

Dragonfly News 172

The Magazine of the British Dragonfly Society
Autumn 2017
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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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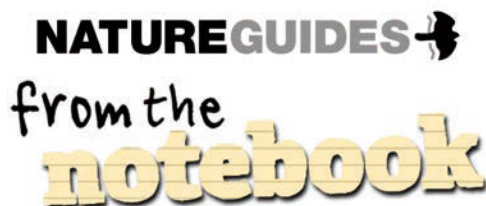
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Cover Image: This stunning shot of a heron predating a Black-tailed Skimmer was captured by Nick Brischuk.



From the Chairman



Brian Walker

I write this well into the 2017 dragonfly season having, as usual, achieved some of the things that I set out to do and failed on many others. The weather in the early part of the season was very good but it has become more typical of recent summers subsequently. I have still been out and about looking at dragonflies and other wildlife and found plenty of interest. I tend to visit familiar sites but also try to go somewhere new from time to time, such as my successful trip to Paxton Pits to see Norfolk Hawker this June. I also saw much more of interest at this really interesting site, including very large numbers of Variable Damselflies, a species which I don't normally see at my usual haunts.

I am always hoping to see something different at my regular sites. This year I found Beautiful Demoiselles at a site where I have only previously seen Banded Demoiselles. It is a slow flowing chalk stream and not the habitat where the books suggest the species occurs. However, this is a species which does seem to be spreading into new areas and others have reported it from new sites this year (see page 9). My observation is just a small input to what seems to be a more widespread and significant change. For me it was just an interesting encounter on an enjoyable walk but my record and those of others will help to build a more detailed picture of what is happening with this species.

My other major surprise this year

was finding a Variable Damselfly at a local site for the first time. I didn't manage to get very close to it because it was perched on a stem poking out of the water a little way out from a rather boggy area. I took a photograph at long range because there was something about it that looked odd and not because it had occurred to me that it might be a Variable. It was only when I looked at the rather out of focus photograph on my computer screen in the evening that I realised what it was and even then had to check with the County Recorder for a second opinion.

It made me think about how digital photography, which has really only been around for about 15 years, has contributed to the study and enjoyment of dragonflies and other wildlife. This was not the first time I have taken a photograph to identify a dragonfly or damselfly, although on previous occasions it was to confirm an identification that I already suspected. I now regularly take pictures of insects and plants and try, and generally succeed, in identifying them later from field guides and pictures on the web. This has sometimes revealed something unusual. The highlight so far this year was a Downland Villa, a rare species of Bee Fly. Look it up if you are interested. I have put the record into iRecord together with the photograph so that my record can add to the information about this species.

We are in a period when there are significant changes occurring in the natural world generally and to dragonflies in particular. Because they are such excellent fliers dragonflies react very rapidly to changes in their environment to take advantage of opportunities and to retreat from threats. They are thus excellent indicators of changes that are occurring. However, we need to be careful that we do not assume that changes result from a single

cause or have a simple explanation. The more we know, the more likely we are to be able to understand all of the factors which are driving change. This is why records are important and why BDS is promoting specific surveys and planning a "State of Dragonflies in 2020." Of course, we would like everyone to record as much as possible but this is not always practical. However, I do hope that members will note what they see and submit their records and encourage others to do the same. It adds greatly to the interest of visits and walks and the total of individual records allows us to identify what is changing and then make an attempt to understand why the changes are occurring.

There is another value from recording what you see, particularly from your local sites. BDS gets enquiries from time to time when a site is under threat of development. We are often told that it is a marvellous site for dragonflies and yet we have no records from the site because no one has ever submitted them. All of our records are submitted to the National Biodiversity Network (NBN) and then appear on the NBN Atlas. We also have data sharing arrangements with many local environmental records centres so that if there are records for a site they are readily available to be taken into consideration if that site comes under threat.

Fundraising: Sarah Miller, our new Fundraising Officer has been very busy and has led the development of a number of funding bids. Appeals have generated a number of small and medium sized donations but larger bids tend to take time and go through various stages. We have reached the final stages for a couple of significant bids to support our Conservation Officer and to develop greater public engagement through developing "Dragonfly Hotspots" in England. Daniele Muir, our Scottish Officer, has been successful in developing a number of Dragonfly Hotspots in Scotland at sites where dragonflies can be seen and these have become a focus for

training and public engagement as well being enhanced by management work and the installation of interpretation boards. We would like to extend this to England and perhaps take it further by involving local enthusiasts in supporting and running events at these locations.

Meetings: As you will see on page 28, our Annual Meeting this year will be at the Holiday Inn at Filton in Bristol on Saturday 18 November 2017. My thanks to Henry for his efforts in getting this organised after a number of difficulties as he hinted at in the Spring edition of Dragonfly News. There is an interesting programme and I hope that I see many members there. We will be holding our 3rd Scottish Conference on 15 April 2018 at the Soutar Theatre in the AK Bell Library in Perth, the same venue that we had for the first two. The first two conferences were very successful and enjoyable. Watch out for further information on the full details and programme for this event. Our Spring Meeting will be in March 2018 and we are aiming to hold it at a venue just to the north of London, but the arrangements have not been confirmed at the time of writing; watch our website and the e-newsletter for news and details of the programme. This event used to be called Recorders' Day and was primarily for County Recorders but is now open to all, with a programme aimed at active members and those who might want to become more active.

Surveys: As you will be aware we have organised a number of surveys this year, the Dragonfly Challenge, Willow Emerald Watch, Club-tail Count and Variable Damselfly Survey. Our aim is to publicise the preliminary results of these surveys as soon as we can. I believe that where we ask people to contribute to citizen science surveys that we should let them know how their input has helped and what the survey has found in a timely manner. It takes longer to fully evaluate results and publish details which have been fully considered and which lead to well supported conclusions, and our aim will be to publish appropriate papers in due course. The plan is to continue to organise such surveys. The Dragonfly Challenge was a

new initiative this year and will be run each year in Dragonfly Week. We intend to seek sponsorship to publicise it more widely to increase public involvement. Willow Emerald Watch will also continue to track the expected expansion of this new colonist. We have some ideas for other species specific surveys but if a member has an interest in a specific issue that might benefit from this type of survey then we would be very happy to consider working with them to develop and promote an appropriate survey.

Conservation Officer: Genevieve Dalley is in the process of moving to a new role outside of BDS to develop her career and dropped to part time working as a result. She has done a fantastic job in her time as our Conservation Officer and we are very grateful for her input and wish her well in her future career. We advertised the Conservation Officer post and had a very good response, both in terms of the number of applications and in the quality of the candidates. Following interviews we have appointed Eleanor (Ellie) Colver as our Conservation Officer and she is due to start with us in September and will overlap with Genevieve for a short period to aid the transition. She introduces herself in this issue of Dragonfly News and we all look forward to working with her to further develop the Society and our activities.

Trustees: After a period in which we were somewhat under pressure and primarily focused on maintaining the Society, I feel that we are now in a stronger position and are moving forward to develop and strengthen the Society. We have two broad priorities. One is to increase public engagement and education about dragonflies and their habitats and the other is to increase our knowledge through surveys and research to allow us to conserve dragonflies and understand how factors such as climate and habitat changes impact on them. **DN**

Our new Conservation Officer - Eleanor Colver



Growing up next to the Peak District, I spent much of my childhood scrambling around the national park with nets and jars, attempting to catch insects. Since then my fascination with natural history has continued to strengthen, and this motivated me to undertake a BSc Zoology with Conservation (Bangor University) and an MSc Biodiversity and Conservation (Leeds University). After graduating, I spent a year wading around in RSPB wetland reserves as a Warden Intern, performing practical habitat management with volunteers. I also spent two seasons as the Langholm Moor Demonstration Project's Senior Research Assistant, monitoring upland wildlife. During this time I had the opportunity to observe Odonata in a range of habitats, and found that the more I learnt about their ecology the more I wanted to discover. I feel so fortunate that I now have a job that allows me to work with fellow dragonfly enthusiasts across the country, as well as contribute to the conservation of some of Britain's most charismatic insects. **DN**

The Conservation Officer post is sponsored by:



Scotland Officer



Daniele Muir

New Key Sites 2017

Scottish Natural Heritage has recently completed a new Scottish Invertebrate Strategy, with two dragonfly species being included on the list - the Northern Damselfly and the Azure Hawker. The BDS is the lead partner for the following actions for both species:

- Carry out surveys at known sites to assess site condition;
- Carry out surveys to find new Northern Damselfly & Azure Hawker locations;
- Produce site management proposals for landowners;
- Work with landowners to improve the habitat for Northern Damselfly & Azure Hawker.

We have been working with a number of Northern Damselfly landowners over the past few years across Deeside and Perthshire, with Key Sites at Castle Fraser, Atholl Estates, Eastertyre Estate, Fairy Lochan and Muir of Dinnet National Nature Reserve.

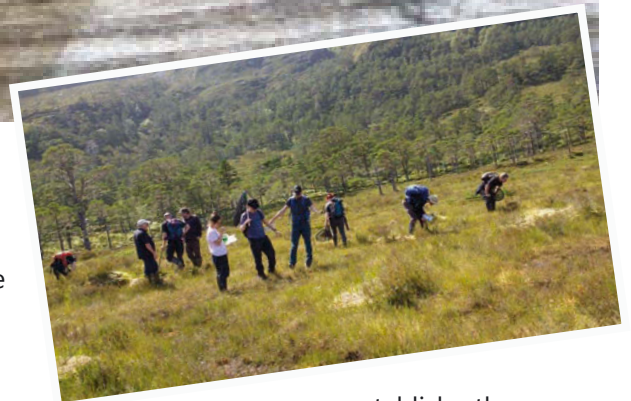
New Key Sites for 2017 include Abernethy Forest NNR, managed by the RSPB, Insh Marshes NNR, also managed by the RSPB and Craigellachie NNR, managed by SNH. A training day was carried out for staff and volunteers keen to improve their ID and recording skills at RSPB Abernethy in June. Unfortunately it was cold and wet so there were no dragonflies on the wing, but we managed to find White-faced Darter and Four-spotted Chaser larvae and an emerging Common Hawker.



The staff at Beinn Eighe NNR near Kinlochewe were very keen to improve their dragonfly skills after the site became a Key Site for the Azure Hawker, with events held there over Dragonfly Week to celebrate this. Site manager Doug Bartholomew said 'Beinn Eighe, Britain's first National Nature Reserve, is home to the largest remaining area of ancient Caledonian pinewood in Wester Ross. It also boasts an outstanding diversity of upland, heathland and wetland habitats, wildlife, geology and spectacular scenery. The reserve is home to 13 species of dragonfly. The sheltered bogs found nestled in the ancient woodland make a perfect habitat for a range of dragonflies including the rare Northern Emerald and the Keeled Skimmer. Come and walk one of our trails or visit our visitor centre to experience the wonders of Beinn Eighe for yourself.'

We also have a new Key Site for Hairy Dragonfly at Taliesin, near Castle Douglas in Dumfries & Galloway and will be carrying out a training day for the site managers and local wildlife groups in June 2018.

We have been in discussion with the staff at Coigach-Assynt Living Landscape and the NTS at Torridon to



establish other new Azure Hawker Key Sites. More news in the next Dragonfly News! We will be talking about our rare dragonflies and new Key Sites at the next Scottish Dragonfly Conference which will be held on 14 April 2018 in the Soutar Theatre, AK Bell Library, 17 York Place, Perth, PH2 8EP. **DN**

Above: Azure Hawker at Beinn Eighe NNR by Diana Darby.

Inset: Staff/ volunteers on training day at Beinn Eighe by Daniele Muir.

BDS Out & About



Dr Pam Taylor

Dragonfly Day at Wicken Fen, 23rd July

As I drove to Wicken Fen for our annual Dragonfly Day at the end of Dragonfly Week (15th to 23rd July) the grey clouds looked menacing and angry. Sure enough drizzle greeted the first visitors and after a brief sunny spell, it rained for all but the first five minutes of our first dragonfly-themed boat trip. One Banded Demoiselle, a few Common Blue Damselflies and a single Emperor were all we saw. A buzzard and kingfisher enlivened the wettest part of the trip while an entertaining and informative commentary from our boat driver and guide more than made up for the lack of other sightings.

Back in the Learning Centre we had five large tables set up with activities. You could colour in dragonfly pictures, decorate a foam dragonfly or make your own hanging, balancing, pipe-cleaner or origami models to take away. After each walk, and at other times during the day, Henry Curry explained exactly how dragonfly larvae catch prey and feed. This was then demonstrated by feeding bloodworms to live larvae, enlarged for easy viewing via a microscope and TV link. The speed with which a larva grabs its prey never ceases to amaze an audience of any age. At other times a wonderful video played on the large screen and visitors could examine dragonflies up close using the exuviae and other specimens Henry has cleverly preserved in resin blocks. I hasten to add that all the dragonfly specimens



were found dead and not killed for this purpose!

During the rather damp and dismal afternoon BDS President, Mike Dilger, came to visit. He chatted to visitors and BDS volunteers in the Learning Centre, before taking advantage of a brief sunny spell to lead us on a walk. This added two further damselflies to our day's list when both Red-eyed and Blue-tailed Damselflies were spotted on Wicken Lode. Together with the larvae of Common Darter, Brown Hawker, Large Red and Azure Damselflies caught earlier for our feeding demonstrations, this brought our overall tally to nine species. Heaven knows how many different kinds there were altogether though, if you add in all those colourful drawings and models the children (and adults) made!

International Congress of Odonatology 2017 visit

The International Congress of Odonatology (ICO 2017) was held this year in Clare College, Cambridge. The mid-congress fieldtrip then visited Woodwalton Fen in the morning, and Wicken Fen after a lunch in Ely. The morning and lunch must have been good, because the two coachloads of delegates didn't arrive at Wicken until 3.15pm.

On arrival the first coachload visited our BDS Dragonfly Centre before all 75 delegates went down

Top: Trisha Thompson, Mick Parfitt, Mike Dilger & Henry Curry at Wicken Fen.

Bottom: ICO talk at the National Trust.





to the Learning Centre for a talk. Martin Lester from the National Trust told them all about the 100 year, landscape scale project, The Wicken Vision, which aims to create a nature reserve from the edge of Cambridge all the way across to Wicken Fen.

Following the talk, the party was divided into three smaller groups before being led around parts of the current reserve. Sadly few dragonflies were seen, but each group saw a different selection of those flying on the day. Before leaving us again for Cambridge, those who had missed the Dragonfly Centre earlier paid a visit and many souvenir photographs were taken of individual delegates standing beneath our Dragonfly Centre sign above the doorway. It was a great honour to welcome such an august group to our small centre and wonderful to meet up with some old friends from both my dragonfly trips across the globe and various BDS Annual Meetings closer to home.

Birdfair!

Once again the BDS stand at the Birdfair was a popular venue for visitors. We had dragonfly-themed items for sale and plenty

of information about dragonflies to show. Our large display boards once again attracted envious comments from photographers and the new branded tablecloths made our stand look more professional than ever. We also changed the layout slightly this year, so it felt more open and welcoming to visitors.

Our new Conservation Officer, Ellie Colver, worked with us for all three days, even though her official contract didn't start until the following month. It was great for her to meet all the many members of the DCG, BDS Trustees and wider BDS membership who called in to say 'hello'.

The ever popular Ruary Mackenzie-Dodds caused a minor rush to our BDS stand following his lunchtime talk on the Saturday. His brief was 'Dragonflies: The Birdwatchers' Insect', but somehow he managed to fit a full five minutes about ballistic defecation into his talk! At least dragonfly poo is less offensive than bird poo!

Ruary was centre stage again on Sunday as one of the 'Ask the Expert' panel in the events marquee. Other panelists included TV presenters and naturalists Martin Hughes-

Games and Nick Baker, together with Dawn Balmer from the BTO and David Lindo, The Urban Birder. It was a fun-packed 45 minutes as the panel answered questions from the audience about anything from the effects of Brexit to their memories of rock-pooling when they were seven years old.

Back on the BDS stand things finally started to calm down towards the end of Sunday afternoon, so we were able to relax a little and rest our voices. Not for long though, because it was at this point that BDS President Mike Dilger also found a space in his busy Birdfair schedule to come and chat to us. It's always a pleasure to meet Mike because his enthusiasm for all things wildlife, and especially dragonflies, never fails to shine through.

Once again it had been a great event for the BDS with plenty of old friendships renewed and several new friends signed up to BDS membership. If you are one of those new friends, I wish you a warm welcome to the BDS. Come back and see us again next year at the 30th Birdfair! **DN**

First Dates for 2017

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

The first half of 2017 saw some unusually warm weather in many areas of Britain. Apart from a cold spell during the second part of April, temperatures were generally above average during most of the period from mid February right through to early July. The outcome of all this was a significant effect on dragonfly phenology. The season started with the first Large Red Damselfly being seen on 24 March, and the species was already widely reported by early April at a time when the very first individuals are more normally being reported. Notably early emergences of many other species then followed, though when looked at overall, the season was perhaps not quite as advanced as that observed following the glorious spring of 2011. A number of joint or new record early dates were however set. The first Downy Emerald was, for instance, seen on 11 April, and the first Willow Emerald Damselfly on 19 June, both several weeks ahead of more typical dates. All information currently to hand is summarized below: **DN**

SPECIES	LAST DATE	LOCATION	OBSERVER
Broad-bodied Chaser	24-Aug-16	Cambridgeshire	A. Maddocks
Scarce Chaser	17-Aug-16	Cambridgeshire	A. Maddocks

SPECIES	FIRST DATE	LOCATION	OBSERVER
Banded Demoiselle	04-Apr-17	Warwickshire	P. Casey
Beautiful Demoiselle	19-Apr-17	Hampshire/Worcestershire	P. Winter/M. Averill
Scarce Emerald Damselfly	28-May-17	Norfolk	J. Mee
Emerald Damselfly	24-May-17	Essex	A. Shearring
Willow Emerald Damselfly	19-Jun-17	Essex	S. Drake
Azure Damselfly	16-Apr-17	Kent	M. Heath
Variable Damselfly	11-Apr-17	Somerset	J. Hawker
Red-eyed Damselfly	20-Apr-17	Somerset	L. Mears
Small Red-eyed Damselfly	16-Jun-17	Kent/Warwickshire	I. Hodgeson/A. Barnsley
Large Red Damselfly	24-Mar-17	Conwy	E. Urbanski
Common Blue Damselfly	06-Apr-17	Greater London	R. Stephens
Blue-tailed Damselfly	17-Apr-17	Somerset	?
Scarce Blue-tailed Damselfly	26-May-17	Hampshire	P. Winter
Small Red Damselfly	21-May-17	Hampshire	T. Bumfrey
White-legged Damselfly	18-May-17	Kent	W. Baker
Southern Migrant Hawker	26-Jun-17	Essex	?
Southern Hawker	25-May-17	Lancashire	B. Garland
Brown Hawker	06-Jun-17	Staffordshire	N. Thorneycroft
Norfolk Hawker	21-May-17	Kent/Cambridgeshire	M. Heath/S. Cham
Common Hawker	04-Jun-17	Lincolnshire	S. Routledge
Migrant Hawker	07-Jul-17	Essex	M. Swas
Emperor Dragonfly	13-May-17	Devon	D. Turrell
Hairy Dragonfly	09-Apr-17	Kent	N. Green
Common Club-tail	22-Apr-17	Berkshire	C. Webster
Golden-ringed Dragonfly	24-May-17	??	D. Brown
Downy Emerald	11-Apr-17	Gloucestershire	RR
Brilliant Emerald	18-May-17	Surrey	R. O'Mahony
White-faced Darter	03-May-17	Shropshire	S. Barlow
Broad-bodied Chaser	8-Apr-17	Kent	M. Heath
Scarce Chaser	10-May-17	Somerset	J. Chant
Four-spotted Chaser	09-Apr-17	Kent	D. Brown
Black-tailed Skimmer	13-May-17	Devon	D. Turrell
Keeled Skimmer	14-May-17	Cornwall	S. York
Black Darter	3-Jun-17	Surrey	R. O'Mahony
Ruddy Darter	25-May-17	Isle of Wight	P. Hunt
Common Darter	25-May-17	Lancashire	J. Ormerod



Migrant and New Colonist

Update

Adrian Parr **reports on the** **activities of** **migrant and** **new colonist** **dragonflies** **for spring and** **summer 2017.**

Last year was a relatively quiet one for many migrant species. By contrast, although at the time of writing there are still several months of the 2017 flight season left to come, this year has already turned out to be very much more dramatic.

The season began early, when on 12 March an unidentified dragonfly was seen at Penlee Nature Reserve, Cornwall. Over the next 3-4 weeks a further 15 dragonflies were reported from southwest England, primarily in Devon, Cornwall and the Scilly Isles. Several of these individuals were positively identified as Vagrant Emperors, and it seems likely that most, or indeed all, of the early sightings refer to this species, which can occur in Britain at any time of year. Although things then went quiet on the migrant front for a few weeks, mid May then saw the start of a series of impressive invasions by Red-veined Darter. By July, records had been received from over 80 sites, as far north as Copinsay in the Orkney Islands (this is by quite some way the most northerly British record ever!). Counts at some sites exceeded 20 individuals, and breeding activity was widely reported. These events reflect probably the second-largest immigrations of Red-veined Darter

ever seen in Britain (behind those of 2006). At least two clear peaks of arrivals were noted – a major one in the last week of May, and a smaller one in mid June. Lesser Emperors also arrived alongside the Red-veined Darters, although the relative importance of the two immigration waves was reversed. By the end of July, Lesser Emperor had been reported from at least 25 sites, including one in the Orkney Islands – only the second ever Scottish record. Despite these impressive events, what has to be the (current) highlight of the year was however the discovery of a male Scarlet Darter at Longham Lakes in Hampshire on 8 July. Although there were six records of this species during the late 1990s/early 2000s, this is the first confirmed UK record for 13 years. The species has, though, continued to do well on the near Continent and perhaps some UK individuals have passed unnoticed. Scarlet Darter is a potential colonist to Britain, and it will be interesting to see what the future has in store.

News of recent colonists has also been positive during early 2017. A new breeding site for Southern Emerald Damselfly was discovered on the Isle of Wight during late May, and good numbers of Southern Migrant Hawker have already been reported from their strongholds around the greater Thames Estuary. Several new site records, most notably from the Isle of Sheppey, Kent, suggest that range expansion is now taking place (or alternatively that some fresh immigration has occurred). Despite its flight period having only just begun, news about the Willow Emerald Damselfly is also encouraging, with at least one record received from East Sussex/south Kent, where previously there had been a gap in its distribution.

Finally, a number of established species have shown interesting signs of increased dispersal and range expansion during 2017. Variable Damselfly has thus produced a

number of new site records, and while some of this may simply reflect increased interest in the species, it is possible that the Variable Damselfly is at long last starting to recover from the decline that took place in the second half of the twentieth century. More dramatic still, the Beautiful Demoiselle has also appeared at several new sites in central and even eastern England (e.g. Woodwalton Fen, Cambridgeshire), and significant range expansion does seem to be taking place. Perhaps the species' habitat requirements are starting to broaden as the climate changes.

Clearly the first part of the 2017 dragonfly flight season has been quite a spectacular one for migrant and dispersive species, and it will be interesting to see what the second half brings. Numerous locally-bred second generation Red-veined Darters seem likely to appear, and indeed there is already a report of one successful breeding site having been found in Essex. Further arrivals of Vagrant Emperor are also possible, and who knows, we may even get a new species for Britain to end this remarkable year. **DN**

FEATURES

Beautiful Demoiselles on the move

The Beautiful Demoiselle is a habitat specialist that has shown great signs of expanding its range in recent years. Val Perrin summarises recent sightings in new areas.

In Britain, Beautiful Demoiselle is a species predominantly found on fast-flowing streams and shallow rivers in western and southern regions, with good distributions throughout Wales, the West Country, southern England and outlier populations in mid-west Scotland and southern Ireland. However, since about 2000, the species has been spreading slowly into Lancashire and eastwards through the East Midlands into Warwickshire. In Northamptonshire, which hosts the most easterly populations in the Midlands, further expansion has been observed since 2003, and it is now found in many new areas some distance from its traditional habitats in the County. In Leicestershire single males were first seen on the upper stretches of the rivers Welland and Avon in 2014. In 2017 Freddie Ingall photographed an immature male on the Welland near Market Harborough. The Welland forms the county boundary between Northants and Leicestershire and it is believed expansion up the Brampton Valley Nene has allowed the jump to the Welland. There are also recent records from west Norfolk, although no sustained colonisation has occurred here. At some sites Beautiful Demoiselle co-exists with Banded Demoiselle, such as the River Kennett

Autumn 2017



in Berkshire, the Rivers Tove and Nene in Northamptonshire and the Roman River near Colchester in Essex.

To my knowledge Beautiful Demoiselle has not occurred in Cambridgeshire historically, but on 19 June this year I received a report from Alan Reynolds, backed with a photograph, of a female Beautiful Demoiselle in Woodwalton Fen. I gather also that a lot of sightings of this species have occurred for the first time this summer in Buckinghamshire and Milton Keynes,

with breeding behaviour observed, so that the single record (so far) in Cambridgeshire would seem to be part of a more general northwards and eastwards range expansion in England. [DN](#)

Top: Immature male Beautiful Demoiselle on the River Welland near Market Harborough, Leicestershire. Photograph by Freddie Ingall.
Bottom: Beautiful Demoiselle at Woodwalton Fen, Cambridgeshire. Photograph by Alan Reynolds.



A boat's eye view...



...Scarce Chaser hunting on the River Nene



How many Scarce Chasers does it take to populate a river? *Mark Tyrrell* counted adult males at territory from his boat, along eight 1km sections of the River Nene in Northamptonshire. The result may surprise you.

I first discovered a colony of Scarce Chasers on the River Nene in Northamptonshire during work to compile my first county atlas in 2006. I was recording Banded Demoiselles along the river and chanced upon 10 male Scarce Chasers at Fotheringhay in the north east of the county. Darryl Sutcliffe, a fellow Northants dragonfly enthusiast, then found teneral the following year near Aldwincle and I located emerging adults close by at Lilford. When the National Dragonfly Biomuseum left the Ashton site in 2003, no Scarce Chasers were recorded, and on a visit there a couple of years later I counted around 85 on the backwater between the weir and the museum. This sets a good timescale for the colonisation of the river and also shows how dramatic their spread has been. Since then Darryl and I have frequently discussed the idea of canoeing down the river counting Scarce Chasers as we go. This idea never came to fruition though and we were stuck to estimating adults from the bankside. Being a riverine species, male Scarce Chasers set up their territories on marginal vegetation most often overhanging the water. While the Nene has great footpaths along the "Nene Way", it is often difficult or impossible to get a reliable count, especially as many sections have dense nettle beds between the path and the water. One is left to estimate numbers based on what is seen, against the length of the site. This undoubtedly leads to a wildly over- or under-estimate. Surely, Darryl argued, the best way is to count from the river.

Since their discovery, all 1km squares from Stanwick Lakes to Ferry Meadows Country Park near Peterborough (fortuitously included in VC32, but not modern-day Northants) have been surveyed and found to host this Chaser species. Even the Environment Agency wrote to me about some areas where they had found larvae, requesting ID confirmation. We now have an excellent map of occurrence, but no real idea of abundance. After all, this is the "Scarce" Chaser, so perhaps numbers are always low despite them being widespread?



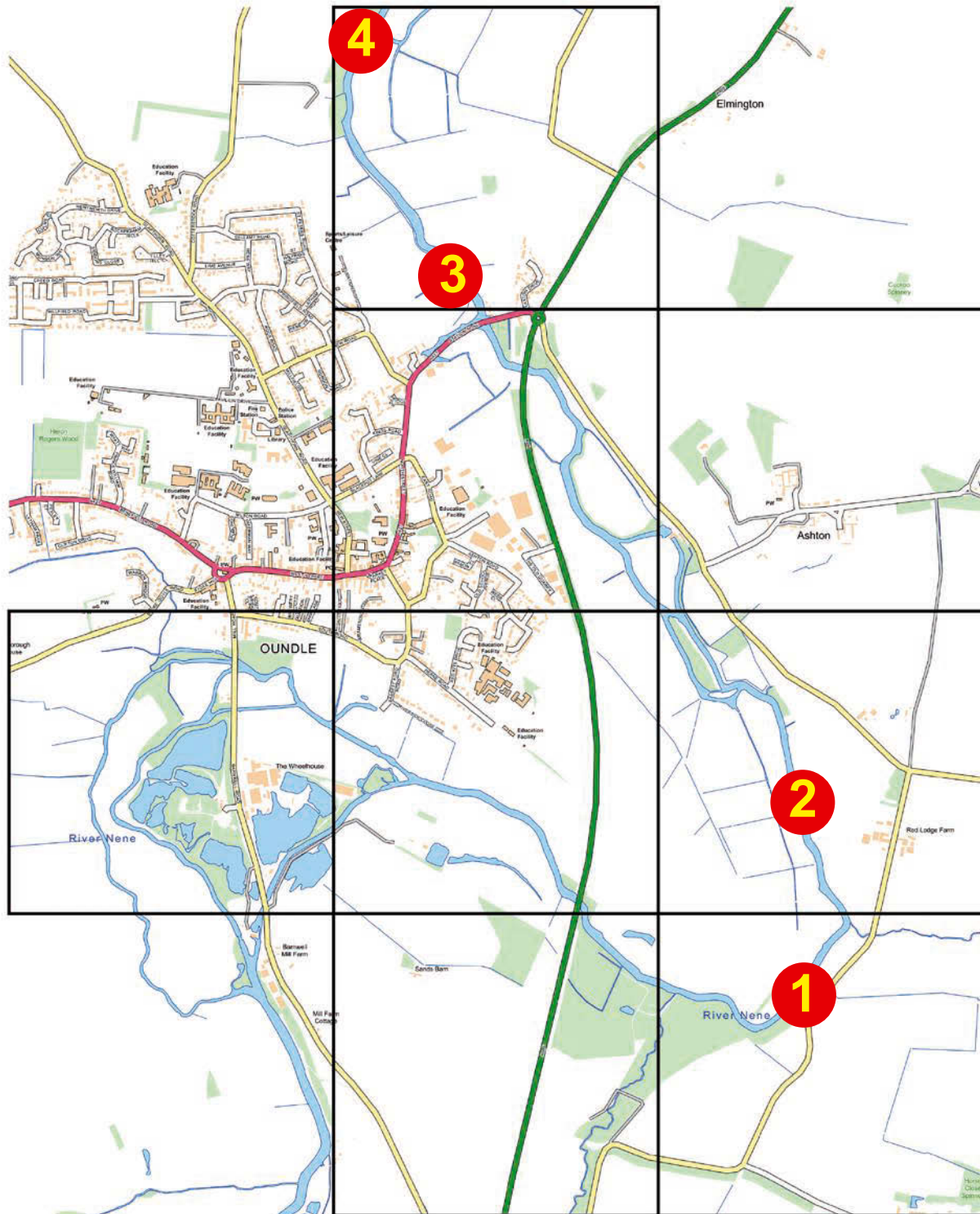
The River Nene combines navigable stretches, between locks to moderate the water flow, and backwaters not suitable for boating, separated by weirs. The river is heavily engineered as it passes through towns such as Oundle, Ringstead and Thrapston to prevent flooding, especially after the floods of 1998. Many of the navigable sections between the locks are slow flowing if not effectively stationary, especially in summer when water levels are low, and provide ideal muddy substrate for Chaser larvae.

My wife has long held a dream of owning a boat for leisurely cruises on the river, so when a once-in-a-lifetime opportunity came in 2016, we bought a small river cruiser,

moored right in the heart of Scarce Chaser country at Oundle. An ideal opportunity to do some of our long-desired counting along the river!

So, on the 18 June 2017, right in the middle of the peak Scarce Chaser season in Northamptonshire, we set off, minus Darryl who could not join us, on the first such expedition. Captain Angela piloted while I counted. Leaving the Marina, we headed left towards Cotterstock and counted our first Chasers including a pair in cop, just by the Marina exit. Once you get away from the A605, you enter the wilder sections of the river, where the fields are grazed by cattle, and Hobbys, Herons, Kites and a few geese are your only other company. Despite the beauty of the





Main picture: Male Scarce Chaser on the River Nene, 18 June 2017.

Opposite Top: View from section 1 on the map

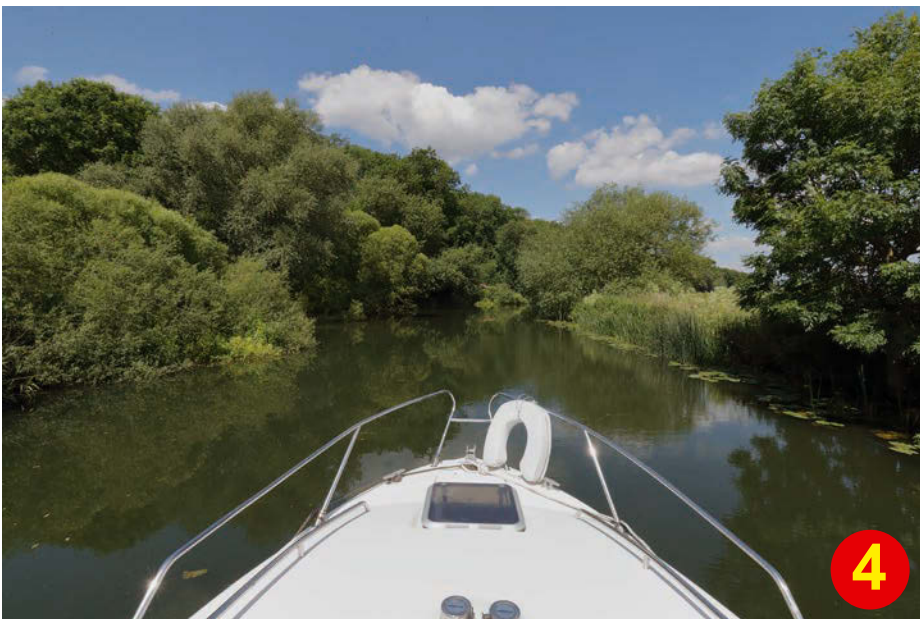
Opposite bottom: View from section 2 on the map.

Overleaf top: View from section 3 on the map

Overleaf bottom: View from section 4 on the map.

Above: Map of the section of the River Nene around Oundle. Contains OS data © Crown copyright and database right (2017)





river and the number of cruisers and narrow boats berthed at Oundle Marina, you rarely see other boats on the water. The odd Kingfisher puts in an appearance, but the long sought after otters are a rare sight. The river varies little in these sections, but some sections are of a more open aspect, while some are tree-lined. The section just before the lock towards Cotterstock looks like it might even host Downy Emeralds. In all areas, marginal vegetation is complex and dense, with a variety of plants, ideal for both larvae and adults. We covered eight 1km squares in 2.5 hours before stopping off for a Prosecco lunch (only a small glass as you can still be caught for drunk-boating) and while Angela dipped her toes in the river surrounded

by Red-eyes and Demoiselles (and the odd Chaser) I went for a quick session photographing perched Chasers near our unofficial mooring. Realising that I only saw 8 adults from the bank, in a stretch where I had counted 42, showed me that this project was well worthwhile.

Along the way, I noted all other species present while counting the Scarce Chasers. Hairy Dragonflies were a common sight, with many males at territory and several ovipositing females. Not normally a river species, I have proven breeding on several sections where the marginal vegetation is extensive and the river almost at a standstill. Emperors and even Four-spotted Chasers take up territory, frequently clashing with their Scarce cousins. My first sighting

of a Four-spot was of an ovipositing female which I at first took for a Scarce Chaser – I have still to witness a Scarce Chaser ovipositing, despite 10 years of study and seeing numerous mating pairs, and even on this trip I did not see one. Thousands of Banded Demoiselles covered the margins while Red-eyed Damselflies and Common Blues flitted around the lily pads on the river's edge. An occasional Brown Hawker flew across the water too. My long-held dream that there must be Common Club-tails here proved to remain a dream, but I at least know that this section doesn't host them. I still live in hope that less accessible sections between Wansford and Peterborough may yet deliver, after all in 1951 a male and a female were netted in nearby Castor Hanglands. Unfortunately, the trip to Peterborough is a solid three days with overnight stops, and we are not quite ready for that yet!

The map shows the river sections explored where I counted 797 males across the eight 1km squares on the navigable sections. Numbers tended to be consistent in each square related more to the length of the river in the square rather than any habitat differences (which are minimal anyway) and averaged 1 territorial male per 1.1m of river bank. If I assume 1 female = 1 male, then this stretch of river accommodates around 1,594 adults, and this doesn't include males away from territory either still maturing or feeding, or, males on the backwaters. On average this is 199 males + females per 1km square. Previous visits to some of the backwaters show strong populations too, but these will only ever be estimated, as access by boat is not possible due to low water levels.

So, what is the true population between Oundle and Cotterstock? Based on all of this information it could be around 2,000 adults, including the backwaters. And how about the whole river from Wansford to Stanwick, which covers around thirty 1km squares, perhaps 8,000 adults? Scarce Chaser indeed! **DN**

The Japanese Relict



We all know about Zygoptera and Anisoptera, but what about the third type - Anisozygoptera? The intrepid *Damian Pinguey* travelled to Japan to see the intriguing “Japanese Relict”.

***Above:* Female Japanese Relict ovipositing.**

***Overleaf:* The stream hosting the Japanese Relict.**

***Overleaf Opposite:* Members of the Tokyo Dragonfly Society photographing the ovipositing female.**

Yes! It's a dragonfly!!!! I can remember back in 2001 getting the eagerly anticipated 'Dragonflies of the World' by Jill Silsby. At that time very little printed material was available on Odonates outside of Europe and North America. I flicked through the pages looking at the amazing variety of 'exotic' Dragons throughout the world. The book is divided into sections and starts with the Damselflies (Zygoptera) and moves into the true dragonflies (Anisoptera). However, much to my immense surprise, I found a single page dedicated to a further dragonfly type: Anisozygoptera (there's no vernacular name) between these two sections!

So it turns out there is a third sub-order. If you look back through the fossil record, Anisozygoptera is pretty well represented, but has now all but died out. For this reason the dragonflies of this type are known vernacularly as 'Relicts'. Up until recently there have only been two known species, one found in Nepal (The Himalayan Relict) and one

endemic to Japan (The Japanese Relict). Recently two further species have been described from China, however the differences between the two new species and the Himalayan Relict are purported to be minor and they may actually just constitute a range expansion of this species.

These 'Relicts' are often thought of as intermediates between the Dragons and Damsels. They have a body resembling a Club-tail, but the equal wings of a Damselfly (They also fold their wings above their backs like damselflies whilst at rest).

I have been fascinated by these insects ever since and decided back in 2016 that I would endeavour to go and see them for myself! The initial choice was Himalayan or Japanese. A quick web-search revealed that the Himalayan Relict has only been sporadically reported and no definitive locations where it has been recorded are available for recent records. By contrast, the Japanese Relict occurs right across Japan and is reported from numerous locations.

I had previously corresponded





with some Japanese dragonfly enthusiasts and decided to email them with a request for more information. They responded and much to my excitement, reported that the Japanese Relict was easily viewable in the mountains that surround Tokyo. They put me in touch with Mr Hidetaka Natsume who is the WDA representative for Japan and a member of the Tokyo Dragonfly Society.

There are several books (field guides) on Japanese dragonflies available and they give information on the Japanese Relict. They specify that the flight period is from Early April to mid-June. So I started planning my trip for end of May thinking it would be mid-flight period. Thank goodness I contacted Hidetaka. Basically Japan covers nearly 2,000 miles north to South and the Relic occurs right through Japan. The flight period is actually very short at each location, so in the South they emerge in early April and

fly until May and in the north they emerge in mid-May and fly until mid-June. Three weeks is normal.

Hidetaka recommended I visit second week in May and volunteered to escort me to the best site along with the President of the Tokyo Dragonfly Society Mr Kaz Ikeda. Unfortunately I couldn't make the suggested dates and could only make the third week of May. I was warned that they might finish before my visit. However, much to my delight, the Cherry blossom season was a week late this year, so I decided to take a chance and give it a go!

After sixteen hours of flying (via Hong Kong) I arrived in Japan and picked up my hire car and drove the 123 kilometres across Tokyo to my hotel near the suggested site. Point to note: If you hire a car, make sure you choose one that comes with a GPS with English subtitles. It then asks you for the landline telephone number of the hotel address rather than ZIP code or street!

Finally on Sunday the 14 May I met up with the guys at Sagami-hara railway station and headed for the mountains. The other worry about the trip was the weather, I had a total of four days available to see this species, but the forecast for the whole week was looking dubious. After a short drive and a long climb, we made it to the site for 11:00am.

It was a bit of a surprise that practically the whole of the Tokyo Dragonfly Society was there as well! We all gathered at the preferred habitat of this species, a small fast mountain stream where the males patrol the banks in a quick and erratic flight looking for females. About six years ago, Kaz discovered some interesting behaviour, the females actually like to oviposit in the side runnels from the main stream and the males seem to know this. They will fly up to a side run and then their flight pattern changes. They proceed very slowly up the runnel periodically hovering which of course gives an



Damian Pinguey

White-faced Darter: life-cycle length?

David Clarke reviews his published work on White-faced Darter larval life-time.



ideal opportunity for an in-flight shot.

There is a single particular side-stream which is very highly used. It runs for about 20 feet at an angle of 45 degrees up to a mountain track. The other side of the mountain track has a small vertical waterfall covered in plants in which the females may oviposit. So I was given a small patch at the side of the runnel and there we stood, about eight of us at a time lining the side of the smaller stream. The person at the bottom where the runnel meets the main stream would be on lookout for approaching dragons and shout "male" or "female" accordingly so we could all prepare for its ascent up to us. Cameras ready! You just had to hope that the dragon would hover as it passed your patch; once it was gone there would be a mad rush to scramble further up along the stream to see if it stopped at the waterfall.

Unfortunately, the weather was poor and added to the fact the stream is in a wooded valley, the light was terrible. I had my camera set at 8,000 ISO just to get anything! The main excitement for the day was when a female after flying up the runnel, hopped over the path and stopped for nearly two hours to oviposit on the waterfall plants.

The other point of note, due to the specific conditions at this site, the photographers have made their own contraptions for this low light environment, including one chap

who had his camera mounted on a frame with a couple of high powered torches strapped on!

During the day I probably saw about ten males and four females. It would appear that it is extremely difficult to find this species away from their breeding stream. Hidetaka showed me a couple of clearings further up the mountain where previously he'd found the odd one perched, but this he informed me only generally happened in excellent weather (like bright sunshine). I spent the best part of three days searching these areas in poor to moderate weather (mainly cloudy and windy with occasional sunny intervals or drizzle) but to no avail. It may also have been very late in the season for them.

In summary, if you wish to see and photograph this dragonfly, I would recommend you spend at least a week in early to mid-flight period. The weather in the mountains surrounding Tokyo so early in the year is not reliable.

Thanks are due to Hidetaka, Kaz and the members of the Tokyo Dragonfly Society for helping me realise a life's ambition and for such an enjoyable and entertaining few days. I certainly would never have found the dragonfly without them!

DN

I stated in my paper The White-faced Darter (*Leucorrhinia dubia* Vander Linden) re-introduction project in Cumbria. JBDS 30 (2), that a 2-year life cycle for the White-faced Darter in Cumbria was 'indicated'. On reflection that was rash because there were likely to have been a few larvae at least a year old with the hatchling stock introduced – and it would have been very laborious to have attempted to check this in the volume of Sphagnum moss we moved. Having encountered a fully mature larva at the donor site in late July this year, this tends to confirm the hastiness of that conclusion. The fact that half-sized larvae were also present adds confidence. However, a few larvae do not resolve a life cycle, and situations in nature can be complex. Whatever the case, if final instars can appear in the summer before the year of emergence, they must be the final overwintering stage – and live for about six months. The one in the photograph (taken 22 July 2017) has fully developed wing cases – reaching well onto abdominal segment 6, and is 16mm long. The 'jury' on this issue is still out of course! **DN**



Common Hawkers and Black Darters in Dartmoor and Exmoor



The BDS Atlas (Cham et al., 2014) provided graphic evidence of strong northward and/or westward expansions in the range of many dragonflies in Britain and Ireland, mirroring northward expansions that have been witnessed across Europe and North America. Of course these have included incursions and several colonisations in Britain from the Continent. Some birds, butterflies and other insects have also shown similar range extensions and colonisations. These additions to our fauna are generally welcomed by naturalists, but is there a downside for dragonflies in this era of climate change?

The ranges of 'northern' species are expected to shift similarly, but by 'retreating' from the south or being lost from many lowland sites (as Cuckoo and Willow Warbler have done). So while Devon, for example, has been colonised by Little Egrets, breeding Golden Plover have deserted Dartmoor, their last outpost in southern England. Could dragonflies do the same? I think they

will, but detecting such changes from ad hoc recording is very difficult.

Two recent events in Devon got me thinking about how we might at least keep an eye on the situation, even if there's little the BDS can do about it. Through Dartmoor's Magnificent Mires Project, I arranged for Devon Group members to look at one of the most inaccessible parts of the moor: an extensive blanket bog on a plateau from which several rivers emerge. Two days later, I ran a dragonfly training day for Exmoor National Park volunteers at Pinkery, just inside the Somerset border. There was good access to a small moorland reservoir (Pinkery Pond), moorland streams and flushes, some of which had been blocked to restore Sphagnum mires and produce small ponds. Two of the principal species of interest in the uplands of the Southwest are Common Hawker and Black Darter, both of which were found on each day (although only exuviae of the former on Exmoor).

Both the hawker and the darter are prone to wandering, in the case of

the latter sometimes long distances well away from suitable breeding sites. Because of this, the distribution maps in the Atlas do not accurately reflect the breeding ranges of these two species. In Devon and Somerset, both species breed mainly in very acidic pools containing abundant bog moss (*Sphagnum* species). Where the water comes purely from rainfall, blanket bog (or mire) is produced on a bed of peat up to 5m deep. This habitat is limited to the highest parts (around 450-550m) of Dartmoor and Exmoor, although little of the resource remains in good condition. This Blanket Bog is valued highly as a carbon store and for its ability to regulate water flow into rivers, but much of the bog has been degraded by peat-cutting, erosion and fire and on both moors there has been bog restoration work going on in recent years. One advantage of past peat-cutting, however, is the presence of ponds of various sizes, which prove very attractive to a few species.

In the flatter valley bottoms at altitudes of 300-400m, where the



groundwater issuing from springs and flushes is a little richer in nutrients than in the blanket bog, valley mires have formed. Again, both Black Darter and Common Hawker breed, but along with Keeled Skimmer as well. These three species (sometimes with Small Red and Southern Damselflies on Dartmoor), can also be found around the edges of the moors, at altitudes of around 200-300m and typically associated with old tin or clay workings, but the hawker and darter are perhaps harder to find here these days. Generally lower in altitude, some of the heathy Culm grassland sites in central and north-west Devon have records of Common Hawkers, and there are a few breeding records of them at even lower sites (20-100m), typically in heathland. Black Darter, however, is absent from mires in Devon's lowland wet heathlands – unlike those of Dorset, Hampshire and Surrey. Quite why it doesn't breed in bog ponds on the East Devon Pebblebed Heaths (EDPHs) is a mystery! Common Hawkers seem to be rare breeders in the Bovey Basin and EDPHs, but the true picture is probably clouded by misidentifications in the lowlands of the South-west, as indeed it is elsewhere in England. 'Common Hawker' is not a very good name – Moorland, or more accurately Heathland, Hawker would seem more appropriate. Two other species typical of the blanket bogs are Large Red Damselfly and Four-spotted Chaser, but these are also found widely in non-peaty wetlands right down to sea level.

So that's a rough guide to where the 'northern' species seem to breed in Devon and Somerset, but how do we go about monitoring their progress in the light of climate change (which is likely to manifest itself through changes in habitat quality as well as temperature and rainfall). It seems sensible to search for breeding evidence (ideally exuviae) at relatively low-altitude sites around the moorland fringe and at higher sites that are easily accessible. This applies not just to South-west England, but to other regions where Common Hawker and Black Darter breed, including the lowland heaths of central southern England and



uplands in Wales, northern England and Scotland. In Scotland, where moorland also occurs close to sea level, the habitat quality may be affected by ocean currents. Please consider making annual visits to check sites where the species have been known to breed (I can point you in the right direction for Devon!). As Common Hawker and Black Darter emerge late in the season, visits can be in August or even September. As ever in the uplands though, finding good weather may be difficult, as we discovered in August. Now I appreciate what Scottish recorders have to put up with! **DN**

Opposite page: A remote bog pool at Ockerton Court, Dartmoor.

Top: Male Black Darter

Bottom: Mature male Common Hawker.



Dragonfly hunting for the Vagrant Emperor Anax ephippiger in Almeria

The Vagrant Emperor is becoming a regular visitor to the UK, so David Chelmick sets out to hunt it down in more familiar territory in Spain.

The Vagrant Emperor is an uncommon visitor to our shores and a species shrouded in mystery. Dumont (2014) provides an insight into its life history. The larval period is short (70-120 days) and, contrarily amongst Odonata, the adults live for up to a year; this insect has evolved to travel. It occurs most commonly in the monsoon affected lands to the south of the Sahara, where it breeds in shallow pools and lakes. In good years, huge numbers emerge soon outstripping local habitats and, to survive, a large proportion of these insects move north across the Sahara. Dumont (2014) observed millions of immature adults around the Tibesti Mountains in the centre of this great desert. The question that remains unanswered is whether the populations that go north to breed make the return trip? In Europe, it can be found, sometimes in large numbers, at suitable habitats around the Mediterranean and often further north. This has already been a good

year and the Vagrant Emperor has appeared in the UK as far north as Orkney.

I first saw it in the Gambia in the 1990s and although I have recorded it in many parts of Spain these have only ever been isolated records. In mid March this year, we visited the south coast of Spain to our regular haunt near Almeria (my daughter has a flat there). The weather was good and, most importantly, there was very little wind. The forecast looked bad so we decided to walk to my favourite pond along the coast. Only one species was present, and what luck, it was the Vagrant Emperor in excellent numbers, mostly copulas (I managed one very poor photo). Peering through the reeds, I could see at least 6 pairs looking to oviposit but the pond was as full as I have ever seen it; to observe them properly I would have to get in the water. But I had no equipment so close observation would have to wait. I tried next day but the wind, which is the curse of dragonfly watching in Southern Spain, was a gale and the temperature had dropped, no sign of any dragonflies. On the following days, the weather worsened with winds gusting to 80 km/h and torrential rain causing torrents in the town ramblas.

We went north with a view to returning in the following week. On Tuesday 21 March we were near Granada; we looked at the weather forecast for Aguadulce. It had been fine with high temperatures and thankfully the wind had dropped. the problem was that the weather was due to deteriorate. Next morning we drove straight back to the coast. The weather had clearly been good as all the snow on the Sierra de Gador had disappeared. But the palms were blowing ominously and when we arrived at the pond there was indeed a strong breeze. Was I too late? On went the dry suit and I ventured to the edge of the pond fearing the worst; but no, there they were, at least three pairs, which, because of the wind, were searching out broken reed stems floating in the sheltered side of the pond. Up to my waist, I just had to wait and let the pairs get used to me to study them closely. Just half an hour later the wind had become so strong that the insects disappeared. We had timed it just right. Shrewd fieldwork or pure luck? I favour the latter, but as the great golfer Gary Player once said. "The more I practice, the luckier I get". **DN**

Dumont H.J 2014. Odonata from the Tibesti Mountains and the Ounianga Lakes in Chad. *Odonatologica* 43(1-2):13-24 .



Southern Emerald

Damselflies on the Isle of Wight



The Southern Emerald Damselfly is not new to the British Isles. It has bred in the Channel Islands since 1995 and was first recorded in Britain at Winterton Dunes, Norfolk in July 2002. This was followed by sightings in 2003 and 2004 at Sandwich Bay in Kent. However the recent breeding site discovered on the Isle of Wight in May this year is a first for the island for this species and also a new breeding species for the island.

It seems that the favoured breeding habitat for these Emeralds is seasonally flooded still waters which typically dry out early in the summer. This is in keeping with the Island site as the two side-by-side ponds are no more than shallow scrapes. One dry by the month of May this year and the other retaining just a damp area at its centre. Both are completely covered in reed and horsetail growth. These 'ponds' are situated in a managed woodland clearing and both are surrounded by long grass and low bramble scrub. It is amongst these grasses that ten mature and immature individuals were seen on the 25 May this year and three on 26 May. Further visits on 16 June and 4 July recorded



several more mature individuals.

The question that must be asked therefore is 'How long have Southern Emerald Damselflies been at this site?'. Well the answer must be at least three years. It has been confirmed that photographs taken of 'Emerald Damselflies' at the same location in June 2016 were this species. They showed both immature and mature Southern Emeralds. So it

is clear that an established breeding site has existed here for some years.

DN

Top left: The first recorded female of 2017.

Top right: Male

Bottom: Typical habitat.



Notes & Observations

Compiled by Mark Tyrrell



I don't know what was so special about this small piece of wood, but it attracted ovipositing Emperors and Brown Hawkers in a pond between Lewes and Glynde on 21 June this year. I have read about how some species oviposit in groups when a perfect substrate is found, but have never seen different species tolerate each other on the same substrate.

David Hasell



I was leading a training session for the local Wildlife Trust as part of the WildSide project along the River Nene near Wellingborough, explaining how Banded Demoiselles oviposit in submerged vegetation. One of the attendees spotted this female land on a dry grass head along the bank. We watched as she began to oviposit into the plant material. I have never seen this before and wonder at the strategy involved.

Mark Tyrrell



Along the River Great Ouse near Oakley in Bedfordshire on 25 June, I recorded 1000's of Banded Demoiselles in the marginal vegetation along the river. It was cool and windy and they were concentrated in the more sheltered areas. It has been many years since I last observed such high numbers. Everywhere I looked there were Demoiselles. I was particularly surprised to see a male Demoiselle in tandem with another male. This might be due to the high numbers of males in intense competition for any passing females. The attached lower male appears to be immature with brown eyes and slightly darker in the clear areas of the wings and I wonder if this has resulted in it initially being mistaken for a female. They stayed like this for further 20 minutes before separating.

Steve Cham



We've seen many images of Common Blue Damsel flies harassing ovipositing Emperors, so I was interested to watch this event unfold, where a male Banded Demoiselle managed to swamp an Emperor. It has been suggested that with Common Blues, the males mistake the Emperors for females, but is the Demoiselle acting territorially?

John Curd





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

Dragonflies and Me...Mike Dilger

Mike is a well-known TV presenter, with regular nature pieces on The One Show, as well as a qualified and skilled naturalist and writer. Mike took on the role of BDS President last year.



© Pam Taylor

Why did you first become interested in dragonflies?

I have an abiding memory of watching 'Devil's Darning Needles' whizzing around a pond up on Cannock Chase in Staffordshire when I was around seven or eight. I remember being entranced, but also mildly intimidated as they buzzed over to investigate the young naturalist quietly watching from the bankside.



© Tim Coleshaw

A male White-faced Darter

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

The first time I saw White-faced Darter I was blown away. The males are little crackerjacks!

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

Watching Hairy Dragonflies trying to avoid being eaten by Hobbies at Shapwick Heath NNR on the Somerset Levels in early May. The Hobbies had just arrived back from Africa and were looking for a protein-packed meal of Brachytron before dispersing to their summer breeding grounds.

What is your favourite dragonfly fact?

That in the Carboniferous geological Period 300 million years ago, atmospheric oxygen was so rich that this allowed the evolution of some pretty huge dragonflies. Leading the way was Meganeura with a 70cm wingspan - fancy that buzzing your garden pond!

What is your favourite place to watch dragonflies?

Easy... my own back garden! I have a small, modest pond, but during the course of the year it plays host to four species of damselfly, Broad-bodied Chasers, Southern Hawkers, Common Darters and even Beautiful Demoiselles from the stream at the bottom of the garden.

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

Just... add... water. Oh and join the BDS too!

FACTFILE: The Costa



© David Kitching

The Costa is the name for the front vein on the wing of a dragonfly. Sometimes this is a special colour, such as the yellow costa of the Common Hawker (pictured left).

The Common Club-tail Hunt

Katie Piercy, blogger: www.ayearoffirstsblog.wordpress.com

Over the years I've been fortunate enough to have the pleasure of observing many different dragonfly species, from the oddly friendly Southern Hawker to the rare White-faced Darter to wonderfully named Golden-ringed Dragonfly. Each has its own character, and once you've seen a few you can't help wanting to collect the set. So when the British Dragonfly Society put out a call for volunteer surveyors to look for the elusive Common Club-tail I put up my hand.

The aim of the BDS Club-tail count was to get a better understanding of the whereabouts of this species. Having signed up we were given our own grid square to check. The Club-tail's flight period runs from mid-April to July, emergence being mostly en-masse. We were to search for both adults and exuvia; the larval skins left behind by the adults as they emerge. It was therefore on a sunny day in May I and my boyfriend Chris headed out to check what could turn out to be a very empty length of riverbank.

The Dee is a beautiful river, winding its way from Wales to England, driving through the heart of the historic city of Chester before spilling out into the Dee estuary, an internationally important site for waders and water fowl. We were lucky to be assigned a particularly picturesque corner near Overton, a village full of whitewashed cottages, red-brick houses and neatly kept gardens. Dragonfly hunting is a surveyor's dream, carried out on sunny spring and summer days, largely in pretty places. To get to our square we wandered through fields lined with ancient oaks and well-kept hedgerows. Our section was very neatly divided into an open field and a woodland. Access was tough in the field and impossible in the woodland, meaning our exuvia searches were somewhat restricted. Club-tails are unusual in the sense that they can emerge from a horizontal position, unlike most dragonflies which need to be vertical during emergence. They also sometimes forgo finding a handy plant stem and simply emerge on bare earth. We therefore set out to search the banks, opening vegetation to spy out the mud-encrusted exuvia. We weren't hopeful of seeing an adult Club-tail, and didn't even know if they had been seen on this stretch of river.

With the banks steep and unstable the search was difficult, both of us nearly ending in the river from time to time. In the afternoon sunshine we watched Swallows, Sand and House Martins fly low and fast over the dark waters. Grey Wagtails flitted from tree to tree, and a Greater Spotted Woodpecker shimmied up the rotten branches of the willows and alders lining the opposite bank. It was Chris who spotted the Club-tail, newly emerged and sunning itself on top a dock leaf. Below it the empty shell of its former self still clung to the stem. We sat for some minutes watching it. Two more exuvia presented themselves through careful searching, whilst the following visit unearthed three more. On this second visit we also had the pleasure of watching our Club-tail flying seamlessly over the surface of the dark water, the occasional fish breaking the surface in an attempt at an easy snack. Joining our Club-tail in flight, though a somewhat slower and more dainty version, were dozens of Banded Demoiselle, stunning in their metallic blues and greens as they flitted along the edge of the bank, giving chase to the paler females.

It is always an honour to observe any wild creature in its natural habitat, and always terrifying to think that our actions may cause it to be lost. The Common Club-tail is already listed as near threatened and in many places its habitat is still shrinking. The stretch of river we visited was perfect for our dragonfly, except for the damage being caused by humans. As well as the trampling by the cattle we saw large stands of Himalayan Balsam throughout the woodland and in scattered patches across the banks, where it too had been grazed away by the cattle. This invasive species was brought as a garden plant to the UK and has since spread through the wild, causing massive damage. It festers along the banks of the Dee, out competing and killing off native species. Dying off in the winter, and with barely any kind of root system to hold the soil together, it creates large areas of bare banks in our wettest months, causing more erosion. Another threat to our silt-dwelling Club-tails. But the good news is the Club-tails aren't gone yet. We can once again bring our rivers into good condition for wildlife by keeping them clean, free of invasives and fencing them off from livestock. If we do this perhaps one day it won't just be a handful of Club-tails along my little stretch of the Dee but dozens. Now wouldn't that be a sight to behold.



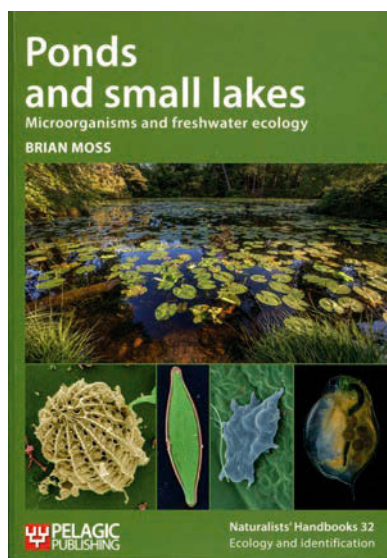
Common Club-tail © Katie Piercy

Make a ... Hand Print Dragonfly

You Will Need: paper, paint, glue, scissors, pencil.
Place your hand on a piece of paper and trace around it. Cut around the handprint (get an adult to help you with this part). Repeat this to get a pair of hands. These are the dragonfly's wings. Next, draw and cut out the dragonfly's body. Decorate with the paint, adding glitter, googly eyes and any other extras you would like. Stick the wings to the body and enjoy!



Review



Ponds and small lakes

Microorganisms and freshwater ecology

by Brian Moss.

Naturalists' Handbooks 32

Published by Pelagic Publishing,
Exeter.

www.pelagicpublishing.com

216 pp

Price £19.99 paperback (also
available in other formats)

Review by Peter Mill

The Naturalists' Handbooks are designed to "encourage and enable those interested in natural history to undertake field study, make accurate identifications and make original contributions to research." This book more than fulfils these objectives. The author, Brian Moss, was a Professor of Botany at the University of Liverpool and an acknowledged expert on the ecology of ponds and has worked both in this country and abroad. Sadly he died before the book was published.

The first chapter deals with the nature and type of ponds and how their chemistry is affected by

the local geology and the activity of those organisms living in the water. It discusses the various uses of ponds in the past and notes that their numbers have decreased considerably. In Britain and Ireland there are now in the region of four hundred thousand ponds up to 2 ha in area compared with probably millions in the past. The following chapter is concerned with the problems of living in fresh water. It includes information about the nature of water, the importance of dissolved substances and chemical communication. Chapter 3 is on the littoral zone of ponds, defined as those parts of a water body that can "support growth of plants or photosynthetic algae on the bottom" and it deals with the various types of organism found in ponds. This chapter includes keys to the traditional and contemporary kingdoms of organisms. There is also a key to the types of microorganisms to be found and one to those algae visible to the naked eye. A further key identifies the members of the periphyton, i.e. those organisms that live around plants, including both ones that are attached to surfaces and those that are free-living. There are also keys to free-living protozoans and to the main groups of invertebrates. Chapter 4 is devoted to plankton with a key to the genera of common phytoplankton.

Chapter 5 is on catchments, nutrients and organic matter, dealing with such aspects as conductivity, key nutrients and eutrophication. This is followed by a chapter on the ecological development of ponds and lakes with discussions on palaeolimnology (the ecological history of ponds and lakes) and on what determines biodiversity and how it is measured. Food webs and their structure is the topic of chapter 7, dealing with predator-prey interactions and how communities change. Chapter 8 deals with the problems with ponds and small lakes, including the relationship with their catchment area, their changing role, the effect of acid rain and the importance of Sphagnum, concluding with information on pond management. Ponds and the future are dealt with next, with details of their importance as a water supply and for food security; also their

importance for carbon storage and the problems that climate change may bring. The concluding chapter includes a very detailed bibliography and this is followed by an extensive index.

I have rarely come across a book that packs so much information into such a small space and yet remains very readable. It is very well illustrated with more than 70 figures, mostly in colour. Throughout the book there is an emphasis on fieldwork and it is full of ideas for future fieldwork. It mentions dragonflies and damselflies in a number of places but this book has a much wider coverage. It is an absolute must for anyone with an interest in ponds, especially for those intending to do any fieldwork. At £19.99 it is extremely good value for money and I recommend it unreservedly. **DN**



BDS BUSINESS

Trustee Stuart Irons has now ended his four year term of office under our previous rules, during which time he attended a growing number of meetings and dealt with the burden of e-mails and paperwork, despite having significant commitments outside the BDS and has decided to step down from the Trustee Board. The Board gives its formal thanks for all his support and wishes Stuart well in all his other areas of natural history work.

The Trustees co-opted Peter Brown to the Board, to replace Stuart pending elections at the AGM. We warmly welcome Peter, who brings experience from his work with the Worldwide Dragonfly Association. (Peter has also recently taken over the running of the BDS Shop).

In accordance with our Constitution, one third of the Trustees retire each year with Henry Curry and Mick Parfitt retiring this year (in addition to Stuart) and three Trustees are therefore need to be elected at the AGM. Peter Brown will stand for election to confirm his appointment and Henry and Mick will offer themselves for re-election. We invite other nominations from suitable candidates. Please inform the Secretary if you have a nomination. The Trustee Board is not currently at its full complement and hence we are looking for further Trustees to bring experience and enthusiasm to the Board and are in a position to co-opt further members so please inform the secretary if you are interested or would like to know more.

Dragonfly, Butterfly, Wild Flower and Moth Tours Bulgaria 2018

FLIGHTS, HALF BOARD, TRANSPORT, EXPERT LEADERS, CONSERVATION DONATION INCLUDED

Early Summer Butterfly and Dragonfly Tour, 10 – 20 June

Price: £1,450.

11 days with Nick Greatorex-Davies and Tihomir Stefanov. Among the many dragonfly species we hope to see that are absent or rare in the UK are: Dark Spreadwing, Eastern Willow Spreadwing, Ornate Bluet, Eastern Spectre, River Clubtail, Sombre Goldenring, Balkan Goldenring, Blue-eyed Goldenring, Blue-eyed Hawker, Turkish Goldenring, White-tailed Skimmer and Black Pennant.

Spring Butterfly & Flower Tour, 19 – 30 May

Price: £1,460.

12 days with Nick Greatorex-Davies and Vladimir Trifonov.

Summer Butterfly and Moth Tour, 29 June – 10 July

Price: £1,550.

12 days with Martin White and Mitko Petrakiev. This tour also visits Serbia.



Enquiries: Dr. Annie Kay. Email: annie.kay@btinternet.com

Visit our website: www.b-bs.org.uk

Bookings and availability: Phone: Ognian at Balkania Travel 020

7536 9400 Email: ognian@balkaniatravel.com.

Visit our website: www.balkaniatravel.com



BDS Annual Meeting and AGM
Saturday 18th November 2017
Holiday Inn Hotel, Filton Road, Hambrook, Bristol, BS16 1QX

This year's meeting will be on Saturday 18th November at the Holiday Inn Hotel, Filton, Bristol, BS16 1QX.

Members and non-Members are welcome.

Draft Programme (timings & order of events may vary):

09:30 Coffee & Welcome

10:00 General Introduction and Announcements, welcome to the site

10:05 From the President (Mike Dilger)

10:20 REGUA - Accessible Tropical Rainforest Dragonflies (Peter Allen)

11:00 tba (Robin Wootton)

11:25 Club-tail Project (Genevieve Dalley)

11:40 Dragonflies and Damselflies of the Maltese Islands (Charles Gauci)

12:30 AGM

13:00 Lunch - please bring your own lunch. Food is available for purchase from the hotel

14:05 Introduction - our new Conservation Officer (Eleanor Colver)

14:25 Dragonflies of Somerset (Chris Iles)

14:50 The Southern Migrant Hawker (Neil Phillips)

15:20 Tales from the Balsa (David Chelmick)

16:00 Raffle & Final Announcements

16:30 Close

For more information contact the organiser, Henry Curry (BDS Secretary)

Free entry, but we ask for a donation to cover costs (we suggest £5 members, £10 non-members).

Please book your place online at Eventbrite (this helps us to gauge the number of likely attendees) <https://www.eventbrite.co.uk/e/bds-annual-meeting-tickets-34247861275>

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>Chalcolestes viridis</i>	Willow 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 barbarus</i>	Southern 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
Platycnemididae		<i>Cordulia aenea</i>	Downy Emerald
<i>Platycnemis 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>	Kelley 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 Darter	<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

All material should be sent to the Editor at the address on the inside front cover. If in doubt, please contact the Editor to discuss potential contributions and to advise on presentation and format. By contributing to **Dragonfly News** you give permission for the work to be used in other ways with the same attribution including reproduction on the BDS web site. All contributions on any aspect of the British and Irish dragonfly fauna are welcome for consideration at any time. Contributions on continental European and other species are also considered for inclusion. Contributions by naturalists based in Britain or Ireland travelling overseas are also welcome.

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.



BDS Shop

To order goods, please contact Peter Brown, Hill House, Flag Hill, Great Bentley, Colchester, Essex, CO7 8RE, Tel 01255 823400, e-mail shop@british-dragonflies.org.uk or visit our web site (www.british-dragonflies.org.uk) to order on line. When ordering please include your name, address and telephone

number. Postage prices are indicated, but if you are ordering more than one item the highest postage price only (within reason) should be paid. Please allow at least 28 days for delivery. Cheques should be made payable to: British Dragonfly Society.

Clothing	Colour	size	price	p&p
BDS logo T-shirt	Natural, royal blue	S	£5.00	£2.00
T-shirt with small BDS logo	Natural	S, M, L, XL, XXL	£7.00	£2.00
Polo shirt	Bottle Green	S,M, XL	£12.50	£2.00
Rugby Shirt	Blue	S,M,L,XXL	£18.00	£2.00
Hooded Sweatshirt	Navy Blue	S,M,XXL	£15.00	£2.50
BDS logoed Sweatshirt	Grey with black logo	Large	£13.75	£2.50
BDS logoed Sweatshirt	Grey with embroidered logo	S,M,L,XL,XXL	£13.75	£2.50
Bush Hat	Sand or Olive Green		£9.50	£2.00



Books & DVDs	Price	p&p
Field Guide to the larvae and exuviae of British Dragonflies	£7.50	£2.00
Spinning Jenny and Devils Darning Needles by Jill Lucas	£5.00	£1.50
Field Guide to the Dragonflies of Britain and Europe	£21.95	£2.50
Dragonflies of Hampshire	£7.50	£0.00
The Dragonflies of Lancashire and North Merseyside.	£10.00	£1.50
Dragonflies and Damselflies of Hertfordshire	£10.00	£2.00
Dragonflight by Marianne Taylor	£10.00	£2.00
Dragonfly by David Chandler and Steve Cham	£7.50	£2.50
Dragonflies of Northamptonshire by Mark Tyrrell	£14.95	£2.00
The Dragonfly Diaries by Ruary Mackenzie-Dodds	£12.95	£2.00
Britain's Dragonflies by Dave Smallshire and Andy Swash (3rd Edition)	£17.95	£2.00
A Biology of Dragonflies (1983 re-print) by Philip S Corbet	£7.50	FREE
Field guide to Dragonflies and Damselflies of Great Britain and Ireland	£18.95	£2.00
Guide to the Dragonflies and Damselflies of Ireland by: Robert Thompson and Brian Nelson illustrations by Richard Lewington	£20.00	£3.00
Field Guide to Dragonflies of Hainan by Graham Reels	£20.00	£3.00
Dragonflies and Damselflies of the Serra dos Orgaos by Tom Kompier	£27.00	£3.00
Atlas of Dragonflies in Britain and Ireland	£25.00	£3.00
The Dragonfly Friendly Gardener	£8.95	£1.50
Suffolk Dragonflies	£10.00	£2.00
The Dragonflies of Gloucestershire	£15.00	£2.00
For the Dragonflies & their Homes by Milen Marinov, Dan and Rosemary Powell	£5.00	£2.00
DVD Guide to Dragonflies of UK and Ireland by Paul Hopkins	£35.00	£1.50
DVD British Dragonflies by Graham Sherwin	£15.00	£1.50
DVD British Damselflies by Graham Sherwin	£15.00	£1.50
Both Graham Sherwin DVDs	£28.00	£2.00

Misc	Price	p&p
BDS Mugs, Black Darter, Migrant Hawker, Scarce Chaser, Golden-ringed Dragonfly	£4.00 (each)	£2.00
Set of all 4 BDS Mugs	£12.00	£5.00
Dunoon Harebell Mugs	£12.00	£2.00
BDS Key Ring	£1.50	£0.75
BDS Car Sticker	£1.00	£0.50
BDS Logo Pin Badge	£2.00	£0.75

