalk slopes
<i>Ctenidium molluscum</i> Chalk Moss	TQ33140474	Turf by steps
<i>Calliergonella cuspidata</i> Spear Moss	TQ33140474	Turf by steps
<i>Weissia controversa</i> var. <i>crispata</i>	TQ33140474	Bare earth by steps. A scarce moss of chalk grassland
<i>Pseudoscleropodium purum</i>	TQ33140474	Turf by steps
<i>Fissidens dubius</i>	TQ33140474	Turf by steps
<i>Syntrichia laevipila</i>		On Elder
<i>Hypnum cupressiforme</i>		On Elder
Whitehawk Fort		

<i>Didymodon rigidulus</i>	TQ33050470	On rough track through turf
<i>Didymodon luridus</i>	TQ33050470	On rough track through turf
<i>Didymodon fallax</i>	TQ33050470	On rough track through turf
<i>Didymodon nicholsonii</i>	TQ33050470	On rough track through turf
<i>Bryum argenteum</i> <i>Silver Moss</i>	TQ33050470	On rough track through turf
<i>Bryum dichotomum (b)</i>	TQ33050470	On rough track through turf
<i>Syntrichia montana</i>	TQ33050470	On rough track through turf
<i>Pseudocrossidium</i> <i>hornschuchianum</i>	TQ33050470	On rough track through turf
<i>Grimmia pulvinata (fr)</i>	TQ33050470	On rough track through turf
<i>Brachythecium albicans</i>	TQ33050470	Edge of rough track
<i>Fissidens taxifolius (fr)</i>		