



Dragonfly Survey 2020
BDS Vice County 66
Durham Wildlife Trust Region
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Summary

The British Dragonfly Society (BDS) works in conjunction with the Durham Wildlife Trust (DWT) to actively survey the Vice County 66 region between the River Tees and the Tyne. 80% of the recorded sightings came from this organised approach to surveying, and as a result over 1100 records were submitted. This was only 300 down on 2019, despite the pandemic restricting the movement of observers. Over the years, 24 species have been spotted, but of those, 21 appear to be established. In 2020, despite the lockdown, 20 species were spotted, which is a great achievement. NB: the BTO Garden Birdwatch data was uploaded for the whole of the UK to iRecord midway through writing this report, skewing some of the pre agreed figures and charts.

The season started earlier than in 2019, with the first Large Red Damselfly being seen at Cowpen Bewley Nature Reserve in the south of the region on 17th April, followed a week later at a variety of other sites, including Malton Ponds, a DWT reserve that has traditionally been the place to go for the earliest sightings in the north east. The first Dragonfly, a Broad Bodied Chaser, was recorded on 5th May, again, earlier than normal.

With the temporary access restrictions at National Trust Gibside, observers took their daily exercise on the adjacent Derwent Trail and banks of the River Derwent that runs through the NT grounds. As a result, a wide variety of species, including plenty of Banded Demoiselle, were spotted. Once Gibside opened up again, nine species were seen, however, the early species would probably have been missed.

The DWT headquarters are at Rainton Meadows, between Sunderland and Durham, and once again it proved to be a dragonfly hotspot, with 16 of the 20 species seen there, often in very large quantities. The only Small Red Eyed Damselfly sighting was at Rainton, and we hope that this will be the first of many, as they are rarely seen in VC66. Rainton, with its newt scrapes, ponds, wetland and lakes, all alongside rich nectar bearing flowers, is also home to Black Tailed Skimmers, Broad Bodied Chasers, Ruddy Darter, and as the season progresses the paths are covered in Common Darters.

Making a welcome return, two Lesser Emperor sightings occurred in the south of the region, and the Golden Ringed Dragonfly, was spotted in June up on the moors near Waskerley Reservoir. The pond and boggy ground at the rather poorly maintained Greencroft NR (please take a litter bag if you go) once again proved ideal for Black Darters, an otherwise uncommon species in this region.

Uncharacteristically for the north east, the year was dry, with about 75-85% of national average rainfall. This impacted the many volunteer dug ponds and scrapes that are the breeding ground of a wide range of species. Luckily, late autumn rains refilled most of these ponds and sightings continued until 13th November, with a newly emerged Common Darter seen on November 12th.

The largest number of species were spotted at Rainton Meadows, Coathham Woods, Greencroft NR, Malton Ponds, Twizell Woods, and Bowes Valley NR. If you visit VC66, you can see a full list of 58 great dragonfly sites here <https://tinyurl.com/rdr75zd>

Background

The Durham Wildlife Trust owns and manages nature reserves throughout the former County Durham region (VC66), covering an area of almost 800 hectares situated between the River Tyne and the River Tees. (<https://durhamwt.com/reserves/>) The aim is to reach 50 reserves by the end of 2021.

The North East of England generally has a cooler climate than the rest of England as the weather is impacted by air masses that in turn are influenced by very cold winds from the Arctic. The DWT region is also very close to the coast, and sea surface temperatures vary from about 5°C in winter to 13°C in summer (compared to a range of 8 °C to 18 °C off SW England).

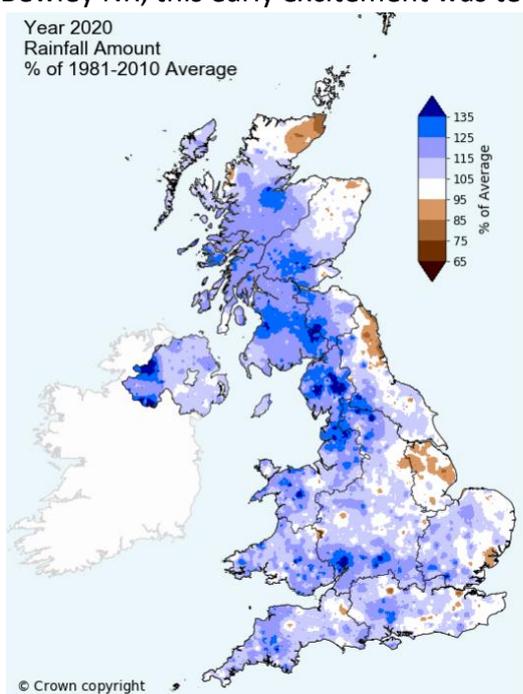
“This, coupled with extensive areas of upland, means that temperatures, relative to elsewhere in England, are generally cool throughout the year. In the low-lying areas, mean annual temperatures over the region range from around 8.5°C to around 10°C.”¹

Globally, dragonflies are more common and varied in warmer climates, whereas in temperate climates, adults require moderately warm conditions to enable flight and the rate of development of larvae under water is also affected by temperature. Frosts affect the larvae of some species, a factor limiting their northern distribution.² However, possibly due to global warming, since 2001, five species, Migrant Hawker (*Aeshna mixta*), Emperor Dragonfly (*Anax imperator*), Ruddy Darter (*Sympetrum sanguineum*), Willow Emerald Damselfly (*Chalcolestes viridis*) and Hairy Dragonfly (*Brachytron pratense*), have moved progressively north, and three of those species were observed as part of this survey.

After a great year for dragonfly spotting in 2019, the north east had a very wet winter, meaning that many of the smaller ponds retained water and their resident life, well into spring 2020. While the first sighting of a Large Red was earlier in 2020 (April 17th) at Cowpen Bewley NR, this early excitement was tempered by the UK COVID 19 lockdown, which

severely limited opportunities to observe the early species.

Uncharacteristically for the north east, it then turned out to have a far drier summer than most of the UK, which meant that a number of the volunteer dug ponds and scrapes either dried out or became little more than a puddle. Light rain in August helped to make them viable for egg laying.



Method

Three online identification training sessions were run, and in total about 50 individuals attended. Of those, 19 contributed to the DWT survey, in addition to others who submitted records via iRecord.

As a number of the observers were new to dragonfly identification, a request was made that where possible photographic evidence should back up any sightings. A detailed recording form was issued via an online application to each surveyor. This same application allowed the easy upload of photos to support each observation. Initially this was for a set list of 54 sites, but with many people restricted either to their garden pond or nearby wet areas, the form later allowed any location (in addition to iRecord that allows sightings from all locations).

In the event of a record being submitted by a new observer for a “scarcer” species, such as Bed Veined Darter, if no photographic evidence was provided, then normally the author would visit the same location to confirm. In 2020, this was not always possible, so greater emphasis was placed on photographic evidence.

Some exuvia were collected, however, due to COVID restrictions, most were photographed rather than handed in.

All confirmed sightings were submitted to the BDS iRecord online in January 2021, by which time the author was also the County Recorder, so had to combine all the DWT records with every iRecord from the region and verify over a thousand records from 2019. As 80% of the records from VC66 came via the DWT survey, the intention is to still promote this method of recording but also increase awareness of iRecord for sightings outside of the sites we are focussing on.

Note: in March 2021 as the report was being written, a large amount of national data from the 2020 BTO Garden Birdwatch survey was uploaded to iRecord by the BDS, and that included a number of garden sightings for our region. While this did not add any new species, it did mean that the distribution maps on iRecord (used throughout this report) occasionally showed more locations than the report was to suggest. They were typically single Odonata on a garden pond and without photo evidence. Therefore, in this report, we will be concentrating on the agreed sightings that were available at the time the report started to be written.

Location

Fourteen DWT reserves were surveyed, and they remain the priority for survey work as we have direct control over any environmental improvements. In addition, thirty-six other locations were surveyed using the DWT app, plus a wide range of others through iRecord. The reason for the wider spread this year was partly because we actively encouraged searching the living landscapes around DWT reserves and the corridors that connect them, but also most people were restricted to walking locally. These restrictions meant that some

sites had many observers submitting records, while other excellent sites had very few visitors, and so sightings were lower than normal.

For instance, Barlow Burn was surveyed on fourteen occasions in 2019, but only twice in 2020. Low Barns, a fantastic site for dragons, was only surveyed on six occasions compared to forty-eight in 2019. Luckily, eight species were spotted there, however, we would have expected twelve.

The sites that did get surveyed regularly are shown below. All other locations had six or less records submitted, mainly after lockdown.

Location	Number of Records Submitted
Rainton Meadows	56
Twizell Woods	33
Rainton Meadows Joes Pond	29
Malton Pond	22
Greencroft NR (Anfield Plain)	19
Coatham Woods	17
Burnhope Ponds	15
Gibside NT	15
Thornley Woods	7

As many sites were rarely visited, if at all, it is difficult to be sure if those with the most species were better breeding grounds or were simply observed in more detail.

Location	Number of Species Spotted
Rainton Meadows	16
Coatham Woods	11
Greencroft NR (Anfield Plain)	11
Rainton Meadows Joes Pond	10
Malton Pond	10
Bowes Valley NR	10
Twizell Woods	10
Burnhope Ponds	9
Gibside NT	9
Low Barns (only 6 records)	8

In 2019, it became apparent that not all observers were familiar with each site and therefore did not know how to visit or what they might see. In 2020, a Google map was made available online <https://tinyurl.com/wmpybjw> (see image) highlighting each location, with directions and the latest information on what has been seen. This has been updated for 2021, with extra sites and more details of what species to expect. It is hoped that this will encourage observers to venture to unfamiliar sites.



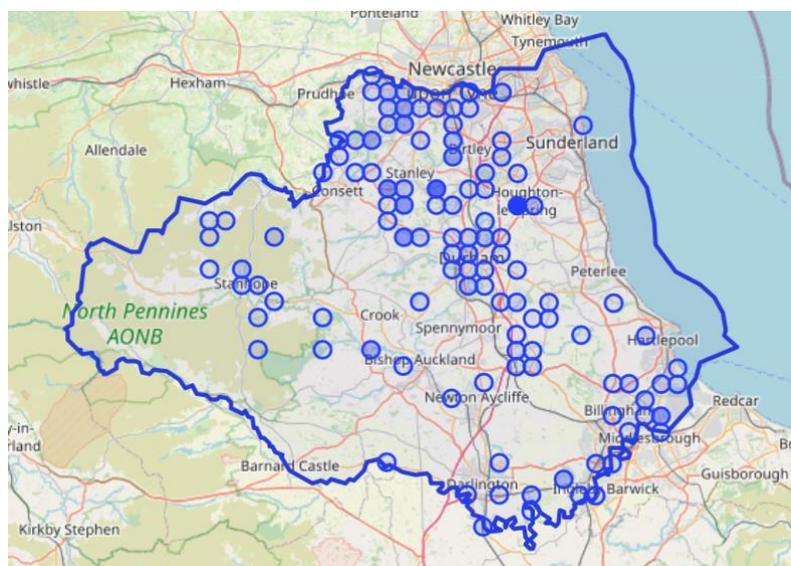
Fig 1: Sites Surveyed in 2020 available at <https://tinyurl.com/wmpybjw>

2020 Compared to 2019

2019 VC66	2020 VC66
21 DWT observers	19 DWT observers
46 locations had sightings (DWT survey)	38 requested locations + 12 “local” sites + iRecord sites
387 DWT records submitted	327 DWT records submitted
1426 Sightings (species) recorded (iRecord and DWT)	1092 sightings recorded 876 DWT sightings (80%) 216 additional iRecord sightings
DWT Survey 17 species 22 species in total	DWT survey 19 species (just) 20 Species in total
50 DWT records of exuvia	71 DWT records of exuvia

Overview of 2020 in VC 66

In 2020, Odonata were recorded in a number of areas of the region (see below), however, it is apparent that partly due to the DWT survey promoting set locations, and where the nineteen observers live, there are significant areas of VC 66 that are not being checked.



2020 Odonata Sightings in VC66

In particular, the coastal region was hardly surveyed, which apart from missing RSPB Salthome, meant that migrants, often only seen by the coast, were unlikely to be picked up. The upland areas to the west also require more observers, however, it is acknowledged that some of this area will be tricky terrain, grouse moors, or well away from roads.

The survey did however cover the living landscapes and corridors near DWT reserves.

In 2019, we were delighted to get a few sightings of Black Tailed Skimmers at Rainton Meadows and a number of Black Darters at Greencroft NR. Both species now seem to be



established and were observed again in both teneral and adult form.

One Black Darter on a windy day at Greencroft took refuge on the observer. Despite photos in 2019 of Black Darter coupling with Common Darters, their population seemed strong in 2020.

Conspicuous by its absence in 2019 was the Golden Ringed Dragonfly, and due to its highly distinctive look, this was unlikely to be due to misidentification. In 2020, six were seen, however, they were individuals and there was no evidence of large groups. Lesser Emperors were also spotted (one dead) on two occasions in the south of the region and again, while this was wonderful, there is no evidence that they are established.

One species, that while not common in 2019, proved far more difficult to spot in 2020, was the Brown Hawker. On a guided tour of Rainton Meadows in 2019, the group were dive

bombed by Brown Hawkers, and yet despite fifty-six separate surveys of Rainton in 2020, none were seen. They were also recorded in smaller numbers at other sites such as Coatham Woods.

What did appear at Rainton for the first time in many years (or at least observed) was the Small Red Eyed Damselfly. Luckily, a fantastic photo was taken (Joe Finlay), so the ID was easy to confirm, however, no others were seen throughout the year. There are large areas of Rainton Meadows that are off limits to the public and the intention is to check those meadows around Pond One, to see if the Small Red Eyes are in there. In 2019, they were seen Ovipositing at Cowpen Bewley NR, but they were not spotted in 2020, possibly due to so few records being submitted from that location.

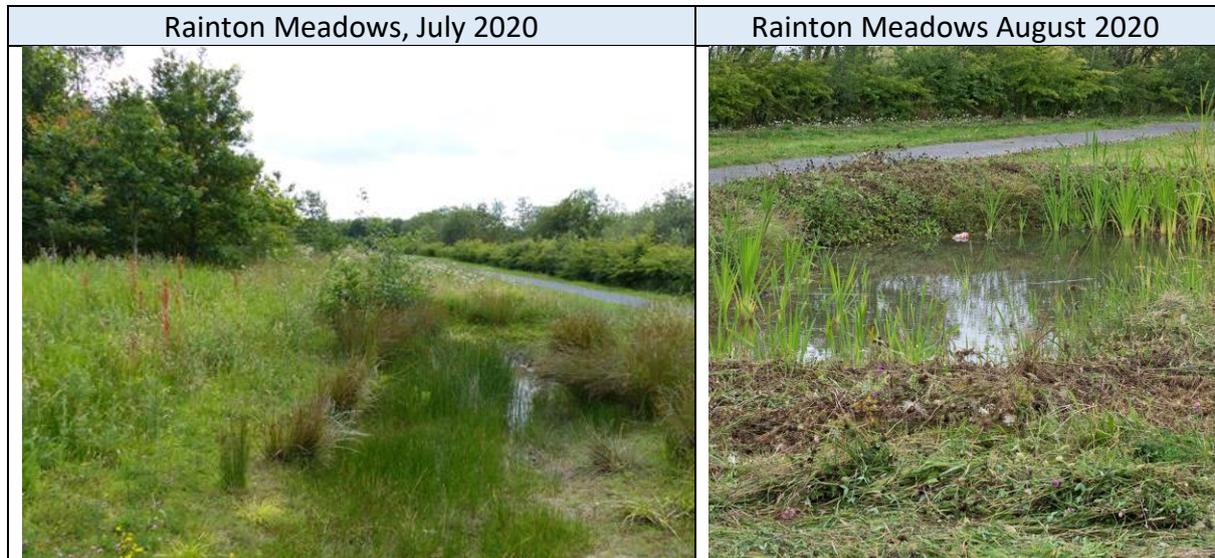


The North East is typically regarded as being the furthest north you might see a Banded Demoiselle and the BDS require photographic evidence when records are submitted. However, in both 2019 and 2020, the frequency of observations would seem to indicate that this species is far more common than the field guides tend to suggest. The slow-moving Derwent in particular,

seems to be an ideal habitat. While a Beautiful Demoiselle was spotted on the north bank of the Tyne, none were seen in our region, however, we are hopeful for 2021.

The season started one week earlier in 2020. With the winter having been one of the wettest on record the ponds were full, and a mild April seemed to trigger emergence at a number of sites. The first Large Red Damselfly (always the first seen in the north east) was at Cowpen Bewley NR on April 14th by Daphne Alpin, followed by the usual front runner site, Malton Ponds. The first Dragonfly, a Broad Bodied Chaser was also a number of weeks early in 2020.

Then, throughout the summer, the north east was uncharacteristically dry, resulting in a number of smaller ponds and boggy areas drying out. Luckily, by August light rains had helped to at least provide some opportunity for those areas to be used for Ovipositing, even if larvae might not have made it through the Summer.



The weather remained mild, and the autumn stretched out, meaning that the last sighting on November 13th was two weeks later than in previous years. This was a Southern Hawker at Milkwellburn Woods, which is a very sheltered pond, so it is possible that the Hawkers continued beyond that date.



On November 12th a teneral Common Darter was photographed at Rainton Meadows, (see left) indicating that it had emerged very recently.

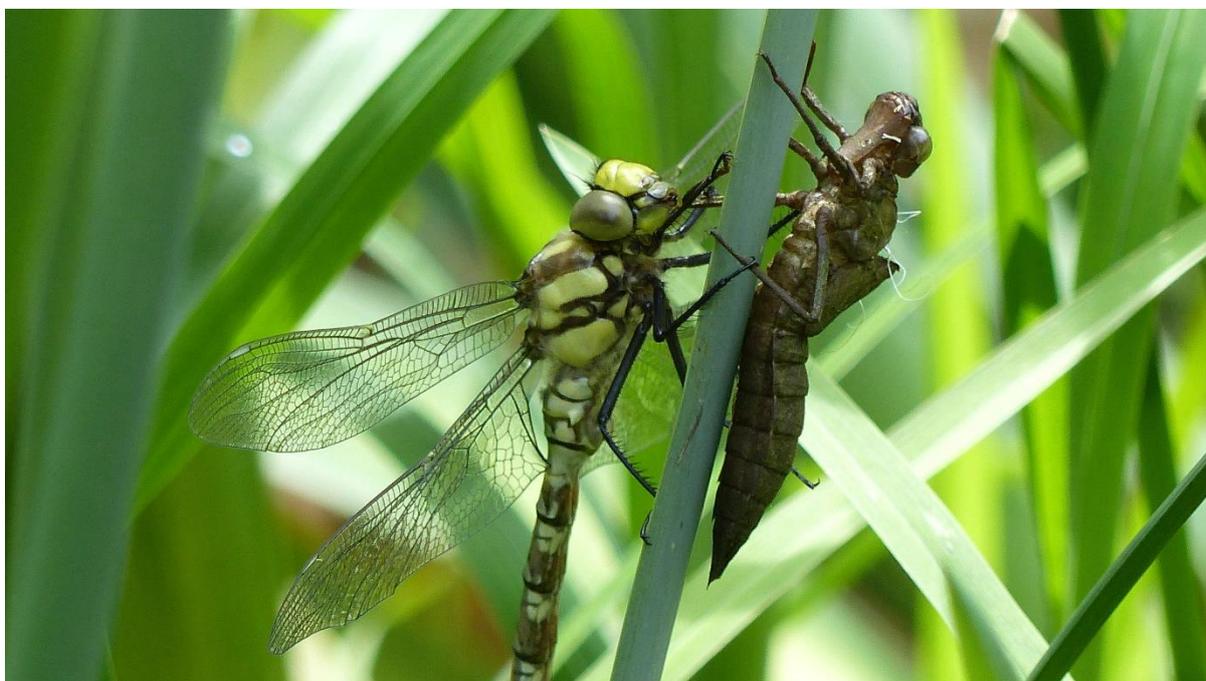
Normally at that time of year only over mature Darters are seen at Rainton.



Considerably more exuvia were recorded in 2020, and there were also far more observations of egg laying and coupling than in 2019, which appears to be due to observers being more observant rather than any increase in behaviour.

Many observers were also lucky enough to see species emerging and that helped to identify exuvia, something we have struggled with in previous years.

The intention for 2021 is to run larvae and exuvia ID training or at least to promote the use of Steve Cham's excellent ["Field Guide to the Larvae and Exuvia of British Dragonflies"](#).



Account of Species (In order of first sighting)

Accepted name	Common name	No. of records	First record	Last record
<i>Pyrrhosoma nymphula</i>	Large Red Damselfly	129	17/04/2020	11/08/2020
<i>Libellula depressa</i>	Broad-bodied Chaser	51	05/05/2020	31/08/2020
<i>Enallagma cyathigerum</i>	Common Blue Damselfly	135	06/05/2020	08/09/2020
<i>Coenagrion puella</i>	Azure Damselfly	106	09/05/2020	01/09/2020
<i>Ischnura elegans</i>	Blue-tailed Damselfly	141	09/05/2020	19/09/2020
<i>Calopteryx splendens</i>	Banded Demoiselle	48	11/05/2020	30/08/2020
<i>Libellula quadrimaculata</i>	Four-spotted Chaser	36	16/05/2020	27/07/2020
<i>Orthetrum cancellatum</i>	Black-tailed Skimmer	15	27/05/2020	09/08/2020
<i>Cordulegaster boltonii</i>	Golden-ringed Dragonfly	6	09/06/2020	13/07/2020
<i>Lestes sponsa</i>	Emerald Damselfly	85	19/06/2020	18/09/2020
<i>Aeshna cyanea</i>	Southern Hawker	88	20/06/2020	13/11/2020
<i>Anax imperator</i>	Emperor Dragonfly	23	20/06/2020	17/08/2020
<i>Sympetrum striolatum</i>	Common Darter	137	22/06/2020	12/11/2020
<i>Sympetrum sanguineum</i>	Ruddy Darter	21	26/06/2020	13/09/2020
<i>Anax parthenope</i>	Lesser Emperor	2	11/07/2020	11/07/2020
<i>Aeshna juncea</i>	Common Hawker	17	19/07/2020	06/10/2020
<i>Aeshna grandis</i>	Brown Hawker	5	19/07/2020	31/08/2020
<i>Sympetrum danae</i>	Black Darter	6	31/07/2020	09/10/2020
<i>Erythromma viridulum</i>	Small Red-eyed Damselfly	1	31/07/2020	31/07/2020
<i>Aeshna mixta</i>	Migrant Hawker	33	11/08/2020	04/11/2020

Note: These figures were extracted in February 2021, before a large number of records from the BTO Garden Watch survey were uploaded to iRecord. No new species were identified as a result of this new data; however, it did add a few new locations that are not referred to in this report.

Azure Damselfly (*Coenagrion Puella*)

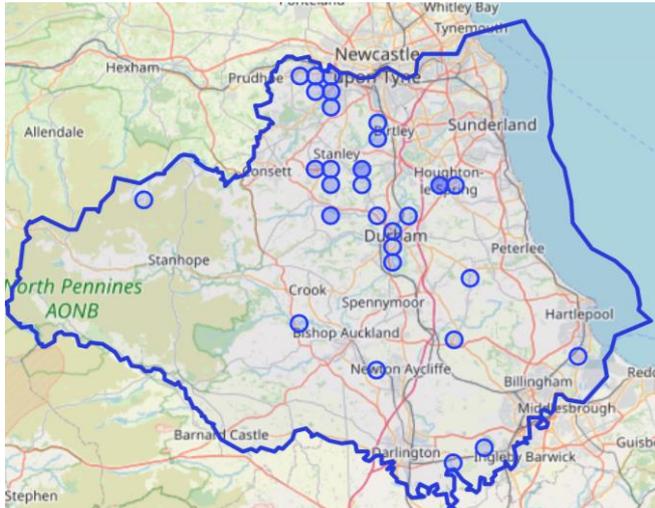


Azures were spotted on 106 occasions at 22 separate locations, an increase on 2019.

That is partly due to specific training being given in 2019 on how to differentiate the Azure from the Common Blue and encouragement to look out for them.

They were seen in large numbers at Bowes Valley NR, Twizell Woods, Cockburn Lake and Middleton St George Water Park. In fact, the numbers were so large the recording app had to have its maximum number feature taken off, therefore, it was apparent that 2020 had far greater numbers than in previous years.

BDS³ suggested distribution - widespread from mid-May to mid-August. Our sightings started on 9th May (23rd May in 2019) and ended three weeks later than in 2019, on 1st



September. They were seen coupling at 15 sites and laying eggs also at 15 sites.

As can be seen from the distribution map, they were predominantly observed in the centre of our region, however, this is more likely to be due to observer visits rather than species distribution.

2020 Azure Damselfly Sightings VC66

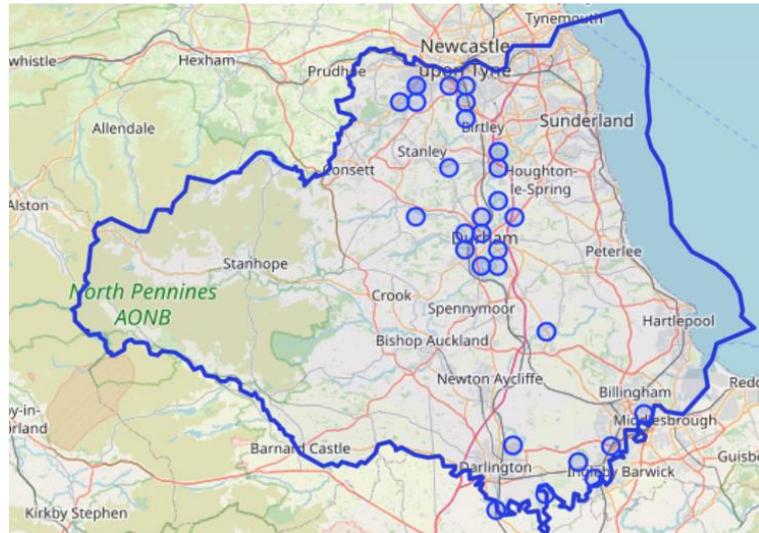
Banded Demoiselle (*Calopteryx splendens*)



While VC66 and 67 are at the northern most boundary for this species, (according to most field guides), they were spotted at eighteen locations, including the A1 roundabout near Chester Le Street. The River Derwent (and nearby Clockburn lake) recorded sightings of thirty or more, plus the River Wear near Moor House continued to be a great spot to see them.

They were also recorded for the first time at Malton Ponds DWT reserve, which is 400m away from the River Browney. As over twenty were seen on 16th June, it is likely they were feeding there rather than breeding. The river is not easily accessible from the reserve but is a short walk from the Malton picnic area, so it is suggested that the river side path from there be checked in 2021. The later input of the BTO Garden Birdwatch data added a further three people who were lucky enough to have them on their ponds.

BDS suggested distribution – widespread from the north east of England and further south, during May - end of August. Our sightings were from 11th May 6th to 30th August which is three weeks earlier to arrive than 2019 and three weeks later to depart.



2020 Banded Demoiselle Sightings VC66

While a beautiful Demoiselle was seen on the north bank of the Tyne, none were seen in VC66.

Black Darter (*Sympetrum danae*)



The Black Darter was only seen at three locations, however, the poorly maintained Greencroft NR still proves to be an ideal habitat. Greencroft has a very brackish pond, surrounded by boggy ground and heather. Scrub around the pond also seems to be ideal for them and other species to rest, making observation quite simple.

While an interesting photo was taken in 2019 of a male Black Darter coupling with a female Common Darter, this confusion does not appear to have impacted their numbers at Greencroft.

As this Darter likes lowland mires and blanket bogs, the under recorded west of our region might also be a good place for us to look in 2021.

The BDS suggested distribution is national between June – November. Our sightings were between 31st July and 19th October, which is virtually identical to 2019.

While they were observed coupling, they were once again not observed laying eggs or emerging. Now that we know they are established at Greencroft NR, the challenge will be to spot them at all stages of their life cycle.



2020 Black Darter Sightings VC66

Black Tailed Skimmer (*Orthrum cancellatum*)



With a sighting at Shibdon Ponds for the first time, they were mainly seen at Rainton Meadows, but in far less numbers than in 2019. They are often seen resting on open ground such as paths and that can make them difficult to spot. Also, to the casual observer, more used to seeing Broad

Bodied Chasers, it might be that some are being missed. Observers should look for a dark tail (S7-10) and note that they do not have the yellow sides of the Broad Bodied Chaser.



In all they were seen at five locations, with RSPB Salthome, and Rainton Meadows being the sites recording the most.

BDS suggested distribution is from the north of England to south, from April to October. Our sightings were from 12th July to 9th August, which is a far shorter season than in 2019. This is likely to be due to observers being restricted in their travel.

2020 Black Tailed Skimmer Sightings VC66

Blue Tailed Damselfly (*Ischnura elegans*)

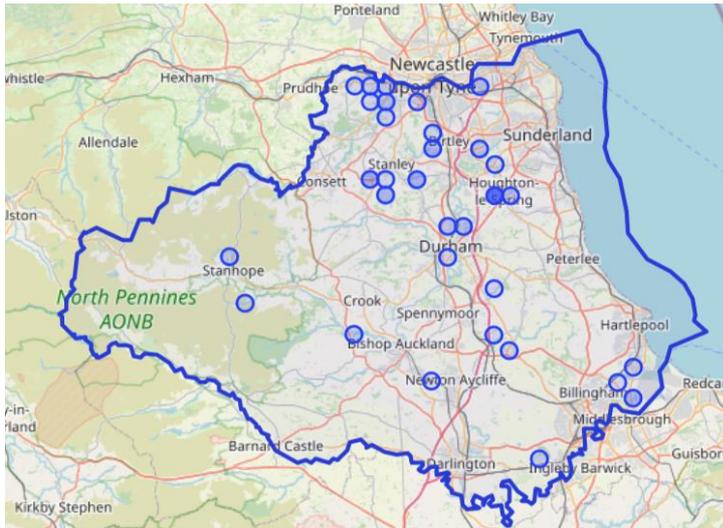


Blue tails were spotted at 35 sites, in particular the males. As with the Azure it is likely that the less distinctive females were always present at those sites, but they were not recorded. They were seen coupling at 9 sites, which is surprisingly low bearing in mind how many were seen, and they were observed laying eggs at only 8 sites.

Observers will be encouraged to look for this behaviour in 2021. In 2019 they were recorded on 250 occasions, whereas, in 2020 it was 146. It is likely that this was due to travel restrictions, partly because when they were seen, they were in far larger quantities than in 2019. We will get a better idea of distribution in 2021.

They were also observed in different colourations. The female can be found in five distinct forms, and immatures are often violet. This photo shows a rufesens female at Clockburn Lake. Were it not for the characteristic blue S8, it could easily confuse the casual observer. In 2021, it would be a great challenge to try and spot all five colour forms.





2020 Blue Tailed Damselfly Sightings VC66

BDS suggested distribution – widespread whole of UK. May to September. Our sightings were from May 9th (last year not until June) and the last was seen on 19th September, which is a season three weeks longer than 2019, and six weeks longer than 2018. Once again Rainton Meadows with its extensive wildflower meadows had the largest numbers, along with Pelaw Pond/Wardley Manor also having large quantities.

Broad Bodied Chaser (*Libellula depressa*)



While the north east represents the most northerly area where these highly distinctive dragonflies are observed, they were spotted at 15 sites on 51 occasions, which was a few more sites, but twice as often as 2019.

It was particularly nice to see them back at Rainton Meadows on 18 occasions, as they have varied in numbers there over

the years. Twizell Woods was the best place to spot them, with 10 or more being around on some occasions.

A few were also seen at Hetton Bogs, but at all other sites they tended to be solitary.



Interestingly, as we found last year, they were very rarely seen coupling or ovipositing. This photo was unique in 2020, so observers are urged to look for such behaviour this year.

BDS suggested distribution is north to south England between April to September. Our sightings were between 5th May and 31st August, which is 3 weeks early to emerge and 3



weeks later to depart than in 2019.

As with most species it is obvious that the far east and west of our region required more surveying.

2020 Broad Bodied Chaser Sightings VC66

Brown Hawker (*Aeshna Grandis*)



A large Hawker with quite obvious golden-brown wings, it is relatively easy to identify. That makes it all the more interesting that they were only seen at Low Barns and Coatham Woods (plus two gardens through the BTO survey) on eight occasions. None were seen at Rainton Meadows despite having had a very active group of Brown Hawkers there in 2019.

A one-year drop does not denote a decline, however, bearing in mind that Brown Hawkers can be found in a wide variety of habitats, and tolerate low levels of pollution, it is a species we would like to pay particular attention to in 2021.

BDS suggested distribution is that our region is the most northerly they will be spotted, and that they are most common during July to Sept. Our sightings were from 19th July to 31st August which is very similar to 2019.



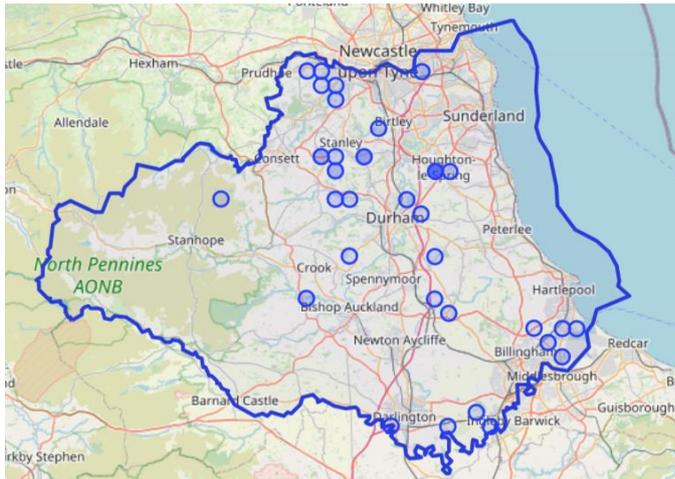
2020 Brown Hawker Sightings VC66

Common Blue Damselfly (*Enallagma cyathigerum*)



Generally regarded as the UK's most commonly seen damselfly, they are typically spotted at most sites and normally in large numbers. They are difficult to differentiate from the Azure, (unless you get close) but due to their common nature, in the absence of a clear ID it is most likely to be a Common Blue.

They were sighted at 28 locations on 137 occasions. While the average number seen on each sighting was 11, which is similar to 2019, a few sites such as Twizell Woods had far larger quantities than in previous years. Rainton Meadows and Low Barns were also great sites to see them in good numbers.



2020 Common Blue Damselfly Sightings VC66

BDS suggested distribution is throughout the UK from April to October. Ours were spotted flying, coupling and egg laying between 9th May (3 weeks earlier than 2019) until 9th September, which is 6 weeks earlier than 2019. This is unusual for them to no longer be seen in September/Oct and that will be something to monitor this year.

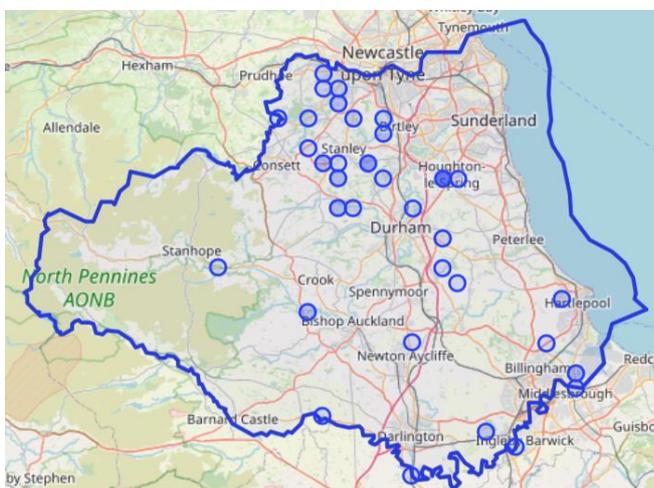
Common Darter (*Sympetrum striolatum*)



©Christopher Bill

Common across all of the UK, this was the most frequently observed dragonfly (and the second most common Odonata) in the DWT region.

There were 137 sightings at 25 sites (a few more since the BTO upload). Bowes Valley NR had what in the north east would be regarded as a mass emergence with about 150 being seen on one visit. As is usually the case, Rainton Meadows was one of the best sites to see them, even though the scrape ponds by the path dried out mid-season. Presumably, they are breeding elsewhere on the site.



Twizell Woods was also an excellent site for seeing them close up, and in large quantities (40+), mainly as the paths there narrow to about 50cm wide between the ponds, meaning they have to move out of the way to let you pass.

2020 Common Darter Sightings VC66



The close proximity of the small ponds to the path also allows easy viewing of Common Darters emerging, such as this one on the left. Another positive point was that unlike in previous years there were virtually no photos submitted that showed a confusion between Common Darters and Ruddy Darters, although one strange looking Common Darter did give the impression of a much rarer Red Veined Darter. As readers might remember from the 2019 report, Rainton Meadows appears to have a breeding population of Common Darters that just happen to have quite prominent red veins, hence the confusion.

National Trust Gibside also had a healthy population (30+) as did Low Barns and Malton ponds. Overall a very good year for Common Darter numbers.

BDS suggested distribution is, widespread across the UK during June to November, and in this survey, they were spotted between 22nd June (three weeks earlier than in 2019) and 12th November.

Common Hawker (*Aeshna juncea*)

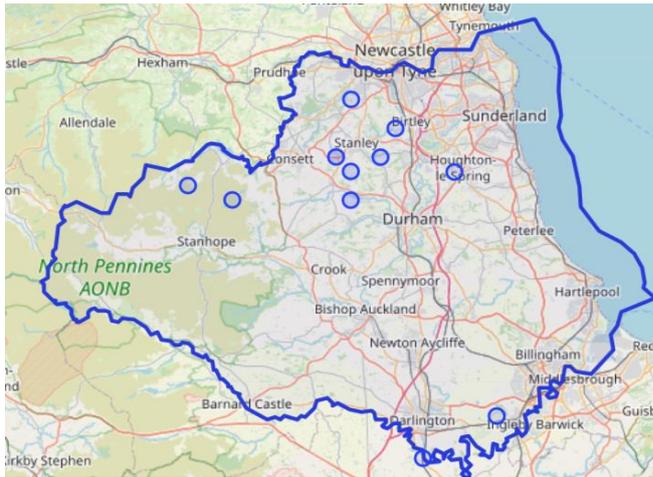


The name suggests they are a common Hawker, yet in 2018 and 2019 they were seen far less often than in previous years, particularly at Rainton Meadows. Instead, far more Southern and Migrant Hawkers were spotted. Previously it was suspected that the low numbers might be due to

misidentification, but despite specific Hawker ID training, observations remained relatively low for a common species.

Common Hawkers were spotted at 10 sites on 17 occasions. Compared to 27 occasions in 2019. While lockdown might be a factor here, it does seem that this species is in decline in our region, so a concerted effort to try and find some hotspots is encouraged. They were seen laying eggs at Coatham Woods (see photo), Twizell Woods and Greencroft NR, but only on single occasions.





2020 Common Hawker Sightings VC66

BDS suggested distribution is widespread through most of the UK apart from the south east, during July to September. Our survey sightings were from 19th July to 6th October, which is a slightly shorter season than 2019.

Emerald Damselfly (*Lestes sponsa*)

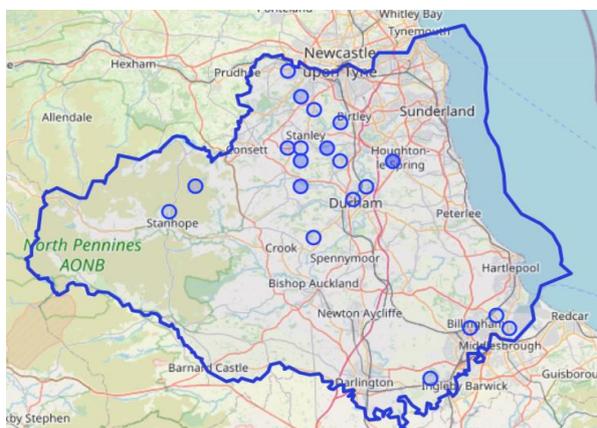


Easily identified when in its adult state due to the bright iridescent colouring of its thorax, the Emerald is one of the most striking damselflies seen in the region.

Observed at 22 sites and a wide range of altitudes and landscapes. Burnhope Ponds, Malton Ponds, Rainton Meadows and Gibside NT had the largest numbers in one sighting, larger than in previous years.

Their success despite the very dry summer is most likely because they are later emergers, i.e., when the rain started to fill ponds again, but also because eggs are laid into the stems of vegetation and will drop or be submerged when water is high enough the following year and not before. BDS suggested distribution, widespread throughout UK between July

and September. Our sightings were from 19th July to 8th September.



2020 Emerald Damselfly Sightings VC66



Emperor (Anax imperator)



Easy to identify as it is the UK's largest dragonfly and both sexes have an apple green thorax without any obvious black markings. While flying, they can sometimes be distinguished due to them having a drooping tail.

In 2019, they were recorded at 7 sites in the DWT survey, in small numbers, so observers were asked to pay particular attention in 2020.

They were spotted at 15 sites, from the furthest north to south parts of our region, plus in a number of gardens. Despite the greater frequency, they were still in very small numbers each time and they were only seen laying eggs at Rainton Meadows and Coatham Woods.

It could be that they are not being spotted as they will fly far higher than other Hawkers and well away from water. They also often lay their eggs into pond weed, well out into the pond itself, so observers are urged to look up and to use binoculars.



2020 Emperor Dragonfly Sightings VC66

Four Spotted Chaser (*Libellula quadrimaculata*)



Despite the BDS classifying it as “widespread and common”, and their very distinctive looks, they were only spotted at 14 locations (up from 10), and at most sites in small numbers.

Coatham Woods and Greencroft NR had 10 or more and they were also seen laying eggs, so they appear well established there. None were seen at Rainton Meadows which is very unusual. This species does prefer acidic heathland areas

and brackish water, so in 2021, the west of our region will be looked at more carefully.



BDS distribution indicates widespread throughout the UK during May to August. Ours were seen from 16th May (3 weeks earlier than 2019) to 27th July (2 weeks earlier than 2020).

2020 Four Spotted Chaser Sightings VC66

Golden Ringed Dragonfly (*Cordulegaster boltonii*)



This very distinctive dragonfly is rarely seen in VC66, and yet that is not due to our northerly location as they are often seen in Scotland. It is also unlikely to be due to misidentification as it looks like no other. It could therefore be that we are simply not looking at sites where they are established and maybe in 2021 as we explore more widely, they will be observed. For instance, the one seen

here was on Waskerley Moor, to the west of our region.



They were typically seen as solitary individuals at 5 sites around the region. There is no evidence that they are breeding. It is possible that these were migrants blown in, however, the locations at which they were spotted should be surveyed again in 2021, as a repeat sighting would be more than a coincidence.

2020 Golden Ringed Dragonfly Sightings VC66

Large Red Damselfly (*Pyrrhosoma nymphula*)



The first to be observed in VC66 once again, this time at Cowpen Bewley on 17th April. In this region they are likely to be the first to emerge and that helps with identification as they can be very clear and colourless at first. As they mature the females can be very black.

They were spotted at far more sites in 2020 (over 40, plus many gardens).

Large quantities (50+) were often seen at Malton Ponds, Burnhope Ponds and Twizell Woods.



The female has three colour forms and most photos in 2020 were of the typical colouration, so it would be great in 2021 if other colourations were observed.

The BDS suggested distribution is national between March and September they were observed here between 17th April (early for north east) and 11th August.

2020 Large Red Damselfly Sightings VC66

Lesser Emperor (*Anax parthenope*)



First recorded in the UK in 1996, Lesser Emperors have been observed in the East of England and Midlands for some years, however, rarely in the north east. In 2020, two were observed (one dead) in the south of the region. Clearly such low numbers do not point to successful breeding, but they do act as a reminder that observers must look out for unusual colourations and take photographs. As can be seen from this photo, the Lesser Emperor is quite distinctive with the blue “saddle” and green eyes.

First recorded in the UK in 1996, Lesser Emperors have been observed in the East of England and Midlands for some years, however, rarely in the north east. In 2020, two were observed (one dead) in the south of the region.

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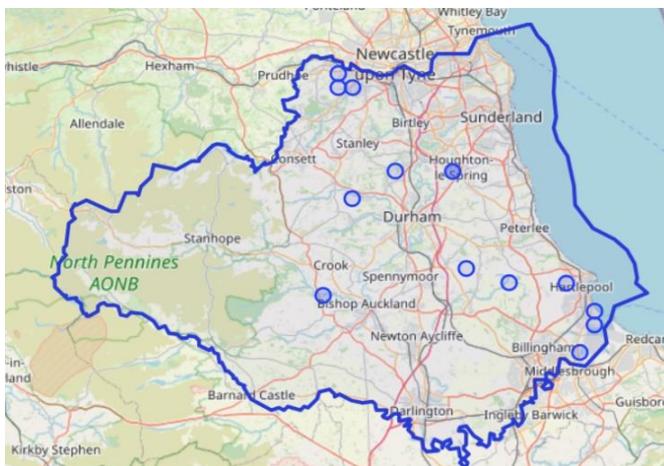
Migrant Hawker (*Aeshna Mixta*)

Often called the Autumn Hawker, they are traditionally found further south than VC66. The larvae can tolerate low temperatures and that might explain why they are increasingly being seen in our region.



They were seen at 13 sites around the region and are well established at Rainton Meadows where they were observed on many occasions. Low Barns and Clockburn Lake also had reasonable numbers. Only one was seen laying eggs and none were seen coupling, so observers are encouraged to look out for this as the year progresses.

BDS distribution indicates that the north east of England is their furthest northerly point but does point out that they are being observed increasingly far north during August to October.



Our sightings were from 11th August to the 4th November, making it one of the last species to be seen.

2020 Migrant Hawker Sightings VC66

Ruddy Darter (*Sympetrum sanguineum*)



Still occasionally confused with male Common Darters, observers are definitely getting better at spotting this striking species. However, they were mainly seen at 4 sites with Rainton Meadows being their main stronghold, with 10 or more seen on occasions.

Observers are urged to look out for them next year and to get close enough to see the distinctive all black legs and more curvaceous tail. They can be found near a wide variety of water sources and are less impacted by ponds drying

out than other species, so they are likely to be more common than these figures indicate.



The BDS suggest that the north east is the furthest north that Ruddy Darters will commonly be seen during July-Sept. Our records were from 26th June to 13th September, which indicates an earlier emergence than in 2019.

Small Red Eyed Damselfly (*Erythromma viridulum*)

Well outside of its known area in the south east of England, this single sighting at Rainton Meadows was a nice surprise. The clear photo below also made identification very easy.



Seen in 2019 laying eggs at Cowpen Bewley NR, (but not there this year) it is still a very rare visitor and it is too early to tell if they were blown in or are becoming established and mistaken for other blue damselflies.

As species such as Common Blue and Azures are often just recorded based on a casual observation, everyone is encouraged to look more closely in 2021 for those distinctive red eyes

and the different colouration and spurs on the thorax.

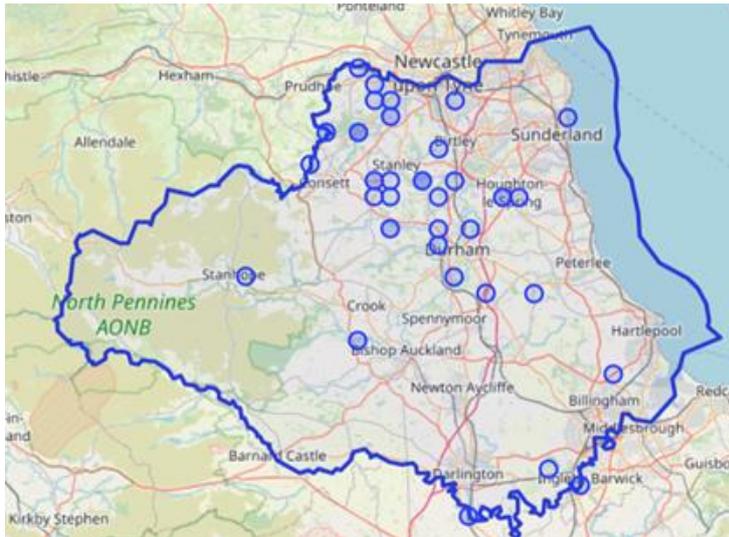
Southern Hawker (*Aeshna Cyanea*)



Despite its name, Southern Hawkers are present even in the north of Scotland, and in 2020 they were observed at 27 VC66 locations, plus many gardens.

Always a delight to see, they are highly curious and will often hover right in front of you. The downside is that this makes them very difficult to photograph as they are too close to focus on, and when they do fly off, they do so at incredible speed. Thanks to patience and no doubt a large number of attempts, we had confirmed photographic records from many sites including, Gibside, Greencroft NR, Rainton Meadows and Low Barns.

Another site that proved to be excellent for spotting Southern Hawkers was Twizell Woods, where a set of 5 small ponds can be circumnavigated by foot, making it easy to take photos. Barlow Burn is normally a wonderful site for spotting this species but as it was hardly visited in 2020, they went undisturbed and unrecorded!



2020 Southern Hawker Sightings VC66

The pond at the rear of Milkwellburn Woods, is always good for seeing its resident Southern Hawkers (and getting fit walking up hill), and on November 13th 2020, this secluded pond also provided the last recorded sighting of any Odonata in our region. While the photo of it flying was blurry, it was unmistakably a Southern Hawker.

Discussion Points

2020 was of course a very challenging year for observers due to the lockdown, however, despite that a wide range of sites was covered. In 2021 though, we need to be more consistent and ensure that some of the prime sites, in particular those run by the DWT, are surveyed more often.

The other challenge in writing this report was that virtually no 2019 iRecords had been verified and that had to be completed before the 2020 sightings were looked at. There were over 1000 records and photos that needed to be checked before a further 1100 were assessed for 2020. The other challenge is that iRecord, while great for collating data and submitting it to major research projects, is not very user friendly when it comes to analysing or graphing results. This is one reason why for the 58 hotspots in VC66 we encourage the use of this “app” that can be saved to a phone or any internet enabled device.

<https://survey.protostarsurveys.com/zs/MTRrTE>

In addition, as a number of hotspots are in locations that are not well known, a Google map has been created that both shows their location but also gives details such as parking and what species are likely to be seen there.

<https://tinyurl.com/rdr75zd>

Both the app and the map suggest surveying 58 sites known to have dragons or where we would like to create an environment where they will become established.

None of the observers, including the author have much knowledge related to larvae/nymphs and very little concerning exuvia. It had been hoped in 2020 to run a joint training workshop with the National Trust. COVID stopped that and we are investigating if funding from the NT is still available. In the meantime, it is suggested that observers purchase a copy of Steve Cham’s [Field Guide To The Larvae and Exuvia of British Dragonflies](#).

By spotting larvae/nymphs during the winter for instance, we already have an idea of what species to look out for in the spring. Similarly, when exuvia are collected it will help to identify species that have successfully emerged.

Lastly, in 2021 observers are asked to support the British Dragonfly Society's Willow Emerald Watch. [Willow Emerald Watch - British Dragonfly Society \(british-dragonflies.org.uk\)](http://british-dragonflies.org.uk)



This species is slowly making its way up the eastern coast, and in 2019 moved 150 km north into Yorkshire, so in theory we are next, at least at the south of our region. While the species can be easily identified, as it looks different to the emerald damsel (and has brown eyes), it also lays eggs on flexible branches over hanging water. These eggs then drop into the water as larvae, leaving a scar on the branch. These oviposition scars are a great indicator that Willow Emeralds are around, even if they have not emerged yet. Observers are asked to look out for them in the south of the region, particularly on over hanging branches near the coast.



Acknowledgements

The author would like to thank all those who attended the dragonfly identification events, and in particular, the 19 DWT observers who then contributed to the survey data. Joe Finlay once again submitted an amazing amount of records. Vivien Kent, Bob Robson, Carol Spencer, Silvia Coates, along with Ian and Elaine Burnell, not only provided a number of records but also supported the author by visiting sites that were being under recorded. Those of you who used iRecord must also be thanked, and in particular Julie Hogg, with a large number of sightings. If your name has not been mentioned please do understand that your help is much appreciated. As can be seen from the photo credits, many other

observers (for instance Christopher Bill and Mal Wilkinson) also provided great images that not only help with identification but are great for presentations, training events and this report.

Lastly, thanks also go to the DWT volunteers and staff who maintain the reserves and create new habitats for these iconic creatures.

Photo Credits

Page Number	Subject	Photographer
1	Male Broad Bodied Chaser	Joe Finlay
7	Black Darter	Carol Spencer
8	Small Red Eyed Damselfly	Joe Finlay
8	Banded Demoiselles	Silvia Coates
9	Rainton Meadows	Ian & Elaine Burnell
9	Male Common Darter	Ian & Elaine Burnell
10	Exuvia	Malcolm Wilkinson
10	Southern Hawker	Ian & Elaine Burnell
11	Azure Damselfly	Ian & Elaine Burnell
12	Banded Demoiselle	Silvia Coates
13	Black Darter	Malcolm Wilkinson
14	Black Tailed Skimmer	Ian & Elaine Burnell
15	Blue Tailed Damselfly	Christopher Bill
15	Blue Tailed Damselfly	Joe Finlay
16	Broad Bodied Chaser	Joe Finlay
17	Broad Bodied Chaser	Carol Spencer
17	Brown Hawker	John Craig Humble
18	Common Blue Damselfly	Joe Finlay
19	Common Darter	Christopher Bill
20	Common Darter	Vivien Kent
20	Common Hawker	Vivien Kent
20	Common Hawker	John Craig Humble
21	Emerald Damselfly x 2	Joe Finlay
22	Emperor Dragonfly	John Crag Humble
23	Four Spotted Chaser	Christopher Bill
23	Golden Ringed Dragonfly	Silvia Coates
24	Large Red Damselfly	Malcolm Wilkinson
25	Lesser Emperor Dragonfly	Dave Smallshire (BDS)
25	Migrant Hawker	Joe Finlay
26	Ruddy Darter	Joe Finlay
27	Small Red Eyed Damselfly	Joe Finlay
27	Southern Hawker	Silvia Coates
29	Willow Emerald and oviposition scars	BDS

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3. <https://www.british-dragonflies.org.uk/content/uk-species>