

# DAWLISH WARREN WILDLIFE REVIEW



Many thanks to all observers who submitted records to the Recording Group, Teignbridge District Council and others, this report would not be possible without their co-operation. Unfortunately, the hide remained closed all year and due to continuing erosion, there continues to be no public access to the surrounding viewing areas. The Recording Group would like to thank the Warren Golf Club and Devon Wildlife Trust for allowing access enabling monitoring efforts to continue.

Across all taxa a total of 2151 species were recorded during the year of which 300 were reported for the first time. The ongoing biodiversity audit has recorded 5,026 species at Dawlish Warren, an incredible result highlighting the importance of the site and the diversity of habitats.

Cover photographs:

Red Gurnard © Simon Thurgood

Sand Crocus © Alan Keatley

Little Flower bee © Alan Keatley

Slavonian Grebe © James Packer

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## Birds

A total of 184 species were recorded on site this year with 36 species confirmed breeding, including six pairs of **Cirl Bunting**, six pairs of **Stonechat**, two pairs of **Little Grebe** and a pair of **Bullfinch**. After last year's absence **Reed Bunting** made a welcome return.

There were no new species recorded, with the annual total around the average for the last five years. 2021 highlights including new site record counts of the critically endangered **Balearic Shearwater** (271 in Aug), **Cattle Egret** (68 in Nov), **Kittiwake** (2,022 in Oct), **Woodpigeon** (111,500 in Nov), **Siberian Chiffchaff** (five in Dec), **Jay** (62 in Oct) and **Cirl Bunting** (15 in Jan).

Rarities included the first **Dotterel** since 1961, 3rd **Ruddy Shelduck**, 5th **Red-rumped Swallow**, 7th **Caspian Gull**, 8th **Barred Warbler**, 12th **Cetti's Warbler**, 13th **Marsh Tit** and 14th **Whooper Swan** and **Great White Egret**.

Omissions from the year list included Storm Petrel, Red-necked Grebe, Velvet Scoter, Long-tailed Duck, Goosander, Green Sandpiper and Yellowhammer with regular no shows from Black-throated Diver and Coot.



The full report can be downloaded at [Dawlish Warren Bird Report 2021](#)





Slavonian Grebe. Herbert RIP - Lee Collins

## January

2021 got off to a cold start on the 1st with a good total of 81 species were recorded, including **Marsh Tit**, two **Jack Snipe**, **Water Pipit**, **Blackcap** and **Firecrest** along with two wintering **Scandinavian Rock Pipit** and Herbert, the resident **Slavonian Grebe**; once again the only one recorded during the year.

Other highlights included a **Woodcock**, two **Purple Sandpiper** and nine **White-fronted Geese** on the 2nd, **Pomarine Skua** on the 15th and the first **Spotted Redshank** since Nov 2014 on the 27th.

Counts from the estuary were lower than average with a peak of just 800 **Oystercatcher** and 13 **Red-breasted Merganser**. Offshore **Great-crested Grebe** peaked at 86 late month with a max of just 14 **Red-throated Diver**. Scarcer species included the first two **Mediterranean Gull** late month, singles of **Golden Plover** on 6th & 31st, **Black-tailed Godwit** on 22nd, **Pale-bellied Brent Goose** on 24th, a pair of **Mistle Thrush** late month and **Lapwing** on 31st.

## February

The month started with the first **Jay** since 2018 on the 2nd, two **Lesser Redpoll** the next day and a **Treecreeper** on the 8th which remained until the 10th March. Also around the scrub a **Siberian Chiffchaff** (re)appeared on 11-12th with a **Firecrest**, both staying into March.



Treecreeper - Jo King

An early **Sandwich Tern** on the 6th did not linger, with an adult **Little Gull** on 14-16th one of the few scarcities, although cold weather early in the month saw wader numbers increase slightly with at least three **Avocet** noted. The same spell of cold weather also brought the last ever sighting of Herbert on the 8th.

As Spring arrived there were two noticeable arrivals of **Stonechat** and a **Red Kite** made the most of the high pressure on the 28th. Both the ringed wintering **Scandinavian Rock Pipit** left midmonth, with one being resighted in Norfolk two days later.



Scandinavian Rock Pipit - Alan Keatley



## March

Three **Whooper Swan** that flew south before returning north and undertaking a tour of the Exe Estuary on the 6th were looking to be the month's highlight before the brief arrival of a **White-tailed Eagle**, from the Isle of Wight reintroduction scheme on the 21st. A **Red-legged Partridge** on the 30th had no doubt been released much nearer by.



White-tailed Eagle Cofton 21 Mar - Lee Collins

Migrants were slow to get going with the first **Wheatear** on the 17th with a **White Wagtail** the next day. The first **Sand Martin** flew through on the 24th, with a **Willow Warbler** on 27th and five **Swallow** and two **Blackcap** on 31st.



Wheatear - Lee Collins

Other scarcities included a female **Tufted Duck** in the estuary on the 25-26th, a **Jack Snipe** on 19-20th and a **Golden Plover** on the 4th.

## April

The month started with a flock of 14 **Eider** off John's Watch on the 1st, which flew E past Portland Bill the next day, the only confirmed record of the year.

A **Ruddy Shelduck** flew in off the sea on the 4th, perhaps arriving from the feral population in northern Europe. It relocated to Exminster Marshes and made a brief reappearance on the 29th.



Ruddy Shelduck - Lee Collins

Other wildfowl highlights included a pair of **Gadwall** on the Main Pond on 13th, the only record of the year; a peak of 70 **Pale-bellied Brent Geese** on the 19th and two **Egyptian Geese** on Finger Point on 27th, the first in a record year for the species.

Wader passage included 84 **Bar-tailed Godwit** and 83 **Whimbrel** on the 23rd, a **Ruff** on 7th, only the second April record this century; and a **Little Ringed Plover** on the 18th.



Whimbrel - Lee Collins



**Sandwich Tern** passage was again poor with the exception of an influx of 108 on 28th with 70 the next day. Also offshore four **Great**, two **Arctic** and **Pomarine Skua** passed from 23rd, five **Little Tern** on 28th and the latest ever first date for **Common Tern** with one eventually present on 25-26th.

Other migrants included the earliest ever **Whitethroat** and an **Osprey** on the 2nd, a **Siberian Chiffchaff** on the 10th & 19th, another two **Osprey** on 11th and 29th, **Grasshopper Warbler** reeling briefly on 13th & 20th and a female **Redstart** on 16th and 18th. Later in the month the first **Hobby** on 27th with two **Whinchat** on the 29th.



Whinchat - Lee Collins

Overhead just three **Yellow Wagtail** but six **Red Kite** during the month with maxima of 13 **Chiffchaff**, 10 **Willow Warbler**, seven **Wheatear** and six **Blackcap**.

## May

The 1st saw a singing **Lesser Whitethroat** which proceeded to hold territory through the month, other migrants included **Garden Warbler** on the 2nd, with seven **Spotted Flycatcher**, three **Sedge Warbler** and a **Tree Pipit** all arriving on the 8th, a day that saw the best fall of the spring with **Cuckoo**, **Whinchat** and a **Garden Warbler** also present.



Lesser Whitethroat - Dave Jewell

Tern numbers remained low with the first **Arctic Tern** on 3rd with 11 the next day outnumbering **Sandwich Tern**, which peaked at just 16 during the month. There were no Roseate and just two **Common Tern** during the month.

Wader passage was however more positive with 580 **Dunlin** in the Bight on the 19th, the highest May count since 2007, along with other notable records such as the first May **Purple Sandpiper** on the 9th since 2005 on the 9th, and on the 13th, following an overnight deluge when 10 times as much rain fell than through all of April, the first May **Little Stint** since 2005.



Dunlin - Ben Lucking

The Dawlish Water **Red-rumped Swallow** was photographed heading north over the Warren after it departed on the morning of the 14th with a **Spoonbill** heading south the same day. Another **Spoonbill** flew south offshore on 20th as it flew past a couple of **Pomarine Skua** rose off the sea to investigate, a rarely seen combination.



Offshore **Great Northern Diver** peaked at 15 on the 20th and 12 **Arctic** and eight **Pomarine Skua** passed during the month with six of the latter on the 23rd.

Other highlights included a male **Nightjar** in Dead Dolphin Wood on 25th and 31st, presumed the same individual as several birds were reported elsewhere lingering in atypical locations during a spell of poor weather. On the 28th a **Marsh Harrier** flew low north early morning, heralding the start of a good late May day with four **Spotted Flycatcher** and a female **Whinchat** notable late migrants and an **Arctic Tern** offshore.



Spotted Flycatcher - Alan Keatley

## June

The highlight was confirmation of the first breeding **Lesser Whitethroat** since 2005 with three fledged young. Other breeding records included six pairs of **Cirl Bunting** and **Stonechat**, both records; three pairs of **Collared Dove**, two pairs of **Little Grebe**, seven pairs of **Reed Warbler** holding territory in all four ponds and at least one pair of **Reed Bunting**.



Little Grebe - Alan Keatley



Notable records included a flyover **Tufted Duck** on the 6th, a **Nuthatch** on 12th & 16th and the year's only **Puffin** south on the 27th.

Other records included a **Mistle Thrush** overhead on the 6th probably the first autumn migrant, two **Great Northern Diver** summering offshore, a drake **Wigeon** in the saltmarsh on 22nd, only the second June record in the last 20 years, two **Egyptian Geese** over on the 26th and a count of 204 **Curlew** on the 29th was line with the early arrival of presumed failed breeders, since 1999.



Great Northern Diver - Alan Keatley

## July

Three **Roseate Tern** on the 3rd were the first of the year with five other birds during the month, a welcome if slight improvement.



Roseate Tern - David Flack

The first juvenile **Sandwich Tern** arrived on the 6th with a monthly peak of just 76 the same day. The first juvenile **Common Tern** were present on the 15th peaking at 27 on the 24th, with 10 **Arctic** and five **Little Tern** during the month. The first of eight juvenile **Yellow-legged Gull** appeared on the 25th.

Notable records included a good run of **Little Ringed Plover** sightings from the 3rd with at least five individuals during the month including several longstayers, a **Treecreeper** in Dead Dolphin Wood on the 4th, a **Nuthatch** on the 17- 18th with the first juvenile **Wheatear** on the 18th and a juvenile **Siskin** the same day; only the second July record.



Little Ringed Plover - Lee Collins

Other migrants saw the first two **Willow Warbler** on the 10th, **Sedge Warbler** on the 18th, 22nd and 31st, **Teal** on the 18th, 14 **Raven** overhead on the 24th and **Water Rail** on the 31st.

The first **Balearic Shearwater** of the year flew south on 30th with **Merlin** heading south offshore the next day the least expected sighting of the month, the first July record with only four August records.

## August

The month started with the years only **Wood Sandpiper** and a third Nuthatch on the 1st but the first half of the month was generally quiet. The first **Curlew Sandpiper** of the year, an early juvenile, was in the Bight on 12-19th with the first of good numbers of juvenile **Sanderling** on 14th, a flock of 230 **Dunlin** on the 22nd consisted of 90% juveniles also indicated a successful breeding season.





Curlew Sandpiper - Alan Keatley

Seawatching early morning on 22nd saw at least 241 **Balearic Shearwater** south in just over an hour, a new site record, with another c40 shearwater sp further out also likely to be this species. This is between 1-2% of the global population and the absence of seawatching conditions indicates this was a feeding movement, highlighting the importance of Lyme Bay for the survival of this species.

A **Nightjar** on the 21st and an early **Wryneck** on the 24th were the pick of the migrants, but they were otherwise in short supply with five **Yellow Wagtail**, two **Sedge** and two **Garden Warbler** and single **Lesser Whitethroat**, **Tree Pipit**, **Spotted Flycatcher** and **Whinchat** during the month.

Other records included the only autumn sightings of **Osprey** on the 22nd & 28th, the first six returning **Wigeon** on the 24th and a **Nuthatch** on the 27th.

## September

The month started with a large movement of 645 **Common Tern**, with them the first **Black Tern** since Aug 2019 and at least seven **Arctic Tern**. This was the highest September count since 1961. Interestingly of a sample of 338 birds, 90% were juveniles. They remained a feature with three-figs present until the 12th, numbers peaking at 980 on the 5th, with them eight **Arctic** and five **Black** and **Little Tern**.

Also offshore a **Tufted Duck** on the 5th, a second winter **Little Gull** from the 7th to the 11th, totals of 149 **Balearic Shearwater**, 22 **Arctic**, two **Pomarine** and a **Great Skua** and the first **Grey Phalarope** since 2017 on the 28th.





Little Gull - Lee Collins

A juvenile **Purple Sandpiper** on the beach on the 1st was a good find, with other wader records including a **Little Stint** on the 4th-11th, a **Curlew Sandpiper** on the 5th-21st, 11 **Avocet**, two **Ruff** and a **Spotted Redshank** on the 5th. An adult **Spoonbill** also dropped in on the 5th, with a juvenile on the 10th and five on 21st-22nd.



Spoonbill - Lee Collins

The highlight, and probably bird of the year, was a juvenile **Dotterel** in the Bight on 18th-22nd, the first record in 60 years. During its stay it adopted tidal movements , roosting around the shoreline of the Bight at high tide and feeding on the mudflats at low tide with other waders.



Dotterel - Lee Collins

Three **Wryneck** were seen during the month; an elusive bird around the Bight and Golf Course on the 7th-11th, one on the 19th and one on Warren Point on the 25th. Other passerine migrants included the autumn's only **Redstart** and **Grasshopper Warbler** on the 5th, a max of 17 **Wheatear** on 10th with five **Sedge Warbler**, three **Spotted Flycatcher**, two **Tree Pipit** and single **Lesser Whitethroat**, **Garden Warbler**, **Goldcrest** and **Whinchat**. A **Jay** from the 15th was a sign of things to come.



Wheatear - Dean Hall



## October

Seawatching on the 2nd saw a site record 1439 **Kittiwake** head south, along with the years only **Sooty Shearwater**, a **Grey Phalarope**, five **Balearic** and a **Manx Shearwater**.

Also offshore a late influx of **Sandwich Tern** peaked at 57 on 10th, a first winter **Little Gull** on the 13th, a total of 15 Arctic and single **Pomarine** and **Great Skua**; the latter on the 27th was the fifth and final record of a poor year for the species. The **Kittiwake** record was again broken when at least 2022 flew south in the first hour on 30th.

The UK wide **Jay** interruption reached the Warren in force on the 7th when 21 flew west (19 in one flock), with a new site record of 62 W the next day (with 90 others moving offsite). The record count had been 47 on 21 Oct 1983, part of the previous UK influx.

Other vis mig during the month included max of 450 **House Martin** on the 5th, 164 **Goldfinch** on the 8th, 856 **Jackdaw** on the 13th and 2,267 **Woodpigeon** and 14 **Reed Bunting** on the 30th. Other species were in short supply with just 38 **Siskin** and six **Redpoll** during the month.

The 9th began with a **Turtle Dove** in the Golf Course Spinney before flying west over Warren Point, the first since Oct 2017 and only the 8th record in the last 10 years. Mid-afternoon a flock of 10 **Cattle Egret** were roosting on the Wreck off Cockwood and a **Yellow-browed Warbler** was found in Dead dolphin wood early evening, remaining until the 13th, the 16th record in the last ten years.



Cattle Egret - Alan Keatley



The next day a **Great White Egret** flew east over Warren Point where an immature **Dartford Warbler** was found, the first since Oct 2017, the **Cattle Egret** flock increased to a very brief Devon record of 57 birds and a **Purple Sandpiper** was off Langstone Rock.

The fifth **Wryneck** of the year was by the Main Pond on 16 Oct, with other late migrants including a **Reed Warbler** on the 2nd and a **Whinchat**, a **Yellow Wagtail** and the last two **Wheatear** of the year on the 9th.



Wryneck - [doctorv64jr](#)

Other migrants included a **Cetti's Warbler** by the Main Pond on 18th-30th, only the 12th site record, but now been recorded for five successive autumns, two **Merlin**, both south offshore on 23rd and 31st, two **Short-eared Owl**, in the saltmarsh on 27th and on Warren Point on 30th and the eighth site record of **Barred Warbler** around the east end of the Buffer Zone on 30th-31st.



Barred Warbler - David Land

In the estuary the first three **Red-breasted Merganser** finally arrived on the 21st, a very high count of 573 **Black-tailed Godwit** on the 30th with a **Little Stint** the next day, the latest since 2003.

## November

The annual **Woodpigeon** movement built up some steam at the start of the month but 111,500 on 4th was unexpected, almost doubling the site record, with them three 3-fig counts of **Stock Dove** peaking at 154 on 5th. Also overhead maxima of 74 **Skylark** & 48 **Rook** on the 2nd, 90 **Greenfinch** on 4th, 855 **Jackdaw** and 579 **Redwing** on the 5th, seven **Bullfinch** on 7th and 50 **Chaffinch** on 14th. Also during the month 10 **Brambling**, 22 **Siskin**, four **Redpoll**, four **Mistle Thrush** and just three **Fieldfare**.

Other migrants included a **Snow Bunting**, along the beach on 9th-13th, the 21st individual since 2000, on the 5th a fem/imm **Black Redstart** briefly on the seawall, with a **Woodcock**, two **Swallow** and a **House Martin** around the Main Pond, a **Siberian Chiffchaff** on the 6th, the only autumn **Firecrest** in Greenland Lake on 7th and a **Short-eared Owl** south on the 27th.



Snow Bunting - Dave Jewell

In the estuary the **Spotted Redshank** put in a final appearance on the 3rd, with a new site record of 68 **Cattle Egret** the next day. with some present intermittently until the 21st. These are presumed to include returning birds from last winter. Their arrival on site seems linked to a combination of tide and afternoon milking times. The first two **Water Pipit** appeared in the Saltmarsh on the 20th with singles on 21st & 28th.

Other records included the first returning **Goldeneye**, unusually offshore, on 5th, a **Grey Phalarope** along the beach on the 11th, a late **Manx Shearwater** south on the 21st, a **Barnacle Goose** offshore on 28th and the Warren's first ever duetting **Tawny Owl** pair.

## December

The month began with a **Siberian Chiffchaff** influx, with a record five present on 5th with up to three birds present most of the month. A **Mistle Thrush** on the 4th and a male **Black Redstart** on the seawall on the 16th were the only other notable passerine migrants.



Black Redstart - Alan Keatley

In the estuary two **Black-necked Grebe** were present 3rd– 27th, with an injured **Avocet** on the 4th– 5th, a juvenile **Spoonbill** roosted on Finger Point through the month, a first winter **Caspian Gull** that flew in from the southwest and roosted on Bull Hill on the 10 Dec, the seventh Warren record and a **Water Pipit** on the 19th.



Black-necked Grebe - Alan Keatley



Other notable records included a max of 47 **Great Northern Diver** on the 3rd and the years only **Scaup**, a female, south past the seawall on 19th.

The year ended with a Spoonbill, two Black-necked Grebe and a Siberian Chiffchaff looking set to overwinter but wader and wildfowl numbers remained at a low ebb and seaduck were non-existent.

The hide remained closed all year and due to continuing erosion there remains no public access to the surrounding viewing areas. The Recording Group would like to thank the Warren Golf Club and Devon Wildlife Trust for allowing access enabling monitoring efforts to continue.

## Mammals

With records from 2020 and an unfortunate tideline corpse found on 9 May suggest that **Hedgehog** still maintain a foothold on site, sadly the same cannot be said of Mole with no molehills now for over two years near the amusements.

**Rabbit** numbers continue to decline as a result of disease, apart from the Spring sightings of naïve young bunnies, numbers seen were worryingly low, especially later in the year. The lower numbers may also affect rare plants that rely on grazing rabbits to keep vegetation finely cropped.



Bunny - Alan Keatley



Two of the three shrew species were recorded, no reports of Water Shrew, with **Common Shrew** on 18 May and the scarcer **Pygmy Shrew** on 12 September, as the norm with shrews sightings these were of dead animals.

**Pipistrelle** bats are a regular feature over the Warren at dusk with both **Common** and **Soprano** recorded this year, two other bat species were over the Golf Course but their identity could not be confirmed, a Brown/Grey Long-eared on 24 June and a Whiskered/Brant's on the 29 September.

A **Grey Squirrel** found near the Main Pond and Golf Course between 10-19 September was a record stayer for this species, no doubt an adventurous youngster from the mainland. The majority of records are from early autumn.



Grey Squirrel - Lee Collins

The most likely vole to now be seen on site is the well-established **Water Vole** with sightings from the Main Pond and Golf Course throughout the year. The more numerous, but less likely to be seen **Field Vole** provided food for the ever-present **Kestrel** on site, especially during autumn and winter. A brave or foolhardy **Wood Mouse** was seen up an apple tree on 26 October and a despite a presumed continuous presence just one **Brown Rat** was recorded, around the Amusements in November.

Land predators were seemingly scarce this year with only a couple of **Fox** and **Stoat** and a single **Weasel** sightings, although tracks along the Dune Ridge indicate they are still regularly patrolling the Warren.



**Common Dolphin** and **Harbour Porpoise** were seen occasionally throughout the year off Langstone Rock reflecting the increasing numbers in Lyme Bay. However, there were no sightings of Bottle-nosed Dolphin for the second year running and with no occurrences in Torbay this year the species is probably lost from the area.

One or two **Grey Seal** were regular through the year with a bull often calling to the female in autumn. A single **Common Seal** was seen in December.

## Reptiles and amphibians

At least a dozen **Common Lizard**, including juveniles, were found basking near the hide in September indicating a good breeding season for this species. This may not be the same for **Sand Lizard** as sightings were only occasional. The erosion of breeding areas by storms will have a continuing effect on numbers of this introduced species.



Common Lizard - Alan Keatley

A **Slow-worm** found on the Golf Course on 12 August was a good find as sightings have been in decline in recent years. **Common Toad** were active from 7 March and the increasing **Common Frog** noted from 31 July.





Common Frog - Alan Keatley

## Fish

Fifteen fish species were recorded this year, some marine species from shore anglers and others from beachcombing or rock pooling at Langstone Rock.

Highlights include two new species; a **Red Gurnard** on 7 March and a **Worm Pipefish** on 31 March, both found on the beach at low tide.



Red Gurnard - Simon Thurgood

At least fifty shoaling **Common Rudd** in the Main Pond in September is some indication of numbers, these didn't go unnoticed by a **Grey Heron** taking advantage of this feeding opportunity.



A **Starry Smooth-hound** feeding in the estuary shallows on 25 September surprised not only the observer but also an on-looking Mute Swan. The second site record of a **Atlantic Bluefin Tuna** was offshore on 20 November reflects the growing numbers in Lyme Bay after the first in the estuary last year.



Starry Smoothhound - Alan Keatley

## Butterflies

It was a year of quality if not quantity, with low numbers of many species. Welcomed returns included the first **Grayling** since 2015 found on Warren Point on the 4-5 September, only the second record in the last 60 years. There was also a reappearance of **Dark Green Fritillary** with the first confirmed sighting since 2012, in Dead Dolphin Wood on 11 August.



Grayling - Guy Freeman

A **Green Hairstreak** on 16 June, the fifth record since 2010, suggests that the species may have a continuing foothold on site. However, after records in 2018 and 2019, there were no sightings of Purple Hairstreak, although this treetop butterfly could have easily avoided detection.

A single summer sighting of a **Silver-washed Fritillary** is in line with a recent increase in records. It was a poor year for **Holly Blue** with the first record not until 28 August. **Painted Lady** also had a poor year with just five scattered records of ones and twos, and after an excellent year in 2020, **Clouded Yellow** were down to a handful of sightings in September and early October. Other migratory species - **Red Admiral** and **Small White** fared better, but numbers weren't exceptional.



Painted Lady - Alan Keatley



The first butterflies where seen at the end of March with **Peacock**, **Small Tortoiseshell**, which saw a welcome increase during the year, **Speckled Wood**, **Comma** and **Red Admiral**, although earlier sightings may have been missed during lockdown. **Small Copper** and **Orange-tip** made April appearances, with the latter's eggs found on **Cuckooflower** in May. **Brimstone** made it's one and only appearance on 1 May and the two **Wall Brown** sightings on 5 May and 29 September did nothing to ease concerns over this species seemingly terminal decline on site. **Common Blue**, **Green-veined** and **Small White** were on the wing by the end of May.



Green-veined White - Alan Keatley

**Small Copper**, **Speckled Wood** and, to a lesser extent, **Brown Argus**, were seen in usual numbers across generations, with mild weather enabling an exceptional third generation **Common Blue** on 30 October.

Summer butterflies started with **Meadow Brown**, **Large** and **Small Skipper** in June, and **Gatekeeper**, **Ringlet** and **Large White** in July. A **Marbled White** on 17 July was the only record received this year.



Marbled White - Alan Keatley

With mild autumn weather continuing various butterflies were on the wing until the end of October and into November with a **Speckled Wood** on 5th, **Painted Lady** and **Small White** on 18th and a final **Red Admiral** on 28th.

## Moths

A total of 326 species were recorded during the year mostly from leafmines and light trapping undertaken on the Golf Course on 10 occasions. A remarkable 46 new species were added to the Warren list, including six 'macro' moths.

These included a number of presumably overlooked common species such as **Mottled Grey** *Chloroclysta multistrigaria*, **Garden Rose Tortrix** *Acleris variegana* and **Sycamore Piercer** *Pammene aurita*; as well as two introduced adventive species **Cypress-tip Moth** *Argyresthia cupressella* from North America and **Ruddy Streak** *Tachystola acroxantha* from Australia.



Sycamore Piercer 27 Jul - Alan Keatley

Other more local firsts included **Centre-barred Sallow** *Atethmia centrago*, **Early Long-horn** *Adela cuprella*, the first confirmed **Dusky Thorn** *Ennomos fuscantaria*, **Little Slender** *Calybites phasianipennella*, **New Oak Slender** *Caloptilia robustella* and **Pale Eggar** *Trichiura crataegi*.





Dusky Thorn - Kevin Rylands

Rarer discoveries included three **Aethes deaurana**, the 10-12th UK records, probably established on site feeding on **Alexanders**; and three nationally scarce species, **Horse Chestnut** *Pachycnemia hippocastanaria*, the first confirmed record for this heathland specialist, **New Marsh Cosmet** *Cosmopterix scribaiella*, new to Devon and **Sorrel Midget** *Enteucha acetosae*.



Aethes deaurana 10 Jun - Kevin Rylands



Other species recorded included local specialties such as **Crescent Dart** *Agrotis trux*, **Shore Wainscot** *Mythimna litoralis*, **Dusky** *Aroga velocella* and **Beautiful Groundling** *Caryocolum marmoreum*, **Hoary** *Gymnancyla canella*, **Sandhill** *Anerastia lotella* and **Gorse Knot-horn** *Pempelia genistella* and **Sea-rush Case-bearer** *Coleophora maritimella*.



Gorse Knot-horn - Paul Bowyer

More familiar species included **Scarlet** *Callimorpha dominula* and **Jersey Tiger** *Euplagia quadripunctaria*, **Blood-vein** *Timandra comae*, **Rosy Footman** *Mitochrista miniata*, **Old Lady** *Mormo maura* and **Pale** *Calliteara pudibunda* and **Nut-tree Tussock** *Colocasia coryli*.



Pale Tussock - Kevin Rylands



The clear pick of the migrants was the first **Clifden Nonpareil** *Catocala fraxini* for the Recording Area in early September, but another first, **Black-tipped Ermine** *Yponomeuta plumbella*, was presumably also a migrant as the foodplant, **Spindle**, does not occur on site.

The first **Diamondback** *Plutella xylostella* was on 1 Apr, with the first **Silver Y** *Autographa gamma* in early June with records through to November with a peak in early September, a **Dark Sword-grass** *Agrotis ipsilon* was trapped in mid-August, single **Gem** *Nyctosea obstipata* and **Scarce Bordered Straw** *Helicoverpa armigera* were with the Clifden with several **Vestal** *Rhodometra sacraria* and a few **Rush Veneer** *Nomophila noctuella*. A **Convolvulus Hawkmoth** *Agrius convolvuli* was found in late September along with the first **Rusty-dot Pearl** *Udea ferrugalis*.



Vestal 10 Sep - Luke Harman

## Bees

It was an excellent year for bees with a total of 44 species recorded, including seven new species.

As is normal nowadays wintering **Buff-tailed Bumblebee** *Bombus terrestris* were the earliest bees, joined by **Honey Bee** *Apis mellifera* from the end of February and the first **Hairy-footed Flower Bee** *Anthophora plumipes* on 31 March.



Hairy-footed Flower Bee - Alan Keatley

Sunny days at the end March and the beginning of April saw the first mining bees with **Buffish** *Andrena nigroaenea*, **Chocolate** *A.scotica*, **Orange-tailed** *A.haemorrhoea* and **Yellow-legged** *A. flavipes* all nectaring on the emerging **Alexanders**. They were joined in mid-April by **Common Mini-miner** *A.minutula*, **Sandpit Mining Bee** *A.barbilabris*, **Grey-patched Mining Bee** *A.nitida* and the spring generation of the nationally scarce **Black Mining Bee** *A.pilipes*. Not surprisingly the cleptoparasite nomad bees (**Fork-jawed** *Nomada ruficornis*, **Marsham's** *N.marshamella* and **Painted** *N.furcata*) were also on the wing at the same time seeking out their hosts nesting aggregations.



Orange-tailed Mining Bee - Alan Keatley

Several bumblebee species were active as the willows began to blossom during April with **Common Carder** *Bombus pascorum*, **Early** *B.pratorum*, **Garden** *B.hortorum* and **Red-tailed Bumblebee** *B.rupestris* together with one of few **Tree Bumblebee** *B.hypnorum* sightings this year.

The first new species of the year was a **Green Furrow Bee** *Lasioglossum morio* on **Alexanders** on 22 April. Not an unexpected newcomer, it seems to prefer the area between the car park and Langstone Rock. Other furrow bees emerged in May with **Furry-claspered Furrow Bee** *L.lativentre* on 15th and **Bronze Furrow Bee** *Halictus tumulorum* on 31st.



The first **Silvery Leafcutter** *Megachile leachella* were seen from 31 May and were very numerous along the Dune Ridge throughout the summer.



Fork-tailed Flower Bee - Alan Keatley

June proved to be a productive month with three new species - **Short-horned Yellow-faced Bee** *Hylaeus brevicornis* on Warren Point on the 12th, **Fork-tailed Flower Bee** *Anthorphora furcata* on 17th and **Blue Mason Bee** *Osmia caerulea* near the Railway station on 23rd. Other bees noted in June included **Ashy Mining Bee** *Andrena cineraria*, **Red Mason Bee** *O. bicornis* (both uncommon on site), **Little Flower Bee** *A. bimaculata*, **Coastal Leafcutter** *M. martina* and the cuckoo bees; **Vestal Bumblebee** *Bombus vestalis*, **Black-thighed Epeolus** *Epeolus variegatus* and **Large Sharp-tailed Bee** *Coelioxys conoidea*.



Short-horned Yellow-faced Bee - Alan Keatley

In July further species were added to the list with a **Large Shaggy Bee** *Panurgus banksianus* on 8 July, **Wool Carder Bee** *Anthidium manicatum* on 17 July (an anticipated new species, inevitably found on the **Lamb's-ear** plants near the Go-cart track) and a **Patchwork Leafcutter** *M.centuncularis* on 31 July. The buttercup loving **Pantaloön Bee** *Dasypoda hirtipes* were busy collecting pollen from 1 July. Reticulate *Sphecodes reticulatus* and/or Sandpit Blood Bee *S. pellucidus*, both cleptoparasites of **Sandpit Mining Bee** were also seen from 1 July and the first **Hairy-saddled Colletes** *Colletes fodiens* on 8 July.



Wool Carder Bee - Alan Keatley

Towards the end of August several bee species found the flowering **Japanese Knotweed** near to the Crazy Golf to their liking with second generation **Black Mining Bee**, **Patchwork Leafcutter**, **Common Yellow-faced Bee** *Hylaeus communis* and **Common Furrow Bee** *Lasioglossum calceatum* nectaring on the flowers. Although the **Bare-saddled Colletes** *Colletes similis* and **White-zoned Furrow Bee** *L.leucozonium* seen at this time preferred **Common Fleabane** in the flower meadows as a nectar and pollen source.



Patchwork Leafcutter - Alan Keatley



**Ivy Bee** *Colletes hederæ* were late emerging this year, with the first on 25 September and the last on 30 October. Mild weather into November enabled some bees to linger including the last **Common Furrow Bee** and **Honey Bee** on 13th and a **Common Carder Bumblebee** on 18th.

Winter active **Buff-tailed Bumblebee** remained on the wing to the end of the year switching to **Gorse** and **Hebe** flowers as a pollen source.



Buff-tailed Bumblebee - Alan Keatley

## Wasps

No less than 51 species across several families were recorded during the year including seven new for the Recording Area. This was a good return for a very large and diverse suborder of insects that often require specimens to enable identification.

Social wasps were the first on the wing with **Common Wasp** *Vespula vulgaris* and **German Wasp** *V. germanica* appearing by early April, several nests of both species were found and the wasps were active well into November. A **Median Wasp** *Dolichovespula media* was found on 28 August. A couple of **Hornet** *V. crabro* were found in September and October, a good return for a species that is less than annual.



Hornet - Alan Keatley

The first new species of the year was a chalcid wasp on 14 May, this rarely observed tiny wasp was identified as ***Encyrtus infidus***, a parasite of scale insects. Coincidentally the last new species of the year on 12 December was also a chalcid parasite of scale insects, ***Microterys seyon***.



*Encyrtus infidus* - Alan Keatley

The main season for solitary wasps starts mid May and goes onto October for some species. The reserve is the home to many mason and digger wasp species. No less than 16 digger wasp and four mason wasp species were recorded. One new digger wasp was found, a **Red-bodied Stem Wasp** *Rhopalum clavipes* on 6 August, with **Minute Black Wasp** *Diodontus minutus* on 9 July having gone unnoticed for many years.





Red-bodied Stem Wasp - Alan Keatley

The four mason wasps recorded were **Early Mason Wasp** *Ancistrocerus nigricornis*, **Little Mason Wasp** *Microdynerus exili*, **Small-notched Mason Wasp** *A.gazella* and **Willow Mason Wasp** *Symmorphus bifasciatus*.

A good place to look for these wasps is on flowering umbellifers from June onwards, with **Beewolf** *Philanthus triangulum*, **Common Ectemnius** *E.continuus*, **Common Spiny Digger Wasp** *Oxybelus uniglumis*, **Field Digger Wasp** *Mellinus arvensis*, **Large Ectemnius** *E.cephalotes*, **Ornate-tailed Digger Wasp** *Cerceris rybyensis* and **Slender-bodied Digger Wasp** *Crabro cribrarius* all nectaring on these as well as other flowers such as Water Mint and Gypsywort.



Beewolf - Kevin Rylands

Others are more readily found on leaves and bare ground and the following species were found; *Crossocerus megacephalus*, *C. quadrimaculatus* & *C. wesmaeli*, *Dryudella pinguis*, **Four-banded Digger Wasp** *Gorytes quadrifasciatus* and **Shieldbug Digger Wasp** *Astata boops*. **Three-spotted Digger Wasp** *Nysson trimaculatus* was seen searching out Four-banded Digger Wasp nests to lay its eggs.



Leaden Spider Wasp (male & female) - Alan Keatley

Spider hunting wasps could be seen from from 31 May with the **Red-legged Spider Wasp** *Episyron rufipes* nectaring on **Hogweed**. Spider wasps spend their time on bare ground seeking out spider prey with **Leaden Spider Wasp** *Pompilus cinereus* the most obvious. A new species for site, **Variable Spider Wasp** *Dipogon variegatus* found on 14 August.

**Red-banded Sand Wasp** *Ammophila sabulosa*, the only invertebrate on the SSSI citation, were looking for caterpillars along the Dune Ridge from 27 May, with **Dull Cuckoo Wasp** *Hedychridium roseum* seeking its host - Shieldbug Digger Wasp from 31 July. The **Javelin Wasp** *Gasteruption jaculator* was also active from the same date. Another new species found was the strange, wingless wasp, *Gelis agilis*.



*Hedychridium roseum* - Alan Keatley



Galls wasps are rarely observed, or at least identified, as adults but the galls they on host plants help indicate their presence. Several galls were found including two new species on Oak, **Smooth Spangled Gall Wasp** *Neuroterus albipes* and **Artichoke Gall Wasp** *Andricus foecundatrix*.

Other species recorded included **Bedeguar Gall Wasp** *Diplolepis rosae* (Robin's Pincushion) on Rose, **Ram's-horn Gall Wasp** *A.aries*, **Silk-Button Spangle Gall Wasp** *N.numismalis*, **Oak Marbled Gall Wasp** *A.kollari*, **Pasty Gall Wasp** *N.saliens*, **Oyster Gall Wasp** *N.anthracinus* and **Knopper Gall Wasp** *A.quercuscalicis*, all on Oak, **Bramble Stem Gall Wasp** *Diastrophus rubi* and **Cat's-ear Stem Gall Wasp** *Phanacis hypochoeridis*.



*Andricus foecundatrix* Artichoke Gall - Kevin Rylands

Ichneumon wasps are frequently found on site, but mainly go unnamed due to the complexity of identification. Several can be identified and the following were seen this year; ***Enicospilus ramidulus*** on 10 June, ***Amblyteles armatorius*** on 12 June, ***Pimpla rufipes*** on 3 September, ***Apechthis compunctor*** on 30 October, ***Stenichneumon culpator*** (a new species) on 4 November and ***Ophion obscuratus*** caught in a light-trap on 9 November.



*Amblyteles armatorius* - Alan Keatley

## Sawflies

Sawflies are in the same order as bees, ants and wasps (Hymenoptera), in many species identification is difficult, however association with a particular foodplant and their larval leaf mines can help.

A total of 20 species were recorded this year including nine new species. The Warren sawfly list now stands at 41.

The first of the year was also a new species; *Monophadnus pallescens*, a black sawfly associated with buttercups, it was recorded on 8 April. Another new species was found on 17 April, was *Euura bergmanni*, a willow sawfly.



*Euura bergmanni* - Alan Keatley



The similar looking *Aglaostigma aucupariae* and *A. fulvipes*, both associated with bedstraws were found on 29 April and 7 May respectively. They are common on site and can be often found together. **Bramble Sawfly** *Arge cyanocrocea* and *Marcophya duodecimpunctata* - a grass and sedge feeding species, were seen on 19 May.



*Aglaostigma fulvipes* - Alan Keatley

Another common species the **Dog Rose Sawfly** *Macrophya annulata*, a black and red sawfly that mimics a spider hunting wasp in appearance and behaviour, was added on 19 June.

The **Rose Leaf-rolling Sawfly** *Blennocampa phyllocolpa* and *Scolioneura viana*, a Birch sawfly were recorded on 20 June, the latter also a new species for the Warren.

In July *Heterarthrus vagans*, an Alder sawfly - on 11th and *H. aceris*, a Sycamore sawfly on 15th were also identified by larval leaf mines, the latter a new species. The **Oak Slug Sawfly** *Caliroa annulipes*, the second new species of the month was added on 18th. The **Turnip Sawfly** *Anthalia rosae* emerged in large numbers from 29th.



*Monophadnus pallescens* - Alan Keatley

Other sawflies identified by leaf mine included; *Scolioneura betuleti* on Birch on 12 August, *Hemichroa australis* on Birch and Alder on 12 September, *Fenusa pumila* on Birch on 26 September, *Fenuelia nana* on Birch on 29 September and two new species in November, *Profenusa pygmaea* on Oak on 3rd and *Heterarthrus ochropoda* on Poplar on 5th.

## Dragonflies & Damselflies

A **Hairy Dragonfly** over the Main Pond on the 29 April, was the first dragonfly to appear in the Spring, as is often the case here. A nationally scarce species it is just about annual on site, albeit normally in very small numbers, after none in 2020, this was the only sighting this year.



Azure Damselfly - Alan Keatley

The first **Blue-tailed** and **Azure Damselfly** also emerge in late Spring, this year they appeared on 14 and 19 May respectively. With an extended emergence period through the summer they usually favour open pond margins and the damp grassland.





Broad-bodied Chaser - Alan Keatley

The first **Broad-bodied Chaser** was hawking around Greenland Lake on 5 June, it has become scarce on site, but numbers have picked up over the last couple of years. The first **Emperor Dragonfly** was seen on 12 June with several defending territories on the ponds and hunting the meadows throughout the Summer. Sightings of **Golden-ringed Dragonfly** were down this year with only two or three individuals; one on 25 June is presumed to have lingered for a few days, with further sightings on 13 & 17 July and 25 August.



Golden-ringed Dragonfly - Alan Keatley

Previously a regular breeder species **Black-tailed Skimmer** is no longer recorded annually so one on Warren Point on 13 July was a good find. The first **Small Red-eyed Damselfly** appeared at the Main Pond the same day, confirming the continued presence of this nationally scarce and localised species.



Small Red-eyed Damselfly - Alan Keatley

**Migrant Hawker** were on the wing from 31 July and is one of the commonest dragonflies on site during late Summer and Autumn. With warm and sunny weather in October there were still more than ten on 18 October with the last sighting on 4 November. **Southern Hawker** appears here later and in smaller numbers with the first confirmed sighting on 7 September with sporadic records up to 21 October.

The first **Common Darter** was on 15 July, but further sightings were generally scarce until the Autumn with double figures only occurring in October and November. with at least 25 on 4 November. As the weather turned colder numbers dropped off rapidly with the final sighting on 18 November.



Common Darter - Kevin Rylands



Scarcities included a male **Beautiful Demoiselle** in Dead Dolphin Wood on 11 September, only the second record since 2010. One of the last, but far from the least sighting of year was a **Vagrant Emperor** on the 3 November. This was the 8th Warren record since the first in 2011 and was exactly two years since the previous sighting.

## Grasshoppers & allies

An excellent year with 19 of 22 species on the Warren list recorded; two to look for in 2022 are Cepero's Groundhopper and Dusky Cockroach; Rufous Grasshopper was however last recorded in the 19th century.

**Common Earwig** was the first species recorded on 21 February followed by **Common Groundhopper** on 17 April. Into May the first **Dark Bush-cricket** nymph of the year was recorded on 7th, a **Slender Groundhopper** on 8th was a good find, this species remains scarce on site. **Field Grasshopper** and **Great Green Bush-cricket** nymphs were active in the meadows from the 28th, with a **Lesser Cockroach** found in the dunes on the same date.



Slender Groundhopper - Alan Keatley

**Speckled Bush-cricket** on 2 June and an **Oak Bush-cricket** on 20 June were new for the year with **Meadow Grasshopper** from 7 July. By 18 July several other species had emerged with numerous **Short-winged Conehead**, **Common Green**, **Mottled** and **Lesser Marsh Grasshopper**, the Warren is one of the few sites for the latter species in Devon.

In August **Grey Bush-cricket** and **Long-winged Conehead** were found on 8th and several **Tawny Cockroach** arrived at light traps on 18th, the latter is another species rarely recorded in Devon.

The second record of **Roesel's Bush-cricket**, another long-winged male, was in Greenland Lake on 5 September. The first record was in July 2018. Hopefully this will become an regular species in the future as it is now established in Exmouth, following its expansion into Devon in recent years. The nationally scarce **Lesne's Earwig** from 12 September concluding the species list for the year.



Grey Bush-cricket - Kevin Rylands

The mild weather in autumn encouraged **Great Green** and **Grey Bush-cricket** to remain active up to 26 October and **Field Grasshopper** to 2 November.



Great Green Bush-cricket - Alan Keatley



## Hoverflies

A total of 61 species were seen this year beating the previous high of 54 in 2019.

Five species were added to the Warren list; **Stackelberg's Ant-hill Hoverfly** *Xanthogramma stackelbergi* found on 6 July and **Yellow-girdled Fleckwing** *Dasysyrphus tricinctus* on 25 August were unexpected additions. The former was added to the British list as recently as 2012 with only a few recorded occurrences so far, whilst the Fleckwing is normally associated with coniferous woodland and heathland.



Yellow-girdled Fleckwing - Alan Keatley

The three other new species were not unusual in their occurrence but did increase the overall Warren hoverfly list to 77 species. On 7 May, **Blotch-winged Hoverfly** *Leucozona lucorum* and **Big-thighed Pipiza** *Pipiza austriaca* and on 30 August **Bronzy Marsh Hoverfly** *Riponnensia splendens*.



Blotch-winged Hoverfly - Kevin Rylands

The first hoverflies to make an appearance were fresh out of hibernation, with **Common Dronefly** *Eristalis tenax* and **Marmalade Hoverfly** *Episyrphus balteatus* on 28 February. Other early spring hoverflies included **Common-spotted Field Syrph** *Eupeodes luniger*, **Dull-bellied Blacklet** *Cheilosia proxima*, **Hairy-eyed Syrphus** *S.torvus*, **Humming Syrphus** *S.ribesii*, **Slender Melanostoma** *M. scalare*, **Spotted Meliscaeva** *M.auricollis*, **Spring Epistrophe** *E.eligans* and **Tapered Dronefly** *Eristalis pertinax*.

There were large increases of both species and numbers as temperature rose and more flowers came into bloom, by the end of May a total of 28 species had been seen. Noteworthy amongst these were **Broad-barred Fleckwing** *Dasysyrphus venustus*, **Buff-tailed Bear Hoverfly** *Croirhina floccosa* and **Smudge-winged Clubtail** *Neoscia podagrica*.



Buff-tailed Bear Hoverfly - Alan Keatley

A hot and sunny spell of weather at the beginning of June saw many migrant species arriving with thousands of **Marmalade Hoverfly**, hundreds of **Common Twist-tail** *Sphaerophoria scripta* and dozens of **White-clubbed Glasswing** *Scaeva pyrastris* and **Common-spotted Field Syrph** across the site.

Flowering umbellifers in June and July attracted **Batman Hoverfly** *Myathropa florea*, **Bolete Blacklet** *Cheilosia scutellata*, **Bumblebee Blacklet** *C.illustrata*, **Common Pipiza** *P.noctiluca*, **Compost Hoverfly** *Syrirta pipiens*, **Dark-winged Chrysogaster** *C.solstitialis* and **Pied Plumehorn** *Volucella pellucens*.





Pied Plumehorn - Alan Keatley

Other hoverflies like **Bumblebee Plumehorn** *Volucella bombylans*, **Common Paragus** *P.haemorrhous*, **Hook-banded Spearhorn** *Chrysotoxum festivum*, **Hornet Plumehorn** *V.zonaria*, **Striped-backed Fleckwing** *Dasysyrphus altostratus*, **Stripe-faced Dronefly** *Eristalis nemorum*, **Stripe-winged Dronefly** *E.horticola* and **Two-banded Spearhorn** *C.bicinctum* preferred to nectar on buttercups, dandelions and bramble. At peak times in summer over 20 species can easily be found on site.



Two-banded Spearhorn - Alan Keatley

August produced further additions to the annual tally with **Broad-banded Epistrophe** *E.grossulariae*, **Furry Dronefly** *Eristalis intricaria*, **Golden-tailed Leafwalker** *Xylota sylvarum*, **Small Spotty-eyed Dronefly** *Eristalinus sepulchralis*, **Large Tiger Hoverfly** *Helophilus trivittatus*, **Matt-backed Melangyna** *M.labiatarum* and **Wasp Plumehorn** *Volucella inanis*.

By early September **Glass-winged Syrphus** *S.vitripennis*, **Parsley Blacklet** *Cheilosia pagana* and **Short Melanostoma** *M.mellinum* were added and migration continued and **Common Dronefly**, **Humming Syrphus** and **Tiger Hoverfly** *Helophilus pendulus* appeared in increasing numbers, nectaring on the plentiful **Water Mint** and **Common Fleabane**. A **Yellow-barred Peat**

**Hoverfly** *Sericomyia silentis* on 24 September continued the recent run of autumn occurrences for this upland and heathland species.



Yellow-barred Peat Hoverfly - Alan Keatley

Above average temperature and sunny weather encouraged a good range of hoverflies to remain active well into October with eight species still on the wing on the 21st. Although numbers were dropping rapidly in November, on sunny days hoverflies could still be found in ones and twos with no less than seven species on 18th including **Hairy-eyed Syrphus**, **Humming Syrphus**, **Marmalade Hoverfly**, **Slender Melanostoma**, **Spotted Meliscaeva** and **Tiger Hoverfly** and an exceptionally late **Gossamer Hoverfly** *Baccha elongata*. Sightings continued into December with **Common Dronefly**, **Common-spotted Field Syrph** and **Marmalade Hoverfly** on flowering **Gorse**.



Bronzy Marsh Hoverfly - Alan Keatley



## Flies

This section covers true flies (Diptera), except for hoverflies which are covered in a separate section. In total there were 140 species identified this year including 23 new species.



Sieve-winged Snail-killer - Alan Keatley

Of the new species, 13 were leaf miners or gall causers. In both cases the species are identified by the affect they have on specific plants. With miners it's the pattern and extent of the leaf mine formed by the fly's larvae inside the leaf; and for gall midges the type of galls formed by larvae on parts of the plant.



*Agromyza filipendulae* - Kevin Rylands

The first new species was a **Birch Catkin Gall Midge** *Semudobia skuhrava* found on 12 February, and as plants came into leaf and bud other new species were discovered including **Bistort Gall**

**Midge** *Wachtliella persicariae*, a **St John's-wort Gall Midge** *Dasineura serotina*, **Lighthouse Gall Midge** *Rondaniola bursaria*, an **Angelica Leaf Miner** *Phytomyza angelicastris*, a **Poplar Blotch Miner** *Aulagromyza populicola*, a **Poplar Leaf Miner** *Aulagromyza populi* and a **Meadowsweet Miner** *Agromyza filipendulae*.

Other new species covered a wide range of fly families; **Small Bee-grabber** *Thecophora atra*, **Common Awl Robberfly** *Neoitamus cyanurus*, **Twin-spot Centurion** *Sargus bipunctatus*, a greenbottle *Eudasyphora cynaella*, a daggerfly *Empis livida*, a satellite fly *Macronychia polyodon*, a fleshfly *Sarcophaga haemorrhoides*, a rust fly *Loxocera albiseta* and a tachinid *Gastrolepta anthacina*.



Small Bee-grabber - Alan Keatley

The most notable and least expected discovery was **Broad-winged Tachinid** *Ectophasia crassipennis* found on 3 September; a parasitoid of shieldbugs, it was first recorded in the UK in 2019.



Broad-winged Tachinid - Alan Keatley



Other notable records included the nationally scarce soldier fly **Ornate Brigadier** *Odontomyia ornata* from 9 June, a species often found on water-dropwort, in Devon it only occurs around the Exe. **Sieve-winged Snail-killer** *Coremacera marginata* was another good find on 26 June.



Ornate Brigadier - Steve Fuller

At least 30 different fly families were recorded include species such as **Dark-edged Beefly** *Bombylus major*, **Dune Robberfly** *Philonicus albiceps*, **Coastal Silver Stiletto** *Acrosathe annulata*, **Hawthorn Fruit Fly** *Anomoia purmunda*, **Waisted Bee-grabber** *Physocephala rufipes* and **Pouting Woodlouse-fly** *Rhinophora lepida*.



Small Fleck-winged Snipe Fly *Rhagio lineola* - Alan Keatley

## Beetles

There were 37 new additions amongst the 109 species recorded, increasing the beetle list to 313, a very under-represented group on the Warren.



Fairy-ring Longhorn *Pseudovadonia livida* - Alan Keatley

The majority of additions were weevils with 15 new species, *Perapion violaceum*, a dock weevil, found on 11 May was the first of the year. Other new weevils included *Sitona sulcifons* & *S. humeralis* on trefoils, *Mononychus punctumalbum* on Yellow Iris, *Trichosiralus thalhammeri* on Sea Plantain, *Aspidapion aeneum* & *A. radiolus* on mallows, *Datonychus melanosictus* on Gypsywort and *Holotrichapion ononis* on Restharrow.



Scarlet Lily Beetle - Alan Keatley



Other new species included, in May, **Scarlet Lily Beetle** *Lilioceris lili* and **Grammoptera ruficornis**, a longhorn beetle and in June, **Malthinus flavelus**, a soldier beetle, **Elaphrus cupreus**, a ground beetle, **Dasytes plumbeus**, a soft-winged flower beetle and the nationally scarce **Bruchis atomarius**, a seed beetle.



*Agrypnus murinus*, a click beetle - Alan Keatley

Later in the year **Shore Sexton Beetle** *Necrodes littoralis* and **Aphodius rufipes**, a dung beetle were attracted to a light trap on 9 September, **24-spot Ladybird** *Subcoccinella 24-punctata* found in November and the rove beetles **Stenus aceris** and **Tachyporus dispar** in December.



Dune Chafer - Alan Keatley

Other scarcities included the second records of **Adonis Ladybird** *Hippodamia variegata*, **Lesser Stag Beetle** *Dorcus parallelipedus* and **Rosemary Beetle** *Chrysolina americana*, and the third record of **Pine Ladybird** *Exochumus 4-pustulatus*. Familiar species encountered during the year included eight other species of ladybird, **Purple Loosestrife Weevil** *Nanophyes marmoratus*, **Thick-thighed Pollen Beetle** *Odemera nobilis*, **Dune Chafer** *Anomala dubia*, **Bronze Leaf Beetle** *Chrysolina banksii*, **Asparagus Beetle** *Crioceris asparagi* and **Common Malachite Beetle** *Malachius bipustulatus*.

## Bugs

An excellent year for this diverse group, with a total of 114 species of various families recorded including an impressive 35 new species, meaning just over 200 species have been found on the Warren.



*Notostira elongata* - Alan Keatley

The first new species of the year was a **Water Measurer** *Hydrometa stagnorum* in a drinking trough on 29 March, presumably seen by countless pond-dipping school groups before but never formally recorded.

Ten new aphids, many host specific, were discovered including **Dysaphis maritima** on Sea-plantain, **Hayhurstia atriplicis** on goosefoots, **Laingia psammae** in marram flowerheads, **Thecabius affinis** on Poplar, **Marcosiphoniella artemisia** on Mugwort and **Macrosiphoniella asteris** on Sea-aster.





*Thecabius affinis* gall - Kevin Rylands

A good number of Mirids (plant bugs) were found with 12 new species including: ***Atractotomus mali*** on Apple, ***Macrotylus horvathi*** on Black Horehound, ***Dicyphus epilobii*** on willowherbs, ***Orthotylus flavosparus*** on oraches, ***Phytocoris tiliae*** attracted to light trap and ***Pinalitus cervinus*** on Ivy, the 5000th species for the Warren.



*Liocoris tripustulatus* - Alan Keatley

Other new species included the ground bugs ***Scolopostethus decoratus*** and ***Stygnocoris sabulosus***; the leafhoppers ***Iassus lanio*** and ***Ribautiana ulmi*** on oak and ***Eupterycyba jucunda*** on Alder; a beet bug ***Piesma maculatum*** and the lacebug ***Agramma laeta***.

Other species recorded during the year included **Denticulate** *Coriomeris denticulatus* and **Rhombic Leatherbug** *Syromastus rhombeus*, ***Beosus maritimus*** a shore bug, ***Tuponia mixticolor*** a mirid on Tamarisk, ***Gampsocoris punctipes*** a stiltbug on Restharrow, ***Eupteryx thoulessi*** a leafhopper on Water Mint and **Ant Damselbug** *Himacerus mirmicoides*.



*Phytocoris varipes* - Alan Keatley

## Spiders

A total of 99 spiders, eight harvestmen and a pseudoscorpion were recorded during the year including 24 new species; the majority found on two targeted surveys, although sadly the target species were not rediscovered.

Two nationally scarce species were recorded, both small money spiders, *Hybocoptus corrugis* and *Mermessus trilobatus*, although the latter is an introduction from North America. Other finds included the 1st *Tapinocyba praecox* and 4th *Centromerus sylvaticus* for south Devon, in addition to five species not recorded on site for over 30 years. The two new harvestmen were *Leiobunum blackwalli* and *Oligolophus hanseni*, the latter only the 5th for Devon.



*Leiobunum blackwalli* – Alan Keatley



After last year's absence two **Wasp Spider** *Argiope bruennichi* were found, the most since 2018, one on the Golf Course and the other in the Back Meadow, but the nationally scarce Dune Jumper *Marpissa nivoyi* remained unrecorded. Other more visible species included the first records of **Fleecy Jumper** *Pseudeuophrys lanigera* with **Green-fanged Tube Spider** *Segestria florentina* around the buildings and **Pretty Perita** *Arctosa perita* in the dunes, with **Flower Crab Spider** *Misumena vatia* **Garden Orb Weaver** *Araneus diadematus*, **Labyrinth** *Agelena labyrinthica* and **Nursery Web** *Pisaura mirabilis* Spiders all widespread



Flower Crab Spider – Alan Keatley

Other arachnids included nine gall mites, including two new for the Recording Area; ***Aceria obiones*** on Sea-purslane and ***Eriophyes leionotus*** on Birch.

Other assorted small invertebrates included three new caddisfly, ***Glyphotaelius pellucidus***, ***Limnephilus flaviconus*** and ***Mystacides longicornis***, 20, seven new, terrestrial molluscs, 15 Springtails and 10 species of barkfly.



Wrinkled Dune Snail *Candidula intersecta* – Alan Keatley

## Marine

Although many marine species were recorded in the past, what currently happens below the waves is largely a mystery, but checks on rock pools and especially the tideline, turn up indications of the wealth of life offshore. New finds included **Parasitic Anemone** *Calliactis parasitica*, **Sand Star** *Astropecten irregularis* and **Black-footed Limpet** *Patella depressa*. Surprisingly, considering numbers in recent summers, no Barrel Jellyfish were recorded but both **Moon** *Aurelia aurita* and **Blue Jellyfish** *Cyanea lamarckii* were found on the strandline.

## Plants

The traditional BSBI New Year Plant hunt saw a total of 34 (10 non-native) species in flower, a couple more than 2020 but still lower than previous years. **Dog-rose** *Rosa canina* and **Sweet Alison** *Lobularia maritima* were recorded for the first time, with **Sweet Violet** *Viola odorata* and **Summer Snowflake** *Leucojum aestivum* also noted. **Alexanders** *Smyrniolum olusatrum* was previously a regular find but has not flowered for three hunts in a row.

A total of 438 species were recorded during the year including seven species new to the Recording Area flora, five of these were non-natives including **Spring Starflower** *Ipheion uniflorum* and **Water Bent** *Polypogon viridis* as well as two species planted on site which have spread to new areas; **Russian Vine** *Fallopia baldschuanica* and **Mediterranean Spurge** *Euphorbia characias*.



Spring Starflower - Kevin Rylands



The two new native species were **Giant Horsetail** *Equisetum telmateia* and the dandelion ***Taraxacum degelii***, the first south Devon record for this rare coastal endemic.



Giant Horsetail - Phil Pullen

Four species were rediscovered for the first time in over 30 years; **Lesser Stitchwort** *Stellaria graminea*, **Smooth Tare** *Vicia tetrasperma*, **Meadow Vetchling** *Lathyrus pratensis* and **Plum** *Prunus domestica*. Another four appeared for the first time in over 20 years; **Dodder** *Cuscuta epithymum*, **Grass Vetchling** *Lathyrus nissolia*, **Long-headed Poppy** *Papaver dubium* and **Spear Mint** *Mentha spicata*. Five of these species appeared after mowing changes following Recording Group advice to the Warren Golf Club.



Dodder - Kevin Rylands



Other notable records included an extensive new population of **Mossy Stonecrop** *Crassula tillea* on the Golf Course, another good year for **Sand Crocus** *Romulea columnae*, with the 2022 plants in leaf in November, their earliest ever emergence, **Small Pondweed** *Potamogeton berchtoldii* in several Golf Course ponds, a good show of **Small Adder's-tongue** *Ophioglossum azoricum* in Greenland Lake and three tideline **Sunflower** *Helianthus annuus*.



Small Adder's-tongue - Matthew Knott

The dry conditions during spring saw many of the clovers struggle to flower, but a spell of wet weather in late April led to a second flush of growth for some species such as **Bird's-foot** *Ornithopus perpusillus*, **Subterranean** *Trifolium subterraneum* and **Bird's-foot Clover** *T. ornithopodioides*.



Bird's-foot - Matt Knott



The spring weather also meant **Sea Daffodil** *Pancratium maritimum* and the regular **Green-winged Orchid** *Orchis morio* did not flower and only a single **Pyramidal Orchid** *Anacamptis pyramidalis* emerged on Warren Point.



Pyramidal Orchid - Alan Keatley

In wetter areas, **Purple Loosestrife** *Lythrum salicaria*, **Southern Marsh Orchid** *Dactylorhiza praetermissa* and **Marsh Helleborine** *Epipactis palustris* did well, with the latter still flowering in November, outlasting the **Autumn Ladies-tresses** *Spiranthes spiralis*. At the eastern end of Greenland Lake, the **Bee Orchid** *Ophrys apifera* colony increased.

## Mosses & Liverworts

Both **Micheli's Balloonwort** *Sphaerocarpos michelii* and **Blue Crystalwort** *Riccia crystallina* were found in new locations around the car park and Go-karts. The Recording Area is one of two Devon locations for these nationally rare liverworts, with the other just the mainland side of the Railway Tunnel, there the populations remain in decline.

**Fairy Beads** *Microlejeunea ulicina* was discovered on willows in the Entrance Bushes, the only new species of the year.

## Lichens

A total of 71 species were noted, with 15 new to the Recording Area. These included the nationally scarce *Catillaria nigroclavata*, *Diploschistes caesioplumbeus* and *Moelleropsis nebulosi*, along with *Normandina pulchella* (Elf's Ears), *Peltigera rufescens* and *Stenocybe pullulata* (Alder Pin).

Increased erosion of the fixed dunes on Warren Point led to further losses of the nationally scarce *Peltigera neckeri* however a new population was found on the Dune Ridge near the Main Pond.

## Fungi

Of the 200 species recorded, 48 were new for the Recording Area taking the site total to over 700 species, but with 20,000 in the UK there are many more to be found.



Collared Earthstar - Kevin Rylands

New fungi recorded during the year included only the fourth English record of *Nectriopsis lecanodes* on *Peltigera* lichen and the first Devon records of *Grape Hyacinth Anther Smut* *Antherospora hortensis* and *Tuberculina sbrozii* on *Periwinkle Rust* *Puccinia vincae*. Other new Warren species included *Alder Tongue* *Taphrina alni*, a gall on Alder catkins; *Blushing Milkcap* *Lactarius controversus*, *Redleg Club* *Typhula erythropus*, *Rush Disco* *Dasyscyphus apalus* and *Yellow Stainer* *Agaricus xanthodermus*.

Other records included *Birch Knight* *Tricholoma fulvum*, *Cloudy Agaric* *Clitocybe nebularis*, *Creamy Pinkgill* *Entoloma sericellum* and *Drab Bonnet* *Mycena aetites*, with showier species such as *Collared Earthstar* *Geastrum triplex*, *Eyelash Cup* *Scutellinia scutellata* and *Scarlet Elfcup* *Sarcoscypha coccinea*.





Eyelash Cup - Kevin Rylands

A much improved showing of **Blackening Waxcap** *Hygrocybe conica* in Greenland Lake but again no Winter Stalk Puffball *Tulostoma brumale*. On a positive note the first **Dune Stinkhorn** *Phallus hadriani* for several years was along the Dune Ridge, with **Dune Brittlestem** *Psathyrella ammophila* and **Dune Conecap** *Conocybe dunensis*.



Dune Brittlestem - Kevin Rylands