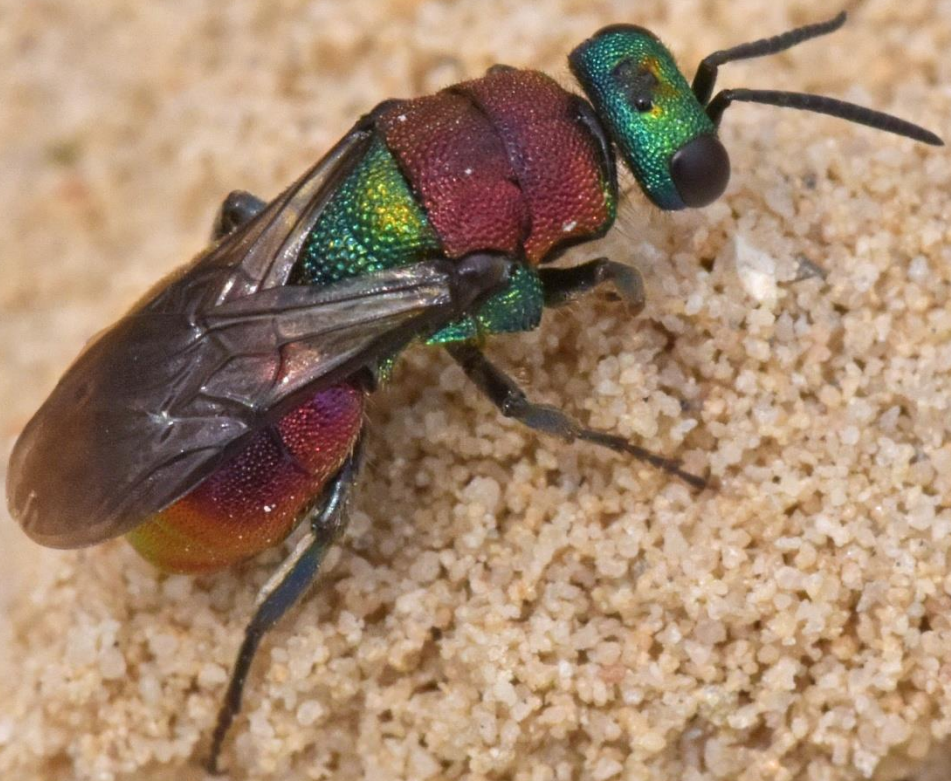
Silverlake:

Report on Aculeate Surveys 2019



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Dorset Environmental Records Centre
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CONTENTS

Cover picture: Female *Hedychrum nobile*, Woodlark Heath

1. BACKGROUND

Prior to the large-scale sand and gravel working in the 1960s and 70s West Knighton Heath, Empool Heath and Outer Heath had a very rich aculeate fauna with many rare and scarce species present. Over the last 50 years habitat fragmentation and agricultural intensification has led to a general decline of bees and wasps and many other invertebrates in the landscape. Even within the remaining protected sites there have been declines due to the loss of bare ground and open habitats that are required for nesting. Around the Moreton – Crossways areas most of the abandoned mineral working formally so rich in species have become overgrown with secondary birch and willow woodland and are no longer suitable for many heathland invertebrates.

This survey looks at the bees and wasps that have recolonised the area post mineral extraction and will help inform the habitat restoration plan for the development.

2. METHODS

The survey work involved sampling each of the major habitats present on the site by a combination of sweeping with a soft white 14-inch dimeter net or collecting them directly off the flowers into small glass tubes. Any species that could be identified with accuracy in the field were released on site, but specimens of the more difficult groups were taken back and identified by microscopic features using the relevant keys; Day (1988) and Richards (1980) for wasps and Falk (2015) and Else & Edwards (2018) for bees.

3. SUMMARY OF 2019 FINDINGS

A total of 46 bees and 15 wasp species were recorded from the site between the end of March and middle of September. Generally, the weather was good for spring and early summer species, but the drought followed by more unsettled weather in August meant that there were less visits than planned in the latter part of the season, with wasps particularly under-recorded. 17 bees and 4 wasps were newly record from the area, the most interesting of which was the black and yellow digger-wasp *Argogorytes fargei* which was last recorded in this part of Dorset in the 1950s, and the colourful jewel-wasp *Hedychrum nobile* which was first recorded in Dorset in 2016. Interest is scattered throughout the site with Woodlark Heath and several of the banks sown with wild flower around the development of particular interest. The latter were particularly important as they provide valuable forage resource for species nesting on the adjacent heath where flowers are scarce until the heather begins to flower in mid-summer.

3.1 HEATHLAND

The main heathland restoration areas at present are the capped landfills on Woodlark Heath and Dart Heath although willow and birch invasion is an issue on the latter. On parts of Woodlark there is a good mixture of heath and bare ground with slightly sloping southerly aspects favoured by ground nesting bees and wasps. Nesting aggregations of *Andrena flavipes* and *A. ovatula* were noted on a clay bank, while towards the southeast corner there is a large aggregation of *Cerceris arenaria* and its parasite *Hedychrum nobile*, with *Andrena ovatula*, *A. thoracica*, *Cerceris rybyensis*, *Ammophila pubescens* and *A. sabulosa* also noted. These are typical heathland and sandy ground species

Woodlark heath also support a track in the south with flowers such as Bird's-foot-trefoil, Lesser Hawkbit, Tormentil and Trailing Tormentil. Species noted here include the local *Nomada sheppardana* on hawkbit, *Osmia caerulescens* on trefoil and *Andrena chrysosceles* on Tormentil.

3.2 ACID GRASSLAND

The other main habitat on the site in acid grassland which is in various stages of development on Lobelia Heath and to the east of Beaumont Lake, plus around many of the tracks and banks in the area. These areas have a number of herbs which provide valuable forage for species, particularly yellow composites with Common Cat's-ear, Lesser Hawkbit and Smooth Hawk's-beard in spring and summer and Common Fleabane in late summer and early autumn. Some bees in particular forage preferentially from this group including *Andrena denticulata*, *Panurgus calcaratus* and a number of *Lasioglossum* species. Other herbs such as Bird's-foot-trefoil, Tormentil and Field Forget-me-not are also attractive to some species.

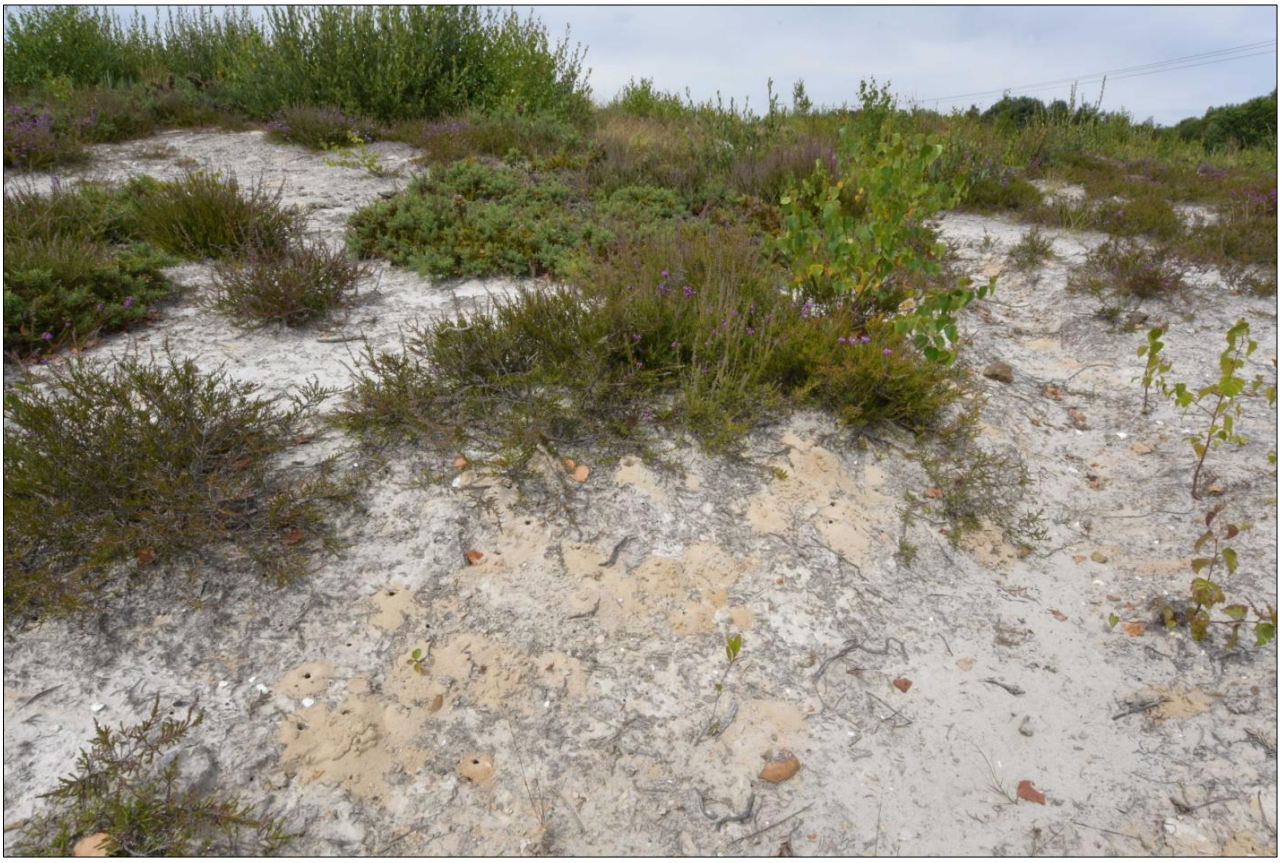


FIG 1. Part of a large nesting aggregation of ***Cerceris arenaria*** in bare clayey ground in the southeast corner of Woodlark Heath, SY7585 8801. Several female jewel-wasp ***Hedychrum nobile*** were noted around the aggregation and seen entering nest burrows. A good range of other species are present including *Ammophila pubescens*, *Andrena ovatula*, *A. thoracica* and *Cerceris rybyensis*, plus the local bee-fly *Thyridanthrax fenestratus*.

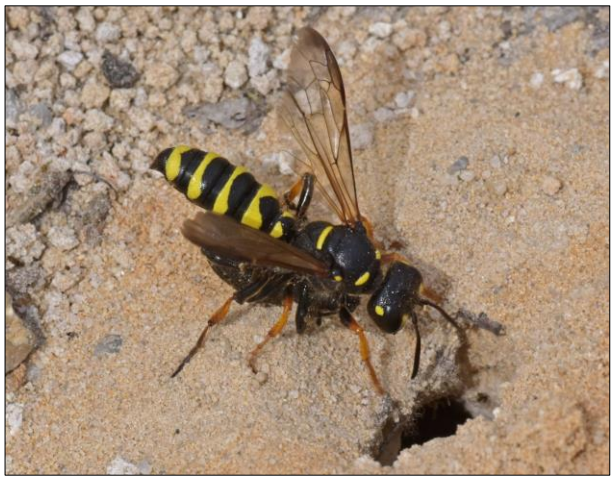


FIG 2. Female ***Cerceris arenaria*** returning to nest burrow with weevil prey beneath.

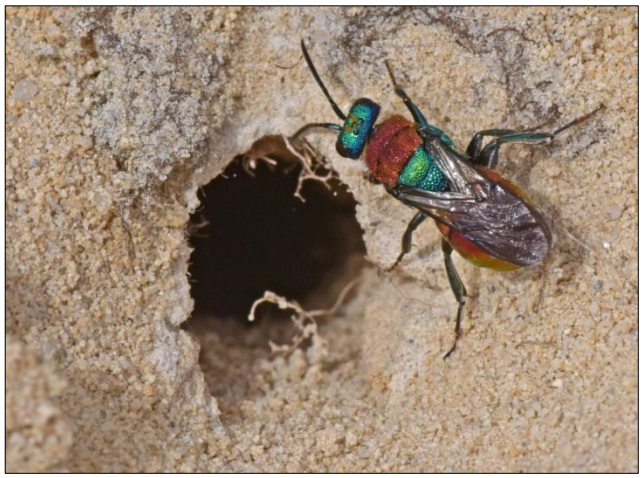


FIG 3. The local jewel wasp ***Hedychrum nobile*** a nest-parasite of *Cerceris arenaria* at the entrance to the hosts burrow on Woodlark Heath.

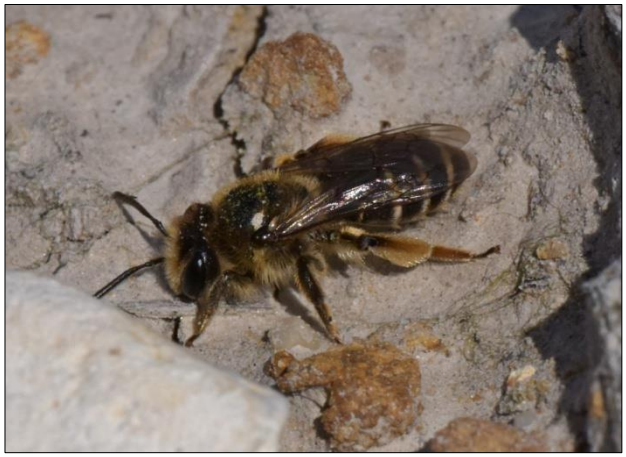


FIG 4. Female ***Andrena ovatula***, Woodlark Heath. A typical heathland bee, double brooded, often foraging from Gorse.

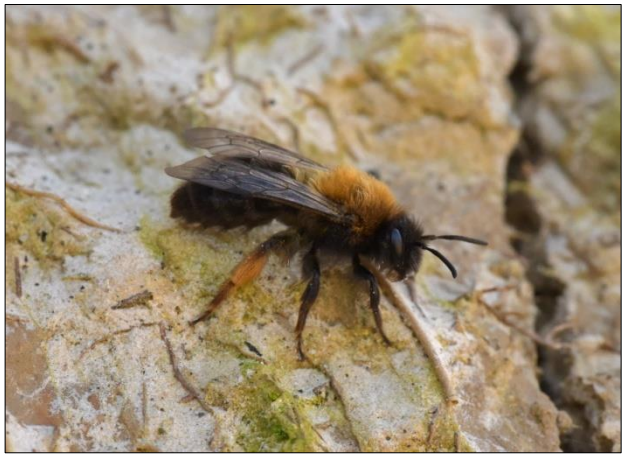


FIG 5. Female ***Andrena clarkella*** at nesting aggregation on sandy bank, Often our earliest emerging bee and a specialist foraging solely from Sallow blossom.

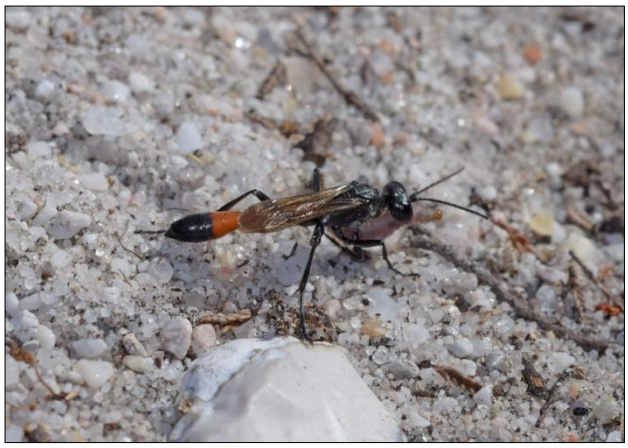


FIG 6. Female ***Ammophila pubescens***. A heathland specialist found on Woodlark Heath.

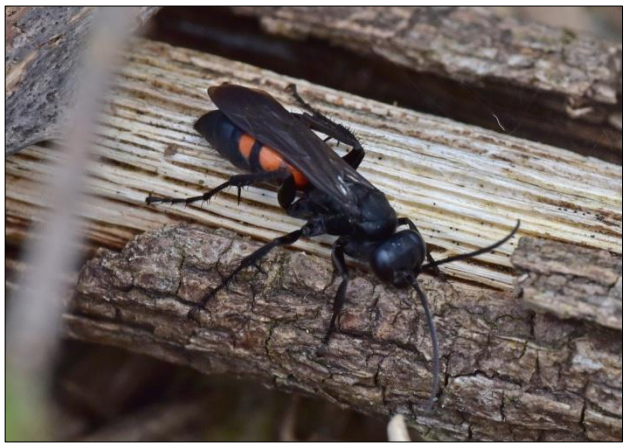


FIG 7. Female ***Anoplius viaticus***. One of the most frequent spider-hunting wasps on heaths and other sandy habitats.

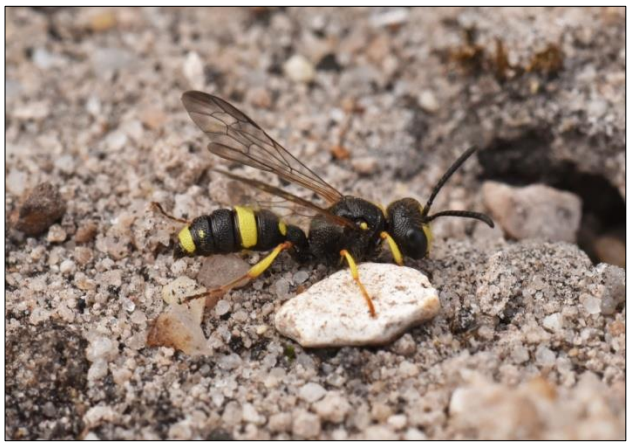


FIG 8. Male ***Cerceris rybyensis***. This small digger-wasp was found in a mixed nesting aggregation with *Cerceris arenaria* on Woodlark Heath.

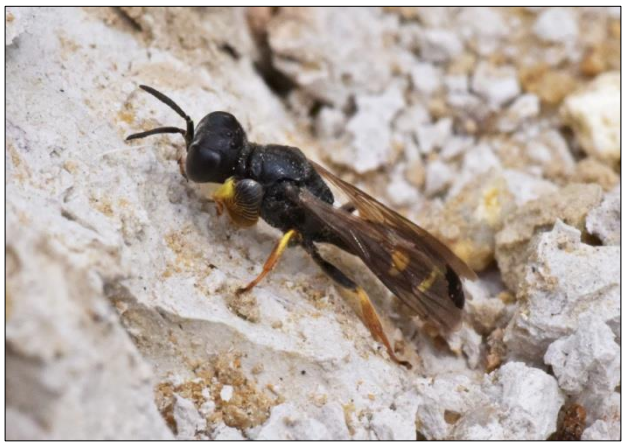


FIG 9. Male ***Crabro scutellatus*** on clayey bank, Lobelia Heath. A very local small wasp predating Dolichopid flies in wet areas of heaths.

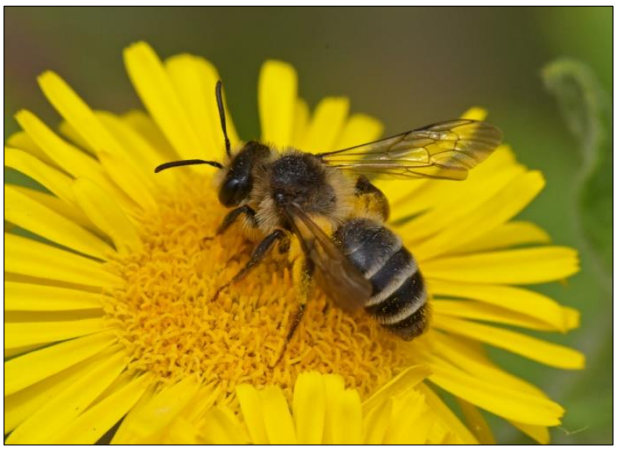


FIG 10. Female ***Andrena denticulata*** on Fleabane, northwest of Fishing Lake, July.

FIG 11. Female ***Anthophora bimaculata*** on Fleabane east of Beaumont Village, July.

FIG 12. Female ***Halictus rubicumdus,*** on Fleabane, Lobelia Heath, September.

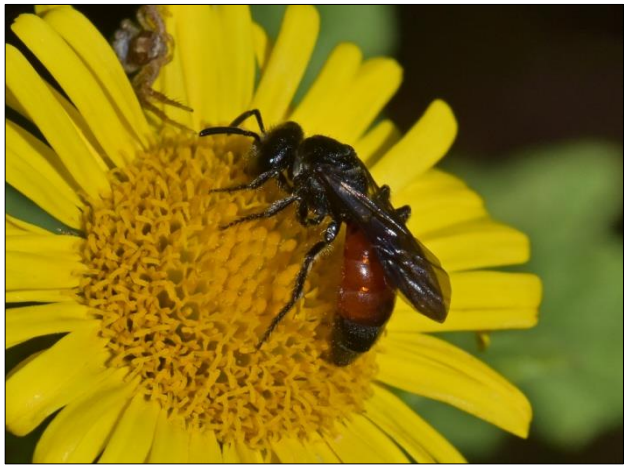


FIG 13. Female ***Sphecodes gibbus***, this large blood bee is a cleptoparasite of *Halictus rubicudus*, September.

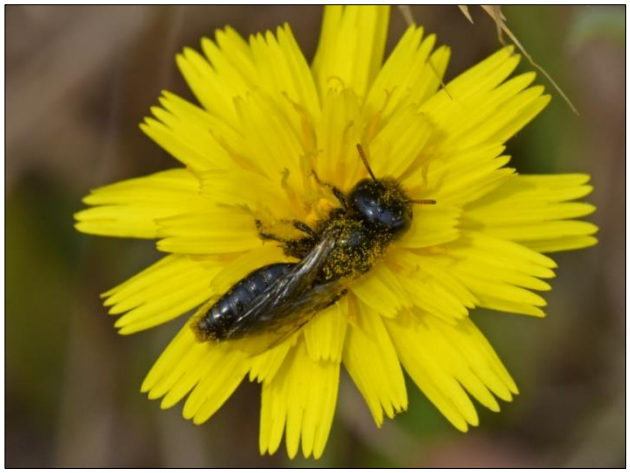


FIG 14. Male ***Panurgus calcaratus***. This species forages preferentially from a range of yellow-flowered composites in sandy habitats.

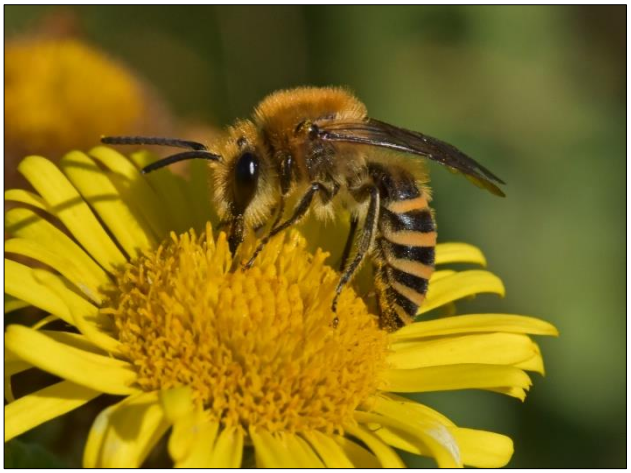


FIG 15. Male ***Colletes hederae*** September. The females of this late flying bee forage mainly from Ivy, the earlier emerging males can be found nectaring on other flowers. The buff bands on the abdomen are characteristic.

3.3 FLOWERY MARGINS, VERGES & SCRUB EDGES

In landscapes such as heathland where there are few flowers until the heather in mid to late summer edge habitats such as tracksides, road verges and scrub can provide valuable sources of nectar and pollen throughout the season.

The following features at Silverlake are of particular importance:

- The Sallow blossom in early spring for early emerging bees, bumblebees and hoverflies, including the specialist bee ***Andrena clarkella*** which forages solely from sallow blossom.

- Blackthorn and Hawthorn blossom in spring in scrub around the periphery of the site.

- Umbellifers such as Cow Parsley, Hogweed, Rough Chervil and Wild Parsley which flower at various stages from spring through to mid-summer. The verge of the entrance road is especially good for these. Umbellifer flowers are particularly attractive to wasps for nectar and to some bees for forage such as *Andrena semilaevis*.

- Bramble blossom in mid-summer if very important as a nectar source for a very wide of insects.

- Species often thought of as 'pernicious weeds' such as Ragwort, Creeping Thistle and Spear Thistle are important for a range of bee species.

- The landscaped areas around Beaumont Village sown with wild flowers such as Common Knapweed, which also had a range of ruderal plants, were found to support many species both foraging from the flowers and nesting in soil bunds and banks.

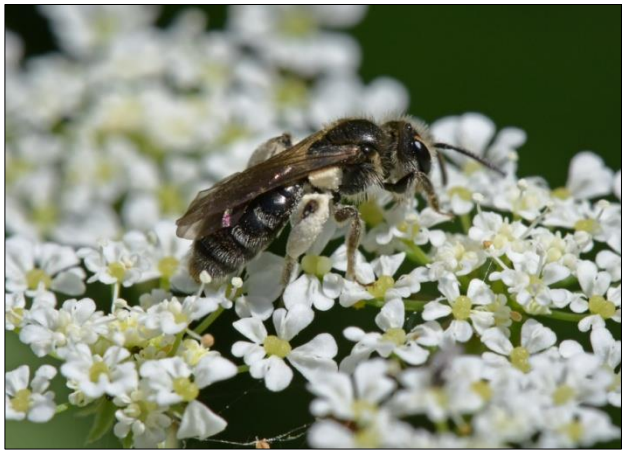


FIG 16. Female ***Andrena semilaevis***, foraging from Rough Chervil flowers on the verge of the entrance road, June.

FIG 17. Female ***Andrena thoracica***, on Dandelion on the verge of the entrance road, March.

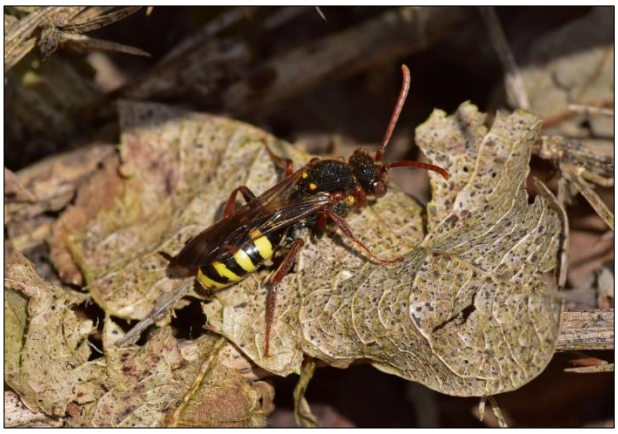


FIG 18. Female ***Nomada marshamella***, a cleptoparasite of *Andrena scotica* found along the path in the north of the conservation area, March.

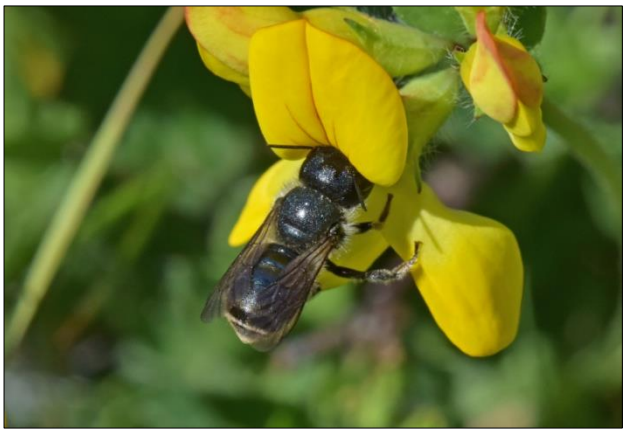


FIG 19. Female ***Osmia caerulescens*** foraging from Bird's-foot-trefoil on the edge of Woodlark Heath, May.

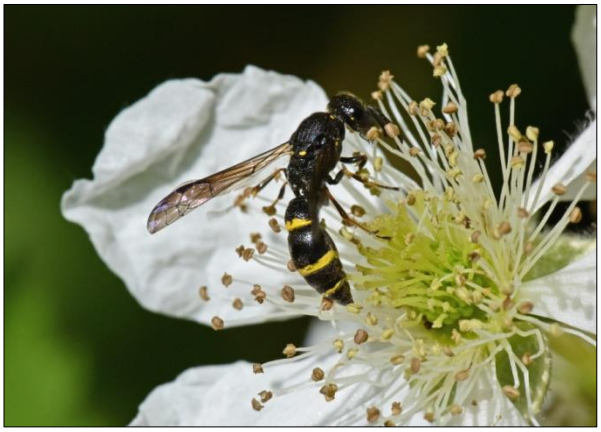


FIG 20. Female ***Symmorphus bifasciatus***, on Bramble flowers along the eastern public footpath, July.

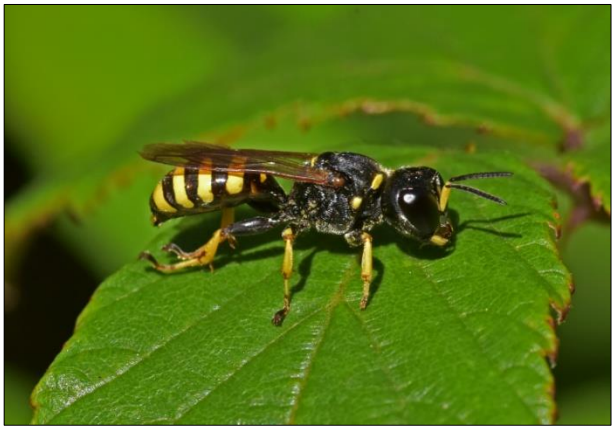
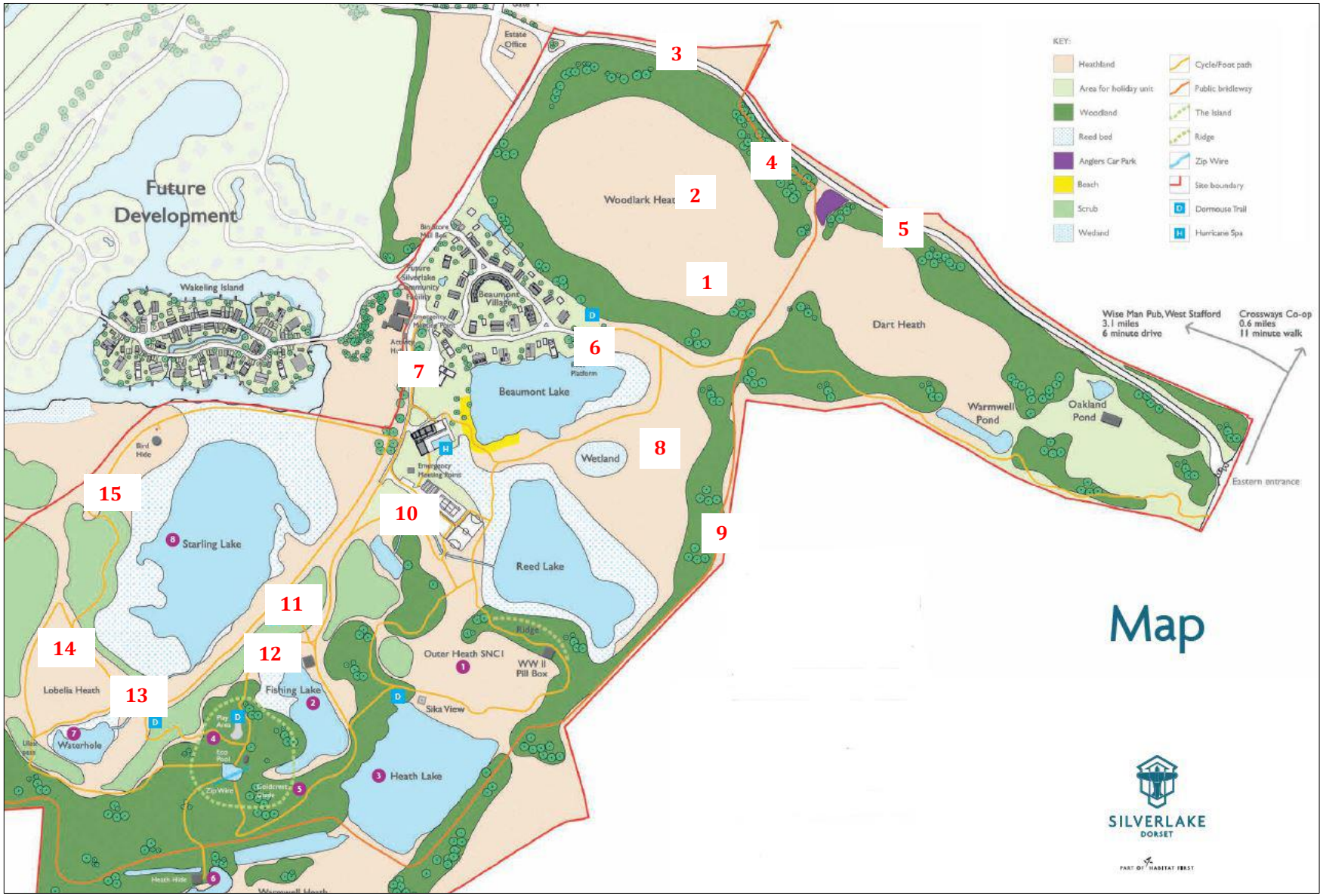


FIG 21. Female ***Ectemnius cavifrons*** on bramble leaf by 'Anglers car park', in predates hoverflies, September.

MAP 1. Location of interest features noted in 2019



1. Southeast corner of Woodlark Heath with lots of bare sandy & clayey ground in developing dry heath with a large nesting aggregation of the wasp *Cerceris arenaria* and several other bees and wasps.

2. Clayey bank facing southwest with good range of bees and wasps nesting.

3. Sheltered path through scrubby areas with a range of species with some nesting in vertical south-facing sandy bank. Sallow bushes on north side of path important for spring emerging bees and hoverflies.

4. Public footpath through scrubby area with abundant Bramble and some good patches of Hogweed which are very attractive to wasps and hoverflies.

5. The south-facing verge of the entrance road has a very good range of blossom and flowers throughout the season with Blackthorn, Hawthorn and Dandelion in spring, followed by Beaked Hawk's-beard, Smooth Hawk's-beard, Cow Parsley and Hogweed late spring, followed by Bramble and Wild Parsnip.

6. Wild flower area sown in area by Beaumont Village. Good range of nectar plants including Bird's-foot-trefoil, Knapweed, Weld and Ragwort

7. Bank along west side of Beaumont Village. Good range of nectar sources throughout the season some wildflowers sown and many self-sown ruderal species. Important nectar sources include Colt's-foot, Bristly Ox-tongue, Bird's-foot-trefoil, Knapweed, Scentless Mayweed and Viper's Bugloss.

8. Developing acid grassland in sandy area with good range of nectar plants and several banks with bare ground for nesting.

9. Footpath along eastern edge, scrubby and sheltered with good range of nectar sources through the season including Sallow, Bramble and Hogweed.

10. Grassy banks south of the spa with a range of nectar plants and bare ground for nesting.

11. Path down bank with vertical sandy bank on south-facing side with several bees nesting.

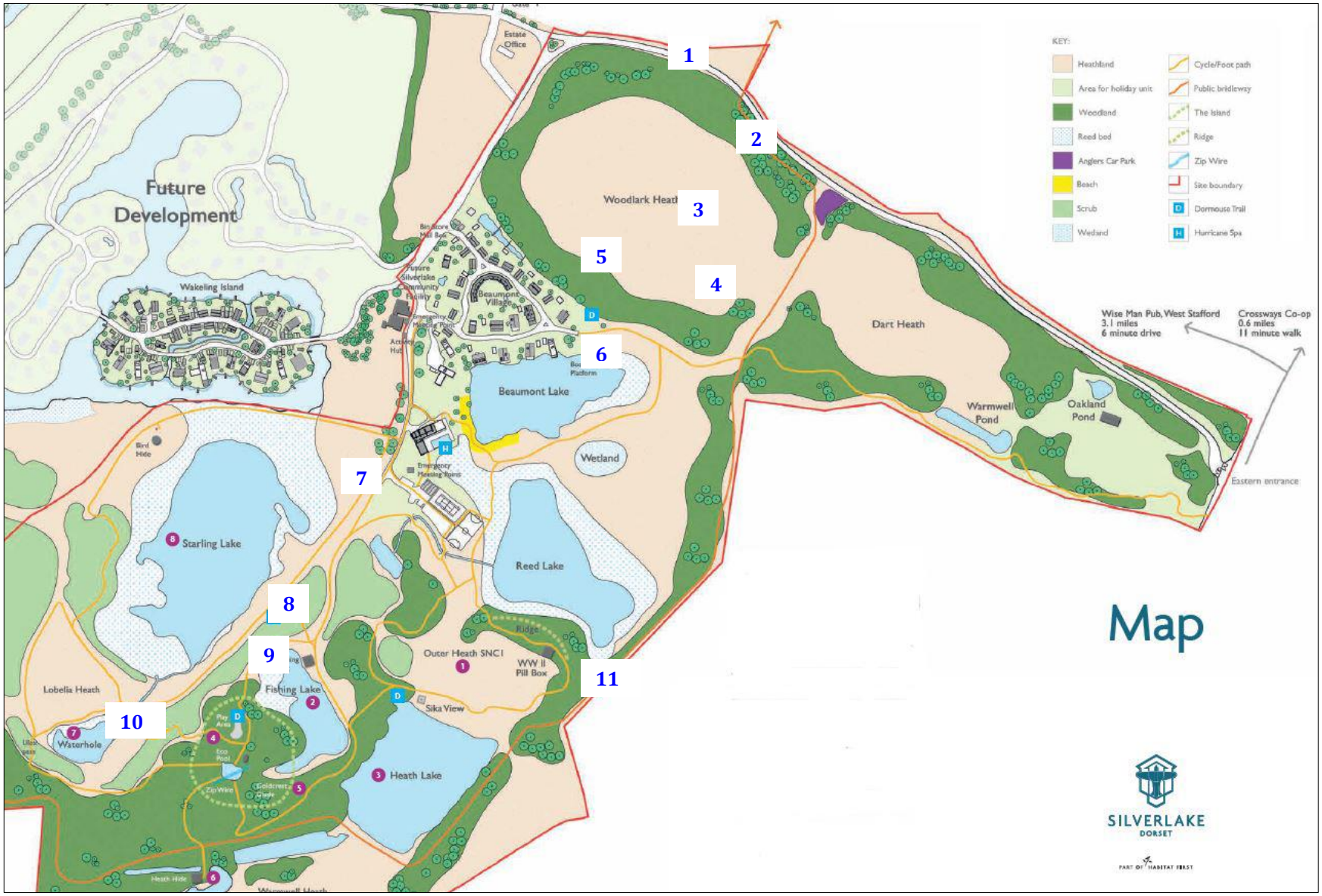
12. Sheltered track by fishing lake with south-facing bank of Gorse, good for bees in summer with Bramble, Fleabane and Ragwort valuable nectar sources.

13. Damp clayey area with dense stands of Fleabane flowering in late summer and early autumn providing valuable nectar for late flying bees and hoverflies.

14. Developing acid grassland on Lobelia Heath with abundant yellow composites which are favoured by many bees and hoverflies.

15. Western fringe of Starling Lake with extensive stands of Fleabane providing important nectar in late summer and early autumn.

MAP 2. Location of notable records in 2019



1. Two female *Anthophora furcata* noted foraging from Wood Sage along path through scrub, also *Epeolus variegatus* swept from Ragwort in more open area.

2. The rare *Argogorytes fargei* nectaring on Hogweed flowers by public footpath. The local soldier fly *Stratiomys potamida* also on Hogweed.

3. Nesting aggregation of *Andrena flavipes* here along with its cleptoparasite *Nomada fucata*.

4. Large nesting aggregation of the wasp *Cerceris arenaria* and its parasite *Hedychrum nobile*. A good range of other species noted including *Andrena thoracica*, *Ammophila pubescens*, *A. sabulosa*, *Cerceris rybyensis* and the bee-fly *Thyridanthrax fenestratus*.

5. The local *Nomada sheppardana* swept here from Lesser Hawkbit flowers along track.

6. *Osmia aurulenta*, *O. bicornis* and *Megachile willughbiella* noted on Bird's-foot-trefoil in area sown with wildflowers, also *Andrena denticulata* and *Anthophora bimaculata* on Ragwort and Knapweed.

7. Nesting aggregation of the local *Andrena clarkella* noted in vertical north-facing sand exposure with its cleptoparasite *Nomada leucophthalma* also present.

8. *Nomada sheppardana* noted flying along south-facing vertical bank with a nesting aggregation of small *Lasioglossum* species.

9. Sheltered track with *Anthophora bimaculata* noted on Bramble and *Andrena denticulata* and *Sphecodes gibbus* on Fleabane.

10. Several male of the uncommon *Crabro scutellatus* noted on clayey bank by ditch.

11. *Symmorphus bifasciatus* noted on Bramble flowers along public footpath.

4. SUMMARY OF SPECIES RECORDS

4.1 Bees

COLLETIDAE; COLLETINAE

Colletes similis Bare-saddled Colletes

1 ♀ swept from Mayweed *Tripleurospermum inodorum* on bank west of Beaumont Village, 17-vii-2019

A widespread species found in a variety of habitats including brownfield sites, forages mainly from species of Asteraceae and particularly fond of mayweeds.

Colletes hederae Ivy Bee

2 ♂ on Fleabane *Pulicaria dysenterica* flowers, Lobelia Heath, 13-ix-2019
1 ♂ on Fleabane *Pulicaria dysenterica* flowers, west of Starling Lake, 13-ix-2019

First recorded from Britain on the Purbeck coast in 2001 now widespread in the south and spreading north. A late flying bee the females foraging solely from Ivy flowers, the males emerge earlier and can be found nectaring on other flowers.

COLLETIDAE; HYLAEINAE

Hylaeus communis Common Yellow-face Bee

Several ♀ around flowers of Weld *Reseda lutea* on disturbed ground east of Beaumont Village, 17-vii-2019

One of several small yellow-face bee which nest in hollow plant stems such as Bramble or Hogweed.

ANDRENIDAE; ANDRENINAE

Andrena bicolor Gwynne's Mining Bee

1 ♀ on Dandelion *Taraxacum* agg. flowers along path northeast of office, 27-iii-2019
1 ♀ swept from Tormentil *Potentilla erecta* flowers along the eastern footpath, 27-vi-2019

One of the typical spring solitary bees found from March to May with a smaller second brood from the end of June. Widespread and found in many habitats, host to the cleptoparasite *Nomada fabriciana*.

Andrena chrysosceles Hawthorn Mining Bee

1 ♀ swept from Trailing Tormentil *Potentilla anglica* flowers in the southeast of Woodlark Heath, 27-vi-2019

A widespread bee found in many habitats and found a wide variety of flowers.

Andrena cineraria Ashy Mining Bee

1 ♀ in grassy heath, western part of Dart Heath, 21-v-2019

One of the most familiar spring bees which is often found in gardens and urban green space. It has increased over much of England in the last 50 years.

Andrena clarkella Clarke's Mining Bee

1 ♀ on vertical sandy bank northeast of Starling Lake, 27-iii-2019
1 ♀ on Common Sallow *Salix cinerea* blossom along the northern boundary, 27-iii-2019
1 ♀ on Common Sallow *Salix cinerea* blossom northwest of Outer Heath, 8-iv-2019
Several ♀ on vertical sandy bank entering holes northeast of Starling Lake, a female *Nomada leucophthalma* present also, 8-iv-2019

This smart black bee with red-brown thorax and pollen hairs is one of the earliest solitary bees to emerge in spring the females foraging from the blossom of sallows, and forming nesting aggregations in sandy ground. Widespread but often localised.

Andrena denticulata Grey-banded Mining Bee

1 ♀ on Fleabane *Pulicaria dysenterica* and Smooth Hawk's-beard *Crepis capillaris* flowers by track northwest of Fishing Lake, 17-vii-2019
1 ♀ on Fleabane *Pulicaria dysenterica* on disturbed ground east of Beaumont Village, 17-vii-2019

A medium-large mining bee on the wing in summer in habitats where there is an abundance of yellow-flowered Asteraceae such as Ragwort and Fleabane. A widely distributed but generally a scarce species found mainly in sandy or clayey habitats.

Andrena dorsata Short-fringed Mining Bee

1 ♀ on Bramble *Rubus fruticosus* flowers on the edge of Woodlark Heath, 17-xii-2019

A double-brooded species found in many different habitats and has thought to have increased in the last 100 years and is now one of the more frequently encountered mining bees.

Andrena flavipes Yellow-legged Mining Bee

Several ♂♂ on grassy bank west of Beaumont Village, seen on Colt's-foot *Tussilago farfara* flowers, 27-iii-2019
Several ♂♂ on Dandelion *Taraxacum* agg. flowers along path , 27-iii-2019
Several ♀♀ around clayey exposure on Woodlark Heath, *Nomada fucata* present also, 8-iv-2019
Several ♂♂ on Colt's-foot *Tussilago farfara* flowers on grassy bank west of Beaumont Village, 8-iv-2019
Many ♂♂ and ♀♀, on bank south of the Spa, 8-iv-2019

A medium-large and very distinctive mining bee the females with conspicuous orange pollen hairs on the hind legs, and distinct white hair bands on the wide abdomen. This bee has increased considerably over the last 100 years and is now one of the most frequent species, and is found in many different habitats. It is the host of the cleptoparasite *Nomada fucata* which is frequently seen around holes at nesting aggregations.

Andrena minutula Common Mini-miner

1 ♀ at clay exposure on Woodlark Heath, 8-iv-2019
1 ♀ at Cow Parsley *Anthriscus sylvestris* flowers on verge of entrance road, 21-v-2019

One of a group of very small black mining bees with varying quantities of white banding on the abdomen and pales hairs on the face and thorax. Several can only be distinguished by the minute patterning of punctures on the thorax and tergites. This species is targeted by *Nomada flavoguttata*.

Andrena nitida Grey-patched Mining Bee

1 ♀ on Woodlark Heath, 8-iv-2019

This large bee is one of the characteristic species of spring found widely in grassland habitats, often seen on Dandelions.

Andrena ovatula Small Gorse Mining Bee

Several ♀♀ around clay exposure on Woodlark Heath, 8-iv-2019
Several ♀♀ on Woodlark Heath, one seen on Western Gorse *Ulex gallii* flowers, 17-vii-2019

A small bee flying in two broods, found mainly in heathland areas and tolerant of firmer more gravelly ground than other species, also found in old mineral workings and on slumping cliffs. Although quite widespread in Britain this bee is listed as Near Threatened on the European Red List for bees (Nieto *et al*, 2014)

Andrena semilaevis Shiny-margined Mini-miner

Several ♀♀ foraging on Rough Chervil *Chaerophyllum temulentum* and Hogweed *Heracleum sphondylium* along the verges of the entrance road, 27-vi-2019

One of the more frequent small black bees of the Micrandera group this species is single or possibly double brooded and often forages from umbellifers and is found in several different habitats. Like *A. minutula* it is host to the cleptoparasite *Nomada flavoguttata*.

Andrena thoracica Cliff Mining Bee

1 ♀ on Dandelion *Taraxacum* agg. flowers along the verges on the entrance road, 27-iii-2019
Several ♀♀ on Woodlark Heath and one seen entering nesting burrow in bare ground, 17-vii-2019

As its common name suggests this large and handsome bee is mainly found on the coast, but locally in southern and southeast England it can occur further inland on sandy heaths and in old mineral workings. Widespread along the coast in Dorset, but much more local inland.

Andrena wilkella Wilke's Mining Bee

1 ♀ on Field Forget-me-not *Myosotis arvensis* in developing acid grassland east of Beaumont Lake, 21-v-2019

A small mining bee one of species pair with *A. ovatula* and easily confused with that species but differs in the incomplete hairbands on the abdomen. It tends to prefer more calcareous sites than that species and is single brooded on the wing between the two broods of *A. ovatula*. It forages mainly from members of the Fabaceae, especially Bird's-foot-trefoil, Restharrow and White Clover.

ANDRENIDAE; PANURGINAE

Panurgus calcaratus Small Shaggy Bee

1 ♀ on Smooth Hawk's-beard *Crepis capillaris* and Lesser Hawkbit *Leontodon saxatilis* flowers on verge of road north of Beaumont Village, 17-vii-2019
1 ♂ on Lesser Hawkbit *Leontodon saxatilis* flowers in acid grassland east of Beaumont Lake, 17-vii-2019
1 ♂ on Lesser Hawkbit *Leontodon saxatilis* flowers by track northwest of Fishing Lake, 17-vii-2019
1 ♂ on Lesser Hawkbit *Leontodon saxatilis* flowers in acid grassland on Lobelia Heath, 17-vii-2019

This is the smaller of the two *Panurgus* species in Britain and generally the less widespread but it can be frequent where it occurs. A Summer flying bee the females forage from yellow-flowered species of the Asteraceae, particularly Common Cat's-ear *Hypochaeris radicata* and Lesser Hawkbit *Leontodon saxatilis*. Scattered throughout the heathland area of southern-east Dorset but scarce elsewhere.

HALICTIDAE; HALICTINAE

Halictus rubicundus Orange-legged Furrow Bee

1 ♀ on Fleabane *Pulicaria dysenterica* on in acid grassland in the south of Lobelia Heath, 13-ix-2019

A medium-sized bee with a black abdomen with conspicuous white hair bands and distinctive orange-red pollen hairs on the hind tibia. Found on a variety flowers in many different habitats and is widespread in the British Isles. It is host to the cleptoparasitic blood-bee *Sphecodes gibbus*.

Lasioglossum leucozonium White-zoned Furrow Bee

Several ♀♀ on Common Cat's-ear *Hypochaeris radicata* on bank south of Beaumont Village, 21-v-2019
2 ♀♀ on Smooth Hawk'-beard *Crepis capillaris* on verge of entrance road, 27-vi-2019

The most widespread of the larger *Lasionglossum* species with conspicuous white bands on the abdomen found throughout the southern half of Britain, and is most frequent in coastal southern and southeastern counties. It favours yellow composites for foraging.

Lasioglossum villosulum Shaggy Furrow Bee

1 ♀ on Lesser Hawkbit *Leontodon saxatilis* flowers in developing acid grassland, 'Lobelia Heath', 27-vi-2019

This small dark *Lasioglossum* is widespread in England becoming mostly coastal in Wales and southern Scotland, it is locally frequent on light soils on the Dorset heaths and along the coast. Like several in the genus this species preferentially forages from yellow composites.

Lasioglossum zonulum Bull-headed Furrow Bee

1 ♀ on Fleabane *Pulicaria dysenterica* flowers in the east of 'Lobelia Heath', 13-ix-2019

Very similar to *Lasioglossum leucozonium* but has distinctly red-brown hairs on the thorax and a darker hairs on the tibia. It is much less widespread being only frequent in southern coastal counties from Dorset to Kent, elsewhere it is mainly coastal. It is targeted by the large blood bee *Sphecodes gibbus*.

Sphecodes ephippius Bare-saddled Blood Bee

Several ♀♀ on bare clayey bank on Woodlark Heath, 21-v-2019

One of the larger blood-bees found in a range of habitats where it targets several of the more common larger *Lasioglossum* species such as *L. calceatum* and *L. leucozonium* which were both noted nearby. It is widespread in England and Wales.

Sphecodes gibbus Dark-winged Blood Bee

1 ♀ on Fleabane *Pulicaria dysenterica* flowers by track northwest of Fishing Lake, 13-ix-2019

One of our larger blood-bees *Sphecodes gibbus* has a distinct brownish tinge to the wings. A cleptoparasite of *Halictus rubicundus* it is widespread in England and Wales.

Sphecodes geoffrellus Geoffroy's Blood Bee

Several ♀♀ on bare clayey bank on Woodlark Heath, 8-iv-2019

A small and widespread blood-bee found in many open habitats where it targets several of the smaller *Lasioglossum* species.

Sphecodes monilicornis Box-headed Blood Bee

1 ♀ on a leaf along the northern boundary path, the thorax had several orange triunguluns of *Meloe* attached to it, 21-v-2019

One of the smaller blood-bees which can be distinguished by the square, box-like shape to the head. Widespread over much of Britain where it is a cleptoparasite of various *Lasioglossum* bees.

MEGACHILIDAE; MEGACHILINAE

Osmia aurulenta Gold-fringed Mason Bee

1 ♀ on Bird's-foot-trefoil *Lotus corniculatus* on disturbed ground east of Beaumont Village, 21-v-2019

The females of this small bee are unmistakable with their body covered in orange-red hairs. One of three *Osmia* species that makes their nests in old snail shells, and is most frequent along the coast or more rarely inland in chalk and limestone grassland. A surprise find at Silverlake where the soils are largely acid, but some of the roads and quarry tracks may have been made with important limestone and therefore attract more snails.

Osmia bicornis Red Mining Bee

1 ♀ on Bird's-foot-trefoil *Lotus corniculatus* on disturbed ground east of Beaumont Village, 21-v-2019

One of our most familiar solitary bees often found in gardens and will nest in cavities in stonework or wood and is easily attracted to 'bee hotels'. Widespread in Britain and Dorset with the majority of records coming from urban areas.

Osmia caerulescens Blue Mason Bee

1 ♀ on Bird's-foot-trefoil *Lotus corniculatus* in southeast corner of Woodlark Heath, 21-v-2019

The females are very different from the previous too being largely hairless and a dark metallic blue colour, it is widespread but probably overlooked. Like *O. bicornis* it is a cavity nester in wood, hollow stems and is attracted to 'bee hotels'.

Megachile centuncularis Patchwork Leafcutter Bee

1 ♀ on Fleabane *Pulicaria dysenterica* flowers, west of Starling Lake, 13-ix-2019

One of the smallest of our leafcutter bees *M. centuncularis* occurs in many different habitats and will forage from a range of flowers but shows a preference for *Asteraceae*. Nest are made in cavities in wood or stonework.

Megachile willughbiella Willughby's Leaf-cutter Bee

1 ♂ on Bird's-foot-trefoil *Lotus corniculatus* on disturbed ground east of Beaumont Village, 17-vii-2019

A large and impressive leafcutter with the males having modified front legs. It is widespread and found in many different habitats and the females forage from a range of plants with members of the Fabaceae particularly favoured. It nests in cavities in wood.

APIDAE; NOMADINAE

Nomada flavoguttata Little Nomad Bee

Several ♀♀ along path along northern boundary, 27-iii-2019

As its common name suggests one of the smaller nomad-bees with a red abdomen with two cream-yellow spots on either side. It is a cleptoparasite of several of the smaller *Andrena i*n the sub-family Micrandrena, including *A. minutula* and *A. semilaevis* that were both recorded nearby.

Nomada fucata Painted Nomad Bee

Several ♀♀ along path along northern boundary, 8-iv-2019
Several ♀♀ at clayey exposure with nesting aggregation of *Andrena flavipes* in Woodlark Heath, 8-iv-2019
Several ♀♀ on trackside bank with many *Andrena flavipes*, seen at flowers of Colt's-foot *Tussilago farfara*, west of Beaumont Village, 8-iv-2019

1 ♀ along grassy track southeast of Starling Lake, 21-v-2019

An obligate cleptoparasite of *Andrena flavipes* this nomad bee was considered uncommon or even rare thirty years ago but like its host it has increased dramatically and it now one of the most frequently encountered of the genus.

Nomada leucophthalma Early Nomad Bee

1 ♀ by vertical sandy bank with nesting aggregation of *Andrena clarkella* northeast of Starling Lake, 8-iv-2019

This local nomad bee is an obligate cleptoparasite of the early-flying mining bee *Andrena clarkella*. A local species in Dorset where it mainly found in sandy places in and around the heaths in the Poole Basin.

Nomada marshamella Marsham's Nomad Bee

1 ♀ flying around sandy bank by footpath north of entrance road, 27-iii-2019

One of the more widespread spring nomad bees which targets the widespread *Andrena scotica*, which was not seen on site but probably occurs.

Nomada sheppardana Sheppard's Nomad Bee

1 ♀ flying around sandy vertical bank, 21-v-2019
1 ♀ swept from Lesser Hawkbit *Leontodon saxatilis* along trackway in the south of Woodlark Heath, 27-vi-2019

The smallest and darkest of the British nomad bees which targets the smaller species of the genus *Lasioglossum*. A local species of light sandy or chalky soils found south of a line from the Dee to the Wash and most frequent in southern and southeastern counties.

APIDAE; ANTHOROPHINAE

Anthophora bimaculata Green-eyed Flower Bee

2 ♀♀ on *Rubus fruticosus* blossom along track west of Fishing Lake, 17-vii-2019
2 ♀♀ on Common Knapweed *Centaurea nigra* and Viper's Bugloss *Echium vulgare* on soil bund by track west of Beaumont Village, 17-vii-2019
1 ♂ and 1 ♀ on Common Knapweed *Centaurea nigra* and Fleabane *Pulicaria dysenterica* east of Beaumont Village, 17-vii-2019
1 ♀ flying around sandy bank by path south of Woodlark Heath, 17-vii-2019

A very distinctive small green-eyed bee which produces a very high-pitched whine as it flies fast around flowers and over sand ground where it can form large nesting aggregations. Confined to the England south of a line from the Severn to the Wash and most frequent in the sandy heath districts of Dorset, Hampshire and Surrey, also on brownfield sites around the Thames estuary and elsewhere mainly on the coast. Frequent on the Dorset heaths including in old sandpits, and more locally on slumping cliffs along the coast. It forages particularly from composites such as Fleabane, Ragwort and Knapweed, and occasionally on Bramble blossom.

Anthophora furcata Fork-tailed Flower Bee

2 ♀♀ on Wood Sage *Teucrium scorodonia* flowers along path north of the entrance road, 17-vii-2019

A widespread species in England, Wales and southeast Scotland usually seen foraging around members of the Lamiaceae particularly *Ballota*, *Stachys* and *Teucrium*, and is found in open woodland, scrub, hedgebanks, fens and gardens. It nests in cavities in wood. Widespread in Dorset but possibly overlooked as it can be confused with dark forms of the common *Bombus pascuorum*.

APIDAE; BOMBINAE

Bombus hypnorum Tree Bumble Bee

1 queen dead on sandy bank by the office car park, 27-iii-2019

A recent addition to the British fauna first discovered in Britain in 2001 and has spread rapidly and in now found throughout the country including Dorset where it is found in many habitats but tends to avoid very exposed or open dry grasslands and heaths.

Bombus lapidarius Large Red-tailed Bumble Bee

Seen on every visit to the site starting with several queens on *Salix cinerea* blossom on 27-iii-2019

A very distinctive bumblebee found in open flowery habitats particularly grasslands and is still widespread in Britain and is found throughout Dorset, including in gardens. Its nests are targeted by the cuckoo bumblebee *Bombus rupestris.*

Bombus lucorum s.l. White-tailed Bumble Bee

One of the most frequent bumblebees in spring with the queens found on Sallow and Dandelion. Workers are very difficult to distinguish from the common *Bombus terrestris* in the field.

Bombus pascuorum Common Carder Bee

Seen on all visits starting on the 27-ii-2019 with a queen noted on Sallow blossom. Later in the years it was noted on Bird's-foot-trefoil. Bramble, Viper's Bugloss and Wood Sage.

This is the most common bumble bee in Dorset and is found in most habitats where there is a good range of flowers including gardens and urban green space.

Bombus pratorum Early Bumble Bee

1 ♂ on Bird's-foot-trefoil in acid grassland in southwest part of Dart Heath, 21-v-2019

A small bumble bee generally distributed and found in many habitats in the county.

Bombus terrestris Buff-tailed Bumble Bee

1 queen noted on Sallow blossom, by the entrance road 27-iii-2019. Undoubtedly present later in the year but no definite records as workers cannot easily be identified in the field from *Bombus lucorum* s.l.

Usually the earliest bumble bee to emerge in late winter and early spring and is frequently found in garden and urban greenspace.

4.2 Wasps

CHRYSIDIDAE; ELAMPINAE

Hedychrum nobile

Several ♀♀ flying around sandy ground with large nesting aggregation of *Cerceris arenaria* in the southeast of Woodlark Heath, 17-vii-2019

This beautiful jewel-wasp has only recently been recognised as occurring in Britain, being easily confused with the rare *H. niemelai*, and is thought to be a relatively recent addition to the British fauna spreading rapidly westwards from southeast England. It appears to target nesting aggregations of the large black and yellow digger-wasp *Cerceris arenaria*, *H. niemelai* it thought to target *C. ruficornis*. First recorded in Dorset from Wareham Forest in 2016 and now appears to be well-established in parts of the Poole Basin.

POMPILIDAE; POMPILINAE

Anoplius viaticus Black-banded Spider Wasp

1 ♀ hunting along sandy bank by path through scrub in the north of the site, 27-iii-2019

One of our more frequent and striking spider-hunting wasps found in sandy habitats such as heaths and dunes. Females can overwinter and emerge in March where they hunt for ground spiders of the Lycosidae. Found mainly in the heathland areas of southern and southeast England and East Anglia, very local and usually coastal elsewhere.

Arachnospila anceps

1 ♀ swept from Hogweed *Heracleum sphondylium* flowers along the public footpath in the north of the area, 27-vi-2019
1 ♀ hunting over bare ground on Woodlark Heath, 17-vii-2019

A medium red and black spider-hunting wasp and the most frequent of the genus found throughout most of England and Wales, becoming scarcer further and in Scotland where it is often coastal.

VESPIDAE; EUMENINAE

Symmorphus bifasciatus

1 ♀ on Bramble *Rubus fruticosus* blossom along footpath along southeast edge of site,

The most widespread of the four *Symmorphus* species this large mason-wasp nests in hollow plant stems such as dead Brambles or in old beetle holes in dead wood. It predates the larvae of the Chrysomelid beetle *Phratora* (*Phyllodecta*) *vulgatissima* Blue Willow Beetle which is widespread in Britain although is not recorded for Silverlake but is probably present on the willows along the eastern edge.

VESPIDAE; VESPINAE

Vespula vulgaris Common Wasp

1 queen on sandy bank by entrance road, 27-iii-2019
Several workers noted hunting along bramble patch, Angler's Car Park 13-ix-2019

Widespread in the county but numbers vary considerably from year to year.

CRABRONIDAE; ASTATINAE

Astata boops

1 ♀ hunting over bare ground on Woodlark Heath, 17-vii-2019

A small but stout wasp with a broad red band on the abdomen which predates the larvae of Pentatomid bugs. It is most frequent on the sandy heaths of southern and southeast England and East Anglia, further west it is mostly found on dunes. In Dorset it is widespread on the Poole Basin heaths with scattered sites along the coast.

CRABRONIDAE; CRABRONINAE

Crabro cribrarius Slender Bodied Digger Wasp

1 ♂ swept from flowers on the bank west of Beaumont Village, 27-vii-2019

A large and distinctive black and yellow digger-wasp much more frequent than the next species found mainly in sandy habitats on heaths and dunes but occasionally elsewhere in open woodland and chalk grassland. It predates a wide variety of flies and can be found on umbellifer flowers.

Crabro scutellatus

Nationally Notable NS(A)

Several ♂♂ on bare clayey ground near ditch on the eastern side of 'Lobelia Heath', 17-vii-2019

A small black and yellow wasp restricted to heathland areas of central southern England. It predates Dolichopid flies in wetter areas of the heath but nests on drier ground. It is widespread on the Dorset heaths which is one of its national strongholds.

Ectemnius cavifrons

1 ♀ hunting along edge of Bramble patch in the Anglers Car Park, 13-ix-2019

One of the more widespread of the *Ectemnius* wasps found in hedgerow, scrub and in woodland clearings and rides, often seen on the flowers of umbellifer species. It hunts various flies specialising in hoverflies (Syrphidae).

Ectemnius continuus

2 ♀♀ on Hogweed *Heracleum sphondylium* flowers on the verge of the entrance road, 27-vi-2019
1 ♀ on Hemlock Water-dropwort *Oenanthe crocata* flowers near Heath Hide in the south of the site, 27-vi-2019

A widespread wasp very similar to the last species and predates a range of middle-sized flies from several different families and is found in a number of different habitats and like the last species can often be found at the flowers of umbellifers.

CRABRONIDAE; NYSSONINAE

Argogorytes fargei

1 ♂ on the flowers of Hogweed *Heracleum sphondylium* along the public footpath between Woodlark Heath and the entrance road, 27-vi-2019.

This medium-sized wasp has had mixed fortunes in Britain. Up until the 1960s it was found at a number of sites in southern and southeast England, but very rare elsewhere. For many years there were few records but since 1990 there have been a good number of records from central England, East Anglia and northeast England, and there are signs it is spreading back to some of its old haunts in the south. This record is the first for this part of Dorset (VC9) since the 1950s, it has recently been recorded from Hengistbury Head (VC11).

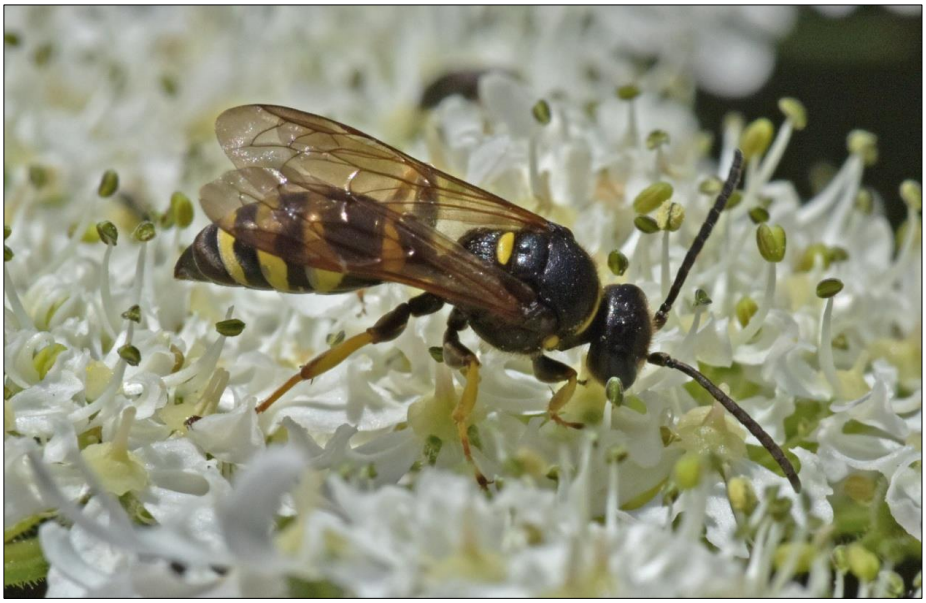


FIG 22. Male ***Argogorytes fargei***

CRABRONIDAE; PHILANTINAE

Cerceris arenaria Sand Tailed Digger Wasp

Many ♀♀ at extensive nesting aggregation in bare ground in developing heathland, Woodlark Heath 17-vii-2019

A large black and yellow wasp predating weevils in sandy habitats such as heathland, old sand pits and coastal dunes, where it can form large nesting aggregations and is targeted by the jewel-wasp *Hedychrum nobile*. Widespread in Dorset on the sandy heath and very locally along the coast on cliffs.

Cerceris rybyensis Ornate Tailed Digger Wasp

Many ♀♀ in mixed aggregation with *Cerceris arenaria*, Woodlark Heath 17-vii-2019

The smallest and most widespread of our *Cerceris* species found in a wide variety of habitats where there is bare ground and can often be seen at the flowers of umbellifers.

Sphecidae

Ammophila pubescens Heath Sand Wasp

1 ♀ on bare ground in developing dry heath in the southeast of Woodlark Heath 17-vii-2019

The smaller of our two *Ammophila* sand wasps and the less common being confined to the heathland districts of central southern England, with scattered in East Anglia and the West Midlands. It is found in dry heath where it is a predator of small Lepidoptera larvae with which it stocks its next burrows which are made in bare compacted sandy ground often along tracks and paths. Its nests are targeted by the rare Mottled Bee-fly *Thyridanthrax fenestratus* one of which was seen on Woodlark Heath.

Ammophila sabulosa Red Banded Sand Wasp

5+ ♀♀ in open dry heath, Woodlark Heath, 27-vi-2019
1 ♀ flying around sandy bank west of Beaumont Village, 17-vii-2019
Many ♀♀ in open dry heath, Woodlark Heath, 17-vii-2019

This large slender sand-wasp is a characteristic species of dry heaths in lowland Britain often seen flying along paths and over bare ground, and sometimes dragging large caterpillars to its nest burrows. Widespread throughout the Dorset Heaths, with scattered records on sand and clay cliffs along the coast.

Other species recorded

During the survey work several other invertebrates of note were recorded including the local micro-moth *Adela cuprella* whose larvae are thought to feed among leaf litter under Sallow trees, the adult males swarm around the top of sallow bushes in April. On Woodlark Heath the scarce Mottled Bee-fly *Thyridanthrax fenestratus* was noted on bare ground in developing dry heath, it targets the nest burrows of the Heath Sand Wasp *Ammophila pubescens* and is on Section 41 of the NERC Act (2006). The local soldier-fly *Stratiomys potamida* was seen on Hogweed flowers along the public footpath in the north of the site.

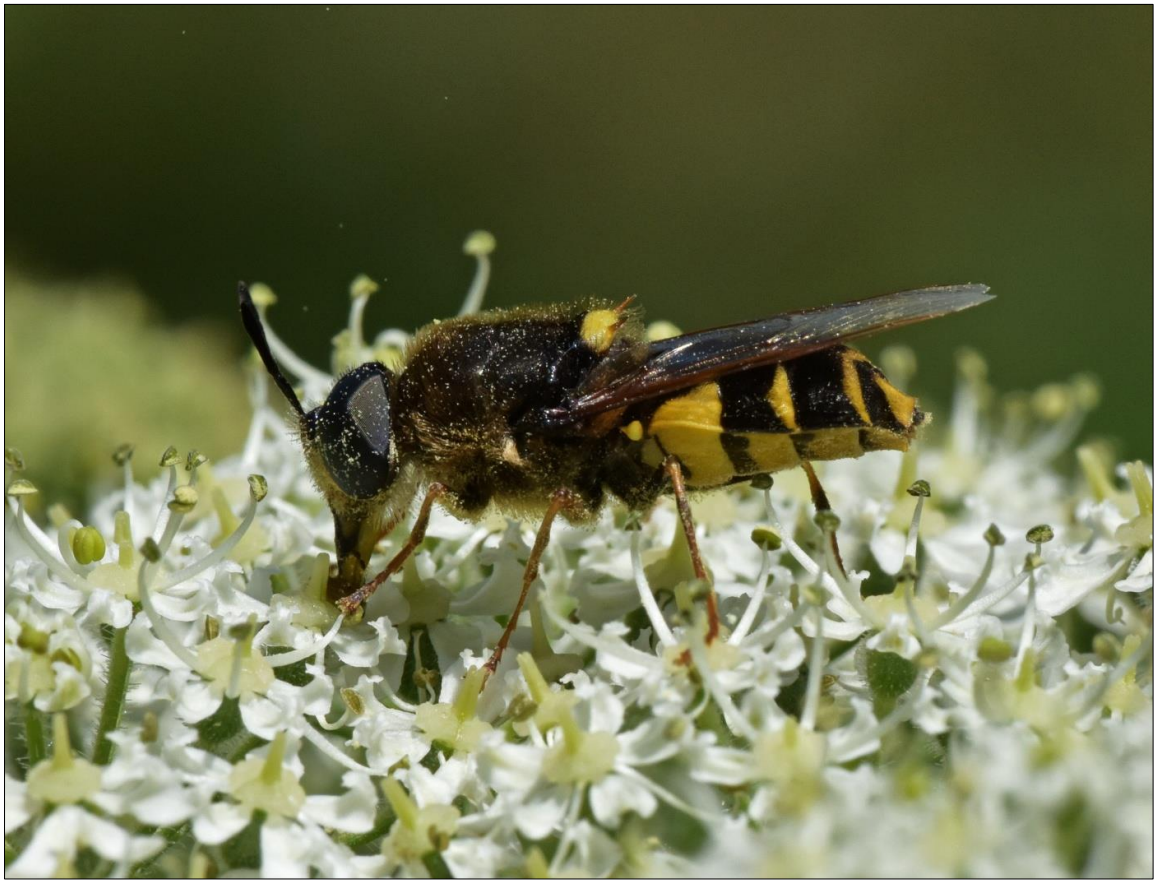


FIG 23. ***Stratiomys potamida***, on Hogweed flowers along the public footpath in the north of the site. This is one of our largest and most spectacular soldier flies and is mainly associated with base-rich seepages and fens and this individual may be breeding along the Tadnoll Brook to the south of site. It favours umbellifers for nectar, especially Hemlock Water-dropwort and Hogweed.

Table 1. Bee species recorded from Silverlake complex

Species	Common Name	Status	Index	First	Last	2019
Colletes daviesanus	Davies' Colletes			1946	1951	
Colletes fodiens	Hairy-saddled Colletes		S	1947	1958	
Colletes hederae	Ivy Bee					2019
Colletes similis	Bare-saddled Colletes			1946	1950	2019
Colletes succinctus	Heather Colletes		H		1830	
Hylaeus communis	Common Yellow-face Bee			1928	1956	2019
Hylaeus brevicornis	Short-horned Yellow-face Bee			1948	1962	
Andrena alfkenella	Alfken's Mini-miner	NR			1947	
Andrena argentata	Small Sandpit Mining Bee	NS(A)	H	1933	1962	
Andrena bicolor	Gwynne's Mining Bee					2019
Andrena bimaculata	Large Gorse Mining Bee	NS(B)	S		1928	
Andrena chrysosceles	Hawthorn Mining Bee					2019
Andrena cineraria	Ashy Mining Bee					2019
Andrena clarkella	Clarke's Mining Bee		S			2019
Andrena coitana	Small Flecked Mining Bee				1946	
Andrena denticulata	Grey-banded Mning Bee		S	1933	1962	2019
Andrena dorsata	Short-fringed Mining Bee				1950	2019
Andrena flavipes	Yellow-legged Mining Bee			1941	1946	2019
Andrena fucata	Painted Mining Bee				1927	
Andrena fuscipes	Heather Mining Bee		H		1950	
Andrena haemorrhoa	Orange-tailed Mining Bee			1918	1941	
Andrena marginata	Small Scabious Mining Bee	NS(A)	S		1923	
Andrena minutula	Common Mini-miner			1946	1950	2019
Andrena nigroaenea	Buffish Mining Bee				1946	
Andrena nitida	Grey-patched Mining Bee			1941	2016	2019
Andrena ovatula	Small Gorse Mining Bee		S		1946	2019
Andrena praecox	Small Sallow Mining Bee		S		<1920	
Andrena semilaevis	Shiny-margined Mini-miner			1928	1948	2019
Andrena synadelpha	Broad-margined Mining Bee				<1920	
Andrena tarsata	Tormentil Mining Bee	UK PS; S41	S	*c.* 1840	1947	
Andrena thoracica	Cliff Mining Bee		S		1946	2019
Andrena trimmerana	Trimmer's Mining Bee	NS(B)		1933	1950	
Andrena varians	Backthorn Mining Bee	NS(B)			<1920	
Andrena wilkella	Wilke's Mining Bee				1956	2019
Panurgus banksianus	Large Shaggy Bee		S		1840	
Panurgus calcaratus	Small Shaggy Bee		S		1950	2019
Halictus rubicundus	Orange-legged Furrow Bee					2019
Halictus tumulorum	Bronze Furrow Bee			1933	1934	
Lasioglossum calceatum	Common Furrow Bee			1923	2016	2019
Lasioglossum leucopus	White-footed Furrow Bee	NR			1946	
Lasioglossum leucozonium	White-zoned Furrow Bee			*c.* 1840	1934	2019
Lasioglossum minutissimum	Least Furrow Bee			1946	1951	
Lasioglossum morio	Green Furrow Bee				1951	
Lasioglossum prasinum	Grey-tailed Furrow Bee		H		1947	
Lasioglossum punctatissimum	Long-faced Furrow Bee			1946	1950	
Lasioglossum villosulum	Shaggy Furrow Bee			1946	1950	2019
Lasioglossum xanthopus	Orange-footed Furrow Bee	NS(B)			1940	
Lasioglossum zonulum	Bull-headed Furrow Bee			*c.* 1840	1954	2019
Sphecodes ephippius	Bare-saddled Blood Bee			1946	1950	2019
Sphecodes ferruginatus	Dull-headed Blood Bee	NS(B)			1947	
Sphecodes geoffrellus	Geoffroy's Blood Bee				1956	2019
Sphecodes gibbus	Dark-winged Blood Bee					2019

Species	Common Name	Status	Index	First	Last	2019
Sphecodes longulus	Little Sickle-jawed Blood Bee	NS(A)	S	1947	1956	
Sphecodes monilicornis	Box-headed Blood Bee					2019
Sphecodes puncticeps	Sickle-jawed Blood Bee				1947	
Sphecodes spinulosus	Spined Blood Bee	VU-GB			1943	
Stelis phaeoptera	Plain Dark Bee	VU-GB		1931	1951	
Stelis punctulatissima	Banded Dark Bee	NS(B)		1930	1952	
Osmia aurulenta	Golden-fringed Mason Bee					2019
Osmia bicornis	Red Mason Bee				1934	
Osmia caerulescens	Blue Mason Bee					2019
Osmia leaiana	Orange-vented Mason Bee				1947	
Hoplitis claviventris	Welted Lesser Mason Bee			1947	1951	
Hoplitis spinulosa	Spined Mason Bee				1956	
Megachile centuncularis	Patchwork Leafcutter Bee					2019
Megachile ligniseca	Wood-carving Leafcutter Bee				1923	
Megachile versicolor	Brown-footed Leafcutter Bee			1934	1946	
Megachile willughbiella	Willughby's Leafcutter Bee			1913	1918	2019
Coelioxys conoidea	Large Sharp-tail Bee		S		1950	
Coelioxys elongata	Dull-vented Sharp-tail Bee				1947	
Coelioxys rufescens	Rufescent Sharp-tail Bee		S		1950	
Melitta leporina	Clover Blunthorn Bee				1946	
Dasypoda hirtipes	Pantaloon Bee	NS(B)	S		1950	
Nomada baccata	Bear-clawed Nomad Bee	NS(A)	H		1954	
Nomada fabriciana	Fabricius' Nomad Bee				1950	
Nomada flavopicta	Blunthorn Nomad Bee	NS(B)			1946	
Nomada flavoguttata	Little Nomad Bee					2019
Nomada fucata	Painted Nomad Bee					2019
Nomada fulvicornis	Orange-horned Nomad Bee	NR	S		1946	
Nomada goodeniana	Gooden's Nomad Bee			1917	1923	
Nomada leucophthalma	Early Nomad Bee					2019
Nomada marshamella	Marsham's Nomad Bee				1949	2019
Nomada roberjeotiana	Tormentil Nomad Bee	NR		1840	1930	
Nomada rufipes	Black-horned Nomad Bee		S	1834	1946	
Nomada sheppardana	Sheppard's Nomad Bee					2019
Epeolus cruciger	Red-thighed Epeolus		H	1834	1950	
Epeolus variegatus	Black-thighed Epeolus		S	1928	1950	
Anthophora bimaculata	Green-eyed Flower Bee					2019
Anthophora furcata	Fork-tailed Flower Bee				1928	2019
Anthophora retusa	Potter Flower Bee	UKPS; S41; EN-GB	S		1946	
Melecta albifrons	Common Mourning Bee				1920	
Bombus lucorum	White-Tailed Bumble Bee				1947	2019
Bombus terrestris	Buff-Tailed Bumble Bee			1947	2015	2019
Bombus lapidarius	Large Red Tailed Bumble Bee				1947	2019
Bombus jonellus	Heath Bumble Bee		H		2016	
Bombus hypnorum	Tree Bumblebee					2019
Bombus subterraneus	Short-haired Bumble Bee	UKPS; S41; NS(A)			1928	
Bombus humilis	Brown-banded Carder-bee	UKPS; S41	S		1928	
Bombus pascuorum	Common Carder Bee				1934	2019
Bombus pratorum	Early Bumble Bee					2019
Bombus ruderarius	Red-shanked Carder-bee	UKPS; S41			1947	
Bombus campestris	Field Cuckoo Bee				1947	
Bombus rupestris	Red-tailed Cuckoo Bee	NS(B)			1947	
Bombus vestalis	Vestal Cuckoo Bee				1951	
Apis mellifera	Western honey Bee					2019

Table 2. Wasp species recorded from Silverlake complex

Species	Common Name	Status	Index	First	Last	2019
Cleptes nitidulus		NS(A)			1950	
Elampus panzeri			H		1996	
Pseudomalus auratus				1835	1945	
Hedychridium ardens				1949	1996	
Hedychrum niemelai		NR	H		1955	
Hedychrum nobile			S			2019
Chrysis angustula					1998	
Chrysis ignita					1947	
Chrysis illigeri		NS(B)	S	1947	1950	
Chrysis rutiliventris					1916	
Chrysis viridula				1947	1950	
Trichrysis cyanea				1946	2002	
Tiphia minuta	Small Tiphia	NS(B)			*c.* 1840	
Methocha articulata		NS(B)	S	1927	1950	
Mutilla europaea	Large Velvet Ant	NS(B)	H	1912	1979	
Myrmosa atra	Black Headed Velvet Ant			1947	1956	
Cryptocheilus notatus		VU-GB	S	1947	1950	
Pompiliu cinereus	Leaden Spider-wasp				2016	
Priocnemis exaltata				1934	2016	
Priocnemis parvula				1946	2016	
Dipogon variegatus				1946	1947	
Agenioideus cinctellus			S	1947	1956	
Episyron rufipes	Red Legged Spider Wasp		S	1843	1995	
Anoplius nigerrimus				1934	1951	
Anoplius infuscatus				1947	1950	
Anoplius viaticus	Black-banded Spider Wasp		S	1943	1951	2019
Arachnospila anceps				1934	1950	2019
Arachnospila minutula		NS(B)	S		1929	
Arachnospila spissa					1956	
Arachnospila wesmaeli		NS(A)	S		1954	
Evagetes crassicornis			H	1934	1951	
Evagetes dubius		NS(B)	S	1930	1933	
Ceropales maculata			S	1934	1950	
Eumenes coarctatus	Heath Potter Wasp	NS(A)	H		1846	
Gymnomerus laevipes					1947	
Ancistrocerus antilope		NR		1927	1928	
Ancistrocerus gazella					1951	
Ancistrocerus nigricornis				1944	1954	
Ancistrocerus oviventris					<1920	
Ancistrocerus scoticus					1962	
Symmorphus bifasciatus						2019
Symmorphus crassicornis		NR		1927	1928	
Vespa crabro	Hornet			2002	2016	
Dolichovespula media		NS(A)			1995	
Dolichovespula sylvestris	Tree Wasp				1956	
Vespula rufa	Red Wasp			1947	1951	
Vespula vulgaris					2016	2019
Ammophila pubescens	Heath Sand Wasp		H		1951	2019
Ammophila sabulosa	Red Banded Sand Wasp		S	1841	1956	2019
Podalonia hirsuta	Hairy Sand Wasp	NS(B)	S	1821	1948	
Astata boops			S		1951	2019
Tachysphex pompiliformis			S	1842	1956	

Species	Common Name	Status	Index	First	Last	2019
Trypoxylon attenuatum	Slender Wood Borer Wasp				1954	
Trypoxylon clavicerum	Club Horned Wood Borer Wasp			1947	1951	
Trypoxylon figulus	Black Wood Borer Wasp			1948	1950	
Crabro cribrarius	Slender Bodied Digger Wasp			1926	1946	2019
Crabro peltarius			S		2016	
Crabro scutellatus		NS				2019
Crossocerus elongatulus	Slender Digger Wasp				1919	
Crossocerus palmipes		NS(B)			1845	
Crossocerus pusillus					1950	
Crossocerus tarsatus					1923	
Crossocerus wesmaeli	Wesmael's Digger Wasp		S	1950	1956	
Crossocerus capitosus					1940	
Crossocerus cetratus					1956	
Crossocerus podagricus				1945	1956	
Crossocerus quadrimaculatus	4-Spotted Digger Wasp			1946	1954	
Ectemnius cavifrons				1951	1956	2019
Ectemnius lapidarius				1948	1956	
Ectemnius ruficornis		NS(B)			1948	
Ectemnius sexcinctus		NS(B)			1950	
Ectemnius continuus				1927	1956	2019
Ectemnius rubicola					1948	
Ectemnius cephalotes					1951	
Ectemnius lituratus				1944	1956	
Lindenius albilabris				1946	1950	
Entomognathus brevis				1928	1956	
Oxybelus uniglumis	Common Spiny Digger Wasp			1946	1956	
Mimumesa dahlbomi					1934	
Mimesa bicolor	Two-coloured Mimic Wasp	VU-GB	H	1928	1950	
Mimesa bruxellensis		NS(A)	S	1947	1954	
Mimesa equestris			S	1841	1950	
Mimesa lutaria			S	1947	1948	
Pemphredon lethifera	Little Black Wasp	NR			1946	
Pemphredon lugubris	Mournful Wasp				1923	
Diodontus luperus				1946	1950	
Diodontus tristis	Melancholy Black Wasp		S		1950	
Mellinus arvensis	Field Digger Wasp			1923	1956	
Nysson dimidiatus	Small Spurred Digger Wasp	NS(B)	S	1835	1950	
Nysson trimaculatus		NS(B)		1933	1961	
Gorytes laticinctus		NR	S	1928	1956	
Gorytes quadrifasciatus	4-Banded Digger Wasp		S	1948	1956	2019
Harpactus tumidus			S	1946	1950	
Argogorytes mystaceus	Field Digger Wasp				1946	
Argogorytes fargei						2019
Cerceris arenaria	Sand Tailed Digger Wasp		S	1951	1995	2019
Cerceris quinquefasciata	Five-banded Weevil-wasp	UKPS; S41; NR	S		1950	2019
Cerceris ruficornis			S		1950	
Cerceris rybyensis	Ornate Tailed Digger Wasp			1950	1995	2019
Philanthus triangulum	Bee Wolf	VU-GB	S		1995	

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