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Dragonfly Recording in the Wyre Forest 1895-2023

For the purposes of this analysis the Wyre Forest Study Group (WFSG) area covers the whole of the Dowles Brook and Gladder Brook catchments and the River Severn from Arley to Stourport, but not areas to the east of the Severn such as Habberley, Devil's Spittleful or Burlish.

The area contains three counties and so the proportion of dragonfly records in each reflects the size of the County:

> Worcestershire (54%), Shropshire (40%) and Staffordshire (6%).

The records represent all the dragonfly records from the British Dragonfly Society Recording Scheme, firstly lodged with iRecord and then the NBN Atlas (Figure 1).

Whilst many insect species have a sad tale of declining abundance and biodiversity, dragonflies have a slightly different tale to tell. Whilst their total numbers may be reduced since 1895, the number of species has increased dramatically.

Taking 1996 as a break point, there were 1255 records of 18 species before that year and 2634 records of 24 species afterwards. Recording effort has increased generally, but isn't consistent and at times has been very patchy.

Figure 2 and Table 1 show that there was very little recording early on after the Golden Ringed Dragonfly *Cordulegaster boltonii* and the Demoiselles were first noted before 1901, then there was no real interest until a surge in the 1970s, no doubt prompted by the newly published book *The Dragonflies of Great Britain and Ireland* (Hammond and Merritt, 1977). There then followed a period of great interest in the 1980s and 90s culminating in a drive to get records for the first National Atlas (Merritt *et al.,* 1996). So, annual records very much show recorder effort with spikes, such as in 2012 when increased recording was requested for the production of the *Nature of Wyre* (Westwood *et al*., 2015). Interest in this group is sustained now and we get 150 - 200 records for the area per year.

The Wyre Forest has always been a bit different to the rest of Shropshire and Worcestershire with its confined catchment of woodland



Figure 1. Dragonfly records for the Wyre Forest Area 1895- 2023.

Data source: NBN Trust (2023). *The National Biodiversity Network* (NBN) Atlas. Dataset : Dragonfly records from the British Dragonfly Society Recording Scheme.

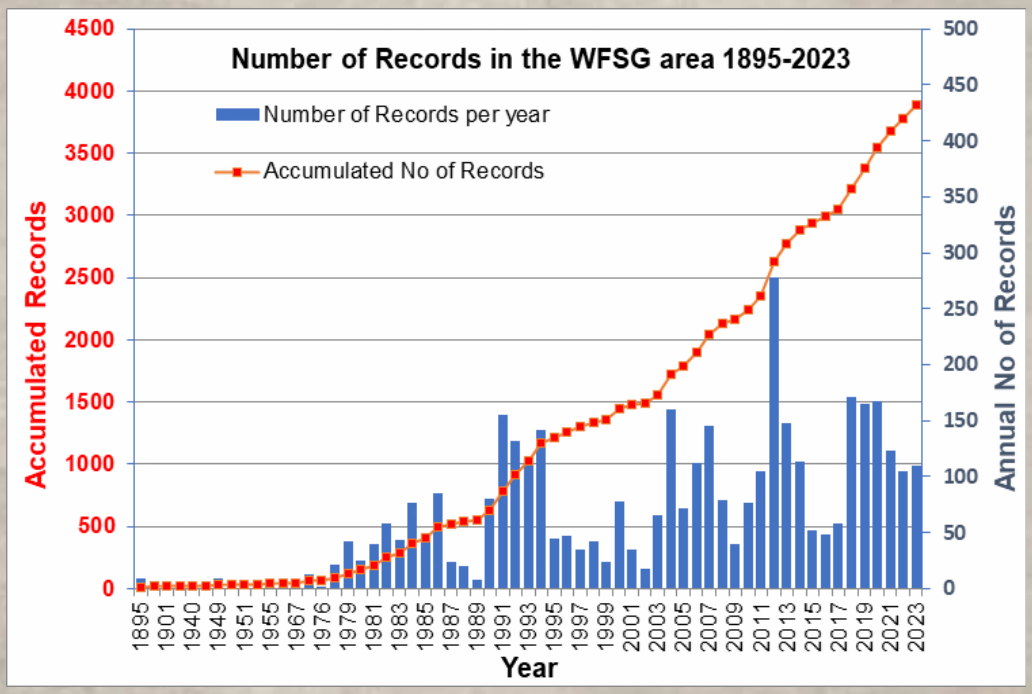


Figure 2. Number of records in the WFSG area 1895- 2023.

and has tended to be slower to adopt new, sometimes migrant species. In the southern part of Worcestershire nine new species have arrived since 1995, increasing the total from 24 to 33. Wyre, however has been slow to acquire species, holding on to the unusual and long recorded ones already mentioned, plus the Common Hawker *Aeshna juncea*, a quite rare species in the rest of Worcestershire. Since 1995 Wyre has gained six new species adding to the total of 18 (Table 1). Wyre is typically where you will only find the Worcestershire rarities like the Golden-ringed Dragonfly and Common Hawker. Not confined to Wyre, you also get the locally important river species the Club-tailed Dragonfly *Gomphus vulgatissimus* and White-legged Damselfly *Platycnemis pennipes*.

Occasionally there is the odd record of a Hairy Dragonfly *Brachytron pratense* but the habitat is lacking and it is only recently that this species has been arriving in the new gravel pits in the south of Worcestershire. The Scarce Chaser *Libellula fulva* is slowly working its way up the Severn and is hanging on to its breeding site at Hartlebury Common, so we might see a few more records north of Bewdley.

The Small Red-eyed Damselfly *Erythromma viridulum* will probably spread further into suitable habitat and The Willow Emerald *Chalcolestes viridis* may well appear as part of climate change driven moves in distribution that we see in today's dragonflies. Species like the Four-spotted Chaser *Libellula quadrimaculata* and Black-tailed Skimmer *Orthetrum cancellatum* were late to add to the list and that may be due to the lack of still water and it is often the creation of fishing pools that give them the opportunity to colonise a new area.

The Nationally scarce species, the Club-tailed Dragonfly, is well recorded at Bewdley being the subject of a long running study since 1988 and this species can tell us a lot about the changing condition of the Severn. Invertebrates, like dragonflies, have long been used to measure the quality of the water they live in and so a long running record, like this, is very informative. Normal spot samples by the Environment Agency don't show the accumulated effect of having to live for two to three years in the river like an annual emergence count does. Over the 36 years there has been a drop in numbers (Figure 3) particularly after the 2001 Foot and Mouth epidemic. There are suspicions that the biosecurity used to deal with this event had a long lasting effect on invertebrates in the area.

The commonest species recorded is the Southern Hawker *Aeshna cyanea*, a species that likes shaded woodland ponds and often encountered along woodland rides. All 24 species are shown in Figure 4 according to scarcity. Although one of the longest recorded

Table 1. List of Dragonfly species recorded in the WFSG area to 2023.

Common Name	Species	First Year Recorded	Count	Last date
Golden-ringed Dragonfly	*Cordulegaster boltonii*	1895	196	21/10/2023
Beautiful Demoiselle	*Calopteryx virgo*	1895	183	09/07/2023
Banded Demoiselle	*Calopteryx splendens*	1900	330	26/08/2023
Common Darter	*Sympetrum striolatum*	1947	288	15/10/2023
White-legged Damselfly	*Platycnemis pennipes*	1949	323	26/08/2023
Club-tailed Dragonfly	*Gomphus vulgatissimus*	1950	264	26/08/2023
Blue-tailed Damselfly	*Ischnura elegans*	1952	221	02/08/2023
Southern Hawker	*Aeshna cyanea*	1955	424	09/10/2023
Brown Hawker	*Aeshna grandis*	1959	315	21/08/2023
Large Red Damselfly	*Pyrrhosoma nymphula*	1975	283	09/06/2023
Azure Damselfly	*Coenagrion puella*	1975	263	09/06/2023
Broad-bodied Chaser	*Libellula depressa*	1975	188	18/06/2023
Emperor Dragonfly	*Anax imperator*	1975	135	06/08/2023
Migrant Hawker	*Aeshna mixta*	1975	91	09/10/2023
Emerald Damselfly	*Lestes sponsa*	1975	64	20/08/2020
Common Blue Damselfly	*Enallagma cyathigerum*	1978	202	09/07/2023
Common Hawker	*Aeshna juncea*	1979	31	02/06/2023
Ruddy Darter	*Sympetrum sanguineum*	1991	33	28/08/2022
Hairy Dragonfly	*Brachytron pratense*	2000	3	28/05/2020
Four-spotted Chaser	*Libellula quadrimaculata*	2005	7	14/06/2021
Black-tailed Skimmer	*Orthetrum cancellatum*	2006	26	18/06/2023
Scarce Chaser	*Libellula fulva*	2006	3	13/07/2013
Red-eyed Damselfly	*Erythromma najas*	2010	11	09/06/2023
Small Red-eyed Damselfly	*Erythromma viridulum*	2020	5	29/07/2022
		Total	**3889**	

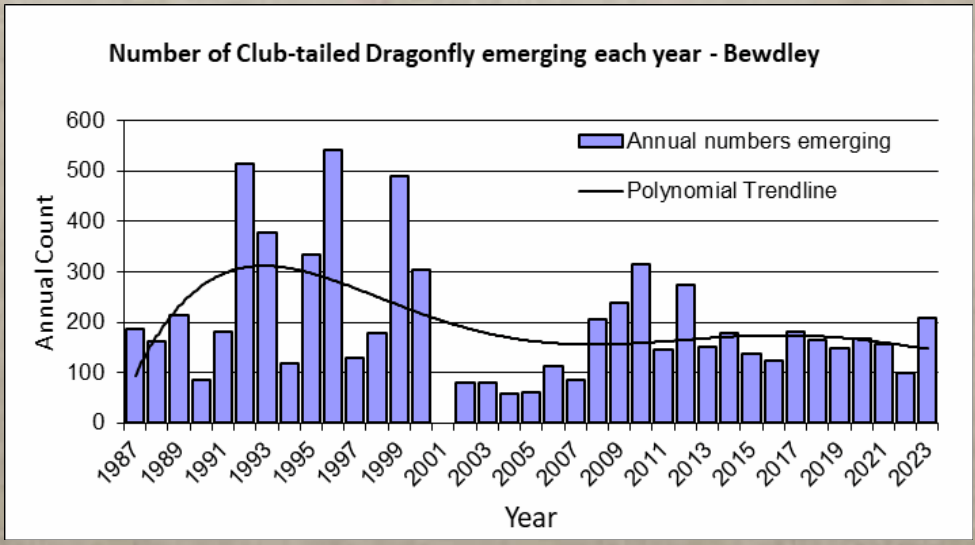


Figure 3. Number of Club-tailed Dragonfly emerging each year- Bewdley.

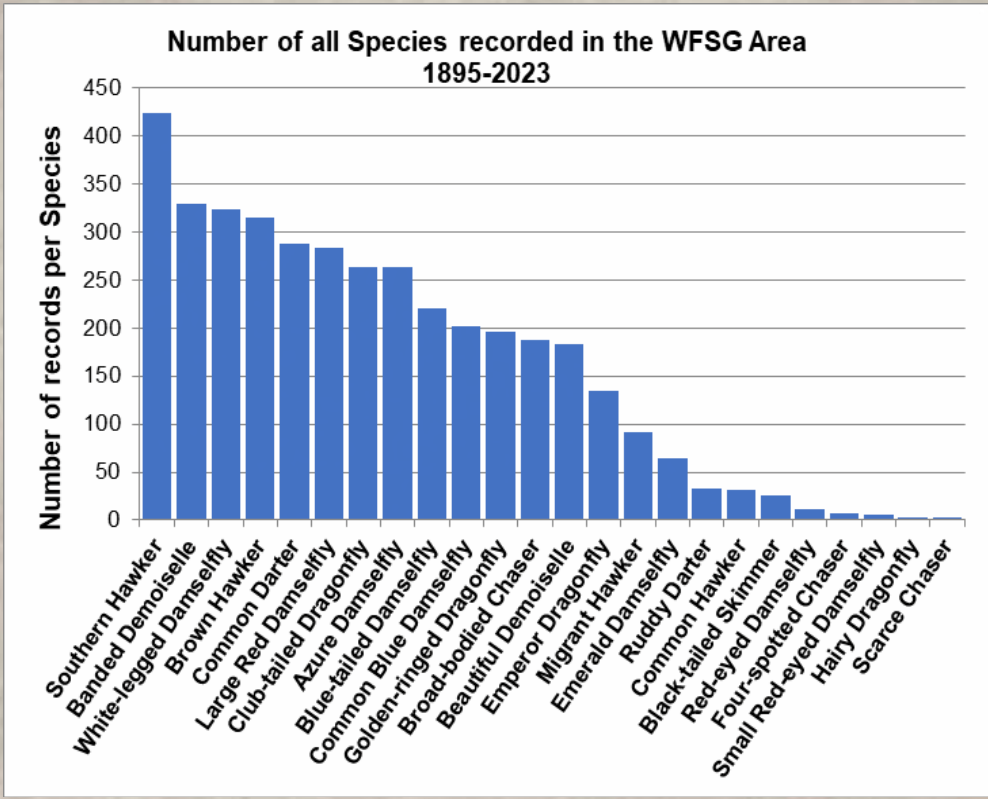


Figure 4. Number of all species of Dragonfly recorded in the WFSG area 1895 – 2023.

species, the Golden-ringed Dragonfly remains reasonably scarce and so it is always a pleasure to encounter one. Despite its large size the larvae favour small brooks and seepages.

The numbers of records for different species reflect the nature of the area, in that surface water is mainly found in the form of rivers and brooks. There are not many ponds, other than fishing pools, consequently species like the Ruddy Darter will be seen less often.

Like many invertebrates, dragonflies will probably continue to add new species to the area as climate change brings ever warmer weather.



Figure 5. Female Golden Ringed Dragonfly Mike Averill

References

Hammond, C. and Merritt, R. (1977) *The Dragonflies of Great Britain and Ireland*. Harley Books, Colchester.

Merritt, R., Moore, N. and Eversham, B. C. (1996) *Atlas of the Dragonflies of Britain & Ireland*. HMSO JNCC/ ITE

Westwood, B., Shirley, P., Winnall, R. and Green, H. (2015) *The Nature of Wyre*. Pisces Publications, Newbury.