

Dragonfly News 170

The Magazine of the British Dragonfly Society
Autumn 2016
www.british-dragonflies.org.uk

How to use...


...for your dragonfly recording.

*Meet the new BDS President -
Mike Dilger*.*



**Mike plans to be at the BDS
Annual Meeting subject to work
commitments*

Europe's largest dragonfly...



... the Magnificent Emperor

Dragonfly News 70

The Magazine of the British Dragonfly Society

Published twice a year, in April and October, *Dragonfly News* covers all aspects of the British Dragonfly Society's field, recording, monitoring, research, conservation and social activities, as well as information from the wider dragonfly, natural history and conservation world. The emphasis is on dragonflies recorded in the UK.

The British Dragonfly Society aims to promote and encourage the study, conservation and understanding of dragonflies and their natural habitats, especially in the UK, and to raise public awareness of dragonflies.

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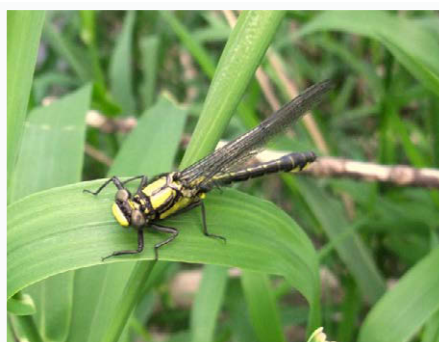
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From the Secretary



Henry Curry

After a cool spring and a prolonged period of rainy weather in June, this year I suppose a lot of us were wondering when summer would actually start. Of course the dragonflies appeared, but to most observers it seems that numbers were generally down on last year. Once the season got into full swing though, things did pick up in the dragonfly world. I'm writing this at the end of July and there's been some spells of warm sunny weather at last - the Migrant Hawkers are busy in our garden, along with an occasional Southern and Brown, and quite a few Common Darters. Their flying skills are amazing – despite the lack of an obvious Air Traffic Control system everything appears to function perfectly well!

BDS Constitution

I was extremely pleased – no, actually overwhelmed! – at the response to the postal Ballot Form included with the Spring mailing, asking members to endorse our proposed changes so that the Society can become an incorporated charity. In the final count I received over 270 “YES” votes from Members (there was just one “NO” vote). The Trustees therefore signed the Incorporation document and we are proceeding with the necessary formalities via the Charity Commission. This was an excellent response rate, around 17% of the total number of members. I'd like to take this opportunity to thank everyone who took the trouble to reply; it's really gratifying to know that we have such a responsive membership.

Our New President – Mike Dilger

It was with enormous pleasure that I received a phone call confirming that well-known naturalist & TV presenter Mike Dilger would become our new President. Mike has been a member for over ten years and we asked if he would take on this role under our amended Constitution. We're extremely pleased that he accepted. Mike recently visited our stand at the Rutland Water Bird Fair for the formal announcement, and the plan is that, providing his busy schedule allows, he will attend our Annual Meeting in November.

Attenborough's Dragonfly

Our Patron, the redoubtable Sir David Attenborough, celebrated his 90th birthday this year, and I sent our best wishes on behalf of all the membership. (As always, I received a reply thanking us).

Earlier this year five BDS members went on a trip to Madagascar. As part of an African survey this led to the discovery of many new dragonfly species. Among these was one named in honour of Sir David, *Acisoma attenboroughi*. The dragonfly was formally named on TV via satellite link by one of the leading scientists behind this, the world-renowned Klaas-Douwe B. Dijkstra, and a framed photo was given to Sir David in the UK studio.

More Farewells

This has been a very hard year so far since a number of members, some very special friends of the Society, have died. I'd like to mention just three of them here. Ralph Sargent, retired warden at Wicken Fen in Cambridgeshire, passed away after a short illness. Ralph was a great character and extremely knowledgeable about all the wildlife on the Fen, and he was a great help to us all at Wicken, both the former Dragonfly Project and latterly the Dragonfly Centre. Clem Tacconi, one of our Trustees, and just recently retired from work, was a cheerful, enthusiastic and tireless worker on behalf of the BDS and the Dragonfly Centre. It was a great shock and a tragic loss to everyone when Clem died. And finally Tim Beynon, a witty, intelligent, raconteur, leader of

many dragonfly walks and trips, and past President with a vast knowledge of wildlife, who had sadly become ill and housebound in the last few years. Tim gave a great deal of time and effort to the BDS and we will miss him. The Society was represented at all the funerals, as a mark of our affection and respect. All three gentlemen will be greatly missed by us, and I offer my sincere condolences to their families and friends.

Trustees

By the time you read this the Trustees will have had two more meetings, first in May and then again in early September. There is always a massive amount to get through at each meeting, and I offer a heartfelt thanks to these busy people who freely give up their time to spend the day indoors talking when they could be outside enjoying the countryside! Among the topics we discussed were: Setting up a Science Research Group; Vice-County Recorders; Policy Reviews; Student Recruitment & Membership; Fundraising; the new Constitution; improving access to the e-newsletter; future Meetings and Events; and staffing the Dragonfly Centre. As ever can I ask you to contact me or any of the Trustees and give them your ideas, or ask questions about any of the issues we are discussing. Please e-mail, ring, or write and I'll circulate your thoughts to the team.

Finally, here's to another memorable Annual Meeting. You'll see the fascinating programme elsewhere in Dragonfly News; do book your place as it helps us judge attendance. I hope to see you in Nottingham on 19 November. **DN**

From the ConsOff



Genevieve Dalley

Writing a week before the start of the brilliant Rutland Water Birdfair, this is a great time to take stock of the dragonfly season 2016 so far. Our weather has once again been an unpredictable mixture of heatwaves and unseasonably rainy conditions, leading to some periods of great dragonfly abundance and others where you are lucky to come across a single Blue-tailed Damselfly! Despite this, we've been on some great events across the UK, and been able to do some great work for dragonflies at the same time. Here's a summary of some of the main projects I've been working on since the spring.

Conservation Projects

In DN69, I mentioned the plight of the endangered Southern Damselfly. Since writing that in January, work has been completed by Natural Resources Wales on Cefn Bryn, the Gower Peninsula, to open up some of the streams which act as breeding and larval habitat for the species on the site. It is hoped that this will allow the species to spread on the site outside of the very limited area they currently occupy, strengthening the population.

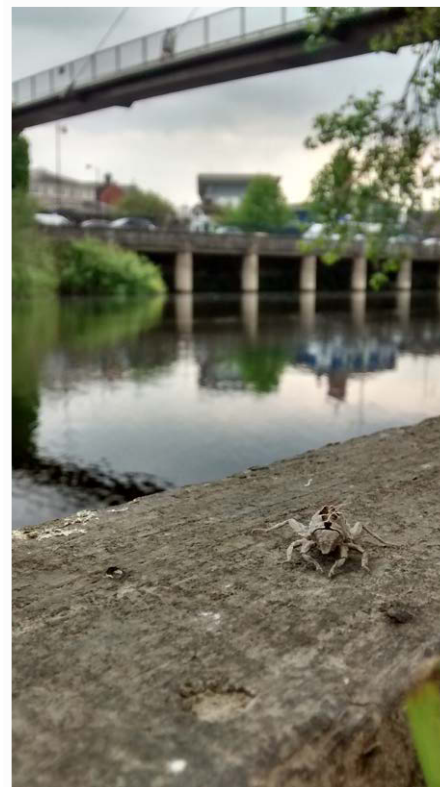
This summer I visited the most northerly population of Southern Damselfly in the UK, at Cors Erddreiniog on Anglesey following concerns that the species had succumbed to extinction here. Happily, conditions were reasonably sunny on the day and I, Mike Howe (Invertebrate Ecologist at NRW) and Tom Harrison (SAC Monitoring Ecologist at NRW) were rewarded with several sightings. While heaving a sigh of relief that the species was not yet extinct here, we set to work on deciding the priority areas for management to bring the small population back from the brink.

Already NRW have sprung into action and opened up a stretch of stream which had become hugely overgrown and no longer suitable for the species. Breeding pairs were found on tiny areas of suitable habitat nearby so it is hoped that in the next few years they will begin to recolonize the cleared area. There are also plans for NRW to work with landowners near the site to further improve it for the species in the coming winter.

In Dorset meanwhile, we embarked on the first cross-organisational collaboration to monitor and manage for the Southern Damselfly in Purbeck, as mentioned in the previous issue of Dragonfly News. Our training day, to ensure volunteers felt confident surveying for adult Southern Damselflies, was a great success. The day was organised by the RSPB and National Trust, with support from the British Dragonfly Society and funded by Dorset County Council. Following informative presentations from dragonfly expert, David Chelmick, and RSPB ecologist, Chris Dieck, we headed out to Hartland Moor National Nature Reserve, where we were treated to some fantastic views of Southern Damselflies, including breeding behaviour. Over the summer, all confirmed and suspected Southern Damselfly sites in Purbeck have been surveyed to assess the distribution and strength of the populations. It will be interesting to review the results over the winter and use them to prioritise our conservation efforts for the species in Dorset.

This year, the BDS has set up and run the first Shropshire Club Tail Survey. The Common Club-tail is Red Listed as Near Threatened and only found on a handful of rivers in England and Wales, including the River Severn. This can be an elusive species and many records are dated and patchy, leading to uncertainty as to the cause of the apparent recent declines in Club-tail populations. In response to this BDS volunteer, David Tompkins, set up and ran the Club-tail Survey in Shropshire, inviting volunteers to adopt regular survey squares. Together, David and I ran a small ID training session and the records are now coming in from many of the volunteers. Read more about this survey on page 12.

Finally, 2016 was the last year of the Delamere Forest White-faced Darter re-



introduction project, headed by Cheshire Wildlife Trust. It will take a few years of monitoring after the project to discern how the population is faring. To this end, the University of Chester has developed a Masters project, with support from Cheshire Wildlife Trust and the British Dragonfly Society. To find out more about this, visit our website and look up 'Project Ideas' under 'Conservation and Research'.

Outreach

We celebrated the release of our education resources for 5-11 year olds this summer, which includes a presentation on dragonflies, covering their lifecycle, habitats, survival and conservation, plus educational activities, craft activities and spotting sheets. All this is freely available on the BDS website, under Conservation and Research, then Education. We have had positive feedback so far and are now planning further materials to add to this, plus the development of a second pack aimed at children aged 12+.

During Dragonfly Week 2016, the BDS was in residence at WWT London Wetland Centre, Barnes. This was a great success, with reasonable weather bringing out a number of dragonflies for people to enjoy at this brilliant urban reserve, plus knowledgeable BDS volunteers on hand all week to answer everyone's burning dragonfly questions. In addition to this, Jenny Evans, an up and coming new artist, was on site



for part of the week, promoting both her original dragonfly artworks, with a proportion of the sales going to the BDS, and her stunning line arts, which were freely available all week for people to colour in! This was particularly popular with visiting children, who had great fun inventing new dragonfly species while learning all about the real dragonflies around them.

Events

The spring meeting was a great success, with plenty of debate and conversation created by all the talks, not least those given by three young naturalists from the group 'A Focus on Nature', who presented their passion for nature and the difficulties they sometimes face in acting on it. Through this there has been a lot of interest in the mentoring scheme run by 'A Focus on Nature', which provides a framework

for experienced naturalists and conservationists to advise and support young people with a passion for nature. For more on this, visit the 'A Focus on Nature' website - www.afocusonnature.org.

I have been to events right across the country over the summer, from the fantastic Dragonfly Week at National Trust Tyntesfield in Somerset to the first Leeds Birdfair at Rodley Nature Reserve, which was a resounding success. I have been able to chat face-to-face with hundreds of people who are amazed to discover more about dragonflies and keen to find out how to help them. I was blown away by the enthusiasm of everyone I met, with one boy of about 10 telling me in detail about the compound eye of the dragonfly (which you can find out more about in the BDS Dragons section in this issue).

It is really uplifting to see this interest and excitement in people for dragonflies and wetland habitats. It is vital that we harness this and continue to work together to protect these fragile habitats and the species that rely upon them.

DN

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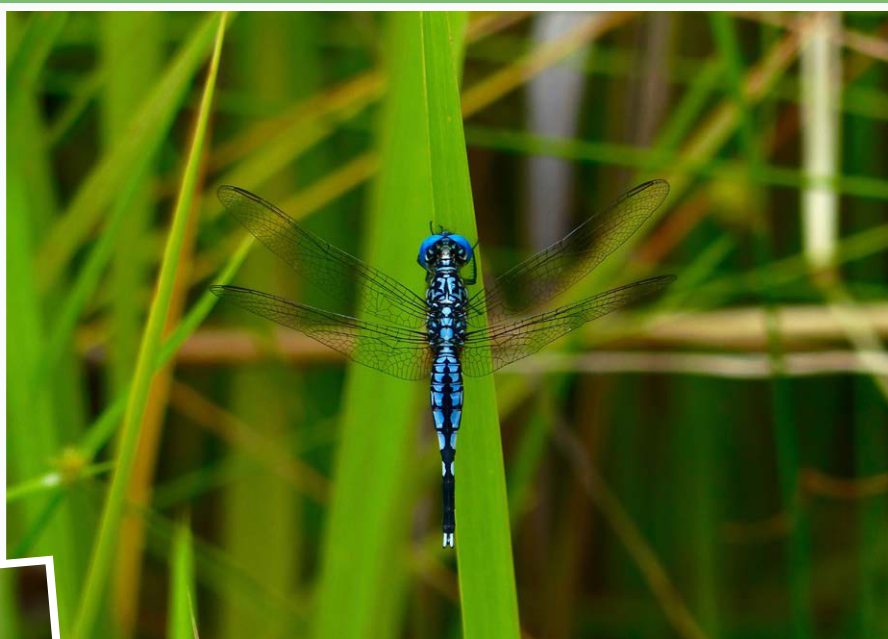
Environment Agency



Sir David's Dragonfly!

A newly discovered dragonfly from Madagascar has been named in honour of BDS Patron Sir David Attenborough on the occasion of his 90th birthday. The species and its scientific name *Acisoma attenboroughi* were revealed in the BBC programme 'Attenborough at 90' first shown on 8th May.

The species was described and named by Klaas-Douwe B. Dijkstra following a trip he led with Phil Benstead of Odonatours to Madagascar in January. Also on the trip were five British members of the BDS, together with eight colleagues from Europe and America. The aim was to search out new species in Madagascar and photograph as many different dragonflies as possible. We achieved that aim! It was a superb photograph of the newly described species by trip member



Erland Nielsen that was presented to Sir David during the BBC programme. Our own photographs are by another trip participant and BDS member, Allan Brandon.

The Attenborough dragonfly has been known of for over 170 years, but it took the keen eye of a taxonomist in the field and molecular studies to reveal it as a separate species to those found elsewhere in Africa and Asia.



Report from the Dragonfly Conservation Group



Dr Pam Taylor

The DCG exists as a committee within the BDS and aims to co-ordinate the conservation, recording and research aspects of the organisation. It works closely with the Trustees of the Society and the BDS network of Vice County Recorders. The DCG meets twice a year in spring and autumn, and currently numbers 11 individuals, plus one corresponding member.

My first tasks as the (relatively) new Convenor of the DCG must be to thank sincerely my predecessor, Dave Smallshire, for his eight years at the helm and to introduce myself to those new to the Society.

I first served as BDS Trustee in 2000, becoming DCG Convenor for the first time the following year. I had rather rashly expressed an interest in conservation at my first Trustee's meeting and was immediately put in charge of the group by BDS President of the time, Tim Beynon. He had been doubling up as DCG Convenor for a few months and couldn't wait to pass the latter office on to someone new (and gullible).

I spent seven years in the DCG role before becoming BDS President myself and I was delighted when the very talented dragonfly guru Dave agreed to replace me as Convenor. Dave is still a fantastic support and font of knowledge within the team today.

Since taking up national duties again earlier this year, after a two year break, I've been on a steep learning curve. In particular, education used to form part of the remit of the DCG, but with our talented Conservation Officer and the Dragonfly Centre at Wicken Fen now taking the lead on this, the DCG can take a step back from such work. Also, with the publication of the Atlas of Dragonflies in Britain and Ireland in May 2014, the focus within the recording sector has moved on to have a greater emphasis on complete site lists and the use that can be made of our BDS data.

One recent request for our assistance came from Buglife. They are using invertebrate data from us and other groups to identify and map Important Areas for Invertebrates. Another request came from Trevor Beebee at Sussex University who is currently writing a book about climate change and the affect on British wildlife.

On the conservation side of things, the DCG and Conservation Officer are keeping a close eye on Southern Damselfly areas and potential projects that could either enhance or harm the habitat for this species. In Scotland it is hoped to coordinate a new survey of Northern Damselfly sites in the near future, but funding and volunteers both need to be secured first.

Our other protected species, Norfolk Hawker, seems to be thriving without DCG support these days. Once confined to east Norfolk and north Suffolk, it has once again been reported this year from a site in west Norfolk, from Paxton Pits in Cambs, from Amwell in Herts and from Stodmarsh in Kent. Moreover its range continues to expand. Just this summer, on Dragonfly Day at Wicken Fen, I spotted a single Norfolk Hawker patrolling over Wicken Lode. The late Norman Moore, founder of the DCG, Norfolk Hawker specialist and Wicken Fen supporter would have been delighted.





New BDS President

Our new President is ...

Mike Dilger has accepted our invitation to become the new President of the British Dragonfly Society. Mike is a well-known TV presenter and is also a qualified and skilled naturalist and writer. His enthusiasm for dragonflies and damselflies has seen him support BDS on many occasions in recent years and it didn't take much persuasion for him to agree to take on this new role.



Accepting the invitation, Mike said:

"With new species recently reported to have begun breeding here, it's an exciting time to be watching dragonflies and damselflies in Britain. These charismatic insects are not just utterly entrancing to observe and study in their own right, but their continued presence in many of our rivers, streams, pond and lakes also tells us a much bigger story about the health of our waterways up and down the country. I'm delighted to have been asked to become the new President of such a proactive charity, and look forward to 'banging the Odonata drum' at every available opportunity to ensure these wonderful creatures get the limelight they truly deserve."

The Trustees are delighted that Mike has accepted our invitation at a key time for the Society. Dragonfly Week this year saw more events than ever across the country, involving people of all ages in viewing these flying jewels.

With projects across the UK to monitor odonata populations being supported by new programmes highlighting and signing hotspots and also work with young people introducing them to their complex lifecycles, we look forward to Mike helping us to build the profile and understanding of dragonflies and damselflies across the next few years.

The Trustees

Editor's new e-mail address

My new e-mail address for all correspondence relating to Dragonfly News is:



Thanks,

Mark Tyrrell
Editor, Dragonfly News

New Dragonfly Hotspot at Caerlaverock!

The British Dragonfly Society and the Wildfowl and Wetland Trust (WWT) are very pleased to announce the designation of a new Scottish Dragonfly Hotspot in Dumfries & Galloway. And to celebrate, a giant LEGO brick sculpture of an Emperor Dragonfly named Emily has taken up residence for the summer at WWT Caerlaverock!

Daniele Muir, BDS Scotland Officer, said "Hotspots are locations where there are good dragonfly populations, easy access for people to reach the good dragonfly spots and communities close by that can get involved in dragonfly events and conservation. There are five species of damselfly and five species of dragonfly to spot around the reserve, including the Emperor Dragonfly, one of our largest and most brightly coloured species. It's a wonderful place to see many species of birds as well, along with beautiful orchids and clouds of butterflies over the wildflower meadows".

She added "People love to watch dragonflies flying around close to ponds and lochs on warm, sunny days and WWT Caerlaverock is the perfect place to do just that. But did you know that dragonflies and damselflies spend most of their life underwater as larvae – sometimes up to five or six years in upland areas - and only live for a few weeks as an adult after they emerge from the water?"

For more information on events, the dragonflies at WWT Caerlaverock Wetland Centre, and to download your dragonfly spotter sheet, please see the website: www.wwt.org.uk/dragonflyca/ or contact Faith Hillier, WWT Customer Service and Engagement Officer on [redacted]

First Dates for 2016

Adrian Parr rounds up the first recorded dates for each of the common UK species.

In Britain, the early part of winter 2015/2016 was extraordinarily mild, but as the months progressed the warmth dissipated, and by April temperatures were often slightly below average. The outcome of all this was a fairly uneventful start to the dragonfly season, with 8 species recorded on the wing by the beginning of May; this is a rather typical number. A warmer spell a few days later brought out more species, but even as the year unfolded the season was never to become anything other than 'average'. Indeed a number of localities that missed the best of the weather found many species to be slightly late in appearing. Two highlights of the year are nevertheless worthy of mention. One was the significant number of species that were first seen in Wales, an area that doesn't often feature prominently in these reports. These early appearances no doubt reflect favourable weather trends in the region. The other item of note was the new record 'first date' for Willow Emerald Damselfly that was set during 2016, though this probably is more a reflection of the increased number of people now seeing the species than of any particular biological event. **DN**

All first dates currently known to me are detailed below:

SPECIES	FIRST DATE	LOCATION	OBSERVER
Banded Demoiselle	03-May-16	Surrey	W. Budd
Beautiful Demoiselle	27-Apr-16	Glamorgan/Surrey	A. Irving/M. Freeman
Scarce Emerald Damselfly	07-Jun-16	Norfolk	D. Filby
Emerald Damselfly	24-May-16	Norfolk	J. Mee
Willow Emerald Damselfly	22-Jun-16	Essex	A. Shearring
Azure Damselfly	30-Apr-16	Somerset	J. Calford
Variable Damselfly	20-Apr-16	Somerset	G. Hall
Red-eyed Damselfly	05-May-16	Hampshire	P. Ritchie
Small Red-eyed Damselfly	24-Jun-16	Greater London	C. Ellam
Large Red Damselfly	01-Apr-16	Kent	M. Heath
Common Blue Damselfly	04-May-16	Somerset	J. Calford
Blue-tailed Damselfly	21-Apr-16	Cornwall	C. Moore
Scarce Blue-tailed Damselfly.	12-May-16	Cornwall	D. Cooper
Small Red Damselfly	04-Jun-16	Hampshire	N. Baldwin
White-legged Damselfly	15-May-16	Kent	per M. Heath
Southern Hawker	26-May-16	Breconshire	C. Lewis
Brown Hawker	11-Jun-16	Surrey	R. O'Mahony
Norfolk Hawker	26-May-16	Norfolk	T. Needham
Common Hawker	04-Jun-16	Radnorshire	R. Eastwood
Migrant Hawker	05-Jul-16	Essex	A. Shearring
Emperor Dragonfly	17-May-16	Pembrokeshire	G. Jenkins
Hairy Dragonfly	23-Apr-16	East Sussex	J-P. Charteris
Common Club-tail	12-May-16	Oxfordshire	W. Bull
Golden-ringed Dragonfly	26-May-16	Hants/Dorset border	P. Ritchie
Downy Emerald	04-May-16	West Sussex	C. Knight
Brilliant Emerald	27-May-16	Surrey	R. O'Mahony
White-faced Darter	08-May-16	Shropshire	Anon
Broad-bodied Chaser	24-Apr-16	Dorset	G. Maddison
Scarce Chaser	15-May-16	Somerset/Dorset/Cambs	P. Ritchie/C. Roughley/C. Cooksey
Four-spotted Chaser	20-Apr-16	Southwest Yorkshire	L. Condon
Black-tailed Skimmer	19-May-16	Somerset	S. Balcombe
Keeled Skimmer	12-May-16	Norfolk	B. Dawson
Black Darter	15-Jun-16	Hants/Dorset border	P. Ritchie
Ruddy Darter	03-Jun-16	Glamorgan	C. Lawrence
Common Darter	12-May-16	Cornwall	D. Cooper



Migrant and New Colonist Update

Adrian Parr reports on the activities of migrant and new colonist dragonflies for spring and early summer 2016.

In contrast to the last few years, the start of the 2016 dragonfly season turned out to be a relatively quiet one for migrant dragonflies. This is of course relative to recent norms, for just 20 years ago some of the sightings would still have been remarkable!

Reports of Red-veined Darter are now expected in the UK each year, but spring/early summer 2016 saw just a scattering of records, at least some of which clearly related to the offspring of last year's major influxes or to recently-established resident populations. Newly-emerged individuals were thus noted at Spurn, East Yorkshire, and on Bodmin Moor, Cornwall. Small-scale immigration did however also take place, with arrivals being noted on the Isle of Wight and some of the Welsh islands during mid May, in Cornwall, Glamorgan and Kent during early June, and in Norfolk towards the end of that month.

The Lesser Emperor is another migrant species that is now 'expected', and the first record of the year was to come from Shropshire on 20 June. At the time of writing, there have been subsequent reports from a further 7 sites, including two in Berkshire, two in Hertfordshire and two also in Norfolk, one of which being Filby Broad. Filby Broad is part of the Trinity Broads complex where large numbers of Lesser Emperor were noted in 2014 and 2015, and it is possible that this particular individual was locally-bred.

While traditional migrants were present in somewhat below average numbers, some resident species showed signs of significant internal dispersal. A sighting of Norfolk Hawker at Wicken Fen, Cambridgeshire, during

late July is thus of some significance. The Scarce Chaser is also clearly continuing its recent range expansions. In Leicestershire and East Sussex there were thus sightings well away from previously-known sites, and the first county records for Lincolnshire were made in the Throckenholt area during late June. While it is possible that some of these individuals were the progeny of dragonflies that had dispersed in earlier years, an immature was also spotted on the edge of Newmarket, Suffolk, many miles away from suitable breeding habitat.

As far as our recent colonist species are concerned, early news here has also been fairly low-key, though with some highlights. Most notably, Southern Migrant Hawker has already been seen in very good numbers at several sites in its Thames Estuary strongholds, including at Hockley Woods in Essex. While there have been a few records here in the past, this site has a rather different character to the species' more coastal localities in the area. As yet there is no news as to whether further breeding populations have become established away from the Thames Estuary as a result of the immigrations seen in 2015.

While perhaps not having the excitement and unusual species of some recent years, early 2016 was certainly far from dull in the migrant dragonfly world, and it will be interesting to see what the autumn brings. **DN**

FIELD MEETINGS & OTHER EVENTS

Reports compiled by Mike Averill

Each year the Society runs field meetings around the British Isles. These are advertised in the Spring issue of Dragonfly News and most reports appear in the Autumn issue. If you would like to run a meeting in your area please contact Mike for guidelines.

Stover Country Park & Little Bradley Ponds, Devon, 22 May

Ten of us were met by cool, conditions at Stover, but the highlight was finding four Downy Emerald exuviae and four male Red-eyed Damselflies on a pond adjacent to the main lake. Other breeding evidence came in the form of emerging Large Red Damselflies and Four-spotted Chasers. Half the group went to Little Bradley Ponds in brighter conditions after lunch, when the temperatures reached that magic 17C. Beautiful Demoiselle and Common Blue Damselfly were additions to our list for the day, but better still were two male Hairy Dragonflies on territory and three Downy Emerald exuviae, one of which had a failed emerger next to it. So we recorded nine species in all, showing that going out on a less than perfect day can still yield results!

River Otter, Devon, 11 June

Eleven BDS and Devonshire Association folk walked the River Otter north from Tipton St John in mainly cloudy conditions. We encountered hundreds of Banded Demoiselles, two Beautiful Demoiselles and small numbers of Azure, Common Blue and Large Red Damselflies, but only a single White-legged Damselfly. The scarcity of the last was surprising, although it's still early in the season for them, but it was disappointing not to discover Scarce Chaser - they must be on the Otter, which lies between known sites in the lower Axe and Exe/Clyst valleys. A Golden-ringed Dragonfly splashed down into the river and had difficulty rescuing itself (we were helpless on the opposite bank). Two of us had nice views of an Otter (in the Otter!) going by.

Upton Fen, Norfolk, 2 and 9 July

The first walk was a joint one for BDS and Norfolk Wildlife Trust members, the

second for Aylsham Wildlife Group. My two walks followed roughly the same route, but were a week apart. What a difference a week makes! The 2nd July was warm and sunny throughout, but with a stiff breeze gusting through the open fens and normally sheltered paths. The 9th July walk started cloudy with patchy drizzle and ended in torrential rain. We still managed to locate three-quarters of the species seen the week before though, so all was not lost.

Upton Fen is home to three species of 'blue' damselfly; the Azure, Variable and Common Blue. The first two are typical of ponds and dykes, but the Common Blue Damselfly usually prefers larger waterbodies such as lakes and rivers. It is found in scattered places around Upton Fen thanks to the open broad at its heart and some fishing lakes on its borders.

Added to these damselflies we found the aptly named Blue-tailed and Emerald Damselflies on both visits. The Large Red Damselfly was found only on the first walk. It is a spring species whose population peaks in Norfolk around the end of May. A few individuals can still be seen into early September, but are hard to find.

Of the larger species, Brown Hawker was the most obliging on the second visit. Cooled by the prevailing conditions, I was able to pluck one out of the vegetation for everyone to see. It soon warmed up in my hands though, so when released flew off strongly across the reeds. I was also able to show my guests close-up views of Common Darter, Four-spotted Chaser and Black-tailed Skimmer, but the Emperor on the first trip was only seen in flight.

My final species and main target, Norfolk Hawker, was strangely elusive and seen only at the end of the first walk. Of course, once we'd found one, several others were soon spotted nearby.

Moortown Bottom, Gidleigh Common, Dartmoor, Devon, 24 July

Twelve people turned up at this site on the fringe of the moor in mainly cloudy conditions with frequent light drizzle: a typical Dartmoor day! Although the temperature was a mere 16C when we arrived, it did warm a little, but not enough to get dragonflies very active. A few Southern Damselflies were found, plus rather more of our other main target, Small Red Damselfly. We also found a few Keeled Skimmers, including two emerging, and a Golden-ringed Dragonfly exuvia. Despite the rather poor dragonfly showing, we enjoyed the superb mire plant communities and a Green Sandpiper, which narrowly avoided a hunting Peregrine after we flushed it from one of the runnels!

Chudleigh Knighton Heath, Devon, 31 July

This joint Devon Group/Devon Wildlife Trust meeting was attended by over 30 people, mostly from DWT. The event was billed as an introduction to dragonflies and during the mainly sunny morning nine common species were seen, mostly caught and examined in detail. The differences between Azure and Common Blue Damselflies were explained, then Blue-tailed, Large Red and Emerald followed. All the time, a male Emperor circled one pond, once grabbing and attempting to mate with a female Southern Hawker. A territorial male of the latter showed well at another pond, while plenty of Common Darters, including ovipositing pairs, were at all three ponds we looked at. Finally, a few male Broad-bodied Chasers appeared for good measure. Others visiting a fourth pond added a tenth species in the form of two male Keeled Skimmers. **DN**





A Magnificent pool

Dave Smallshire goes in search of Europe's largest dragonfly among the pools in the hills of Muğla Province, Turkey.

During a trip to South-west Turkey in 2013 I discovered a new breeding site for Europe's largest dragonfly, the Magnificent Emperor *Anax immaculifrons*. It was in a steep, rocky valley next to one where the species was well-known, but I turned off the main road too soon! The serendipitous result was finding a small pool at which Sue and I saw about five males, 15 exuviae and even watched a larva hunting tadpoles. It was a magical place, not least because I also photographed a territorial male Red-veined Dropwing *Trithemis arteriosa* among the more expected Odalisques *Epallage fatime*, one of only a few records for Muğla Province of this African species.

I returned to Muğla Province this spring to lead the first Naturetrek dragonfly tour here in early June. Learning that I would be there, Max Whitby and Fiona Barclay of

NatureGuides commissioned me to help them film some key dragonflies for a few days prior to the group arriving. We filmed Magnificent Emperor at the known waterfall site, but our driver had refused to drive up the rough track I had taken a hire car up in 2013. So I returned after Max and Fiona had gone home and walked up through the pine wood to the end of the track, where five Eleonora's Falcons were (dragon?)fly-catching overhead. The final 100m were up the steep riverbed, which involved some serious rock-climbing! Initially I thought that a flash flood must have taken out the pool, because it wasn't where I remembered it. There was almost no water running down the dry bed, only occasional tiny pools with a few Odalisques. After nearly giving up, suddenly there it was, but even smaller: it was only about 4x3x0.5m deep!

As I lurched up over the final boulders,

I was greeted by the welcome sight of a territorial male Magnificent Emperor! And magnificent it was: not only huge (bigger than Blue Emperor), but with brilliant blue eyes, pale blue and black thorax and abdomen ringed by broad orange bands. Having feasted my eyes on it, I then noticed a stunning male Red-veined Dropwing! Could this bright red species be breeding here? I photographed and videoed it perched on a twig and rocks, where it frequently tussled with a male Indigo Dropwing *Trithemis festiva*: Asia meets Africa in Anatolia!

Turning my attention back to the emperor, I managed to catch it easily (its territory was so small!) – and took in-hand photos and video before perching it on a bramble for more of the same. Meanwhile, a second male had appeared and soon perched on a twig right next to me. Can you imagine 'our' Emperor doing that? I spent a thrilling hour-and-a-half at the pool, finding a shed larval skin in the water and several exuviae on grasses, bramble and a rock face 0.5-1.5 m above the water. I saw a total of 12 species at this tiny oasis, including Blue-eye *Erythromma lindenii*, White-legged Damselfly *Platycnemis pennipes*, Norfolk Hawker *Aeshna isosceles*, Scarce and Broad-bodied Chasers *Libellula fulva* and *L. depressa* and Epauvette Skimmer *Orthetrum chrysostigma* (another mainly African species). Just when I was thinking of leaving, a female Magnificent Emperor appeared - my first female - and was quickly grabbed by the male; together they perched on brambles across the pool, so more photographs followed.

But dragonflies weren't the only things to see. A Dice Snake appeared twice in the pool, no doubt trying to catch the Levant Marsh Frog tadpoles. A freshwater crab scuttled to its hiding place amongst the rocks. A lizard hunted actively over the baking boulders, eventually catching a grasshopper. A succession of butterflies flew up the stream bed, the best of which was a Two-tailed Pasha, Europe's largest species, which paused briefly on the rocks. I'd heard that they like a bit of alcohol, but I only had water to offer it ... or so I thought. Soon it was off, and I was thinking I'd have to go now, having waited half an hour since the mating pair of emperors had disappeared beyond large boulders. But then the Pasha flew back straight towards me and landed on my Tilly hat! I could see its shadow but



there was no way to photograph it, apart from removing my hat. Very gently, I took it off and prepared by camera: amazingly it stayed there, imbibing my sweat, and allowed my camera to come within an inch of it. Life isn't all about dragonflies!

[The Naturetrek group subsequently saw Magnificent Emperor at this pool, and Red-veined Dropwing at a nearby location. Other highlights included Turkish Red Damsel, Bladetail, Black Pennant, Epauvette, Small and Slender Skimmers and Indigo and Violet Dropwings, not to mention birds such as White-throated Kingfisher, White-throated Robin, Finch's Wheatear and Red-fronted Serin. Read about these and other sightings in the tour report on the Naturetrek website. I will be leading next year's Naturetrek dragonfly

tour to South-west Turkey from 31 May to 7 June.] [DN](#)

Opposite: The small pool occupied by Europe's largest dragonfly.

Above top: Male Anax immaculifrons.





With only patchy and outdated records, David Tompkins designed and ran the first Shropshire Club-tail survey to gain a better understanding of this species in the County - with great results!

For the first time, the BDS ran the Shropshire Club-tail Survey during the spring and summer of 2016. As a BDS volunteer, I designed and ran this survey in response to concerns that Club-tail dragonfly populations could be in decline.

The Common Club-tail Dragonfly is listed as Endangered on the IUCN Red List. It is an elusive species which is found on a limited number of slow flowing stretches of mature, lowland rivers in Southern Britain. One of these is the River Severn, which flows through Shropshire. Records exist for the River Severn in Shropshire, but many of these are patchy and/ or dated. I decided that an extensive survey of the whole length of the River Severn through Shropshire would be a good way to get a better idea of the coverage of the species in the county. This would be too much for me to cover alone, so, with the help of BDS Conservation Officer, Genevieve Dalley, I set up the Shropshire Club-tail Survey.

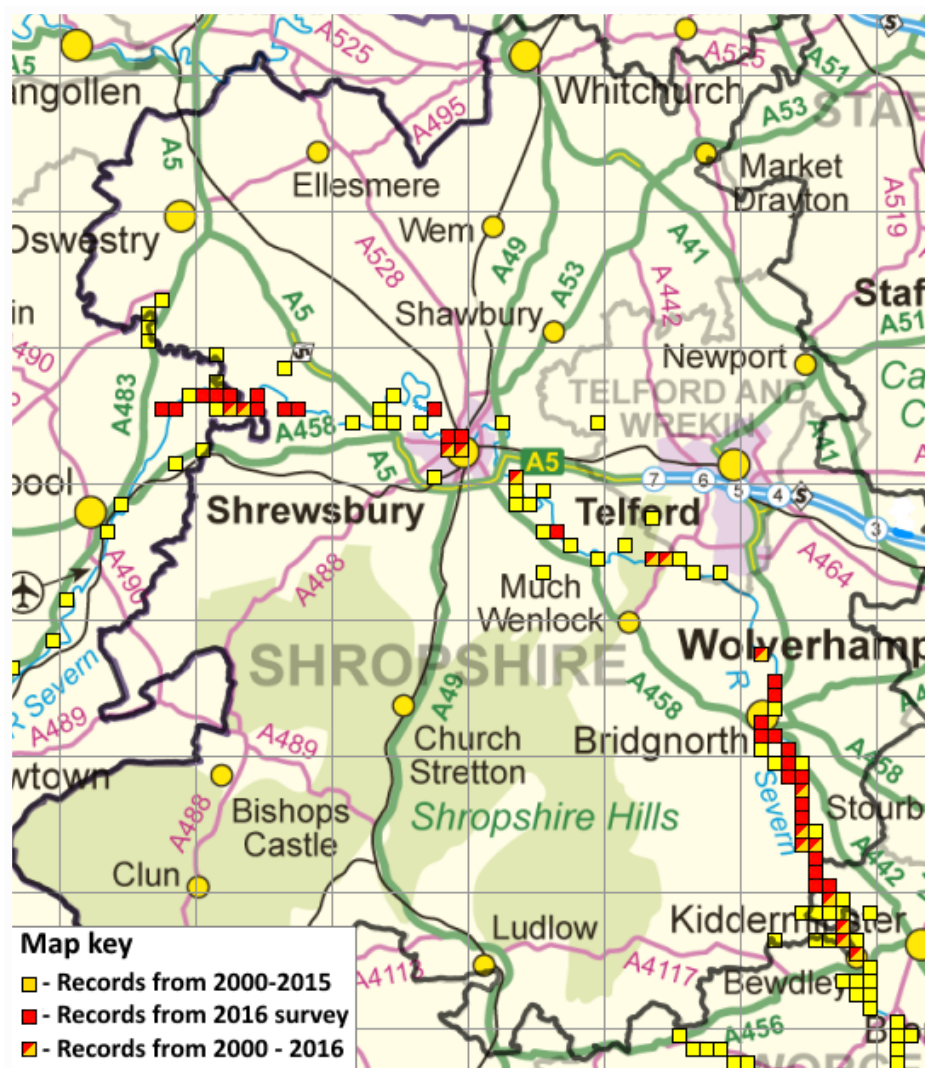
I recruited volunteers through a number of channels. Genevieve created a recruitment poster for the survey which was then advertised on the BDS website, e-newsletter and Facebook page. The poster was also sent to a number of relevant organisations, such as the Shropshire Wildlife Trust, Severn River's Trust and National Trust's Attingham Park, near Shrewsbury, to be passed on to their volunteers. A blog advertising the volunteering opportunity was also

uploaded onto the Field Studies Council's 'Tomorrow's Biodiversity' website. This was a two-way process, providing me with additional volunteers from outside of the BDS as well as introducing new people to the Society and giving them the opportunity to do something good for wildlife in their local area. I recruited 14 volunteers, plus the help of the Vice County Recorder for Shropshire and Worcestershire (Sue Rees Evans and Mike Averill respectively).

The volunteers were tasked with choosing at least one 1km² monad, although many volunteers took on multiple monads, to cover regularly throughout the season. I restricted the monads to choose from to those with public footpaths allowing reasonable access to the riverside. Each volunteer was sent a survey pack which consisted of a welcome letter, an OS map showing their chosen monad/s and the associated footpaths, a survey form specifically designed for this project and an identification sheet with tips on identifying both adult and exuviae Common Club-tail's and advice on when and how to survey for them.

I supplemented the ID help with emails to my volunteers showing them exuviae and adults found by others as the project progressed. I also invited the volunteers to a short training event in Shrewsbury. This consisted of Genevieve and I taking volunteers along the river in a place where we had regularly seen Club-tail exuviae in the past few weeks to look for both adults and exuviae. Although the weather was against us (with heavy downpours and a thunder storm at one point!), leading to a total lack of adults on show, we did find a number of Club-tail exuviae, adding them to the count for that area, and allowing volunteers to take the exuviae home with them for future reference. We also found a number of Banded Demoiselle and White-legged Damselfly exuviae on the day for comparison.

I advised people to particularly remember to look for exuviae. The adults often spend a lot of time high up in woodlands well away from the breeding site, which can make them difficult to find, although males will also fly low over his territory and use regular perches. This means that it can sometimes be easier to find the exuviae than it is the adults; I personally found around 20



exuviae during this season and didn't see a single adult! The exuviae also give a clearer indication of where the species has successfully bred and are very distinctive compared to the exuviae of other species.

By happy coincidence, our BDS Shropshire Club-tail Survey coincided with the Shropshire Wildlife Trust's 'Love Your Magnificent Severn' Project. For this, the trust had enlisted the help of a number of volunteers to cumulatively travel the full length of the Severn, from its start in Pumlumon Hills in Wales, all the way down to the Gloucestershire Docks, via canoe, cycling and walking. Not only did we increase the Society's and surveys outreach by collaborating with this project, but we also received a large number of Club-tail records from one of the ecologists on board a canoe for much of the trip, Dan Wrench.

The survey volunteers' cover ranged all the way from the Severn-Vyrnwy confluence, where the river enters Shropshire in the west, to the

Worcestershire-Shropshire border, where the river exits the county. I also received a few records from just over the border at either side. In total from this survey I received a total of at least 90 new Common Club-tail Records (see map above).

I believe this survey to have been a great success. Not only did we receive a wealth of new records and breeding information for the species along the Severn in Shropshire, giving us vital information needed to track the status of the species and possibly direct future management or research into declines, but we also introduced a number of new people to the world of dragonflies. Many of the volunteers who helped with this survey had very little previous experience of dragonflies and were originally interested in helping a charismatic species which was special to their local area. The Common Club-tail, both adult and exuviae, is a distinctive species, difficult to confuse with other dragonflies and limited to a very specific

habitat shared by few other dragonfly species. This makes it a perfect starter dragonfly species to introduce people to surveying for dragonflies. It also provided a great way for people to reconnect with a wonderful river which is teeming with wildlife, much of which is elusive, like the otter, or difficult to see, like the many fish living in the Severn's waters.

I hope that people continue searching for the Club-tail on the Severn in Shropshire, and beyond, as we desperately need to have a greater understanding of this species' population strength and distribution. But I also hope that those involved in this survey enjoyed their time by the river looking for Club-tails and will continue with an interest in dragonflies beyond the scope of this survey.

Finally, I hope that this project will inspire others to do something positive for dragonflies. It is easy and enjoyable to get involved with dragonfly surveying. Be it a specific project, like this one, or just carrying out a complete list at your local dragonfly hotspot, you will be doing something amazing for the wildlife around you. I would also like people to use this survey as an example, to encourage you to create and run a project yourselves. Working alongside the BDS, I found it hugely satisfying to run this project and feel I have played a part in conserving the species. Although it can seem daunting at first, with a little planning, and by working with a society such as the BDS, you can fit running such a project in with your day job and other commitments. I urge anyone thinking of getting actively involved with dragonfly conservation to wait no longer – you'll be amazed and proud of what you can achieve! I would be keen to see similar surveys undertaken on other rivers, especially the Welsh Dee and the Middle Thames in Oxfordshire, with a particular emphasis on finding new breeding locations rather than revisiting known haunts. If you're interested, get in touch via Genevieve, the BDS Conservation Officer. **DN**

Opposite: Common Club-tail exuvia (photo by Elise O'Donnell)

Above: Map summarising records of Common Club-tail on the River Sever .



Notes & Observations

Compiled by Mark Tyrrell



On our regular surveys at Bystock Pools near Exmouth on 17 July, we were recording the Small Red Damselflies there, and came across this 'menage a trois'. What interested us more was that a Large Red Damselfly wanted to get involved!

Rick and clare carter



I witnessed this very interesting behaviour between a Hairy Dragonfly and a Norfolk Hawker at Minsmere on 4 July 2016 on a sunny south facing hillside north of Island Mere. We strolled off the path to look at a butterfly, turned around and saw a large blue dragonfly grab a slightly smaller yellow one and land on a thick stem. We thought we could see some movement by the Norfolk Hawker, but weren't sure as the Hairy was manipulating it although it was quite clear that some sort of attack was occurring. The Hairy appeared to be eating the Norfolk Hawker and this hypothesis was confirmed when we saw the green-eyed head pop off and float down to the ground! There was another minute of activity, in which time the Hairy started to slip down the stem. It finally flew off up into a tree carrying the remains of the Norfolk Hawker with it.

Dan Self



This sequence of pics record a fascinating little cameo played out in my pond on 16 May. The female great diving beetle surfaced in the middle of the pond with what I'm fairly sure was a Four-spotted Chaser larva in its jaws (7 emerged from the pond in the days following), but the larva proved strong enough to make it to the pond side. The commotion attracted the attention of many newts of all three species(!) and eventually these newts bullied off the beetle, whereupon they set upon the larva themselves. Finally, the larva managed to crawl high enough up to escape the newts.

I felt so sorry for this resilient larva that I have to confess I intervened and moved it to another pond, though realising that the beetle had probably done for it ultimately.

steve palin



X-ray not needed!

A 5mm long larva of Black Darter (or so I believe it to be) in mid July made me wonder about its supposed 1-year life cycle here in north Cumbria. While I had it under the microscope it was the transparency of this tiny creature that took my eye, revealing some of its 'inner workings'. What can be seen most clearly is the symmetrical system of tracheae – the tubes that conduct oxygenated water from the gills lining its lower digestive system and transport this around the body. There are two main 'trunks' that encircle the gut and have richly branched connections to it. These feed forward to the rest of the body, with side branches to the site of wing development, and continuing onwards into the head capsule – especially to the all-important sensory areas around the eyes and antennae.

David Clarke

BDS at the Rutland Birdfair

Once again the BDS team has been at the Birdfair. As a Society, this was our 16th year at the annual Rutland Water event, although those from the former Dragonfly Project side of things have been attending for many more years than this.

The three-day event started well with a very busy Friday. All the team were kept occupied making sales, giving advice, encouraging membership and renewing acquaintances with existing BDS members and other staunch supporters.

Highlight of the first afternoon was a book signing on our stand by TV presenter and naturalist, Chris Packham. Chris is a long-time friend of the BDS who opened our Dragonfly Centre for us at Wicken Fen in 2009. Several of us couldn't resist purchasing his new book, *Fingers in the Sparkle Jar*, and of course getting it signed by the author.

Friday had its occasional showers, but the forecast for Saturday was worse. Thankfully the rain had mostly cleared by mid-morning, but we had strong winds all day and the poor conditions seemed to reduce visitor numbers. We still made plenty of sales though and several people became members of the BDS. Ruary Mackenzie Dodds took part in the Authors Forum to talk about how his book, *The Dragonfly Diaries*, has changed his life. Highlight of the day though was being able to announce that our new BDS President is Mike Dilger.

Our third and final day was mostly sunny and warm and we needed the electric fan working on the BDS stand for the first time to keep us cool. Nick Baker, another TV presenter and naturalist, called by for a chat early in the day. Later Ruary, our own BDS celebrity, had a slot in lecture marquee 3 for his talk *Dragonflies; the birdwatcher's insect*. I too had a few minutes in the limelight when I was part of the panel for *Ask the Experts* in the events marquee. Thankfully this wasn't as scary as I'd expected and it was great when host of the questions and new BDS



President Mike Dilger introduced me as coming from the greatest invertebrate organisation of them all. He is so right!

DN

Top: The BDS team, from left Dave Goddard, Mick Parfitt, new recruit Alex, Nigel Scott, Mike Dilger, Genevieve Dalley, Sue Parfitt and Pam Taylor.

Above left: Chris Packham visits the stand (with Genevieve).

Above right: Nick Baker pops in for a chat.

Two successive years have produced very good numbers of emergers at the Foulshaw Moss reintroduction site. In this sixth season since stock translocations began, David Clarke wonders whether it is now time to leave it to nature to do the rest.

The good season of 2015 was featured in *Dragonfly News* 68. That report emphasised the importance of a similar outcome in 2016, given the assumed 2-year life cycle. This year we conducted the first count of exuviae on 17 May and were pleased, and a little surprised, to find that at least 855 had already emerged. Weekly counting continued until 17 June, by which time it was evident that emergence had virtually ceased. By then the total count at the five pools we monitor was close to 2000. This is a minimum figure and certainly compares favourably to the 256 found in 2014. Life cycle length is a key issue: we know nothing about it at Foulshaw - and it could even differ from that at the donor site, for which there is reasonable evidence for the two-year 'standard model'. The situation at both sites could however be more complex: for example, some larvae may develop in one year and others in three - as has been claimed possible for this species.

Given that no translocations of larvae have been made since 2014, the continued upward trend in numbers and the expansion in available breeding habitat at Foulshaw (from bog restoration) give increasing confidence that the species is now self-sustaining. Very good weather this year at just the



right time will certainly have helped. The extent of breeding outside the complex of the five pools we monitor annually is unknown, and seems only likely to increase. It has been proved at several other pools, and adults have been seen quite widely. The image of the mating pair was taken on the boardwalk, some distance from the re-introduction pools: the same observer reported sightings at several locations that day (22 May) and again on 5 June.

As it will not be possible to sustain the present intensity of (voluntary) monitoring, assessing how the population performs from now on at this large and not wholly accessible site is an issue still to be resolved. Equally, there is the question of what management operations will be needed to maintain suitable habitat in the longer term. Both imply continuing monitoring effort. We now enter a new phase, and hope that the increasing number of sightings by casual visitors over the coming years will itself become one of the measures of performance. BDS members are encouraged to take an active role in recording there, as well as enjoying the rare opportunity to look for this special species in England. And speaking of BDS members, my particular thanks go to Heather and Tony Marshall, who between them collected most of the exuviae - a rewarding though somewhat Herculean task!

Two unpredicted aspects of the

project have come to light. Firstly, emergence at Foulshaw starts earlier than at the donor site - perhaps by at least as much as two weeks. The location, near Morecambe Bay, is warmer and sunnier on average than the donor site, so perhaps that is not such a surprise. (For presumably the same reason, the flight season tends to end correspondingly earlier.) Secondly, only a very small proportion of exuviae (< 5%) at Foulshaw bear dark markings on the underside of the abdomen, usually noted as a key ID feature. Why this is so is unclear, but it does mean that in this population the character is not available for confirming identifications. A genetic study might reveal more, and I have also wondered whether it could be a clue to larval age. Fortunately, in practice, the only other species in the same habitat that might be a cause of confusion is the Black Darter: its exuviae are smaller than those of the White-faced Darter and also differ in a number of other dependable features. Clearly our project has started something that is already developing its own unique aspects, and potential for future research. If nonetheless we have succeeded in founding/re-founding one of England's more significant colonies of this engaging species, that will be reward in itself. **DN**



The Arctic Circle

- a hot spot for dragonflies?

Attending the ECOO 2016 conference in Sweden gave Mike Averill a chance to visit some dragonfly sites within the Arctic Circle.

This edge of the boreal forests north of the Arctic Circle may not usually be associated with dragonfly hot spots but the Fourth European Congress on Odonatology (ECOO 2016) which took place in Sweden gave people a chance to visit a habitat with a difference during the post congress trip. The tantalising chance of finding the rare Treeline Emerald *Somatochlora sahlbergi* was one of the carrots being offered. Looking at the school atlas, it soon became apparent that the destination wasn't just up from Scotland but was further north than Iceland and most of Alaska!

Twenty two people from 7 countries including the UK, Netherlands, Belgium, Germany, France, and Denmark joined Magnus Billqvist and Ola Elleström from Sweden who organised the trip. Two locations were chosen to stay during the week with one near the Finnish border so that we could explore as many locations as possible. Accommodation was in simple cabins with a mixture of eating out

and self catering.

The habitat north of Kiruna, the most northerly airport in Sweden, is pine forests grading into birch scrubland and then the tree-less Tundra. The geology is mostly volcanic in origin and so the thin soils and plentiful rainfall give endless opportunities to search water bodies and bogs, all of which look fabulous in the never ending sun. Speaking of the weather which is the second most important thing about a dragonfly trip, other than getting there, it didn't start well with cool rainy days. There was much pondering about what to do when by the second day when we were visiting waterfalls and visitor centres but it began to improve thankfully and by the 5th day we were experiencing what could only be called hot sunny temperatures. As for the Treeline Emerald, because we had planned the accommodation in advance, we had to visit potential sites when we were still in the cool phase and so it didn't help our chances of success. The best chance

was just inside Finland near Kilpisjärvi where a long steep walk added to the anticipation of success. The site remained in the shade while we were there and finding Odonata was difficult but we did find larvae and exuviae of the emerald but only one dead specimen of the adult. We later heard that Phil Benstead visited the site on a better day but again missed out on the adults.

All this emphasised the feeling of how elusive the insect is and what an interesting life cycle it must have in such a challenging environment. One very special place that we visited was at Pulsujärvi, and despite a long walk on a much hotter day with many mosquitoes to contend with, the site proved that it was worth the exertion to see a unique area with features called palsa mires. These are like pingos, a post glacial feature where groundwater feeds ice blocks over which bogs are developing. If *S. sahlbergi* is proven to breed in these unusual sites it would make them even more specialised. Once again no *sahlbergi* but what a fantastic site, with various birds like Bluethroats putting on a good show!

Other dragonfly species seen on the trip were the northern specialists: *Coenagrion johanssoni*, *Aeshna subarctica*, *Somatochlora alpestris*, *Leucorrhinia rubicunda* as well as the ones that we might see in Scotland: Brown Hawker, Common Hawker, Northern Damselfly, Azure Hawker, Northern Emerald & White-faced Darter. Also seen were the more often experienced Common Blue Damselfly.

A species that was seen everywhere unlike in Scotland is the Azure Hawker. Being easy to identify from a distance this striking blue medium sized hawkler made a splendid companion through the trip. One bonus for the trip was seeing *Ophiogomphus cecilia*, the Green Snaketail on the River Torne. This species is mainly found in north eastern Europe but just makes it in to north eastern Sweden.

Travelling with like minded enthusiasts was good fun with opportunity to exchange experiences and the one cabin location at Piilijärvi had a fantastic lakeside location with mirror lake reflections and the call of Red-throated divers helping us to sleep in the constant light nights after a great barbeque.

Mosquitoes are the only downside to this part of the world but the wonderful



Opposite: Female *Somatochlora arctica*.

Above top: Female *Ophiogomphus cecilia*.

Above bottom: *Somatochlora sahlbergi* exuvia



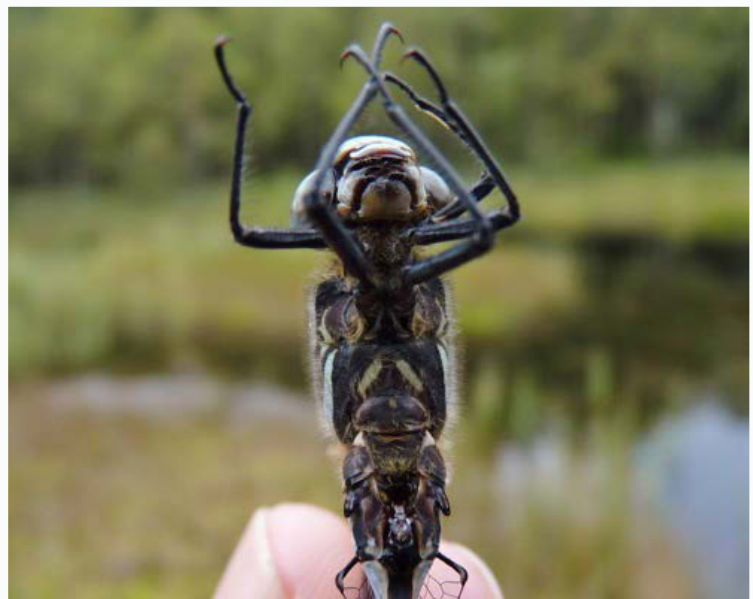


Above: Ovipositing *A.juncea*. showing spots behind the eyes.
Above left: Known *S.sahlbergi* breeding site near Kilpisjarvi.
Below: Underside of *A.subarctica* (Phil Benstead).
Bottom: Underside of *A.juncea*.

water plants, ferns, Elk, Arctic Hare, Siberian Jay, Reindeer and distant views of the Norwegian mountains, make up for the nuisance and most people used head nets and various potions to fend them off. So if Snow-capped mountains, wide stretches of boreal forest as far as the eye can see, and then treeless horizons sounds appealing then this is the place to go. **DN**

***Aeshna subarctica* and a thought about Scotland:** One really useful part of the trip was the chance to find out how to separate *A. Juncea* from *subarctica*. The latter species has been looked for in Scotland in the past but maybe now we have better ID features we should look again as there are ample sphagnum peat bogs there providing suitable habitat. There are three features to look for, one of which at least, needs to be looked for while the insect is in the hand.

The first feature is whether there are spots behind the eyes, which show in *A. juncea* but not *A. subarctica* (see photo of *juncea* ovipositing). The second feature is the width of facial line which runs horizontally between the frons and clypeus and is of constant thickness in *subarctica* while in *juncea* it narrows at the edges. The third feature are two yellow lines underneath the thorax which are evident in *subarctica* but missing in *juncea*. **DN**



URGENT! • Shop Manager needed

We ran this ad way back in 2012 and have had no responses. It's now urgent that we get a replacement otherwise we'll have to consider closing our popular BDS Shop. Can you help?

Hi, would any one like a wonderful opportunity to help the British Dragonfly Society by taking over the running of the BDS shop? The shop has a range of clothing, mugs, books and small miscellaneous items (see the back of this magazine for details). The main job is to send out items when members order them. Most orders come in through the website, but we still get some via post. You'll get to know the staff at your local post office quite well!

For more information please contact Lynn Curry, the current BDS shop manager.

Tel. [REDACTED] **or e-mail** [REDACTED]

BDS at Kingfishers Bridge Project

Since 1995, this Project in Cambridgeshire has transformed some 300 acres of arable farmland into a mosaic of wildlife habitats, transforming areas of former potato and cereal cultivation into meadows, reedbeds and limestone cliffs. It was started by private initiative and has since been handed over to the care of a Wetland Creation Trust. It benefits from various water sources including clean water seeping from a limestone ridge which lies adjacent to the site. Water levels are carefully managed for optimum wildlife benefit with the use of banks, ditches and sluices ensuring minimal wastage. Reedbed, fen, mere, ditches, ponds, islands, meadows, scrapes and cliffs have all been created, each with the special features needed to attract a variety of species.

On Saturday 27th August BDS had a stand at the Project's first open day, along

with a number of other wildlife groups and societies. We also assisted in guided walks, pointing out and identifying the dragonfly species on the wing, as well as larvae from pond dipping sessions. Despite changeable weather it was an enjoyable day, and there were over a hundred visitors.

For more information see the Kingfishers Bridge Project website <http://www.kingfishersbridge.org/>





The BDS recording system has now been incorporated into iRecord from the BRC. Quoted from their website "The goal of iRecord is to make it easier for wildlife sightings to be collated, checked by experts and made available to support research and decision-making at local and national level." No formal "How to..." guide has been published and I have noticed that many records sent to me as VC32 County Recorder haven't been using the correct process, so I thought a summary guide was appropriate.

1. Registering and setting up your account

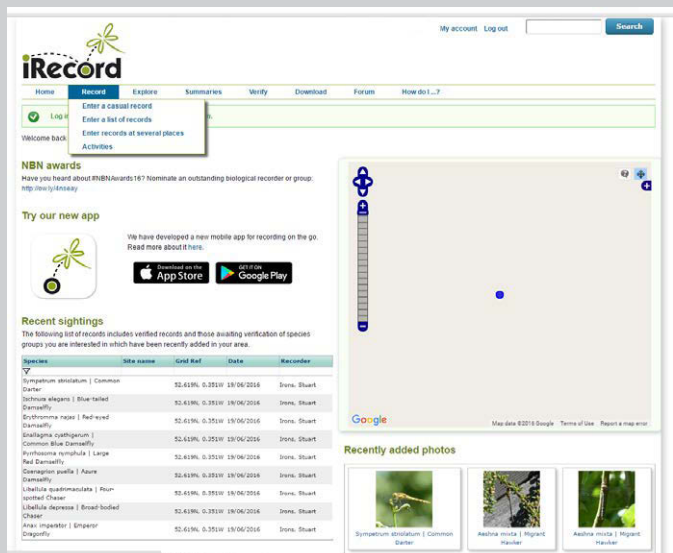
iRecord allows casual records to be entered but also offers Societies like the BDS the opportunity to tailor the recording to individual requirements. These are called Activities in iRecord and in our case, the British Dragonfly Society activity allows recording all life stages in the traditional BDS way, such as using Ad = adults, Ex = exuviae, as well as the count categories A = 1, B = 2-5 etc. The casual recording scheme does not allow this so to ensure the best quality data reaches the BDS, please set your account up to use the BDS scheme.

iRecord is accessed at www.brc.ac.uk/irecord. This will take you to the homepage from where you can log in, or create a new user account.

If you are new to iRecord, you will need to create an account. Click the **Create new account** and follow the instructions.

Once logged in, you are taken to the main recording page. This displays a Google map, a summary of recent sightings and other recording options.

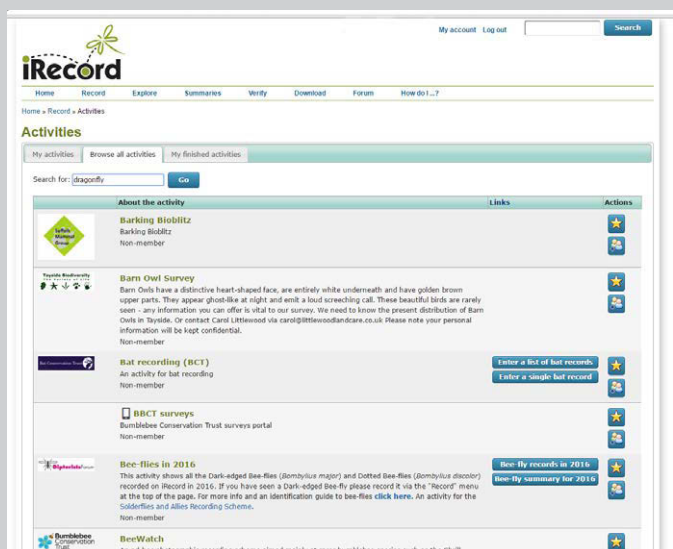
From the options list at the top, select **Record** to reveal a new drop-down list. From this, select **Activities**.



On the new screen, under **Activities**, select the **Browse all activities** tab.

Enter **British Dragonfly Society** in the search box and press **Go**. When iRecord has found the BDS scheme, click the gold star under **Actions**, to add this scheme to your activities. You can also add other recording schemes in this way. You will be asked to accept your membership of the scheme. Return to the **My activities** tab and you will see the BDS scheme added to your list.

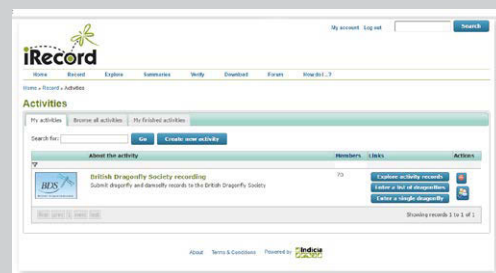
You are now ready to input your records directly into the BDS recording scheme.



2. Entering Records

iRecord is a very easy system to use because it is based on Google Earth maps. This allows users to either enter a grid reference (or latitude and longitude if known) or more simply click a location on a Google Earth map. The site can be given a name which can be used as a search criterion when you revisit the site and want to add more records at a later date, without re-entering the details again.

After a normal day's recording, you will probably have a list of species to input. After logging in, go to your Activities by clicking on **Record** and then selecting **Activities**, and select the BDS scheme from your list of Activities. Select **Enter a list of dragonflies** under the **Links** column.



The tab **What did you see** will appear, and from here you can enter the date, and the species list plus other recording data. If you have a photo, it can be uploaded here too. This is particularly useful if you have recorded an unusual species for the site.



Click the **Where was it** tab to enter data relating to the site. This can either be via a grid reference or clicking the location on the Google Earth map. The system allows very accurate pin-pointing of the record, but if you have recorded the whole site, then as long as a 6-figure OS grid reference is obtained that will be OK.

If you are confident that you have recorded all species present, select the **Recorded all species** box. This will help with the new Dragonwatch project

Don't forget to hit the **Submit** button at the bottom when finished.

That's it. Your record will then be sent to your local vice county recorder for verification. When checked you will get an email back confirming verification



iRecord contains extensive Help files under **How do I...?**

In DN71, I will cover the basics examining the records iRecord.





Welcome to the new Young Naturalist's section of Dragonfly News! Here, you will find articles written by other young people, interviews, fascinating facts and much more.



Dragonflies and Me... Dave Smallshire

Together with Andy Swash, Dave wrote the brilliant dragonfly ID guide 'Britain's Dragonflies'. He also leads dragonfly watching tours in Bulgaria, Costa Rica, South Africa and Sri Lanka.

Why did you first become interested in dragonflies?

My interest in birds inevitably led me to try and identify other flying creatures, first butterflies then dragonflies.

What is your favourite species of dragonfly/damselfly and why?

It has to be the Southern Hawker, the territorial males of which are not only big and beautiful, but challenge me when I approach them in MY garden!

What is your best memory of a dragonfly/damselfly encounter?

I found a Blue-winged Helicopter damselfly (*Megaloprepus caeruleus*) perched on the edge of a rainforest trail in Costa Rica. It has the largest wingspan of a dragonfly species - 19cm - and when it took off, it cruised slowly over my head before rising just like a helicopter into the canopy. Sheer magic.

What is your favourite dragonfly fact?

Blue-winged Helicopter damsels steal prey caught in huge webs of Golden Orb spiders, sometimes taking the large female spiders themselves! On top of that, the larvae live in phytotelmata, the small bodies of water held by plants such as bromeliads (many of which are epiphytes - plants that live on the branches of trees).

What one thing do you think people should do for dragonflies?

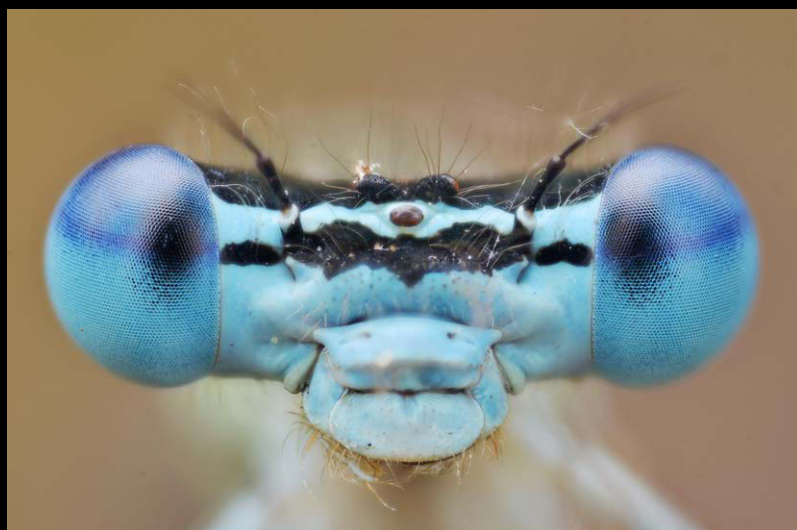
Dig a pond designed for dragonflies, or if that's not possible, submit records of your sightings.



Blue-winged Helicopter Damselfly

© Dave Smallshire

FACTFILE: THE COMPOUND EYE



Whereas a human eye is made of one lens, dragonflies' eyes are made of up to 30,000 tiny lenses. This makes their eyesight incredibly good!

Dragonflies can also see ultraviolet and polarised light, which humans cannot see at all.

They use this fantastic eyesight to hunt while flying and to find other dragonflies.

© Gilles San Martin (CC BY-SA 2.0)

Dazzled by Dragonflies

James Common, 23 years old naturalist and nature writer

I arrived mid-afternoon, with heat-haze undulating over the many, peat-stained pools adorning the Islay Estate. Greeted, immediately, by a loose assemblage of Four-Spotted Chasers, copulating and engaging in a plethora of amorous behaviours. Their bronze tones alive in the summer sun and their namesake spots, plain to see as they moved slowly over the water - bodies, marvelously contorted. An uplifting sight, my sense of wonder only amplified by the addition of a Blue-Tailed Damselfly, perched conspicuously amid the nearby cotton-grass.

Onwards, from pool to pool, more chasers whizzing past with each passing second – clearly invigorated by the blazing sun. A Common Darter came next, lifting from a stand of ling. A familiar species, but one whose auburn hue took on a new light, as the dragonfly set about snatching the midges rising in loose columns in my wake. Snagging the near invisible morsels with enviable grace, before returning, once more, to its perch. Where it remained forgotten, a frantic buzzing now resounding in my ears.

Tireless was the Gold-ringed Dragonfly as it quartered a stand of bracken, unphased, or perhaps, uncaring of my presence. Eventually settling enough to allow a few shoddy photographs, as it hung, unmoving from a frond. Its alternating shades of black and yellow, brazen and bright. A new species for me; which, due to an upbringing in the lowlands, had remained absent from my forays to date. And an unparalleled pleasure to behold - enormous, at least by the standards of the other species seen that day, and bearing an uncanny air of power, for an insect. Power which it promptly exerted, making short work of a Small Heath butterfly, whose dainty wings and ambling pace made it easy prey for the colossus.

Content with my haul so far, I pressed on. Not really expecting more than the treats bestowed upon me already. A foolish notion, as two more firsts soon followed. A male Black Darter – another species I have always viewed longingly in field guides, yet never in the flesh – crossing my path, and promptly disappearing from sight. This was proceeded by a much more obliging critter, a Keeled Skimmer. A male, smoky blue abdomen like nothing I had seen before. Enjoyed, as the dragon made slow yet coordinated circles around the mire before me. Wonderful sights, usually far removed from my daily life, that soon became part of the norm on Islay.

Heading home, along a quaint stream. Overhung, in places, with a pleasing array of chlorophilic green moss and bristling juncus, yet more species became apparent. First up, a Large Red Damselfly, a familiar resident of my garden pond at home, and next, a Common Blue, sapphire-esque and lovely. Both followed, in time, by the recognisable blue-black barring of a Common Hawker. Marvelous as it posed amid the greenery. All of these however, despite their appeal, finding themselves promptly cast into obscurity with a radiant flourish, as an entirely alien silhouette captured my attention.

Reaching out, in vain hope, I immediately found myself dumbfounded. My hand selected as a perch by a creature of unrivaled beauty, of the kind I had never before seen in my 23 years. A Beautiful Demoiselle. Words, which usually come easy to me, jumping ship as I fumbled for my phone – too engrossed in the vision of elegance before me to even contemplate reaching for my camera, and thus displacing it. Mercifully however, it stayed, for a few seconds at least, iridescent green and deep blue shimmering. More exciting, by far, than anything I have witnessed in the insect world to date. Its eventual departure concluding the day in a most delightful fashion.

I have, by my own admission, never really sought out Odonata – much more of a bird man at heart, and content with the few common species that occasionally crop up in my garden. On this day however, Islay changed that, and now, spurred on with a new found appreciation of the smaller things in life. I intent to seek out more encounters in the future. This day, one of my most memorable to date, standing out – the dragons, damsels and dainty things of Islay, captivating, for a novice such as myself. @CommonByNature



Golden-ringed Dragonfly
©James Common



Four-Spotted Chaser
© James Common

Make a... Sycamore Seed DragonFLY!

YOU WILL NEED: a TWIG, TWO PAIRS OF SYCAMORE SEEDS, paint, PVA GLUE.

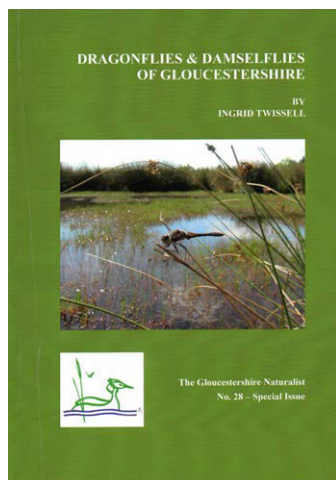
GLUE THE SYCAMORE SEED PAIRS ABOUT THREE QUARTERS OF THE WAY UP THE STICK. WAIT UNTIL THE GLUE HAS DRIED, THEN PAINT.

EXTRAS

YOU CAN PUT GLITTER ON THE WINGS, FOR ADDED SPARKLE, AND ADD BEADS ONTO THE HEAD FOR EYES.



Reviews



Dragonflies of Gloucestershire Dragonflies of Suffolk

Review by Steve Cham

The publication in 2014 of the BDS National Atlas was the culmination of a countrywide recording effort covering Great Britain and Ireland. For the first time it was possible to compare distribution with a previous atlas. As a snapshot in time, Atlases map distribution yet their true value becomes apparent when trends and changes can be compared with a previous atlas. It is therefore very pleasing to see these two VC recording schemes continuing recording activities and publishing local atlases, both of which have the benefit of building on and comparing dragonfly distribution with previous county atlases.

Gloucestershire and Suffolk are well separated counties in the west and east of Britain, nearly 150 miles apart. Reviewing these two publications side by side gives an opportunity to compare and contrast the range of species and habitats from very different parts of Britain.

There are similarities in the format of the two atlases with introductory sections followed by the usual species accounts; both are well illustrated in colour with distribution maps, flight period histograms and photographs.

The Gloucestershire atlas starts with a section on recording, putting the county in a national context and discussing the history of local recording, especially the work of Sonia Holland who published the first account of dragonfly distribution for



the county. There is a useful introduction to dragonfly life cycle. The main areas and habitats are discussed and well illustrated with colour photographs to give the reader a good 'feel' for dragonfly sites in the county. Gloucestershire has some key regional and national areas such as the Forest of Dean and the Cotswold Water Park. Directions and access to sites is also included which makes this a very useful guide for visitors. The species accounts follow with the introduction to this section highlighting that the total number of species has increased from 27 in Sonia Holland's time to 35 in the current recording period. A coincidence map shows the species richness across the county but I do feel that an opportunity was missed here to label the main rivers and urban areas so that non-natives and visitors to the county can gain their bearings first.

For all the species there are concise sections on Conservation status, National status, Gloucestershire status, First county record, Flight period, Field characters, and habitat. The distribution maps are attractive and show distribution with coloured dots for pre 2000 and from 2000 periods. It would have been helpful to have an explanation of what the coloured backdrop represents. Gloucestershire has some key nationally rare species and the accounts discuss these well. I would have preferred to see maps plotted as monads rather than tetrads which would help to better show the restricted distribution for some species such as Common Clubtail. The tetrad maps also make it quite difficult to separate out the differences between

species such the two Demoiselle species that have quite different habitat requirements. The account of the Scarce Blue-tailed Damselfly is particularly interesting highlighting the ups and downs of this species as the habitat in the Forest of Dean has changed over time. It is also significant that the first UK record of the blue andromorph female came from one of the newly created sites in the Forest.

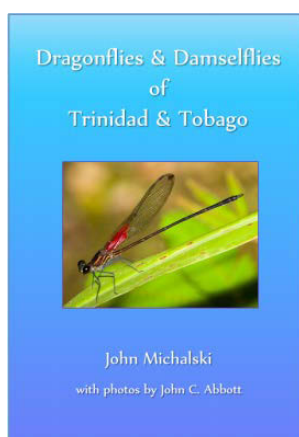
The publication concludes with a set of appendices that comprise a glossary and summaries of the data. This atlas is a significant contribution to our understanding of Gloucestershire Dragonflies and thoroughly recommended for anyone that spends time in the county or has an interest in dragonfly distribution.

The Suffolk atlas opens with a brief introduction and overview of the habitat types in the county. The species accounts include an introduction to the species, biology, habitat, distribution and conservation. The larger page size of this atlas provides for good sized maps and photographs throughout. Suffolk is a large county, comprising two vice counties, which in itself is a monumental task to cover adequately. Furthermore, with its long east coastline it is often on the forefront of migration events that land on our shores from continental Europe. One of the editors, Adrian Parr is the BDS's migrant specialist, and well placed to give an account of these. Of particular significance is the initial discovery of Willow Emerald in Suffolk and its rapid spread. It is now recorded across much of the county with some records coming from recording the characteristic galls on the branches of trees overhanging water. The Norfolk (Green-eyed) Hawker is doing well in Suffolk spreading south along the coastal wetlands. It is interesting that the populations in the south of the county are not associated with the presence of Water Soldier (*Stratiotes aloides*). Again the use of tetrad maps in the species sections is a personal gripe of mine. Such mapping does tend to mask underlying distribution status at a county level and can make some species appear overly abundant. However I do understand that the recording effort required for a more detailed level is restrictive in large counties such as Suffolk. The last section looks at trends of dragonflies in Suffolk and with the editors expertise with migration it also speculates what new species may occur in the future. This



section also includes tables summarising the number of records between the two recording periods. A table summarising the records by decades would have been better using tetrads to keep consistency with the maps. Such course analysis by Decades at a county level can again mask some of the actual trends.

Both these atlases demonstrate the dedication of local recorders and co-ordination by vice county recorders. They are both richer for having a previous county publication to compare with. If you plan to visit either county or just have an interest in British dragonflies I would recommend both these publications. **DN**



The Dragonflies & Damselflies of Trinidad & Tobago

by John Michalski with photos by John C. Abbott.

Published by Kanduanum Books, Morristown NJ

258 pp, softback

Price \$25 plus shipping from the author at [redacted] or £29.50

from Pemberley Books

ISBN 0988719827

Review by Barry Watts

I visited Trinidad in June 2015. That was prior to the publication of this book and so I relied on John Michalski's previous 1988 work (available online) and other online sources. This book is a big step up from anything available previously for these islands.

Trinidad and Tobago are reasonably well known as birding and butterfly destinations but Odonata are abundant and accessible. Being just 7 miles off the South American mainland, the range of species is Neotropical in character. The habitats range from mountain rainforest to lowland drainage ditches. I found that whenever I had a chance to poke around

any water source there was always something of interest. With the current list of species standing at 121 there is plenty to seek out.

This full colour book is a handy field guide size and has detailed entries for every known species. These consist of a mix of field photos, taken by John Abbott (known for his Texas guides), along with specimen shots and close up details. Extensive keys and diagrams are provided where needed. The specimen shots have been coloured by copying the colours from existing live photos. This generally works well but some of the specimen shots are a little dark and rather small (always a problem in a pocket size guide). The species are organized into colour coded family sections which take up the bulk of the book. Other chapters include an introduction to odonata morphology, Trinidad maps and geography and a history of past collectors.

Using the guide I identified the majority of species photographed. The failures were due to unclear photos, not the comprehensiveness of the guide. I would have preferred a few more live photos but the author was clearly reluctant to use photos from other locations. Species details could have included more guidance on female and immature variations but that is understandable in a guide this size.

This has clearly been a labour of love in production and for a self published book is of excellent quality. Pages are cleanly laid out and sections easy to find. I have devoured the content with pleasure and can thoroughly recommend the guide to anybody thinking of visiting these islands. With Venezuela (~500 species) just across the water and a lack of coverage of some areas there is certainly room for discovery still. **DN**

Legacies help us

As reported by our Treasurer in DN 69 I'm sure everyone is aware that BDS received money, in the last two financial years, as a legacy from the estate of the late Brian Reece Watts & Joyce Frances Watts. Joyce Watts left the funds in Trust when she died in 2011, and when Brian Watts died in 2014 the BDS became beneficiaries of the will. These funds have allowed us to think differently about our strategy going forward, and as a result we are going to provide a plaque remembering these generous gifts to the Society. Hopefully this will be displayed on our Dragonfly Centre at Wicken Fen.

The Society carries out its work through the finance provided by membership subscriptions, donations and funding from various bodies, and we are extremely grateful to all these groups for their generous support. Without this help we could not carry on working to monitor and care for dragonflies in the UK.

But we always need to do more, and to this end I'd like to ask you to consider leaving us a legacy in your will. By remembering the Society in your will, you can help us to do our best to further the cause of dragonflies by protecting their habitats wherever possible and ensuring that our children, grandchildren and generations in the future will continue to enjoy the beautiful dragonflies and damselflies that we all enjoy today.

Thanks to past legacies, we have been able to help secure the Society's future and expand our monitoring and conservation activities. Small or large, each legacy is vital to us. And importantly, legacies can allow us a certain amount of financial security. So please get in touch if you want to discuss how you can help the Society by leaving a legacy.

Thank you.

Henry Curry, Secretary.



BDS Annual Meeting 2016

Nottingham Trent University, The Brackenhurst Campus, near Southwell, NG25 0QF
on Saturday 16th November
Provisional PROGRAMME

Book your place now on www.eventbrite.co.uk/e/bds-annual-meeting-2016-tickets-27313669922

9:30	Coffee	
10:00	General Introduction and Announcements	Henry Curry
10:05	Welcome to Nottingham	David Goddard
10:10	Our new President	Mike Dilger
10:25	Dragonfly Chemo-Receptors	Dorothy Gennard
11:00	White-faced Darter: reintroduction in Cheshire	Chris Meredith
11:30	Dragonfly Larval Biology	Christophe Brochard
12:20	Nottingham Dragonflies	David Goddard
12:30	AGM	Trustees
13:00	Lunch	
14:00	Introduction to Afternoon session	Henry Curry
14:05	Polarization of vision in dragonfly larvae	Camilla Sharkey
14:55	Dragonfly Books in the Collection of the Natural History Museum	Paul Cooper
15:25	Dragonflies of Madagascar	Pam Taylor
16:00	Raffle, Final Announcements	Henry Curry
16:10	Close	

All are welcome. Admission is free but a donation is requested to cover costs, we suggest a minimum of £5 from

Getting to Brackenhurst campus

Brackenhurst campus is close to the town of Southwell, approximately 14 miles north-east of Nottingham's railway station. A taxi from the station will cost around £30, and there is a taxi rank right outside the station entrance. A cheaper option is to walk to Nottingham's Market Square from the railway station then catch the bus. Leave the train station and cross the pedestrian crossing, turn right towards the Broadmarsh shopping centre passing Starbucks and then Nottingham's Broadmarsh bus station on your right. Walk directly through the shopping centre and continue to walk up Lister Gate and then Wheeler Gate until you reach the Market Square. Standing in front of the Council House in the Market Square, take the road to the left, King Street, by the statue of Brian Clough. This walk takes around 15 minutes. From King Street you can catch the number 100 bus all the way to Brackenhurst campus. Buses run every 30 minutes with the last service leaving Nottingham around 23:00. The journey takes around 45 minutes and costs £7 for a return ticket. Alternatively, you can catch the tram from the railway station to the Market Square, then catch the number 100 bus from King Street.

Travelling by car:

- From the North: Exit the M1 at Junction 28 and head towards Mansfield along the A38. Turn right to follow the A617 towards Newark then turn right again onto the A612 towards Southwell. Continue through the town centre, Brackenhurst campus is located approximately one mile on the left.
- From the South: Exit the M1 at Junction 24 and follow the A453 Nottingham South, past Nottingham Trent University Clifton campus. Follow the A52 Nottingham Ring Road, signposted A52 Grantham, onto the A6011 then turn right onto the A612 for approximately ten miles. Brackenhurst is located on the right hand side of the road.
- From the West: Follow the A52 Nottingham Ring Road onto the A6011 then turn right onto the A612 for approximately ten miles. Brackenhurst is located on the right hand side of the road.
- From the East: Head along the A1, A46 or A17 to Newark then the A617 towards Mansfield before turning onto the A612 to Southwell. Go through the town centre, Brackenhurst campus is located approximately one mile on the left.

Parking is available in the Bramley car park on site at Brackenhurst campus.

Coffee, tea hot and cold food available from the NTSU Orangery which is approx 2 minutes walk from Brambly building
Or please bring a packed lunch. Tea / Coffee will be available before the meeting .

For any other queries please contact the Secretary, Henry Curry, via [redacted] or ring [redacted]



Checklist of the Damselflies & Dragonflies of Britain & Ireland

Last Revision: 24/10/2014. in the light of taxonomic revisions. The sequence and nomenclature follow Schorr and Paulson, July 2013:

<http://www.pugetsound.edu/academics/academic-resources/slater-museum/biodiversity-resources/dragonflies/world-odonata-list>

Table 1. Category A: resident and/or migrant species recorded since 1970

Species with well-established breeding populations and migrant species that have been recorded regularly since 1970, the latter often attempting to establish temporary breeding populations.

ZYGOPTERA	Damselflies	ANISOPTERA (cont'd)	Dragonflies (cont'd)
Lestidae	Emerald Damselflies	<i>Anax imperator</i>	Emperor Dragonfly
<i>Lestes barbarus</i>	Southern Emerald Damselfly	<i>Anax parthenope</i>	Lesser Emperor
<i>Lestes dryas</i>	Scarce Emerald Damselfly	<i>Brachytron pratense</i>	Hairy Dragonfly
<i>Lestes sponsa</i>	Emerald Damselfly	Gomphidae	
<i>Lestes viridis</i>	Willow Emerald Damselfly	<i>Gomphus vulgatissimus</i>	Common Club-tail
Calopterygidae		Cordulegastridae	
<i>Calopteryx splendens</i>	Banded Demoiselle	<i>Cordulegaster boltonii</i>	Golden-ringed Dragonfly
<i>Calopteryx virgo</i>	Beautiful Demoiselle	Corduliidae	Emeralds
Platynemididae		<i>Cordulia aenea</i>	Downy Emerald
<i>Platynemis pennipes</i>	White-legged Damselfly	<i>Somatochlora arctica</i>	Northern Emerald
Coenagrionidae		<i>Somatochlora metallica</i>	Brilliant Emerald
<i>Ceragrion tenellum</i>	Small Red Damselfly	Libellulidae	Darters, Chasers, Skimmers
<i>Coenagrion hastulatum</i>	Northern Damselfly	<i>Leucorrhinia dubia</i>	White-faced Darter
<i>Coenagrion lunulatum</i>	Irish Damselfly	<i>Libellula depressa</i>	Broad-bodied Chaser
<i>Coenagrion mercuriale</i>	Southern Damselfly	<i>Libellula fulva</i>	Scarce Chaser
<i>Coenagrion puella</i>	Azure Damselfly	<i>Libellula quadrimaculata</i>	Four-spotted Chaser
<i>Coenagrion pulchellum</i>	Variable Damselfly	<i>Orthetrum cancellatum</i>	Black-tailed Skimmer
<i>Coenagrion scitulum</i>	Dainty Damselfly	<i>Orthetrum coerulescens</i>	Kelled Skimmer
<i>Enallagma cyathigerum</i>	Common Blue Damselfly	<i>Sympetrum danae</i>	Black Darter
<i>Erythromma najas</i>	Red-eyed Damselfly	<i>Sympetrum flaveolum</i>	Yellow-winged Darter
<i>Erythromma viridulum</i>	Small Red-eyed Damselfly	<i>Sympetrum fonscolombii</i>	Red-veined Darter
<i>Ischnura elegans</i>	Blue-tailed Damselfly	<i>Sympetrum sanguineum</i>	Ruddy Darter
<i>Ischnura pumilio</i>	Scarce Blue-tailed Damselfly	<i>Sympetrum striolatum</i> *	Common Darter
<i>Pyrrhosoma nymphula</i>	Large Red Damselfly		
ANISOPTERA	Dragonflies		
Aeshnidae	Hawkers		
<i>Aeshna affinis</i>	Southern Migrant Hawker		
<i>Aeshna caerulea</i>	Azure Hawker		
<i>Aeshna cyanea</i>	Southern Hawker		
<i>Aeshna grandis</i>	Brown Hawker		
<i>Aeshna juncea</i>	Common Hawker		
<i>Aeshna mixta</i>	Migrant Hawker		
<i>Anaciaeschna isoceles</i>	Norfolk Hawker		

* - includes dark specimens in the north-west, formerly treated as a separate species *Sympetrum nigrescens* **Highland Darter**

Table 2. Category B: vagrant species

Since 1998 records of these species have been assessed by the Odonata Records Committee.

ZYGOPTERA	Damselflies	ANISOPTERA (cont'd)	Dragonflies (cont'd)
Lestidae	Emerald Damselflies	Libellulidae	Darters, Chasers, Skimmers
<i>Sympecma fusca</i>	Winter Damselfly	<i>Crocothemis erythraea</i> †	Scarlet Darter
ANISOPTERA	Dragonflies	<i>Leucorrhinia pectoralis</i>	Large White-faced Darter
Aeshnidae	Hawkers	<i>Pantala flavescens</i>	Wandering Glider
<i>Anax ephippiger</i>	Vagrant Emperor	<i>Sympetrum pedemontanum</i>	Banded Darter
<i>Anax junius</i>	Green Darner	<i>Sympetrum vulgatum</i>	Vagrant Darter
Gomphidae			
<i>Gomphus flavipes</i>	Yellow-legged Club-tail		

** - has bred. † - has bred in the Channel Islands.

Table 3. Category C: former breeding species not recorded since 1970

Any further records of these species will be assessed by the Odonata Records Committee.

ZYGOPTERA	Damselflies	ANISOPTERA	Dragonflies
Coenagrionidae		Corduliidae	Emeralds
<i>Coenagrion armatum</i>	Norfolk Damselfly	<i>Oxygastra curtisii</i>	Orange-spotted Emerald

Guidelines for Contributors

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Articles requesting information or providing news of forthcoming events are welcome. The editor is happy to receive material by email or CD, preferably in MS WORD (DOC file extension, not DOCX) or txt format. Typed material requiring rekeying is less welcome (unless very short!) but will still be considered. The Editor reserves the right to make changes without prior reference to the author. Please provide contact details with anything you send and note the copy deadlines printed on inside front cover if you want something to appear in a particular issue. Photographs should be high quality jpg format with the quality setting at its highest, please do not embed in a document as this compromises quality. If e-mailing via AOL, please compress (zip) the image first.



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