Worcestershire Dragonfly Roundup 2023 with a look back at recent changes

Mike Averill

2023 saw a continued increase in the number of records: 2,787 records were submitted using iRecord and records were received from 150 observers. In all 27 species were recorded during the year. There were no additional new species in 2023, so after examining the highlights of this year, it is useful to catch our breath and evaluate what has happened in the last five years.

Following a cool spring, emergence dates were very similar to 2022, some being earlier but generally not as late as in 2021. Table 01 shows the number of species recorded and is ranked in that order so that it can be seen that the more common species (those with more than 100 records) all appear to have done well with the exception of the Brown Hawker *Aeshna grandis*. This species is significant as it is one of a group that are reported to be declining nationally along with the White-legged Damselfly *Platycnemis pennipes*. The latter species was down this year, but numbers do seem to fluctuate from year to year and there appears to be a trend for this species to be using standing water, including fishing pools, more often. Two species that are also reported to be declining nationally, the Common Hawker *Aeshna juncea*, and Black Darter *Sympetrum danae* are only occasional visitors to Worcestershire and so we cannot pick out any county trends here, but suffice to say that if the heathland areas in the north of the county had more permanent water, they would be found there. It is a great shame that work to maintain the bog at Hartlebury in a wetter state has had to be suspended due to the halting of proposals by Natural England, due to a technicality. Interestingly the other species suffering nationally, the Emerald Damselfly *Lestes sponsa* did reasonably well this year. Amongst the scarcer species and using data from the long- running larval count at Bewdley, the Club-tailed Dragonfly *Gomphus vulgatissimus* had its best year since 2012 which was a welcome upturn. This, of course gives hope for the condition of the Severn in times when there is a lot of concern about the state of our rivers. We are still unable to explain its complete disappearance from the Avon though, but whatever the reason is, it isn't affecting the Scarce Chaser *Libellula fulva* in that river. The Scarce Chaser is another river species doing well with the highest number of records ever from the River Avon, River Severn and Croome River, and it is still breeding at Hilldtich Pool after 12 years: additionally there were sightings at three other sites around Kidderminster. The success of this species here and in south east England, is likely to lead to an upgrade in its designation from Near Threatened to Least Concern according to the UK Red Data List. This is good news for the dragonfly, but slightly bad news for the place where it occurs, because it demotes that site's status from a priority site of National importance to one of only County importance.

Followers of these annual reports will know that the Red-veined Darter *Sympetrum fonscolombii* makes regular small incursions into the county, so it was a welcome return this year, after a two-year gap, when it was seen emerging in August and September at Ryall by Andy Warr (01).

01. Freshly emerged Red-veined Darter at Ryall. 26.08.23. Andy Warr.

Another regular species, the Lesser Emperor *Anax parthenope* was seen at its usual place at Ripple Gravel pit, at Kemerton and in the north, at Harvington Hall near Kidderminster.

Five-year evaluation

The new species that have been seen in the last five years include two which so far have not been seen again; the Vagrant Emperor *Hemianax ephippiger* (2019) and the Keeled Skimmer *Orthetrum coerulescens* (2022). Two other new species that have done well and have increased year by year since their first sighting, are the Scarce Blue-tailed Damselfly *Ischnura pumilio* and Willow Emerald Damselfly *Chalcolestes viridis*. The Hairy Dragonfly, although not strictly new to the county having had a few records in the 1980s, is looking like a very successful coloniser with increasing records over the last four years. Andy Warr found a larval case at Ripple which is so vital in assessing whether the species is breeding in the county or flying in from elsewhere.

The Scarce Blue-tailed Damselfly has done increasingly well for four years, mainly in the Upton/Severn Stoke area where ideal breeding habitat has been provided by the gravel extractions there. There have been two outliers as well at Feckenham Wylde Moor Reserve and Lea Castle housing development at Kidderminster. The Upton area is undoubtedly providing a good source location with lots of breeding opportunities and there are signs of overspill even on to the new storm water storage ponds created at the new Upton-upon-Severn road works and roundabout. This location has proven popular as it is the most accessible site to see them, although a little difficult to negotiate around the road system. Even old established sites are picking up records with Andy Warr seeing this beautiful orange immature female form *aurantiaca* at Ashmoor Common (02).

02. Scarce Blue-tailed Damselfly, female form *aurantiaca* at Ashmoor Common 07.08.23. Andy Warr.

At this point it is worth mentioning the new water bodies appearing in the County associated with housing or industrial development schemes. Sustainable Urban Drainage Schemes (SUDS) attempt to control the increased runoff speed of storm water created by building projects by storing water in a reservoir or pool which holds the water temporarily only allowing small quantities to escape over an extended period of time. This naturally, provides an aquatic habitat even if it is not permanent. However, if these storage areas are designed correctly they can hold water all the year which is essential for dragonflies and other aquatic invertebrates. The Lea Castle site at Kidderminster (03) is a good example, only two years old and already providing habitat for a surprise visitor, the Scarce Blue-tailed Damselfly. All through August there was activity from up to 20 individuals with several pairs egg laying. Surprisingly larval cases were also found in early August so some individuals must have found the site the previous year.

03. Lea Castle stormwater storage area, Kidderminster provides habitat for breeding Scarce Blue-tailed Damselfly. Mike Averill.

There are plenty of these new SUDS sites, so please adopt one near you and see how they are developing. Roger Mason has done this with the area called the Warndon-Worcester-6, where there has been industrial development. So far 17 species of Odonata have been recorded including Willow Emerald and many other species which are early colonists such as Emperor *Anax imperator*, Broad-bodied Chaser *Libellula depressa* and Ruddy Darter *Sympetrum sanguineum* (04).

04. Ruddy Darter at Warndon-Worcester-6 SUDS site. Roger Mason.

The Willow Emerald is the other success story amongst the new arrivals and it is interesting as it is only the second damselfly that has colonised the UK from the continent in recent history, making its way north and west and reaching Worcestershire in 2022 (Jennings 2022). Despite this being only the second year we have seen adults, there has been a significant spread across the county reaching as far west as Kyre Park, Tenbury (05).

At the time of writing, this is the second most westerly record in the UK, but it is almost certain that the damselfly will keep spreading westwards. Other sites range from Birmingham to Feckenham, Croome, Worcester and the woods around Grafton. They have also been seen at Throckmorton, where a female was observed egg-laying in willow leaves which is unusual as they generally use finger sized woody branches. (Warr 2023, in this issue).
Dragonflies are one of the most mobile of invertebrates, responding to environmental changes very quickly and it is interesting to speculate whether these movements have happened in the past. Unfortunately our comparatively recent interest in insects has not yet been long enough to say.

We are seeing great change in the distribution of dragonflies in the UK with species like the Scarce Chaser that was only found in restricted areas in the south of England, radiating north and west, so what can we expect to arrive in Worcestershire next? Two species to watch out for are the Southern Migrant Hawker *Aeshna affinis* and the Norfolk Hawker *Aeshna isosceles*. The latter has got to north Wiltshire which is only two counties away from us and the former is moving more erratically but has already reached Gloucestershire.

05. Willow Emerald Damselfly (male) at Kyre Park 03.09.23. Mike Averill.

Acknowledgements
Thank you to all who submitted records and in particular to the diligent work by Andy Warr, scouting the southern borders for activity and to Roger Mason for looking at the more unusual sites and for finding time to visit the new SUDS developments.

Reference
Jennings, D. 2022. Willow Emerald Chalcolestes viridis, the first recorded sighting in VC37. *Worcestershire Record 50:50-52*.
Warr, A. 2023.

Table
Table 1. The number of records received for the years 2015 to 2023 for all species.

Images
01. Freshly emerged Red-veined Darter at Ryall. 26.08.23.
02. Scarce Blue-tailed Damselfly, female form *aurantiaca* at Ashmoor Common 07.08.23. Andy Warr.
03. Lea Castle stormwater storage area, Kidderminster provides habitat for breeding Scarce Blue-tailed Damselfly. Mike Averill.
04. Ruddy Darter at Warndon-Worcester-6 SUDS site. Roger Mason.
05. Willow Emerald Damselfly (male) at Kyre Park 03.09.23. Mike Averill.

No of Species	First year recorded in Worcestershire	Worcestershire Species Accepted name	Number of Records for each species recorded 2015-2023									
			Records	2015	2016	2017	2018	2019	2020	2021	2022	2023
1	1900	Blue-tailed Damselfly	1823	167	143	201	173	179	253	194	240	273
2	1900	Common Darter	1682	119	172	159	140	169	246	186	241	250
3	1945	Common Blue Damselfly	1647	125	123	162	151	197	281	186	215	207
4	1894	Azure Damselfly	1608	142	126	145	172	191	243	188	204	197
5	1888	Large Red Damselfly	1437	106	109	95	136	145	329	178	142	197
6	1900	Banded Demoiselle	1314	115	115	161	167	175	138	115	169	159
7	1895	Southern Hawker	1170	77	83	149	115	170	221	123	108	124
8	1971	Emperor Dragonfly	1137	77	72	86	102	156	212	119	162	151
9	1855	Beautiful Demoiselle	954	46	69	150	89	92	128	104	112	164
10	1855	Brown Hawker	874	86	93	83	121	101	128	105	82	75
11	1978	Migrant Hawker	757	15	77	84	64	97	94	105	104	117
12	1952	Black-tailed Skimmer	773	59	57	50	75	107	98	105	116	106
13	1985	Ruddy Darter	750	25	41	49	84	157	101	74	92	127
14	1896	Broad-bodied Chaser	623	57	50	63	68	56	97	91	56	85
15	1949	Red-eyed Damselfly	618	46	35	66	96	67	77	74	74	83
16	1900	White-legged Damselfly	604	39	48	65	73	78	86	63	85	67
17	1900	Four-spotted Chaser	465	39	32	36	52	41	66	53	71	75
18	2006	Small Red-eyed Damselfly	347	17	19	20	34	60	42	41	66	48
19	1982	Emerald Damselfly	331	30	40	29	40	53	44	21	22	52
20	1900	Club-tailed Dragonfly	324	16	34	50	45	48	26	38	23	44
21	2004	Scarce Chaser	329	16	19	34	45	31	64	34	34	52
22	2020	Scarce Blue-tailed Damselfly	93						**9**	1	22	61
23	1977	Hairy Dragonfly	61						**17**	11	10	23
24	2022	Willow Emerald Damselfly	56								**21**	35
25	2000	Lesser Emperor	41			1	1	6	20	6	3	4
26	1900	Golden-ringed Dragonfly	29	1	2	5	3	2	3	2	5	6
27	1998	Red-veined Darter	22			1	2	13	1			5
28	1949	Common Hawker	4		2		2		1			
29	2019	Vagrant Emperor	5					**5**				
30	2022	Keeled Skimmer	4								**4**	
31	1901	Black Darter	3		1					1	1	
32	2015	Downy Emerald	1	**1**								
33	1995	Yellow-winged Darter										
			Total	1421	1562	1944	2050	2396	3025	2218	2484	2787
		First year recorded	**x**									

Table 01. The number of records received for the years 2015 to 2023 for all species. Figures in shaded boxes indicate a new species for the county during this period, and also the reappearance of Hairy Dragonfly *Brachytron pratense* after a long break, with only one record since the first two in the 1980s. The table shows there have been four new species in the last five years.