Shropshire (VC40) Dragonfly Newsletter



Spring 2017 Sue Rees Evans

Introduction

I would like to start this newsletter with a big **THANK YOU** for persevering with 2016 which was hardly the most rewarding of dragonfly seasons. Despite this we still accumulated around 800 records – impressively from over 90 recorders, well



Eye to eye with a Common Blue-tailed Damselfly Photo: A. Kelly

above the 60 from 2015. This may be due to more people using iRecord as 21% of Shropshire records were entered this way- an increase on the 13% last year. I also like to think (!) the **Shropshire Dragonflies Website** played it's part too-finally becoming a reality and going live in April 2016. The data received contained a far higher number of exuviae records thanks largely to the successful Clubtail survey organised by David Tompkins and Genevieve Dalley of the British Dragonfly Society. This was such a success that the survey is being repeated and extended with the Clubtail Count 2017 -full details on this and last years survey as you read on! The Shropshire Dragonfly Watch flight season blog also had another successful year despite the changeable

weather conditions and some of the truly spectacular (and sometimes grizzly!) photos are scattered throughout this newsletter. The blog is now embedded in the new website and enables us all to stay informed throughout the season. This was particularly useful in 2016 when I could announce the highlight of the season – the **first ever Shropshire record of Lesser Emperor**- full glorious details below...

Flight Season 2016

In 2015 we saw a clear trend with the latest ever records for a number of Shropshire species. In contrast 2016 presented a mixed message with some species appearing earlier and some later and a few extreme examples representing earliest and latest Shropshire dates for 2 of our species. This rather chaotic situation seems to have been reflected throughout the UK with much variation dependent upon local weather conditions (Perrin, 2016a).

Large Red Damselfly *Pyrrhosoma nymphula* was as ever the first species on the wing, recorded by myself at Preston Montford on April 23rd. This was a few days later than in 2015 and was followed in early/mid May by **Azure Damselfly** *Coenagrion puella*, **Red-eyed Damselfly** *Erythromma najas* and **Banded Demoiselle** *Calopteryx splendens-* all appearing slightly earlier than last year. **Common Blue**

Damselfly Enallagma cyathigerum conversely wasn't recorded until May 23rd – a full 19days later than in 2015. Dragonfly records commenced with White-faced Darter Leucorrhinia dubia appearing at Whixall Moss on 9th May (earlier than in 2016) followed shortly by Broad-bodied Chaser Libellula depressa and Four-spotted Chaser Libellula quadrimaculata (both later than 2016)!

Amongst the chaos an interesting record was made of **Common Darter**Sympetrum striolatum on 28th May at

Whixall Moss by Sue Townsend. Only 2 previous Shropshire May records exist of this species; one by 'Anon of Hankinson Duck Associates' at Granville Country Park on 13th May, 1995 and the other by D. Clarke at Gulley Green on 31st May, 1990. Shropshire was not alone as 2 early Common Darter



White-faced Darter larvae, emergent adults and remaining exuviae at Whixall Moss. Photo: P. Spear

were also recorded on 31st May in Hampshire (Perrin, 2016a).

Many recorders found it a frustrating year with both dragonflies and damselflies lacking in abundance. On a number of courses in high summer I was struggling to find even the more 'reliable' damselflies anywhere in the vegetation. This was also highlighted by Stephen Barlow - a regular recorder at Whixall Moss who noted the lowest damselfly numbers ever commenting that numbers after emergence would be quite good but then rapidly tail off most likely due to a lack of sustained summer weather. Elsewhere in the UK lengthier periods of sunny weather in late summer lead to greater numbers of individuals on the wing (Perrin, 2016b) though in August at Whixall Moss Stephen was still noting far fewer dragonflies and damselflies (and butterflies) than normal.



A stunning view of a level headed Common Hawker on the wing. Photo: S. Barlow

Despite general low abundance, the end of the flight season surprisingly produced the latest ever Shropshire records for 2 species- both observed by Stephen Barlow on 31st October at Whixall Moss: **Common Hawker** *Aeshna juncea* (previous latest record 20th October, 2015) and **Black Darter** *Sympetrum danae* (previous latest records 18th October, 2015 and 18th October, 1995).

More predictably the final record of the season was that of a **Common Darter** seen by Adrian Pickles at Preston Montford FSC Field Centre on 11th

November. This was notably shy of the latest ever record made on 20th November, 2015.

The table below shows the first and last dates for those species recorded in Shropshire in 2016, but it is important to understand that these are directly influenced by recorder effort and the sites visited.

First and Last Recorded Sightings 2016

Species	Common Name	Date of first	Date of last
		record	record
Calopteryx splendens	Banded Demoiselle	14 th May	27 th August
Calopteryx virgo	Beautiful Demoiselle	18 th May	26 th July
Lestes sponsa	Emerald Damselfly	18 th June	22nd September
Coenagrion puella	Azure Damselfly	11 th May	16 th August
Coenagrion	Variable Damselfly	8 th June	8 th June
pulchellum			
Erythromma najas	Red-eyed Damselfly	14 th May	23 rd July
Pyrrhosoma	Large Red Damselfly	23 rd April	27 th July
nymphula			
Enallagma	Common Blue	23 rd May	28 th August
cyathigerum	Damselfly		
Ischnura elegans	Blue-tailed Damselfly	16 th May	24 th August
Ischnura pumilio	Scarce Blue-tailed	23 rd July	23 rd July
•	Damselfly		·
Platycnemis pennipes	White-legged	28 th May	8 th August
	Damselfly		
Aeshna cyanea	Southern Hawker	8 th June	10 th October
Aeshna grandis	Brown Hawker	24 th June	14 th September
Aeshna juncea	Common Hawker	27 th June	31 st October
Aeshna mixta	Migrant Hawker	30 th July	3 rd October
Anax imperator	Emperor Dragonfly	5 th June	31 st July
Gomphus	Common Club-tail	20 th May	10 th June
vulgatissimus			
Cordulegaster	Golden-ringed	8 th June	16 th August
boltonii	Dragonfly		
Cordulia aenea	Downy Emerald	8 th June	27 th June
Leucorrhinia dubia	White-faced Darter	9 th May	23 rd July
Libellula depressa	Broad-bodied chaser	15 th May	18 th July
Libellula	Four-spotted Chaser	15 th May	19 th July
quadrimaculata	1		
Orthetrum	Black-tailed Skimmer	4 th June	15 th August
cancellatum			
Orthetrum	Keeled Skimmer	16 th August	16 th August
coerulescens	-	6 20 20 20	<i>6</i>
Sympetrum danae	Black Darter	23 rd June	31 st October
Sympetrum	Ruddy Darter	6 th July	22 nd September
sanguineum		,	r
Sympetrum striolatum	Common Darter	28 th May	11 th November



Species Summary

A total of 28 species were recorded in 2016 comprising 17 dragonfly and 11 damselfly species. This represents 1 more dragonfly species (brand new to Shropshire!) than in the 2015 flight season.

Common and widespread species were understandably recorded more frequently with **Banded Demoiselle** producing the most damselfly records –almost double the sightings in 2015. **Azure Damselfly, Large Red Damselfly** and **Blue-tailed Damselfly** also produced high numbers of records though **Common Blue Damselfly** sightings were lower than normal. Of the dragonflies the **Common Darter** again produced the most records followed closely by the **Brown Hawker**.

Despite the inconsistent summer, records show 9 species have been found in new county hectads (10km squares). Both **Migrant Hawker** and **White-legged Damselfly** showed the greatest



Close encounter with a Blue-tailed Damselfly. Photo: A. Kelly

increase being found in 2 new hectads. The Migrant Hawker sightings were both in west Shropshire (SJ21 and SO39) as was 1 of the new White-legged Damselfly records (the other in the south spotted by M. Garbutt bizarrely on Titterstone Clee Hill). The increased range may be purely due to increased recorder effort in these border areas though both species have shown some national range expansion in recent years toward the north and west (Cham et al., 2014).

On first impression **Black-tailed Skimmer** disappointingly had far fewer sightings than in 2015 when this species was recorded in 3 new county hectads. That said it was still found in 1 new county hectad in 2016. This species along with **Broad-bodied Chaser**, **Southern Hawker**, **Large Red Damselfly** and **Ruddy Darter** have all increased their county hectad range during 2015 and again in 2016. More detailed analysis at the 1km square level shows more localised increases in **Brown Hawker** and **Common Clubtail** –both being recorded in 21 more 1km squares than in 2015. The most startling increase in record numbers was seen in the Common Clubtail due



Most of a male Variable Damselfly Photo: J. Almond

to the survey during 2016.

Variable Damselfly repeatedly has very few sightings and having found it solely at Shomere in 2015 I was pleased to see it at both Shomere and Berrington Pool in 2016. This species is a Shropshire rarity and easily confused with the very common Azure Damselfly. Individuals can be very variable but do usually have heads! Jim Almond took this photo of an unfortunate headless (but still!) individual caught in a web at Berrington Pool. The identifying 'exclamation marks' are clear on top of

the thorax as is the black goblet shape on segment 2 of the abdomen.

Individual Species Reports



Lesser Emperor A. Parthenope



Male Lesser Emperor.





Female Lesser Emperor.

Photo: G. Osborn

The highlight of the strange 2016 flight season was undoubtedly a new species for Shropshire! A male **Lesser Emperor** Anax Parthenope was spotted by Paul Hope on 20th June whilst cycling at Eyton near Fenemere. Being on his bike he was able to draw close to the 'large dragonfly' he'd spotted at which point he reportedly nearly fell off when he saw the striking blue saddle on a brown abdomen and green eyes. Paul was in no

doubt about the identification having worked in Turkey for many years where this species is common place.

Elsewhere in the UK there were a number of sightings of this species in July including a record in Derbyshire and then further sightings in mid-August in Essex, Kent, Suffolk and Hampshire (Parr, 2016). The Lesser Emperor was first recorded in the UK in Gloucestershire in 1996 and exuvia were found in Cornwall in 1999 proving breeding had been

successful (Cham et al., 2014). Since then this species has been recorded in a wide range of locations mostly in the southern half of the UK including Worcestershire, Cheshire and Staffordshire so we knew there was a chance it would fly over our borders! Most UK records are vagrant individuals presumably coming from northern parts of Europe where it is common. There's every chance we may see this rare species again in Shropshire so always bear the following in mind (full identification details on shropshiredragonflies.co.uk):

- Males and females remain in tandem to oviposit- this is very unusual in hawkers
- Males have a striking blue saddle on segments 2-3 of the abdomen and a black dorsal line running down from segment 3.
- The common and widespread **Emperor Dragonfly** is larger with far more blue on the abdomen.
- The extremely rare **Vagrant Emperor** is smaller than the Lesser Emperor with brown eyes and a much reduced blue saddle area restricted to segment 2.



Common Clubtail G. vulgatissimus



Immature male Common Clubtail Photo: P. Spear

For a few years I have highlighted this rare species due to low numbers of records not least the 4 made in 2015. David Tompkins decided to coordinate a Clubtail Survey during 2016 to see if the lack of records was simply due to timing of recorder effort or more serious underlying issues. David has produced a report with all the details below, but in 'records terms' I received 50 records of this species during this flight season which is brilliant! What's more a good percentage of these were exuvial records which are the most valuable biological records as they give us evidence of breeding success in certain stretches of the River Severn.

The project also lead to a good number of exuvial records of other species such as **White-legged Damselfly** and **Banded Demoiselle**. Having achieved such promising results David and Genevieve Dalley of the British Dragonfly Society are repeating and extending the survey this year in the **Clubtail Count 2017**. All are very welcome to get involved and further details can be found on the Shropshire Dragonflies website.



Keeled Skimmer O. coerulescens



Female Keeled Skimmer at Whixall Moss. Photo: L. Wilkinson

Keeled Skimmer has established populations at Cramer Gutter and on Wild Moor (Long Mynd). Recent years have seen a number of suspected sightings at Whixall Moss in 2006 and 2007 and then more recently in 2013. Last year in error I said we had no photos of Keeled Skimmer at Whixall and thankfully Lee Wilkinson set me straight with his photo taken in 2013. That said, Keeled skimmer was not recorded at Whixall Moss this year and only had 1 record in total made by

myself on Wild Moor. I visited a few times and only had success on 16th August which was later than I expected. No records have been received as yet from Catherton Common though I'm fairly sure that's due to lack of recorders not dragonflies.



Golden-ringed Dragonfly C. boltonii

This species is typically confined to small acidic streams and each year is recorded in fairly predictable locations such as the Long Mynd, Catherton Common and parts of the Wyre Forest. Whilst teaching at the Shropshire Hills Discovery Centre on 16th July, 2016 I was approached by a fisherman (and biologist) who said he had seen an individual on the River Onny that day. No photograph had been taken though he seemed very confident in his identification. Less than a week later Mark Rogers sent in a second unusual report of this species-this time with a photograph, seen at Severn Valley Country Park, Alveley. I was later amazed to see further reports of unusual sightings of this species in Oxford (in a conservatory!) and 2 in a garden on an estate in Norfolk (Perrin, 2016b). I have no idea



Wandering Golden-ringed Dragonfly. Photo: M. Rogers

why these individuals were so far from their usual habitat, but it is a fascinating coincidence that this behaviour was mirrored in other counties.



Downy Emerald *C. aenea*



Downy Emerald in flight at Ebury Hill in 2016. Photo: J. Almond

During 2015 despite repeated visits to likely breeding sites at Bomere, Shomere and Berrington Pool, no individuals were recorded and the only sighting was made at Ebury Hill. Gladly this year was a little more successful with individuals being seen at Shomere and again at Ebury Hill- now for the 4th year in succession. N. Aspey observed a minimum of 4 males holding territories around the edge of the pond. It should be noted that this quarry forms part

of Ebury Hill campsite and access is only available to those staying at the campsite. In addition Bomere, Shomere and Berrington Pool are private sites though the latter can be accessed with permission- please contact me if interested.

Missing In Action...



- Hairy dragonfly *Brachytron pratense*—following the 2013 record made by B. Smith at Whixall Moss there have been no sightings. Known to be present in Cheshire so there remains the possibility it may be seen again in Shropshire. Typically the first hawker dragonfly on the wing in mid-May so be on the look out near clean water with lush surrounding vegetation and nearby shelter (Brooks, 2004).
- **Vagrant Emperor** *Hemianax ephippiger* −following the first ever Shropshire record made by G. Hiatt on 23rd November at Muxton Marsh (SJ715132) in 2013 there have been no local reports of this incredibly rare migrant. 2016 bought a few records to the Scilly Isles and Orkney Islands but none recorded on mainland Britain (Parr, 2016).
- Red-veined Darter Sympetrum fonscolombii remains unrecorded since the 2012 sighting at Venus Pool. Elsewhere in the UK far fewer records were made during 2016 (Parr, 2016) but it is possible that this migrant will cross our borders again in the future so always bear it in mind.
- Yellow-winged Darter Sympetrum flaveolum no Shropshire records since the mid 1990's. Recent records were made at Norfolk in 2015 (Parr, 2015). If further migrations occur in 2017 there's an outside chance they may revisit Shropshire.
- Scarce Chaser Libellula fulva it's still scarce and I'm still chasing it! With reports of this species range increasing (Perrin, 2016a) I spent some time looking for it in the good weather windows of 2016, but sadly to no avail. There remains only 1 Shropshire record ever made at Attingham Park in June 2008 by J. Balcombe. This species has a relatively early flight season emerging on mass in early May and is typically found on neutral or base-rich muddy slow flowing small rivers, dykes in floodplains and water meadows (Smallshire & Swash, 2014).



Don't worry- it wasn't a Scarce Chaser(!) but a Common Hawker being eaten by a Reed Bunting. Photo: S. Barlow

<u>Counting Clubtails</u> by David Tompkins

Around February last year, I started to think about what I could do for Dragonflies in the coming Spring and Summer. I realised that Clubtail dragonflies were quite interesting and that Shropshire had a random assortment of records with many blank areas. So I decided to attempt a survey for them, on behalf of the BDS (British Dragonfly Society), both looking for them personally and also recruiting volunteers to look for them along the River Severn in Shropshire. By May I had 13 people signed up to look for them across Shropshire, including some knowledgeable people in a canoe! I asked people to look for adults and also the distinctive exuviae. Many volunteers successfully found exuviae once I had given them pointers on what to look for and where.

The volunteer surveyors and I managed to collect close to 90 new records of the Clubtail across Shropshire and on its borders with Worcestershire and Montgomeryshire. There was a nice spread of records across the county, with the few empty areas tending to coincide with steep inaccessible banks or a lack of footpaths. This now gives us a nice baseline with which to compare future Clubtail counts or surveys which brings me nicely round to the next stage, a national Clubtail survey!

I have decided to coordinate a national survey looking at several river systems including the Severn, the Wye, the Thames, the Welsh Dee, the Teifi and Warwickshire Avon amongst others. I may not cover every river in as much detail as the Shropshire Severn was covered last year, but I really hope to ensure that we collect up to date records for rivers where the status of the Clubtail is unclear. At a local level I will be asking volunteers to survey parts of the River Severn in Shropshire and in particular to look at the lower section of the River Vyrnwy which borders the western edge of the county border. There are several records of Clubtail around the Vyrnwy, but there is uncertainty as to whether or not they breed in the river. It would be great if someone could manage to find an emerging adult or an exuvia on the banks of this river!

If you are interested in taking part in the national **Clubtail Count 2017** full details can be found at:

shropshiredragonflies.co.uk or at http://www.british-dragonflies.org.uk/node/7138



Conservation Work at Marl Allotment

Over the last two months the BDS has been involved in practical works to improve the condition of dragonfly habitat at Marl Allotment near Whixall Moss. This is a Wildlife Site owned by Whixall Parish Council and contains a series of six ponds which were formed after marl (a type of sandy clay) excavation stopped during the mid 20th Century. The ponds are small and shallow with good water quality and as such are botanically diverse and have the potential to provide good habitat for a range of dragonflies. I say potential, as the ponds were beginning to become rather choked with emergent pond plants such as bulrush and water horsetail-as seen in this photo. While both of these plants can be beneficial to dragonflies by providing refuge areas for larvae and emergent structures for adults, they can begin to dominate the pond and diminish the amount of open water available. by David Tompkins



The BDS conservation officer; Genevieve Dalley, myself and other willing and able volunteers from the Whixall Parish Council and Whixall Moss NNR spent several days clearing the vegetation from two of the six ponds on the site in order to create more open water. This was not easy, especially on one of the ponds which had well established mats of water horsetail, which once removed from part of the pond increased the depth of the water by around 20cm. Together we probably removed more than a ton of vegetation using forks, rakes and wheelbarrows-the result clearly visible below.

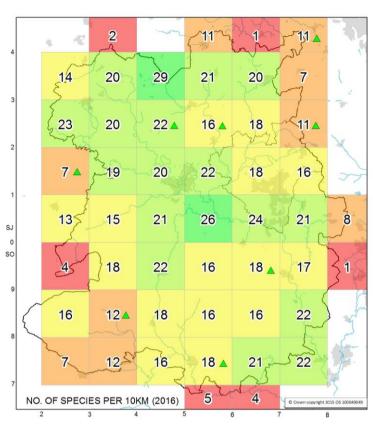
It is hoped that by removing this excess vegetation the ponds will not dry out during the summer months, and will provide a suitable breeding habitat for a range of dragonfly and damselfly species. We hope to carry out further management work on some of the other overgrown ponds at the site next autumn or winter, so that there are ponds in a range of states of succession. We will keep you posted via Shropshire Dragonflies when we're looking for willing volunteers!



Many thanks to Martin, Jenny, Nicky, Graham, Alf and Alan for lending a helping hand with the ponds.

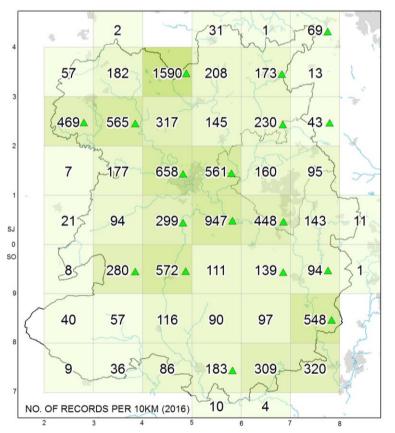
Recording Update

Jonathan Groom (Biodiversity Data Officer for Shropshire Council) has kindly produced 2 maps that illustrate the impact of records received in 2016. Map 1 shows those 10km squares that have seen an increase in species (marked with green triangles) –the most notable being SJ21 with 3 new species recorded in Dyffryd by Dan Knight. The yellow, orange and red squares show those hectads with the fewest species recorded- border squares often being low simply due to lack of recording. If you are looking for suggestions it would be great to receive more records from any of these areas.



Map 1: Species Richness by Hectad in 2016

During 2016 it was particularly noticeable that a large number of records are coming from Whixall Moss. This is no surprise as it is the best accessible site in Shropshire however a glance at



Map 2: Number of Records per Hectad

Map 2 below shows the huge number of records (1590!) accumulated over the years in SJ43 due largely to this site. The green triangles indicate hectads with a significant increase in number of records submitted during 2016. Map 2 is a really good reference point for seeking out areas in Shropshire that are comparatively under recorded - and indeed where there is every chance of making new species records for a hectad. If you have the time and transport please do take a look in these areas, but please ensure if the site is not open to the public you find out who owns it and request the necessary permission.

As technology advances biological recording is changing dramatically with an increasing number of you using **iRecord** to enter your records and indeed the BDS encouraging people to do so. If you do use iRecord a specific **Dragonfly Recording**Form developed by the BDS can be used which allows you to specify life stage. This can be found by looking under Record >Activities >search for British Dragonfly Society and click the gold star to add it to your activities. In addition it is statistically useful if you can declare if the list is a **complete list** ie. all species visibly present at a location. This requires ticking a further box when entering records and **if sending your own spreadsheet then please add a new 'complete list' column and tick where appropriate.** This allows the BDS to do more robust trend analysis which is important given the climatic changes we are seeing. The BDS are also working toward a 'State of Dragonflies' report to be published in 2020 so your records are as important as ever as they will feed into this publication.

The BDS website has detailed information on the different levels of dragonfly recording and how the resultant data can be used. The levels range from casual ad hoc records to complete lists to actually **adopting a local site** whereby you carry out complete lists at a named location two or three times between May and September over successive years. All levels of recording are welcomed and the records always gratefully received. It is thanks to all your efforts that in recent times year on year we have found species occupying new hectads within our county. If you wish to know more about the recording structure get in touch or have a look at the BDS website.



Common Hawker enjoying a spot of lunch with a Gatekeeper butterfly. Photo: J. Shields

STILL Coming Soon to a Pond Near You.....

Sorry to include this yet again, but the first county record is still to be made! No further significant range expansion was noted for this species during 2016 (Parr, 2016) but it is very likely that we have **Small Red-eyed Damselfly** *Erythromma viridulum* in Shropshire and no one's found it. This species is present in Worcester and Cheshire and surely we are next? Hot on the heels of a new species record in 2016 (Lesser Emperor) let's see if 2017 heralds the arrival of the Small Red-eyed Damselfly.... I have included again the main identification tips that differentiate between this species and **Red-eyed Damselfly** *E. najas*.



The male Small
Red-eyed Damselfly
has bright red eyes —
often described as a
brighter 'tomato'
red than the deeper
'burgundy' red seen
in the Red-eyed
Damselfly. The blue
colouration on the
abdomen extends
onto the sides of
segment 2 from the
thorax and onto
segment 8 from

segment 9. In addition a black X mark can just about be seen here on the dorsal surface of segment 10. When at rest the wings extend just beyond the join between segments 6 and 7 (Brooks, 2004).

In contrast the wings of the Red eyed Damselfly extend further down the abdomen upon which there is far less blue colouration.
Segments 1, 9 and 10 are blue, but this does not spread onto segments 2 or 8. In



addition there is no black X mark seen on the dorsal surface of segment 10.

Any records of Small Red-eyed Damselfly received will be a first for Shropshire so it is important to try and get some good photographs highlighting those diagnostic features listed above. Even if you don't manage to get photographs please let me know where you think you've seen them and I'll come and take a look.

Shropshire Dragonflies Website

April 2016 finally witnessed the launch of the Shropshire Dragonflies



Website. It has taken a huge amount of work initially by Paul Hope and then myself pulling all the information together and diving with no confidence whatsoever into web design. I'd like to thank Helen Barclay of pepperstreet.co.uk who helped design the site (and deal with 100s of questions from myself) and also Jonathan Groom who helped put the species distribution maps together. I'd also like to thank Bob Kemp and all other photographers who generously contributed their images to the site.

I really hope you're as pleased with the website as I am and if you haven't seen it yet then please do take a look:

http://www.shropshiredragonflies.co.uk

The joy of a website is that I can continually update it. All the Shropshire courses and dragonfly events that I know of in 2017 are now listed and if you are aware of any others I will happily add them to the events page. Jonathan is also going to help me update the maps annually. Having just submitted all the 2016 records this should happen soon....which means a brand new map for Lesser Emperor....with 1 dot! The **Shropshire Dragonfly Watch blog** is also now fully embedded in the website which remains a source of enjoyment and interest for myself - and hopefully all of you too.

The Last Word..

Every year as I write the annual newsletter it is interesting to see how 'all things dragonfly' are developing in Shropshire. It has been really good this year to include 2 articles from David Tompkins both of which refer to really practical ways to get involved with dragonfly conservation. I'm grateful to David for putting in this huge effort and helping to add a further dimension to Shropshire Dragonflies. The website allows me to keep you up to date with any future **conservation work parties** and if you know of any **dragonfly events** in Shropshire then please do let me know and I can help publicise them. In addition if you wish to contribute any articles or pictures of interest to future annual newsletters then please do get in touch.

THANK YOU once again for your continued interest in Shropshire dragonflies and all your records that provide vital information to help us conserve these fabulous fliers! Please don't hesitate to contact me via the website with any records, newsletter suggestions, ID queries, all spare exuviae (!!!) etc.

Fingers crossed as ever for a sustained heatwave in 2017 and enjoy the dragonflies!



Brooks, S. (2004) Field Guide to the Dragonflies and Damselflies of Great Britain and Ireland. 4^{th} ed. Hook: British Wildlife Publishing.

Cham, S., Nelson, B., Parr, A., Prentice, S., Smallshire, D. and Taylor, P. (2014) **Atlas of Dragonflies in Britain and Ireland.** Wallingford: Biological Records Centre.

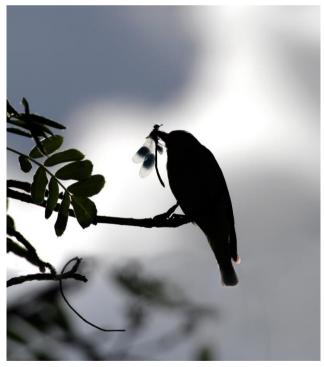
Parr, A. (2015) Wildlife Reports: Dragonflies. British Wildlife, 27(2): 128

Parr, A. (2016) Wildlife Reports: Dragonflies. British Wildlife, 28(2): 125

Perrin, V. (2016b) Wildlife Reports: Dragonflies. British Wildlife, 28(1): 49

Perrin, V. (2016a) Wildlife Reports: Dragonflies. British Wildlife, 27(6): 428

Smallshire, D. and Swash, A. (2014) **Britain's Dragonflies. A field guide to the damselflies and dragonflies of Britain and Ireland.** 3rd ed. Hampshire: Wild Guides



Fortunate Spotted Flycatcher and unfortunate Banded Demoiselle by R.Teme, Ludlow. Photo: G. Thomas