

Dragonfly News 169

The Magazine of the British Dragonfly Society
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Dragonfly News 69

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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* An asterisk indicates a change since the last issue



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Contents

Features



10 When the UK season is on the wane, why not head off to the sun to watch more exotic species. David Chandler does just that in Extremadura.

10 Stretching the season - watching dragonflies in Extremadura, Spain

David Chandler

13 White-faced Darters at Claife Heights, Windermere - a tantalising mystery

David Clarke

16 'Bokeh vs Habitats' *Robin Procter*

19 'Small fry revisited' *David Clarke*

22 The Impact of flooding on dragonflies & damselflies *David Tompkins*



13 Is there an undiscovered colony of White-faced Darters in Cumbria?

Regulars

02 From the Secretary *Henry Curry*

03 From the ConsOff *Genevieve Dalley*

04 Daniele Muir - Scotland Officer

05 HotSpots - River Thames at Goring

06 InBox

08 Last Dates for 2015 *Adrian Parr*

09 Migrant & New Colonist Update

Adrian Parr

14 Notes & Observations

20 Members' Gallery

24 Young Naturalist's section

26 Field Meetings and other Events

31 Reviews

32 BDS Business

36 BDS Annual Meeting 2016

19 Do you often revisit old photos? David Clarke finds a few gems in his slide collection?



From the Secretary



Henry Curry

Winter seemed to be just around the corner for so long, and yet there were later and later sightings of dragonflies in 2015 and the weather was extremely mild, though very wet. I really sympathise with those who were caught up in the catastrophic flooding and whose homes or livelihoods were deluged. And I wonder once again, will there be any effect on larvae, if so will it be significant? Down here in the Fens we seem to have missed the harshest times, but the cold snap came at last, and a proper winter seemed to be bearing down on us. Yet as I write this towards the end of January it's 14 degrees Celsius again... Ah well, hopefully there will be plenty to look forward to and talk about this year apart from the weather – for instance, my new Atlas of the European Dragonflies and Damselflies is sitting on the side, tempting me to stop typing and start reading! (see the BDS shop page or visit the website to get your copy).

Survey

My sincere thanks to those of you who returned the Questionnaire that we sent out with the last mailing; Nigel Scott, donning yet another hat, has been busy analysing all the information, and you'll see a summary of the conclusions elsewhere in this issue of DN.

The Team

Happily, our Scotland Officer, Daniele Muir, did not have to leave us as I had mentioned in the last issue, and we are all very pleased indeed that she has been able to stay on with the Society, still in a part-time role but now thanks to the legacy mentioned in DN68 working three days per week. Daniele has organised our second Scottish

Dragonfly conference on 2 April, see the website events page for details. I'm also pleased to announce that the same legacy has allowed us to take on David Hepper - already known to most of you as our webmaster - as our new part-time Records Officer. David has already leapt into the role with huge enthusiasm, and amongst other activities he has run a course in Nottingham on the iRecord system for VCRs, with plans to repeat this in Scotland and perhaps follow this up with a 'mop-up' online session. Conservation Officer Gen Dalley has been with us now for around six months as I write; she is proving herself a real asset to the Society, and amongst many other things is currently finalising details of the Spring Meeting in Dorking on 19 March, which I hope you'll be able to attend. With regards to the new part-time role of Fundraiser, unfortunately the person we selected at interview was unable to accept the post after a late change in personal circumstances. So we are re-considering our options, one of which is an experienced person temporarily filling the vacancy on a voluntary basis. And of course all our volunteers deserve our thanks as they continue to beaver away behind the scenes – but this once can I just add my special thanks to our Journal Editor (Peter Mill), Shop Manager (Lynn Curry) and of course our fantastic Magazine Editor (Mark Tyrrell) without whose efforts we wouldn't have this brilliant Dragonfly News you are reading.

Award

The Longfield Certificate for 2015 is being awarded to Clem Tacconi. He has tirelessly worked to keep the Dragonfly Centre at Wicken staffed and make sure the public are welcomed and educated. And he is continually looking for new ideas and ways to improve the opportunities to get the messages across about the fascination and need to monitor and conserve these ambassador insects.

Congratulations Clem !

Farewell

Sadly, towards the end of October last year, we received word of the death of Norman Moore after a short illness.

Peter Mill writes an Obituary elsewhere in this magazine – can I just add my personal view that we have lost a great conservationist and a true gentleman.

Trustees and our meetings.

This year we will have not only three new Trustees bringing their various skills and expertise to the BDS Board (Val Perrin, Clem Tacconi, Ben Price), but we will also have the return of our very experienced Pam Taylor in the role of Convenor of the DCG. I'd like to give my sincere thanks to Dave Smallshire who has been the convenor for eight years and has managed a huge workload in that time. The Trustees met after the 2015 Annual Meeting in November and once again had a busy day, especially looking at the proposed new constitution to make us an 'Incorporated' Society, more of which in another item in the magazine. Other items we discussed in November included: how we can collaborate at the A Rocha Foxearth site; updates to the website to make it more user-friendly; a review of our published materials; venues, speakers & formats for our upcoming Spring & Annual Meetings. On this latter point it's been suggested that we might change the format of our Annual Meeting in 2017 to last over two days, therefore including an overnight stay for those that are able to attend both days, thus giving more time for chatting and 'networking' and a more relaxed pace rather than having to cram everything, including an AGM, into one quite busy day. People could also choose whether to attend just the first or second day, or both. What do you think? We're keen to know your views - would you prefer this arrangement? Please contact me or any of the Trustees and give them your thoughts and ideas, or ask questions about any of the issues we are discussing. If you can attend the Spring Meeting on Saturday 19 March and talk to any of us in person that would be very good, but if not please contact us by e-mail, or ring, or write.

Here's to another remarkable dragonfly season ! **DN**

From the ConsOff



Genevieve Dalley

I am writing this in January, with the first fingers of frost finally creeping in after an exceptionally mild early winter. Now in post for 6 months, I have had a brilliant time working on a range of diverse projects and meeting a host of dedicated dragonfly lovers. Below is an outline of some of the main projects I have been working on for the BDS these past months.

Conservation Projects

One of the rarest damselflies in Britain is currently in desperate need of protection, with increased monitoring and management a priority. The Southern Damselfly is a stunningly delicate creature, with fluttering flight and secretive habits. It is found only on scattered sites in Hampshire, Dorset, Devon and Oxfordshire in England and on the Preseli Hills, Gower Peninsula and Anglesey in Wales. The BDS has been involved in the conservation of this species for several years. You will have seen evidence of this in recent editions of Dragonfly News, as we collaborated with Natural Resources Wales and the Pembrokeshire Coast National Park Authority to achieve habitat improvements in the Preseli Hills. Further positive action is now being taken to secure the future of the species, in both England and Wales.

Southern Damselfly populations on the Isle of Purbeck, Dorset, are found in some of the country's most picturesque beauty spots. However, increased monitoring efforts are needed to track the fate of the species. The RSPB, National Trust, Amphibian and Reptile Conservation Trust, Dorset County Council, Dorset Environmental Records Centre and local experts are now teaming up with the BDS to ensure this happens.

We have an ambitious monitoring plan for the upcoming season which should allow us to see exactly where the species is within a site and where management is most needed. We also hope to monitor land adjacent to the best sites in order to explore which areas have the most potential for population expansion.

In September, I had the opportunity to visit the stunning Gower Peninsula, south Wales, to take a look at the sites where the Southern Damselfly is still clinging on. Along with staff from Natural Resources Wales (NRW), we first took a look at the streams on Cefn Bryn followed by a trip to Rhossili Common. Although well outside the Southern Damselfly flight season, we still managed to see some of the local wildlife, with a fantastic view of a female adder. We agreed that management was required on both of these sites, as they have become over-vegetated, shading out the streams completely in some areas. Southern Damselflies are warmth loving insects who require open, exposed stretches of stream. NRW have quickly got to work and, with advice from the BDS, as well as local experts, plan to open up areas of stream at Cefn Bryn this winter, ready for the 2016 summer season. This aims to provide suitable habitat adjacent to the current population, allowing the species to spread further at the site.

Outreach Projects

The BDS is looking to expand its outreach to young people; we think it is vitally important to invest in the dragonfly experts of the future. We are updating our children's education resources, and developing new teaching aids, in an effort to get more schools teaching pupils about the wonderful world of dragonflies. These resources will be made freely available online, both on our website and on teaching resource websites, in order to reach the maximum number of people. In addition to this we are introducing a new section in Dragonfly News specifically for young people – head over to the 'BDS Dragons' pages now to sample the first instalment. This is aimed at young naturalists, so who better to write it than the young naturalists themselves! We have articles written by keen, young dragonfly watchers, as well as interviews and activities. We hope to recruit a young voluntary editor to cover this section of Dragonfly News; a great experience for a

budding young naturalist.

We would also like to increase our correspondence with our membership as a whole. To this end we have made some changes. Members' responses to our recent questionnaires are helping to inform these developments. There are plans afoot to modernise our website, giving it a cleaner, more modern feel which is easier to navigate but retains all the useful dragonfly information and links. In addition, we hope to provide more information on the website as to how people can get involved and help dragonflies. We have also started to send out a monthly e-newsletter, which has received positive feedback. We are keen to hear from anyone who has an article they would like to see in the newsletter, just get in touch via: genevieve.

We hope you will all benefit from these changes and continue to find the BDS an exciting society to be a part of.

Trips, Meetings and Events

I have been lucky enough to attend a wealth of meetings and events, representing the BDS. This year's Rutland Water Birdfair, my first ever visit to this huge event, was a great hit. The BDS stand was busy with enthusiastic people keen to learn more about dragonflies and we even won the award for 2nd best Conservation Stand! I also met many more of our members at the 2015 Member's Day, introduced teenage naturalists to dragonfly larvae at FSC's Young Darwin Scholarship in Shropshire and ran a stand at Shropshire's fantastic Merefest event. I have travelled to the Centre for Ecology and Hydrology, to film a video promoting the release of the Dragonfly App and, most importantly, visited some gorgeous dragonfly habitat, such as Thursley Common in Surrey, Delamere Forest in Cheshire and Chartley Moss in Staffordshire.

This is just a snapshot of the packed but exciting journey I have been on in the last 6 months, with help from the brilliant members, volunteers and staff of the BDS. Here's to a dragonfly-filled summer 2016! **DN**

The Conservation Officer post is sponsored by:



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Danièle Muir - Scotland Officer



Glen Affric Peatland Restoration Autumn 2015

In autumn 2015, a trial peatland restoration project was being undertaken in Glen Affric in the Scottish Highlands. It is a partnership between the BDS, Forestry Commission Scotland (FCS), Trees for Life (TfL), a Scottish conservation charity, the National Trust for Scotland and North Affric Estate and is funded by the Peatland Action Fund (PAF) which is overseen by Scottish Natural Heritage.

Peatland covers more than 20% of Scotland's land area, but it has been estimated that 70% of the blanket bog and 90% of the raised bog area in Scotland has been damaged to some degree.

Peatlands have a number of valuable properties which are now being recognised as important. They are a massive carbon store in their undamaged condition, but in a degraded state they release climate warming greenhouse gases; they are the source of the majority of the UK's drinking water; they can regulate water flow and mitigate against flooding; and they are a valuable habitat harbouring important wildlife.

Glen Affric is situated to the west of Loch Ness and is under the ownership and management of FCS. It is a SSSI noted for a number of features including its dragonfly assemblage. Important species include the White-faced Darter, Azure Hawker and Northern Emerald which will all benefit from the creation of bog pools under this programme.

The project comprises two main elements – a demonstration of practical restoration techniques, and planning for



Volunteers at Glen Affric

future projects.

A range of techniques, both mechanical and manual, are being demonstrated. On two sites an excavator has blocked and re-profiled eroded peat hags on open moorland and blocked drainage channels on a former plantation site.

Manual peatland restoration is already carried out in the Central Belt by Butterfly Conservation's "Bog Squad" which is also funded by PAF. Their leader and 4 volunteers came up to Glen Affric for a weekend in October to provide instruction on these techniques to a group of 11 Trees for Life volunteers. Over the weekend we successfully blocked 10 ditches using plastic piling dams, created bog pools and raised the water table over a large area.

Local landowners will be invited to an open day to see the results of this work and to encourage them to undertake similar projects on their land.

Aerial photography and site visits have been used to evaluate the areas that future work should concentrate on and to develop a project plan to submit if funding opportunities become available. It is hoped this will also include small islands of restored bog pools within the forest which will provide potential habitat links between current populations of Odonata and extend their range. **DN**

Colin Hall

Volunteer tasks on BDS Hotspots, autumn 2015

The best time to carry out pond management tasks is generally late autumn – by this time the summer's amphibians will have undergone metamorphosis and left the pond, but adults will not have started hibernating. It should also have least impact on the pond's invertebrates.

Ponds at Dragonfly Hotspots Crombie Country Park, Morton Lochs and Devilla Forest all needed some work to ensure a combination of open and vegetated water, so a number of volunteer tasks were organised to improve the sites for dragonflies.

We were lucky to receive funding from Volunteering Matters, funded by Scottish Natural Heritage, to purchase tools, PPE and a Kelly Kettle to boil water to make hot drinks.

The first task took place at Crombie in early November, where we worked on Peddieston Pond in the morning. Peddieston is situated within an area of heathland which has recently undergone management to remove birch and rhododendron. This is an excellent spot to observe Common Hawkers, Common Darters and Black Darters. We removed sedges and pondweed from one edge of the pond and came across a number of newt efts, frogs and dragonfly larvae. We carried out a similar task at Heron Pond in the afternoon, where we found



An overgrown pond at Morton Lochs, before (top) and after (bottom)

Common Darter and Four-spotted Chaser larvae.

On 18 November we were at Morton Lochs in Fife, where one of their small ponds had become completely overgrown with vegetation, with no open water left. As well as a small band of volunteers, SNH and Forestry Commission staff, we had students doing their John Muir Award to assist. These students have since taken on Dragonflies as part of the Discovering, Exploring and Conservation sections of their award, with a focus on recording dragonflies when going on a field trip to Assynt in June. The trees surrounding the south-east side of the loch were removed as well as lots of aquatic vegetation, so the pond will be a dramatically different habitat in 2016.

On the 23 November we met at new Hotspot Devilla to enlarge a pool and block up a ditch with a plastic dam to raise the water table. We made dragonfly sunbathing mounds with some of the material removed from the pond and enjoyed getting the Kelly Kettle lit to make tea and coffee!

Thanks to all the volunteers, Angus Rangers, SNH and Forestry Commission staff who assisted with the volunteer tasks in 2015 – we'll hopefully see you again this autumn! **DN**

The Scotland Officer post is sponsored by:



Hot Spots

Readers are invited to share details of publicly accessible sites in their area that are important, locally or regionally, for particular species or that offer good viewing opportunities. These sites are not necessarily the same as Hot Spots or Key Sites as defined by the BDS.

If you have an important site, please send details including a habitat shot to the Editor.

BDS Secretary Henry Curry describes a classic hot spot - probably the most popular site to find the Common Club-tail.

River Thames at Goring

Key Species: Common Club-tail



The site: A pleasant walk along a footpath by a relatively slow flowing section of the River Thames. The walk starts under trees but opens out into pasture (there may be cattle grazing, but they are docile) and a small nature reserve with many wild flowers. Round trip is 2.8 miles, and there are no facilities once you are on the path. It's advisable take some water and perhaps a picnic.

Getting there: Grid reference SU600807. Goring is on the north bank of the River Thames, about 8 miles north-west of Reading and 16 miles south of Oxford. On the opposite side of the river is the twin village of Streatley, and the two are linked by a road bridge. There is a weir and lock and the area is popular with pleasure boats. Food & drink are available in Goring. There is a railway station (Goring & Streatley) on the main Great Western line, served by local First Great Western trains between Reading and Oxford. Park in Goring (there is a small car park just off the High Street) and follow signs down Ferry Lane to the Thames path. At the river turn left and walk south along the path for around 1.4 miles, stopping when you get to the large noisy railway bridge at SU607794. Common Club-tails often emerge quite close to the water surface, but may be anywhere along the bank so check for exuviae (cast skins) and watch where you tread – they often emerge horizontally in the grass, even when it's raining. A favourite spot for emergents is on the vertical concrete surface under the large brick arched railway bridge, barely a foot above the water. Retrace your steps via the same path.

When to visit: Common Club-tails emerge from early to mid-May and flying to end of June.

Also good for: Banded Demoiselle, Large Red Damselfly, Mayflies, common butterflies.





The BDS Library

For some time now the Society has been in receipt of various publications, many of which are stored by our Librarian, David Goddard – these often are a result of a reciprocal arrangement with other organisations & wildlife societies. David has been generous in allowing us this space in his home, despite the weight of material threatening to make a new ventilation route from his loft to his bedrooms. Concerned that this source of information exists but is rarely requested, I thought it high time we reminded members what is actually available, as this material can be a useful source of reference if you are making a study or writing an article. What follows is therefore a list, hopefully exhaustive, of the publications we receive. Unfortunately, there is no single repository or 'library' for this material, as we don't have a purpose-built centre with the necessary space and storage conditions (control of humidity, temperature, and importantly security but with relatively easy access) and we don't have the staff or funds to convert all of these publications to an electronic format. However, if anyone has a genuine need to access anything listed we'll be happy to arrange loan of the material as this is obviously infinitely better than it merely gathering dust.

Publication	Subject	Language
Brachytron	Dragonflies	Dutch
Odonatologica (SIO)	Dragonflies	English
Libellula	Dragonflies	German
Vlinders	Butterflies, some Dragonflies	Dutch
Martinia	Dragonflies	French
International Journal of Odonatology (IJO; formerly Pantala)	Dragonflies	English
RSPB Legal Eagle	Wildlife Crime	English
Butterfly (Butterfly Conservation)	Butterflies	English

Henry Curry

Royal Entomological Society Insect Festival 2015 - Sunday 5 July 2015

The Yorkshire Branch of the BDS attended the RES Insect Festival, which was held in York Museum's Hospitium and gardens on Sunday 5th July. Organisers for the RES, stated that around 1700 people had turned up throughout the day. Unfortunately as our display was on the first floor and the lift was out of action, I reckoned that just over half ventured upstairs. However, we managed to sign up one new member for the BDS on the day and quite a few Yorkshire Branch application forms were taken, hopefully for completion later.

As well as promoting the BDS and dragonflies in general, we advised people on creating garden ponds, pointed out local dragonfly hotspots and offered tips on how to photograph dragonflies. We talked to older children about the life cycle of dragonflies and had a selection of exuviae for them to look at and handle. It always amazes me that relative few adults are brave enough to hold exuviae whilst the kids don't usually bat an eyelid. Younger children had dragonfly pictures to colour in and quite a few took prints home to work on at their leisure. All in all it was a successful day and I'm already looking forward to the next one in 2017.



Tom Hubball

The Dragonflies and Damselflies of Gloucestershire

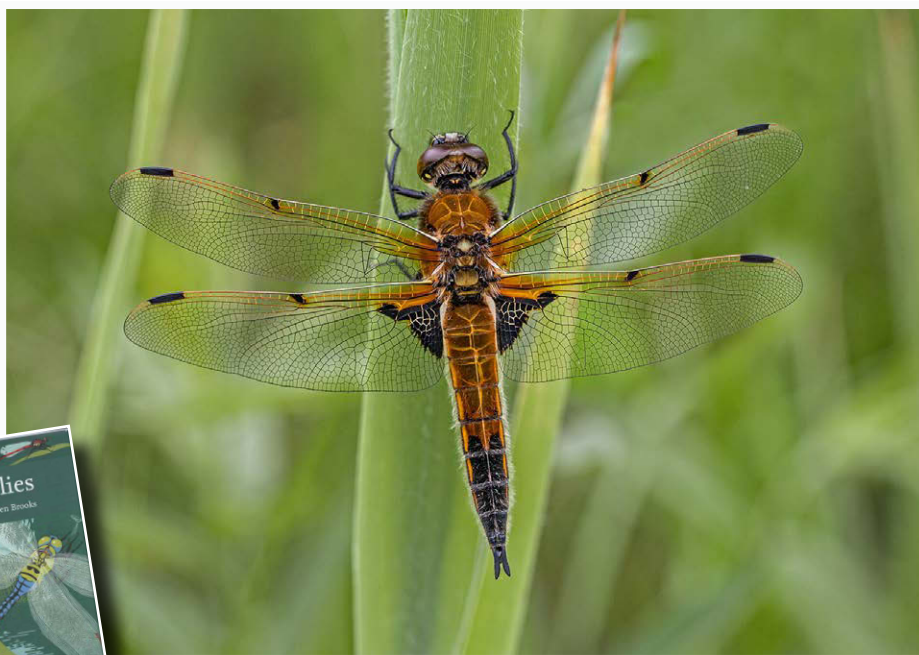
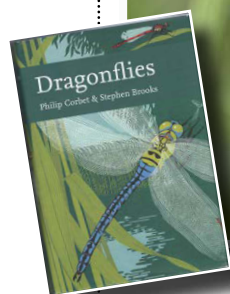
To be published in April 2016. This guide, written by the Gloucestershire county Odonata recorder Ingrid Twissell, contains lots of useful information about the area's dragonfly fauna. Distribution maps, flight times, sites and much more, all lavishly illustrated with photographs of the species and their habitats. Copies are available from the BDS shop at £15 + p&p.

Ingrid Twissell

Photo competition DN67

Congratulations to Neil Malton, whose picture of a Four-spotted Chaser was chosen by Katarina Corbet. Neil wins a signed copy of *Dragonflies* by Corbet & Brooks. Neil's prize was presented at the 2015 Annual Meeting, by Mark Tyrrell, Editor of *Dragonfly News*. Thanks to all those who entered the competition.

Mark Tyrrell



BDS Members' Survey Responses

A big thank you to the 97 people who responded to the Survey we included with the Autumn 2015 edition of *Dragonfly News*. It is important to the Trustees to hear members' views and to get their input on how we can improve our communications with you.

All of you received *Dragonfly News* and the *Journal* but 19 didn't recall receiving *Darter*, probably because we publish it annually with the Spring magazine and so it hadn't been with the Survey. Satisfaction with all 3 publications was very high, *Dragonfly News* getting a rating of 5.49 out of a maximum of 6, *Darter* reaching 4.88 and the *Journal* reaching 4.39.

The most popular item in *Dragonfly News* is Notes and Observations, closely followed by Features. The Checklist and the BDS Shop scored low, although those who scored the Checklist high felt it was essential! Most people want to see Site recommendations and ID tips in *Dragonfly News* but few wanted to see Adverts for equipment, although these would be accepted if people felt the Society was gaining income from them. Little interest was shown in a Children's page.

Over half of the respondents had been to either an Annual Meeting or a Recorders' Day and these were also highly rated, both scoring over 5

from their respondents. A lot of people commented on the location of these events and the Trustees will continue to search for appropriate locations across Great Britain.

81 respondents had visited the BDS website where the most visited pages were *Dragonflies* and News & Events. By far the commonest reason for visiting was to check the latest sightings, followed by identifying possible sites. Respondents wanted more regular News & Sightings and also more information on our Conservation work.

Many people made individual comments and suggestions and the Trustees are very grateful to all who responded and helped us understand what our members get from *Dragonfly News*, our Meetings and our Website. We will now use this information to support development of these areas as we look to build membership and awareness of odonata.

Nigel Scott
Trustee

Egg parasitism of Scarce Emerald Damselfly

I was very interested in the article in *Dragonfly News* 68 on egg parasitism and think I can give a name to the chalcid. I looked at the photo through a hand lens and could see that it was a chalcid with the overall shape of a tetrastichine eulophid. Checking the Universal Chalcidoidea Database (available on the web) and Graham's (1987) keys in *Bull. Brit. Mus. (Nat. Hist.) Entomology* 55, *Aprostocetus pseudopodiellus* (Bakkendorf, 1953) (Chalcidoidea, Eulophidae, Tetrastichinae) is recorded as a solitary endoparasitoid of *Lestes* eggs. The colouration of the specimen in your photo matches Graham's description and, whilst of course I cannot be certain, I would bet your photo shows *A. pseudopodiellus*. If anyone comes across the beast again I will be happy to confirm or otherwise its identity.

Dick Askew



Last Dates for 2015

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

It had been a fairly average start to the season in 2015, with alternating warmer and cooler spells resulting in generally rather typical first emergence dates. Since the last issue of Dragonfly News, two new 'first dates' have come to light – these being a White-legged Damselfly and a Southern Hawker seen in Kent on 11 May and 5 June, respectively.

Autumn 2015 was generally un-dramatic weather-wise, though September was cooler than what has become normal in recent years. November and December then went on to be exceptionally mild, with it being the warmest December on record. The outcome of all this was that reported 'last dates' were again generally rather typical, except for some later flying species (e.g. Southern Hawker and Ruddy Darter) that produced good late records. There were, in addition, a few more unusual records made, most notably a Scarce Chaser seen on 1 September. Since this was an immature, it clearly resulted from an unexpected autumn emergence, a feature also noted for some other species in recent years. Finally, at the end of the year there was to be a dramatic series of records over the Christmas period, with a 'hawker' being noted in Lancashire on 22 December and another on the Isle of Wight "over the New Year". Three 'darters' (two provisionally ID'ed as female Common Darter) were also reported, one each from Hampshire and Devon on 26 December, and one from Nottinghamshire on 27 December. These Christmas individuals seem unlikely to be late residents, as no dragonflies had been reported for several weeks previously. Instead they were probably migrants from N. Africa or southern Europe. It seems likely that at least some sightings actually refer to the Vagrant Emperor, where winter records are not particularly unexpected. **DN**

SPECIES	LAST DATE	LOCATION	OBSERVER
Banded Demoiselle	ca.15-Sep-15	Northamptonshire	S. Page
Beautiful Demoiselle	24-Oct-15	Cornwall	M. Ahmad
Scarce Emerald Damselfly	9-Aug-15	Norfolk/Suffolk	J. Mee/R. Murray
Emerald Damselfly	8-Oct-15	N. Yorkshire/W. Sussex	D. Brear/Anon.
Willow Emerald Damselfly	3-Nov-15	Norfolk	J. Mee
Azure Damselfly	11-Oct-15	Kent	D. Tutt
Variable Damselfly	25-Jul-15	East Yorkshire	R. Shillaker
Red-eyed Damselfly	24-Sep-15	Somerset	J. Hawker
Small Red-eyed Damselfly	30-Sep-15	Warwickshire	K. & P. Reeve
Large Red Damselfly	17-Sep-15	Breconshire	P. Ward
Common Blue Damselfly	31-Oct-15	Berkshire	J. Ward-Smith
Blue-tailed Damselfly	3-Oct-15	South Yorkshire	J. Wilcox
Small Red Damselfly	6-Sep-15	Surrey	S. Darlington
White-legged Damselfly	23-Sep-15	Kent	T. Dove
Southern Hawker	9-Dec-15	Wiltshire	G. Maddison
Brown Hawker	15-Oct-15	Cheshire	B. Baird
Norfolk Hawker	3-Aug-15	Suffolk	N. Percival
Common Hawker	14-Nov-15	Ayrshire	P. Price
Migrant Hawker	25-Nov-15	East Sussex	P. Bonham
Emperor Dragonfly	9-Oct-15	Dorset	B. Pickess
Hairy Dragonfly	9-Jul-15	Lincolnshire	J. Collins
Golden-ringed Dragonfly	1-Nov-15	Cornwall	C. Moore
Downy Emerald	8-Aug-15	Surrey	M. Heath
Brilliant Emerald	3-Sep-15	Surrey	R. & M. O'Mahony
White-faced Darter	16-Jul-15	Shropshire	D. Edwards
Broad-bodied Chaser	22-Aug-15	Glamorgan/Warwickshire	D. Batchelor/K. & P. Reeve
Scarce Chaser	1-Sep-15	Devon	R. Procter
Four-spotted Chaser	6-Sep-15	Northeast Yorkshire	K. Gittens
Black-tailed Skimmer	26-Sep-15	Cornwall	C. Moore
Keeled Skimmer	26-Sep-15	Surrey	M. O'Mahony
Black Darter	2-Nov-15	Ceredigion	K. Gittens
Ruddy Darter	7-Nov-15	Lincolnshire	B. Hedley
Common Darter	26-Nov-15*	Cambridgeshire	S. Dudley

* Neglecting potential Christmas records discussed in the text

Migrant and New Colonist Update

Adrian Parr reports on the activities of migrant and new colonist dragonflies for late summer and autumn 2015.

The early part of the 2015 season had been an eventful one for migrant and new colonist species, with a very substantial arrival of Red-veined Darter, and also good numbers of Lesser Emperor being seen, several of which may well have been locally-bred. The second half of the season was to continue in similar productive vein. As early as 22 August, locally-bred second generation Red-veined Darter were reported from Badminton in Hampshire (P. Ritchie/P. Winter), and by the autumn further breeding sites had been identified at Felbrigg in Norfolk (S. Chidwick), Windmill Farm in west Cornwall (C. Moore) and near Reculver in Kent (M. Heath). Given the extent of the spring arrivals, it seems likely that successful breeding may also have taken place elsewhere, but gone unnoticed. The possibility also exists that further emergences may be noted during spring 2016. The detailed life-cycle of Red-veined Darter in Britain, and whether (or when) emerging adults are site-faithful or dispersive, remains an interesting area for further study.

One of the features of late 2015 was the often rather mild weather, with winds frequently from the south. One of the consequences of this was a significant influx of Vagrant Emperor, an African migrant species that has become quite regular in recent years. Autumn 2015 was thus to see at least seven well-documented individuals reported between 11 October and 10 November. Southwest England proved the most productive area with one record from Cornwall and three from Devon, but there were also reports from Bardsey Island (Gwynedd), Hayling Island,

Hampshire, and Hessle, East Yorkshire. Another, probably related, highlight of late 2015 was the unprecedented series of dragonfly sightings made over the Christmas period. Two unidentified hawkers (in Lancashire and the Isle of Wight) might perhaps have been further Vagrant Emperors. In addition, three 'darters' (two provisionally identified as female Common Darter) were also seen at the time, viz. singles in Hampshire and Devon on 26 December, and another in Nottinghamshire the following day. Despite the abnormally mild December, these seem unlikely to have been late residents (none having been reported earlier in the month), but are instead probably migrants from North Africa or the far south of Europe. Indeed some might just possibly also have been (misidentified) Vagrant Emperors.

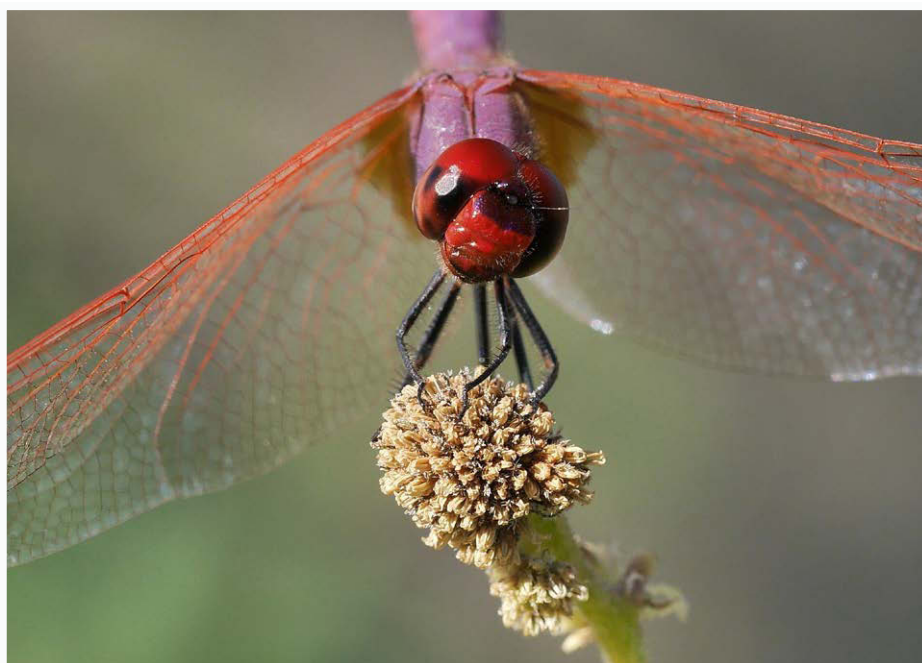
In last autumn's issue of Dragonfly News, it was noted that Southern Migrant Hawker had had a good season in 2015, with many records from its new breeding colonies in the greater Thames Estuary area, and with a presumed immigrant female having been photographed in Lancashire on 10 July (C. Storey). Since that issue was published, news has been received of three further presumed immigrants, all males. One was seen at Southease, East Sussex, on 22 August (R. Mundy), another at Bawdsey on the Suffolk coast on 29 August (B. Buffery), and the third at Marazion Marsh, Cornwall, over 18–19 September (C. Moore); the Cornish record is unusually, though not unprecedentedly, late. Given the wide scatter of the sightings, both spatially and temporally, it would not be surprising if further individuals had not in fact also arrived, but gone un-noticed. The possibility therefore exists that new breeding sites beyond the Thames Estuary may have been established during 2015, and it will be of considerable interest to see what the next few years have in store.

Finally, one other piece of significant news concerns the Willow Emerald Damselfly. This new colonist species had been slowly expanding its range in southeast England following its arrival in Suffolk during 2007. There were signs

in 2014 that this range expansion might be accelerating, with the first county records being made in Cambridgeshire, Hertfordshire and Surrey. During 2015, significant expansion was to continue, with further records from Cambridgeshire (including sites in Cambridge itself) and from the southwest London/Surrey area. An important sighting was also made on 29 September at Woods Mill in West Sussex (D. Sadler), not far from the south coast. Further details of the spread of the Willow Emerald are given in this spring's accompanying edition of Darter, and it will be of considerable interest and importance to see how the species fairs in 2016. **DN**



Stretching the season - watching dragonflies in Extremadura, Spain



As the UK season ends, David Chandler heads off to the sun to catch some Spanish odonata in the Extremadura region.

As summer drifts into autumn, dragonfly activity in the UK is on the wane. One solution for this annual challenge is to spend some time in southern Europe. I had the privilege of visiting Extremadura in September for a late-season serving of my favourite insects.

Extremadura is a large patch of wild Spain, south-west of Madrid with Portugal immediately to its west. It covers over 16,000 square miles which is about twice the size of Wales. Its wildlife fame is rooted in its avifauna – which includes vultures, eagles, bustards and sandgrouse. Most wildlife tourists come for the birds but there are other winged things to draw them in...

Summer 2015 had been unreliable, so the prospect of some good dragonfly-watching in the sun and heat of southern Europe was attractive. Madrid is the best airport to head to – from there a drive of about two and a half hours gets you to the heart of Extremadura. I took the 0825hrs

flight from Stansted on 9 September, and by about 1500hrs had donned my trusty hat (recommended – temperatures topped 30 degrees C) and was in Extremadura enjoying the dragons at Arrocampo.

Out of Africa

I'd done some research on the plane, leafing through 'Dijkstra and Lewington' to check out what I might be seeing. I'd made a list of potential species, some with question marks. The first dragon we saw, which came quickly, was a ground-loving species with dark pigment patches on its wings. Those are probably the two most notable things about it. It's no surprise then that it goes by the name of Banded Groundling *Brachythemis leucosticta*. The book had a small distribution blob in the right general area but it was a species that I had question marked. To call it Spanish is a bit misguided. Banded Groundlings are extremely common in the African tropics – they hang around watering holes, presumably dining out on insects disturbed by the large mammals that stop by for a drink. Over a few decades, Banded Groundlings have expanded their range to the north. They weren't hard to see or identify. Mature males and some females have the wing patches, and as the male gets older his abdomen blackens.

The Spanish-African theme continued with another tropical African species that has found its way into parts of southern Europe – the Long Skimmer *Orthetrum trinacria*. With its stretched-out abdomen the Long Skimmer looks very different to its stouter namesakes that I am more familiar with. There were good numbers at Arrocampo, with dapper blue-grey males and gorgeous, well-marked females with lovely blue eyes.

The blue-saddled Lesser Emperor *Anax parthenope*, redder-than-red Scarlet Darter *Crocothemis erythraea*, and Iberian

Bluetail *Ischnura graellsii* completed our first session. Birds had been the supporting cast rather than the stars of the show – with Purple Heron *Ardea purpurea* and Iberian Grey Shrike *Lanius meridionalis* in cameo roles, and a Purple Swampphen *Porphyrio porphyrio* providing a ridiculous trumpet accompaniment.

Searching high and low

We looked high and low for dragonflies, sometimes successfully and sometimes not. A reservoir up in the Grados mountains in La Vera, an area famous for its smoked paprika, was, for us, a dragonfly-free zone. But the mountains were impressive and we kept looking as we descended. Still no dragons, but the butterflies included a very nice Sooty Copper *Lycaena tityrus* and a splendid Schreiber's Green Lizard *Lacerta schreiberi* posed for pictures. The dragons came later, at a lower altitude along a mature Rio Tiétar.

Violet Dropwing *Trithemis annulata* is another species with an African heartland that has made itself at home in the south of Europe. They were first recorded in Spain in the 1970s. The violet colour is pruinescence overlaying the dragon's red body. If they are present and the sun is shining, they are easy enough to see. We saw around 20, and even my guide was impressed with that! One pair were mating in flight, sealing their membership of the metre-high club. One was chased by a hungry Hornet *Vespa crabro*, but thankfully, the Hornet stayed hungry.

The real star of the Tiétar was the kind of dragonfly that you see in the book and want to see for real. With flaps towards the tip of its abdomen, it was easy to identify in flight. When it settled things got better – its hooked appendages, which it flexed to show them off, made its ID even more secure – we were looking at a Green Hooktail *Paragomphus genei*. This creature has a very limited European range but once again, is common in Africa. In a side-on view this magnificent beast appears to have a single, formidable hook at the tip of its abdomen. There are two of course, one on each side, and they are what the male uses to grab hold of a female. Maybe that's why we didn't see any females...!

The Tiétar was also home to good numbers of White Featherleg *Platycnemis latipes* – a pale damselfly with a bouncy flight, Yellow-tailed Demoiselles *Calopteryx xanthostoma*, Iberian Bluetail, Lesser Emperor, Emperor *Anax*



Opposite: Male Violet Dropwing *Trithemis annulata*
Above top: Guadiana and Roman Bridge at Merida.
Above bottom: Rio Tietar.
Above inset: Green Hooktail *Paragomphus genei*.
Overleaf top: Banded Groundling *Brachythemis leucosticta*.
Overleaf bottom: Female Violet Dropwing



imperator, Scarlet Darter and Red-veined Darter *Sympetrum fonscolombii*. The dragons were great, I'd had hot sand on my feet and the frogs were leaping – the Tiétar had come up with the goods.

River and rice

We started our exploration of the Rio Almonte at a lower altitude, walking its rocky riverbed, which had been revealed by a particularly hot summer, searching for dragons at several places along its course, and working upstream. The Odonate highlights were the skimmers, Keeled *Orthetrum coerulescens*, including a pair mating at leisure, and Epaulet *O. chrysostigma*, another species that is more African than Spanish. In fact, if you look carefully at the map in the field guide, this species doesn't occur here. The book was clearly unintelligible to Epaulet Skimmers because they were here, and by sitting patiently for a while, I enjoyed a very close encounter with a male, powder-blue, with a slight constriction towards the top end of the abdomen, and a streak of yellow pigment on the inner edge of the hindwing. The sun shone through its wings, projecting that yellow onto its shadow on the rock beneath. Their name comes from a black-edged white epaulet on the sides of the thorax.

Looking for dragons is mostly about looking down, and looking out. This was a good day to look up too, with Griffon Vultures *Gyps fulvus* aloft, Egyptian Vulture *Neophron percnopterus*, a light-phase Booted Eagle *Aquila pennata* looking tiny among its vulture companions, and a House Martin *Delichon urbicum* mobbing a Short-toed Eagle *Circaetus gallicus*.

Now for the rice. Extremadura grows plenty of it, and if you want to see Red-veined Darters en-masse, head to a rice field. We went to Moheda Alta, where there's a substantial reservoir too. There were hundreds of Red-veined Darters, including a small number of mature males. Epaulet Skimmers put in another appearance, one of which settled on the ground, chomping away on its insect dinner.

Romans and damsels

When the Romans were overseeing the building of the bridge at Merida, Extremadura's capital, they must have noticed some dragonflies. The bridge is about 800 metres in length, making it the world's longest surviving Roman bridge. This is a city that is worth visiting



for its Roman and Moorish history, but there is good wildlife watching too. We looked for dragonflies on the western side of the Guadiana with the Roman bridge to our left. The *Erythromma* genus is represented by three species in Europe which are known as 'bighteyes' or 'red-eyed damselflies'. Two occur in Extremadura and we saw both of them here – a single, distant Small Red-eyed Damselfly *E. viridulum*, and about five Goblet-marked Damselflies *E. lindenii*, the males of which have blue eyes... methinks 'bighteyes' is the better name for this group.

There's more

Of 79 dragonfly species that can be found on the Iberian peninsula, 55 occur in Extremadura. If the previous paragraphs haven't whetted your appetite enough, imagine encountering Winter Damselfly *Sympecma fusca*,

Dainty Damselfly *Coenagrion scitulum*, Dusk Hawker *Boyeria Irene*, Blue-eyed Hooktail *Onychogomphus uncatus*, Green-eyed Hooktail *O. forcipatus*, Orange-spotted Emerald *Oxygastra curtisii*, or even that most iconic of species the Splendid Cruiser *Macromia splendens*. You can see these and more in Extremadura.

If you would be interested in joining a group visiting Extremadura in September 2016, looking primarily for dragonflies but with some great birds too, contact David at [REDACTED]

With thanks to Vanesa Palacios at Extremadura Turismo, Jesus Ruiz Martinez at the Spanish Tourist Office and Martin Kelsey of birdingextremadura for making the trip possible. Thanks also to Claudia and Patrick Kelsey for looking after me so well. **DN**

White-faced Darters at Claife Heights, Windermere - a tantalising mystery

Can a White-faced Darter colony that only produces single-figure numbers be viable for many years, or is it being sustained by an undiscovered population? David Clarke poses the question and seeks help in solving a mystery in Cumbria.



Part of the reason why a re-introduction project for this species is running in Cumbria is as a 'hedge' against its decline in the county. One area from which it had long been known is Claife Heights, an extensive area of afforested hills with an assortment of mires and pools, to the west of Lake Windermere. It was here that the well-known freshwater biologist T. T. Macan found the species in the mid 20th century. The site particularly known was Green Tarn, a small mire under Latterbarrow. As far as I know, that site has long since been unsuitable for the species. Nonetheless, records in the area persist, especially from a small flooded mire Brown Stone Moss, not far away to the south east. There have been more or less annual records since the species was first found there in 1994. The tiny numbers, usually one or two adults and/or exuviae in recent years, seem scarcely sustainable (which sounds a note of caution about visiting that site). My suspicion, and hope, is that somewhere in the depths of Claife there may be at least one site at which the species is doing better, and which acts as its local centre of population. Nor Moss and Highs Moss are the largest and most impressive

of the mires, and can be alive with Four-spot Chasers in spring, and Black Darters and Common Hawkers later on. Keeled Skimmers, Downy Emerald and Golden-ringed Dragonfly are around too. However, such places are not, it seems, the home of the elusive White-faced Darter, perhaps because of the lack of floating *Sphagnum cuspidatum* into which it prefers to oviposit.

Maybe, like the crock of gold at the end of the rainbow, my hoped-for site is just wishful thinking. However, as far as I am concerned 'the jury is still out'. It would be nice to resolve this in 2016, and I would encourage any BDS members who might go walking, or biking, in that area this year to report any sightings that may give clues. If anyone wants further advice, please do get in touch beforehand. The 'crock', if it exists, must be within tetrads T, U, Y and Z of 10 km square SD39. [DN](#)



Notes & Observations

Compiled by Mark Tyrrell



I had just set up one of my cameras to record a time-lapse sequence of an emerging Four-spotted Chaser on 23 May last year. Looking up the trunk of this tree, hoping to find an emerging Downy Emerald, I spotted this teneral Azure Damselfly and exuvia. The tree was marginal to the pond and the larvae did not travel more than 10cm from leaving the water to climb the tree.

I am 1.95m tall and noted from the focus scale on my telephoto lens that this individual had climbed an additional 1.4m higher than me to emerge.

The weather was overcast but dry and calm, and other Azures were emerging in conventional locations and I wondered why it had climbed so high, past many perfectly adequate sites, to reach this particular spot.

Mark Tyrrell

This Migrant Hawker perched up on our washing line and stayed in this position for about 20 minutes a wasp appeared to inspect him, and the dragonfly quickly took flight proving, I suspect that they do not eat or like wasps!

Paul Craske



Teneral Downy Emeralds, May
2015. Photo by Mark Tyrrell





Wildlife photographer *Robin Procter* explains how to achieve 'bokeh' in your dragonfly pictures, and presents the case for and against.

The word 'bokeh' originates from Japan and is a photographic term describing the visual appearance of the out-of-focus areas of a photographic image. Think of it as a background style.

There is no right or wrong way for a wildlife photograph's background to be presented. It depends either on personal preference or, if commissioned, what the client requires.

When photographing Odonata your choice largely depends on whether you prefer to prioritise the physical detail of the subject or if you want to include more information about its habitat. It is of course possible to do both but a degree of compromise is usually inevitable - such is the nature of real-world wildlife photography as we eagerly grasp all the opportunities which present themselves.

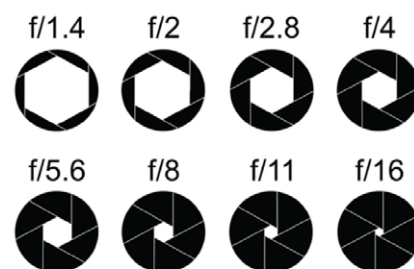
The first step towards successful hunting of Odonata to photograph is learning as much as you can about the different behaviours of species and consequently its contribution to your fieldcraft. Fieldcraft is the techniques involved in making observations in

the field, especially while remaining undetected - this is a separate subject in itself and a very valuable skill and not just for photographers.

Substantially out-of-focus areas in a background are what define the degree of bokeh and to some extent can be controlled by the camera settings and lens used. But distance between subject and background is a major factor. In my photo which titles this article the background is a row of bushes about 12m distant from the steel rope on which the Common Darter is perched. Apart from being helped by the circumstances of long distance and which lens, how do you achieve or increase a smooth and out-of-focus background?

As with all cameras which allow you to decide your own settings rather than have the camera decide for you, it is the lens aperture which offers the primary control of what is in focus from front to back. This is known as the 'Depth of Field' or DoF, referring to the depth of the in-focus field. Aperture settings are defined by their f/value - for example, f/2.8 is a large opening to let more light onto the camera's image recording sensor via the lens and f/32 is a much smaller aperture which lets less light in. More light has the property of decreasing the DoF and less light increases the DoF.

Consequently, a shallower DoF throws more of the background out-of-focus, hence offers a greater degree of bokeh. That seems simple enough and is so with practice but you will benefit by understanding the basics of how camera settings influence the whole appearance of the captured image. You may already have this knowledge but I prefer to write this article so that beginners can also understand how to use their camera's settings and achieve the results they



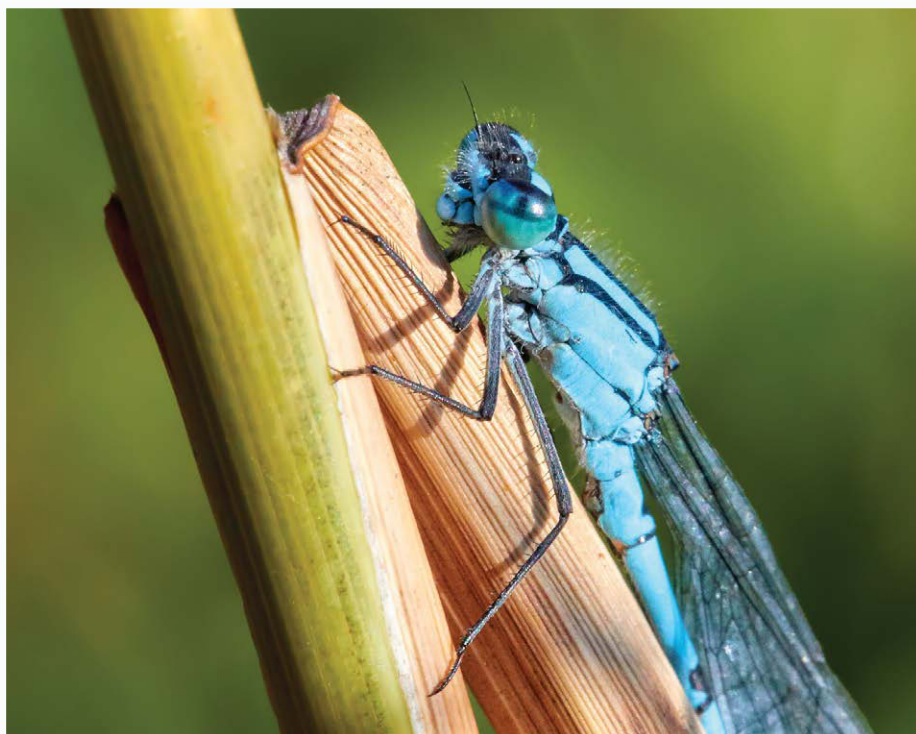
prefer regarding bokeh.

Whatever value you set the aperture to will affect the shutter speed and vice-versa. In turn, the shutter speed will also influence the visual appearance of the captured image. Faster shutter speeds freeze motion. The balance between aperture and shutter speed results in the correctly exposed photograph. Just as $2 + 8 = 10$, so does $4 + 6 = 10$. However, as you decrease the aperture f/value to throw more of the background out of focus this may also adversely affect the DoF on the subject, especially when the subject is relatively small like a dragonfly. Note that if your dragonfly is being viewed side on rather than head on you will not need quite as much DoF but also note that when you get into the realms of close-up and macro the DoF radically reduces. So a conscious compromise has to be decided according to what you the photographer is seeking to achieve - do you want bokeh or habitat? Fundamentally the distance from subject to background plus aperture selection are the main controllers of bokeh. However, which lens you shoot with can also change the visual quality of bokeh. Without going into the science of lens optics too much, suffice it to say that a telephoto lens' angle of view will more easily render bokeh than a wide angle or standard lens. Then there is the subject of how much smoothness you want within

your bokeh...

Smoothness describes the absence of visual 'noise' or graininess which a high ISO number setting will give. ISO is the level of sensitivity which your camera has to light and sets the basis for your aperture and shutter speed settings whereby that mix is then balanced and represented in the captured image. A photo shot at ISO 100 is less noisy than one shot at ISO 6400, for example. Therefore a low ISO number will help your bokeh to be smoother. But the circumstances you find yourself in with your camera will determine how you prioritise the three foundation stones of all photography - namely, ISO, aperture, and shutter speed. If the light is poor and you set an ISO which is too low, then your lens may not have a wide (open/large) enough aperture choice and/or your shutter speed may not be fast enough to avoid an unintentionally blurred photograph. Increasing your ISO will improve aperture and shutter speed but may introduce undesirable noise. It is up to you to choose the balance between ISO, aperture, and shutter speed which best suits the photographic image you wish to create.

If you are shooting on a digital camera you can easily experiment and examine what your camera and lens/ lenses are capable of after uploading to your computer - it is without doubt the best way to learn.



Common Blue Damselfly: This shot was taken with a very high ISO of 6400, because my personal preference is to shoot manual mode, where I control the aperture and the shutter speed and the camera selects the ISO. I set the automatic ISO range from 100 to 6400. In this case, being very close and using my macro lens, I wanted my aperture setting to give me enough DoF on the damselfly but also deliver background bokeh, helped by distance. f/20 on a macro lens delivers less DoF than on a telephoto lens. You can see that the wings are losing focus. If the background had been made to look completely flat and featureless it would then look like a studio wall and appear less natural - I prefer some atmosphere.



Red-veined Darter: It was very windy, so for this shot, I selected 1/500s to reduce motion blur and f/10 to give enough DoF and background focus to at least hint of the habitat. The wing blur is due to motion rather than DoF.



Common Darter: I selected a wide aperture of f/5.6 to minimise any focus on the background. The smooth bokeh was further enhanced by the background's very great distance away and by shooting on a telephoto lens.





Southern Hawker: My view, when I first spotted this Southern Hawker had the gorse bush as a very messy close backdrop, so I moved my position to gain a more distant background. I selected f/8 to maintain enough DoF and background focus to convey the habitat. This shot exploits bokeh to better display the dragonfly but in its habitat.

Top Tips

- Balancing your choice of camera lens aperture with the distance to the background is key in influencing bokeh.
- Remember that different focal length lenses give different depth-of-field results.
- Don't forget the important part that ISO plays in the mix of camera settings.
- Get to know your camera and lenses well - Shoot! Shoot! Shoot! Then analyse your results and make progress.

Bokeh vs Habitat?

Whereas a dead flat and featureless bokeh background often has a 'Wow!' effect and displays a dragonfly perfectly for a guide book, it conveys no habitat and is usually much less atmospheric. But you need not sacrifice habitat for the sake of bokeh. There is no right or wrong choice - it is just a matter of your individually preferred style. I shoot both.

Whatever our preferences the fact is that we have to work with what we are lucky enough to have presented to us out in the field.

HAPPY HUNTING!



Four-spotted Chaser: For this shot of a Four-spotted Chaser facing towards the sunlight, I used the lens flare from reflections on the water to contribute interest in the background. An aperture of f/6.3 was enough to do the trick for an artistic bokeh.

"Small fry" revisited

Most of us over a certain age no doubt have treasured collections of 35mm transparencies – all too often gently succumbing to natural degradation, if not attacked by moulds too! Two I rescued recently, by scanning them, seemed worth putting on record. Even though they're not the greatest images in the world, they do show some interesting aspects of very early instar larvae of two *Aeshna* species: Common Hawker and Southern Hawker. By 'early' I mean larvae that have not long hatched and are to be found in the 'soup' of life in the warm surface waters of bog pools and ponds in early summer (i.e. late May/early June in most parts of the UK). At under 3mm long, they are still partly transparent and have already gone through at least two moults to bring them up to a size where they can feed on tiny crustaceans, etc. The Common Hawker would have hatched under water, but the minute hatchlings of the Southern would have had to make a hazardous journey from where the eggs were laid, above normal water level.

The images speak for themselves: the two species are already recognisably different – useful to know if a site potentially containing both is being surveyed. The differences can especially be seen in the patterning on the head capsules; also, the terminal appendages seem more coloured in Southern Hawker. It would be interesting to know whether Migrant Hawker and Brown Hawker are equally distinct so early in larval life: neither of those species occurred in NW England, where these were photographed. Only one species occurred at each of the sampling sites. I do not have evidence of the range of variation encountered, so a small note of caution is sounded. **DN**



Top: Common Hawker early instar larva.

Bottom: Southern Hawker early instar larva.



members' gallery

Marc Heath is a passionate wildlife photographer with a particular interest in dragonfly and damselfly photography in Kent. Follow his activities @ www.marcheathwildlife photography.zenfolio.com. Click 'My Blog' for latest sightings and photos.

1) I am very lucky in that a 10 minute drive from home there is a growing colony of Norfolk Hawker at Westbere Lakes. I have spent many hours taking a good number of photos of this species and trying to capture in flight shots. Thankfully with some patience and lots of practice, I got my reward and obtained a very pleasing effort of this dragonfly in flight.

2) One of my tasks during 2015 was to try and photograph the whole emergence of Britain's biggest dragonfly, the Emperor. I had a few individuals in my pond and after



3

checking night after night in late May, I eventually witnessed one crawling up a reed stem in the evening. I spent the next couple of hours photographing the whole emergence and ended up with some great photos of each stage.

3) I had visited a site near Reculver a few times early morning and noticed a number of Common Blue Damselfly roosting as the sun was coming up over the horizon. As I photographed them, I realised the sun was providing some striking colours to the shot so with a bit of planning, arrived early one morning, found an individual and set up the tripod and took some of best photos to date. A truly brilliant experience to see and photograph.

4

4) With the rare Southern Migrant Hawker being seen at Wat Tyler Country Park in Essex, I made two visits in a week to see this dragonfly. Thankfully on my second visit in warm sunshine, I was treated to some superb views and was able to take a number of pleasing images of this striking dragonfly.

If you would like to share you best images with other BDS members, please send a selection of jpgs with words explaining what the photo means to you, to the editor at the address on the inside front cover.

The Impact of flooding events on dragonflies & damselflies

The last few winters have seen devastating floods, but what effect does this have on dragonfly larva? *David Tompkins* discusses their potential fate

I have been thinking about the potential impact of recent flood events on our riverine dragonfly and damselfly populations. I would like to explore how some of the key factors associated with flooding events might affect species living in or around our rivers. Many pages could be written on this topic, so this is just a brief overview of some of the main points which include the impact of increased flows, the movement of sediments, disturbance of aquatic plants and the flooding of connected pools.

Increased flow speed and movement of sediments.

It has long been known that bottom dwelling invertebrates, including damselflies, will drift downstream during high flows, sometimes en masse during extreme high flows. This happens either because the force of the flow lifts the animal off the river bed or because the sediment which the animal is on or within moves into suspension and is carried downstream. Banded demoiselles change their body position in response to increased flow rate; they raise the tail end while keeping the head low and spreading out their legs to act as shock absorbers against the turbulence. In



laboratory tests, Banded Demoiselles can remain in position like this in flow speeds of up to 60cm/s. In comparison, Ephemerella mayflies (a medium sized mayfly) which live in a similar habitat will often become dislodged at around 30cm/s. I would assume that as flow speeds rise as a flood begins, Banded Demoiselles would move to find refuge in an area of slower flow as sitting in the current must have an energetic cost. The Common Clubtail is a shallow burrower, a position that probably affords it shelter from most high flows, but if flows are high and turbulent enough then the sediment it has burrowed in may be brought into suspension/entrainment. Clubtails have been witnessed performing a specific behaviour to get back in the sediment; they arch their body, and propel themselves head first into the sediment, burrowing rapidly. If flows are high enough to either mobilise large patches of sediment or carry Clubtails away from suitable burrowing areas before they can re-burrow then the larvae may not survive. I believe that the duration of the flood event is key to the survival or loss

of larvae. The longer a flood persists, the more often the larvae will have to burrow or re-burrow or ride out the flow; this all comes at an energy cost for the individual larva.

Disturbance of aquatic plants

Research has shown that major flood events can impact upon banded Demoiselle populations. When flood events reduce the cover of emergent aquatic plants (such as water crowfoot) by stripping the root systems back, the following spring there are less male territories available. As a consequence there are more male on male conflicts, leading to more males with damaged wings and less frequent copulations and ovipositing. Occasional flood events would be unlikely to cause damage to populations, but more frequent major flood events may start to have an impact in this way.

Flooding of pools on the river floodplain

A less obvious impact of flood events is the inundation of pools on the floodplain with turbid, sediment-laden floodwater. I know of pools of potential

David Tompkins



conservation value on the floodplain of the River Thames in Oxfordshire. These pools are situated in semi-natural grassland and have the potential for an interesting invertebrate assemblage. Their community is limited though, because major flood events fill the pools with high nutrient water from the River Thames, which also leaves a thin layer silt in the pool when the waters retreat. I am sure this situation is mirrored across the UK, with the myriad of pools that exist in the landscape. I am unaware of any research which has been done regarding the impact of silt on larvae in such pools, but I would suspect that a layer of silt deposited on larvae may hinder their respiration. I would hope though, that larvae have evolved the ability to detect and shake off this silt, even if it falls on them when they are in a dormant state in the sediment over the winter months. I do however, know of a similar but positive process that occurs in more dynamic river systems. The River Ystwyth in Ceredigion, flows through an area of braided channels at the interesting Grogwynion SAC. Here there is a mosaic of side pools and paleo-channels. When the river is in flood it pushes through these pools and channels. Rather than silting up these pools, the river scours them clean in places. This provides a mixture of substrate types in pools across the site, with some bare gravel areas, some with varying amounts of aquatic mosses or plants and some silty deposits which may effectively line pools and prevent them draining dry. This can provide a fair amount of heterogeneous

habitat across the site for species such as Emerald Damselfly and Golden-ringed Dragonfly.

If a river channel is physically diverse, then there will be a diversity of flow rates within the channel and it will be more likely that there will be plenty of low-flow refuge areas within the channel for larvae. Roughly speaking, this equates to having plentiful bankside trees, at least some large woody debris in the channel and well vegetated, fenced river banks. We need to ensure that our rivers remain in this diverse condition and where necessary we need to push to get them back into this condition if they have been degraded and adulterated. In this way, we can help increase our dragonflies and damselflies resilience in the face increased frequency of future flood events. **DN**

Opposite: River Sever in Flood. Photograph by Tony Hisgett, Flickr reproduced under Creative Commons license.
Above: Male Banded Demoiselle in conflict over the best territorial spots. Photograph, Mark Tyrrell.

Atlas of Dragonflies in Britain and Ireland

The long awaited new

Atlas of Dragonflies in Britain

and Ireland, edited

by Steve

Cham, Brian

Nelson, Steve

Prentice,

Adrian Parr,

Dave Smallshire

and Pam Taylor,

was published in

May 2014. This

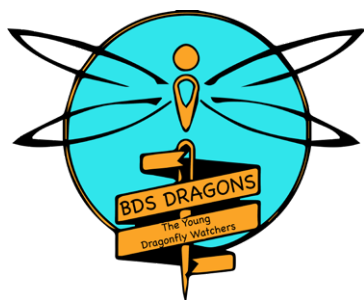
full colour, hardback 280 page book from the British Dragonfly Society maps the distribution of all 56 species of damselfly and dragonfly in Britain and Ireland.

It can be purchased for £32 + p & p from the BDS Shop (see back page), the FSC website and all good bookshops.

The atlas represents five years' work by our volunteers and partner organisations and summarises the distribution of over a million dragonfly records. It includes:

- Species accounts, including maps, for all 56 resident and immigrant species recorded in Britain and Ireland;
- Four pages devoted to each resident species;
- Sections on habitats, conservation, distribution changes and phenology;
- High quality colour photographs of all species and their habitats.





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...Ruary Mackenzie Dodds

Ruary has worked for dragonflies since 1989, writing the popular book 'The Dragonfly Diaries'. Chris Packham named him BBC's Dragonfly Geek in 2010 on BBC Springwatch.

Why did you first become interested in dragonflies?

Well, I'm afraid I wasn't really a fascinated-with-nature sort of kid. For me it was trains, cars, army trucks, planes etc, indeed anything with wheels or wings. Maybe the wings bit was a link, but I was nearly 40 before a dragonfly landed on my shirt, made me really look at it, and everything changed!

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

The Golden-ringed Dragonfly (*Cordulegaster boltonii*)...they're big, wonderfully colourful, fly fantastically, and have a scruffy, fierce and furtive larval stage. And – big plus this – they fly into my garden up in Perthshire!

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

Being in a kayak on the upper reaches of the Sussex Ouse and finding myself in a glittering blue cloud of Banded Demoiselles (*Calopteryx splendens*). Paradise!

What is your favourite place to watch dragonflies?

How can I possibly answer that! Wherever there's a summer's day, a pond, a stream, a river, a lake, a canal ... and a promising selection of water plants. I can't stop myself from shelving everything else and having a look...All right then, if you absolutely insist, Glen Lyon in Scotland and Wicken Fen in England. At the moment.

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

Dig a pond for dragonflies, in your garden, at your school, in prison, doesn't matter, wherever anyone will let you. Dragonflies have lost huge amounts of habitat worldwide, so you'll be tipping the balance back just a bit in their favour.



© Dennis Gurner



The Golden-ringed Dragonfly

FACTFILE: THE LABIUM

A specialised lower lip found on dragonfly and damselfly larvae. This fires out at high speeds to grab unsuspecting prey with sharp pincers. The hinged, arm-like structure then pulls the struggling prey back to the mouth to be devoured.



© Jan Hamrsky



© Jan Hamrsky

For more amazing photos of underwater mini-beasts, visit: www.lifeinfreshwater.net

A Quest for Brilliance

Alex Berryman, 18 years old.

Few British dragonflies hold the enigma of the Brilliant Emerald (*Somatochlora metallica*). Their UK distribution is unusual with small, fairly isolated populations at a cluster of sites in Surrey, Hampshire and Sussex, and an entirely separate colony 500 miles north in a few Scottish Highland peat bogs.

In 2013 - with very few reliable locations published - I began to explore seemingly suitable habitat for this species in Hampshire/Surrey with no results. However after a number of tip-offs, followed by many hours searching, I eventually found my first. Unusually, it was perched on the trunk of a silver birch as it basked in the weak afternoon sun.

Typically emerging in late June (though my earliest record stands at the 28th May) and remaining on the wing as late as early September, the Brilliant Emeralds exact habitat requirements seem somewhat inconsistent with what literature often suggests. While weakly acidic lakes with overhanging trees, to provide shade and leaf-litter for larvae, certainly support the strongest numbers at my favoured site, seemingly identical habitat nearby yields no sign of the species. In Sussex and especially the Scottish Highlands, I have observed them as they feed in the centre of pools some distance from the nearest woodland.

Over the past two summers, I have spent much time observing and documenting their behaviour at one particular site in north-east Hampshire, a relative stronghold for this species where 7-8 individuals are not uncommon in a day. In 2014, I spent many enjoyable hours being entertained with some spectacular inflight views as males patrolled their chosen shady bank close to the waters surface, occasionally abruptly turning or rising steeply to chase off a rival male; they are fiercely territorial, often engaging in dramatic dogfights far above the woodland canopy even with species much larger than themselves. Much like hawkers, the inquisitive nature of male Brilliant Emeralds meant they would frequently make apparent detours in order to investigate the front of my camera lens and showed almost no fear. Females have proven much more elusive, rarely coming down from the canopy and often only doing so to oviposit, a ritual I have been fortunate to witness on three separate occasions. All three of these occasions have been mid-afternoon, when activity of males is greatly reduced. Brilliant Emeralds appear to be much less particular with weather than other British Odonata, flying as early as 8am on warm days and I have even observed them flying in light rain!

One of the most noticeable characteristics of Brilliant Emeralds is their reluctance to land, usually only choosing to do so high in the woodland canopy. In my 3 previous sightings they certainly seemed to show no preference for returning to the same perches/areas like many of the other British darters and hawkers; making them particularly difficult to enjoy up close. After many hours, in the summer of 2015 I was finally rewarded with perched views once more.



With the most fantastic emerald eyes, green-red thorax and beautifully bronze abdomen, it was unmistakable as a Brilliant Emerald as it glistened on its chosen perch, a low isolated heather stem. I began to take photographs, and after a couple of enjoyable minutes, the dragonfly returned to the canopy. I was out again the following day and to my amazement, found a Brilliant Emerald on exactly the same heather branch; unsurprisingly comparing photographs, it turned out to be the same individual as the day before. Some three days later, this individual was perched on a gorse bush less than a metre from this same heather; perhaps they are more predictable than I originally thought. I suspect that their choice of perch when rested is perhaps more consistent than literature suggests, but their habit of resting high in the canopy means that few are ever found. Being difficult to find, and even harder to observe well, they are certainly a species that deserve further study efforts.



© Alex Berryman

© Alex Berryman

Make a... DragonFLY Mobile!

HANG THIS FUN MOBILE FROM YOUR BEDROOM CEILING AND ENJOY dragonFLIES FLYING ABOVE YOUR HEAD ALL YEAR ROUND!

YOU WILL NEED: 2 STICKS, STRING, paint, 4 pegs, SCISSORS, paper, COLOURING PENCILS. First, tie the sticks together into a cross shape. Next, tie string to the ends of each stick and tie the four pieces together above the middle of the sticks. A final piece of string will join from this to the ceiling. Paint the pegs different colours and paint on eyes, this will be the dragonFLIES body. Draw, cut out and colour in four sets of dragonFLY WINGS. Clip these in the pegs. Now clip the peg dragonFLIES to the ends of the strings, making sure they hang level. Finally, hang your mobile from the ceiling and enjoy!



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.

Sunday 15 May, 2-3.30pm

Logierait Woods

Leader: Please book your place with Daniele Muir, e-mail [REDACTED]

Meet: Logierait Woods car park 2pm. 1/2 mile north of Logierait on Dunfallandy road.

www.atholl-estates.co.uk/file/downloads/logierait.pdf

Part of the Cairngorms Nature Festival.

Sunday 22 May, 2016

Stover Country Park and Little Bradley Ponds, Devon

Leader: Dave Smallshire [REDACTED]

e-mail [REDACTED]

Aim: Spring dragonflies at two of their prime sites in Devon. The focus will be on local specialities: Hairy Dragonfly and Downy Emerald.

Meet 10.00 a.m. at the visitor centre (SX833751; entrance off A382 to Newton Abbot, 300m from A38, 10 miles from M5) finishing by 4:00 p.m.

Requirements: Bring lunch. Close-focus binoculars and wellies useful. Pay and display car park. Advance booking not necessary.

Sunday 22 May 2016

Alvecote Wood, Warwickshire

Leader: Peter Reeve [REDACTED] email: peter@reeve60.org.uk. Contact number on the day only: 0790064079.

Aim: A visit to a private nature reserve by permission of the owners Sarah Walters and Stephen Briggs. The Alvecote Wood reserve comprises a remnant of ancient woodland and a newly developed area of grassland. There are a number of water bodies of different character across the reserve. See also the Wood website: www.alvecotewood.co.uk. We will survey the dragonfly fauna and, in particular, look for Hairy Dragonfly and hope to prove it's breeding there. A variety of other early species can be expected.

Meet: 10.30am start. The reserve entrance is off Robey's Lane, Tamworth (SK 24881 03505), nearest post code B78 1AS. For map see: <http://warwickshire-dragonflies.org.uk/wdg/meetings.php>.

Requirements: Bring strong footwear and a picnic lunch.

Saturday 11 June, 2016

River Otter, Tipton St John

Contact: Dave Smallshire [REDACTED]

e-mail [REDACTED]

Aim: A joint meeting with the Devonshire Association to look for White-legged Damselflies and perhaps even Scarce Chaser, returning late afternoon. Weather permitting, to be followed by an optional evening walk searching for Beavers (preceded by optional meal in local hostelry!).

Meet: At 1.30 p.m. in car park by river bridge in Tipton St John (SY091918)

Requirements: Binoculars will be helpful. Booking not necessary.

Saturday 18 June 2016

Woodwalton Fen

Leader: Mick and Sue Parfitt Tel [REDACTED] Mob 07745241061. e-mail [REDACTED]

Aim: To see as many dragonflies as possible on this site.

Meet: Jacksons Bridge at 11.00am OS Map 142 Grid ref TL235848 (Parking along Great Ravely Drain).

Requirements: Bring packed lunch, binoculars, insect repellent and wear appropriate clothing and footwear. No toilet facilities on site. Everybody welcome. Children must be accompanied by an adult.



Saturday 2 July 2016**NWT Upton Fen, Norfolk**

(Joint meeting with Norfolk Wildlife Trust Broadland Group)

Leader: Dr Pam Taylor – Norfolk Dragonfly Recorder. e-mail: [REDACTED] to book or phone [REDACTED]

Aim: Morning walk to look for a broad range of dragonfly species, including Norfolk Hawker and Variable Damselfly.

Meet: 10.00am at Upton Fen car park, TG379136. Postcode NR13 6EQ (Low Road). From Acle, Norwich or Wroxham head towards South Walsham, then follow signs for Pilsen Green.

Requirements: Booking essential – preferably by email. Numbers strictly limited. Wellies or boots, insect repellent. Packed lunch if staying on site (unguided) for the afternoon.

Saturday 9 July 2016**Bubbenhall Meadow, Warwickshire.**

Leader: Peter Reeve ([REDACTED]) e-mail: peter@reeve60.org.uk. Contact number on the day only: 0790064079.

Aim: A visit to the newly acquired Warwickshire Wildlife Trust reserve. The reserve is a restored sand and gravel pit with grassland, pools and newly planted woodland. It has a good variety of resident dragonfly species. The reserve also includes Bubbenhall Wood and the whole is part of the Princethorpe Woodlands Living Landscape area. We will survey the dragonfly fauna on the site.

Meet: 10.30am at the car park, (SP 37037 71763), nearest post code CV8 3BJ. For map see: <http://warwickshire-dragonflies.org.uk/wdg/meetings.php>.

Requirements: Bring lunch, strong footwear.

Saturday 16 July 2016**Woolmer Pond,**

Leader: Bill Wain. Please phone [REDACTED] on Friday 15 July to confirm that the Firing Ranges are open. If leaving a message, please leave your phone number.

Aim: Opportunity to visit two/three ponds within MoD Firing Ranges If NOT required for urgent military training Normal July dragonfly fauna for acid heaths with good populations of Small Red Damselflies. Hobbies, Woodlarks, Dartford Warblers, Nightjars.

Meet: DSDA Car Park off Woolmer Road part of A325 near A3 turn-off for Longmoor Camp, Map Ref SU 78893 31208 at 10.30 am. Please note that this is NOT a public car park and the BDS have a one-off arrangement with DSDA only for 16 July

Requirements: Wellies and Lunch required. No pubs, no loos. Risks of uneven ground, adders, deep water and unexploded military devices.

Sunday 17 July 2016**Stanton's Pit Lincolnshire Wildlife Trust Reserve, North of Stamford, Lincolnshire**

Joint meeting with the Lincolnshire Naturalists' Union (LNU)

Leader: Brian Hedley, e-mail [REDACTED] phone 07989 665794.

Aim: This is a relatively small reserve acquired by the LWT in 1996 and was formerly a sand pit. It has a large central lake with frequent marginal vegetation and also areas of acid grassland, young woodland and scrub. Birds are listed as the key interest feature. The aim of the meeting is to record all flora and fauna. Very little survey work has been done on the dragonflies and damselflies of the site and therefore any records would be good.

Meet: 12.00am for 13.00pm start and finish around 16.00. A small free car park is present at TF034173 (nearest post code PE10 0JN) which is located down a short track found about half-way off the minor road between Little Bytham and Witham-on-the-Hill. Signs will be out on day next to turning.

Requirements: No toilets on site but there are pubs in local villages. The main path is suitable for wheelchair use as far as bird hide. There are some steep gradients present. Binoculars and camera useful.

Saturday 23 July 2016**Heart of England Forest, Warwickshire.**

Leader: Peter Reeve ([REDACTED]) email: peter@reeve60.org.uk. Contact number on the day only: 0790064079.

Aim: The Forest is the legacy of publisher Felix Dennis and is currently some 3000 acres in extent. It comprises woodland, grassland and wetland areas. See also the Wood website: www.heartofenglandforest.com for more detail. We will visit two of the wetland areas at Middle Spennall Farm and Neatherstead. The dragonfly fauna will be surveyed. Lesser Emperor Dragonflies were seen in this area of the Forest in 2011 and 2013 - perhaps we will be lucky at the meeting!

Meet: 10.30am start at Middle Spennall Farm, Studley (SP 09657 61675), nearest post code B80 7ES.

For map see: warwickshire-dragonflies.org.uk/wdg/meetings.php.

Requirements: Bring lunch, strong footwear.



Sunday 24 July 2016**Moortown Bottom, Gidleigh, NE Dartmoor, Devon.****Leader:** Dave Smallshire [redacted] e-mail [redacted]**Aim:** This is the only site on Dartmoor holding both Southern and Small Red Damselflies, plus characteristic moorland species like Golden-ringed Dragonfly and Black Darter.**Meet:** 10.00 a.m. near the cattle grid at Moortown (SX663892), 1km NW of Gidleigh; finish at lunchtime.**Requirements:** Wellies essential.**Sunday 24 July 2016.****Loch Bran, Inverness-shire.****Leader/ contact:** Jonathan Willet. 07740 216595.**Aim:** This loch is a SSSI and designated for its Dragonfly fauna (13 species), particularly the Brilliant Emerald. We shall be looking for proof of breeding of as many species as possible.**Meet:** 10.30am at the car park NH504192. The Loch is 1.5km south-west of the village of Foyers. Finish around 1300hrs**Requirements:** The day will be spent on rough boggy ground with no formal path, so boots/ wellies, waterproofs, midge net/ repellent are required. A colander, net and plastic tubs for catching and viewing larvae would be handy. White plastic spoons will be provided. The loch is only 100 metres from the car park, so not a long walk in. Toilets and a café are to be found in the village of Foyers.**Sunday 31 July 2016****Chudleigh Knighton Heath, Devon.****Leader:** Dave Smallshire [redacted] e-mail [redacted]**Aim:** A joint meeting with the Devon Wildlife Trust Bovey Tracey Group, introducing a range of mainly common species at small ponds that are ideal for beginners.**Meet:** 10.00 a.m. in the middle of the Heath at Dunley Crossroads (SX837776), which is half-a-mile west of Chudleigh Knighton on the B3344 to Bovey Tracey; finish at lunchtime.**Requirements:** Wellies desirable.**Sunday 31 July, 2016****Shropshire Wildlife Trust Dragonfly Identification Day at Pam's Pools****Leader:** Booking essential as space is limited. For further details and booking please contact Pam Yuille Tel: 07793939291 or e-mail [redacted]**Aim:** Dragonfly enthusiasts of all levels of ability are welcome to come along and learn more about these stunning insects. The day will start with a classroom session introducing this group of insects and focusing on their identification. After a picnic lunch we will then head to the pools and hopefully introduce you close up to a good number of our Shropshire species. Weather permitting there will be ample chance to allow you to put your identification skills into practice and to observe and understand the visual spectacle of these fascinating insects on the wing.

Tutor: Sue Rees Evans (formerly McLamb) is the County recorder for Dragonflies in Shropshire and Odonata Tsar for the Shropshire Ecological Data Network.

Meet: 10am-3pm at Pam's Pools, nr Bridgnorth, Shropshire. Full directions will be given on booking.**Cost:** £1 (children 10yrs and older free)**Requirements:** Packed lunch essential (tea/coffee/juice will be provided). Wellies/walking boots and waterproofs as we will be venturing out around the pools. Total walking will be no more than 1km. Identification guides and hand lens if owned.

NB: Sorry no dogs or children under 10yrs.

Sunday 14 August**Devilla Forest car park, near Kincardine****Leader:** Daniele Muir, e-mail [redacted]**Aim:** Devilla is one of our Dragonfly Hotspots – join us to find out why! We should see at least six different species of dragonfly and will dip for larvae too. Meet at Devilla car park at 1pm, please book your place with**Meet:** 1pm-3pm. Devilla Forest car park, near Kincardine. scotland.forestry.gov.uk/visit/devilla.**Courses & Other events**

The Aigas Field Centre in Scotland have recently devised a new educational holiday programme that will feature invertebrates, namely dragonflies, butterflies and moths.

Details of the programme of events can be found at

<http://www.aigas.co.uk/holidays/incredible-insects-499.asp>

Please quote the British Dragonfly Society when making a booking as the Field Centre will make a donation to the BDS for every booking.



Saturday 23 April, 2016**Preston Montford Field Centre, Shropshire**

Contact: For further details and booking please contact Preston Montford Field Centre Tel: 0845 3307372 or e-mail enquiries.

Aim: Dragonfly Larvae Workshop with County Recorder Sue Rees Evans (formerly McLamb). Aimed at beginners, this course will commence with an introduction to dragonfly larvae and the part they play in the dragonfly lifecycle. Indoor practical sessions will then focus on the identification of exuviae. After lunch the afternoon will be spent out and about at the field centre dipping in ponds and practising some hands-on identification.

Meet: Please report to reception at Preston Montford Field Centre (SJ433143). The workshop will start at 10.00am and finish at 4pm. For further directions see www.field-studies-council.org/centres/prestonmontford/location.aspx

Requirements: Packed lunch. Wellies/walking boots and waterproofs as we will be venturing out! Total walking will be no more than 1km. Larval identification guides and hand lens if owned.

Cost: £35

NB: For those who wish, the 'Field Guide to the larvae and exuviae of British Dragonflies' by Steve Cham will be available for purchase at £10 (correct cash/cheque only).

Tuesday 17 May, Tuesday 28 June and Tuesday 16 August, 2016**National Trust Carding Mill Valley, Shropshire**

Contact: Booking essential via Emily Knight or e-mail

Aim: Discovering Dragonflies- a repeat of the successful series of 3 dragonfly identification workshops with County Recorder Sue Rees Evans (formerly McLamb). Aimed at beginners this series will enable people to identify a range of species that occupy different flight periods throughout the season. Classroom inputs during the morning will focus on identification of 'seasonal species' and an understanding of the natural history of these fantastic insects. Participants will also learn how the life cycle is adapted for species emerging at different times of the year. Following a brief lunch the afternoons will be spent outside at 3 different locations on the Long Mynd putting identification skills to the test in a variety of habitats.

Meet: Please report to the National Trust's chalet pavilion at Carding Mill Valley, Church Stretton, Shropshire, SY6 6JG. The workshop will start at 10am and finish at 2pm. For further directions see www.nationaltrust.org.uk/carding-mill-valley-and-shropshire-hills/how-to-get-there/

Requirements: Packed lunch essential. Wellies/walking boots and waterproofs as we will be venturing out! Total walking will be no more than 1km. Identification guides and hand lens if owned.

Cost: £10 per session. For those who wish, the latest 'Field Guide to the damselflies and dragonflies of Britain and Ireland' by D. Smallshire & A. Swash will be available for purchase at £17.95 (correct cash/cheque only).

NB: Weather permitting 2 afternoons will be spent at pools on top of the Long Mynd so some participants will need to drive and car sharing will be very much appreciated.

Saturday & Sunday 21 & 22 May**Big Nature Festival, Musselburgh.**

scottishbirdfair.org.uk

The BDS will be at the Big Nature Festival to offer advice on how to make your garden a des-res for dragonflies, recording tips and info about how you can help dragonflies. Please drop in to say hello!

Saturday 28 May 2016**Brandon Marsh Nature Centre, Warwickshire**

Dragonfly adult identification and recording workshop.

Contact: Peter Reeve e-mail peter@reeve60.org.uk. Contact number on the day only: 0790064079.

Aim: Indoor and outdoor identification sessions will be held at the Warwickshire Wildlife Trust Nature Centre. How to record dragonfly presence and behaviour in the field and the recording protocol to use, as recommended by the British Dragonfly Society, will be discussed. There is no charge but it is hoped participants will join the county team of dragonfly recorders. Refreshments are included but not lunch.

Meet: 10.30am start in the Barn at the Nature Centre, Coventry, For map see: warwickshire-dragonflies.org.uk/wdg/meetings.php.

Requirements: Bring strong footwear, lunch or eat at the Nature Centre café.



15-17 July, 2016

Introduction to Dragonflies and Damselflies, Preston Montford Field Centre, Shropshire

Tutors: Sue Rees Evans (formerly McLamb) is the County recorder for Dragonflies in Shropshire and Odonata Tsar for the Shropshire Ecological Data Network. For further details and booking please contact Preston Montford Field Centre Tel: 0845 3307372 or e-mail [REDACTED]

Aim: This course is aimed at all those with a desire to learn more about these stunning insects. Open to all levels of ability we aim to introduce you close up to a good number of the 32 Shropshire species of dragonfly and damselfly so that you will leave confident in your own abilities to identify them and make species records. Classroom sessions on identification, life history, larvae and exuviae will be combined with a number of field visits to a range of aquatic habitats. This will allow you to put your skills into practice and to observe and understand the visual spectacle of these fascinating insects on the wing.

Location: Preston Montford Field Centre (SJ433143). For further directions see www.field-studies-council.org/centres/prestonmontford/location.aspx. The course will start on Friday evening and finish on Sunday late afternoon.

Cost: £258 (residential)

NB: For those who wish, the latest 'Field Guide to the damselflies and dragonflies of Britain and Ireland' by D. Smallshire & A. Swash will be available for purchase at £17.95 and the 'Field Guide to the larvae and exuviae of British Dragonflies' by Steve Cham will be available for purchase at £10 (correct cash/cheque only).

Saturday 23 July, 2-4pm

Crombie Country Park ranger base. <http://archive.angus.gov.uk/leisureaa/rangerservice/crombie.htm>

Part of British Dragonfly Week. Join us at one of our Dragonfly Hotspots for a Larvae ID workshop. This is a fantastic spot to easily see dragonflies. Meet at Crombie Ranger base at 2pm. Parking charges apply. please book your place with Daniele on [REDACTED]

Saturday 6 Aug, 10am-4pm

Larbert Woods.

Dragonfly ID & Recording training day with Inner Forth Landscape Initiative. Details to be confirmed – see BDS website.

Naturetrek dragonfly tours in 2016

Dragonflies in South-west Turkey: 1st to 8th June (Dave Smallshire)

Sardinia's Dragonflies: 8th to 15th June (Gerald Broddelez)

Dragonflies of La Brenne & Vienne, France: 15th to 22nd June (Nick Ransdale)

Bulgaria's Dragonflies: 21st-29th June (Dave Smallshire)

Dragonflies and Birds of the Camargue: 6th to 13th July (Dave Smallshire)

Dragonflies & Butterflies of the Western Ghats, India, 3rd to 12th September (local guide)

For further details of these and other Naturetrek tours, see www.naturetrek.co.uk or ring Naturetrek on [REDACTED]

Prewley Moor, Devon, 5 July 2015 - Dave Smallshire

The sun shone and the temperature was a not-unreasonable 18 degrees as I drove along the northern fringe of Dartmoor to Prewley. I was joined by five keen members, but by the time we headed out on the moor the clouds had gathered and rain started to fall: a good sign that it was Dragonfly Week! We soon located a few Southern Damselflies and single Small Red Damselfly and Keeled Skimmer, but the rain became heavier and the temperature fell to 12 degrees. It was decidedly chilly in the fresh wind, so we retired to our cars to sit out what proved to be quite a lengthy storm. Within an hour, however, the sun had reappeared and butterflies were active, so we headed back out for a second look. We succeeded in finding around 50 Southern Damselflies, plus another Small Red and a few Azure, but no Scarce Blue-tailed, despite seemingly good open and muddy habitat conditions created by the sheep. A Golden-ringed Dragonfly flew around several times

and a Broad-bodied Chaser took up a territorial position, as did a few more Keeled Skimmers.

Croome Park, Worcestershire. 16th August 2015. Mike Averill

On a cool but pleasantly sunny Sunday morning 15 of us (and Noodles the dog) met at Croome Park, a National Trust property in Worcestershire. Three of the people had come from Warwickshire, Somerset and Cumbria. After a warm welcome and introduction from our NT hosts we managed to tear ourselves away from the tantalising scent of bacon butties coming from the canteen and set off into the park. Stopping by the church where there is an excellent view of the whole of the parkland and the house Mike told us a little about the history of the site and the continuing work he was doing regularly surveying the site for the National Trust.

We continued through the Capability Brown parkland to the first of the two water bodies we were to look at - the Lake. By now the temperature had warmed up and with calm conditions

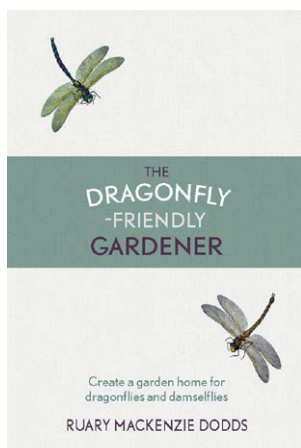
we began to see a number of different species in quick succession. In total 12 species were seen: Common Darter, Black-tailed Skimmer, Brown Hawker, Emperor Dragonfly, Small Red-eyed Damselfly, Banded demoiselle, Ruddy Darter, Migrant Hawker, Blue-tailed Damselfly, Common blue Damselfly, Emerald Damselfly and Southern Hawker.

Although the Common Blue Damselflies were strangely few, the Skimmers, Darters and Small Red-eyed Damselflies were all seen in large numbers. Croome is the best site in the Worcestershire for the Small Red-eyed Damselflies where they favour the milfoil and algae that is found at the lake. The lake and so called River, really a long lake, are very good for dragonflies since they were cleared out ten years ago as part of a restoration scheme to bring the park back to how the designer had envisaged it to be 250 years ago.

Linda Averill



Reviews



The Dragonfly-friendly Gardener

by Ruary Mackenzie Dodds.

Published by Saraband.

64 pp, plus colour section, hardback.

Price £8.99

ISBN 9781910192115

Review by Mark Tyrrell

If you have never read Ruary before you are in for a delight with this little guide to building a garden pond. His exuberant and charismatic style is present on every page and even if you aren't able to put the information into use, this makes for reading time well invested.

Ruary delivers his wealth of knowledge to building the perfect dragonfly-friendly pond. The early sections cover dragonfly biology and simple tips on identification. Thankfully, this is not a guide to dragonflies so the level of detail is just enough to spark an interest and inform, but not too much to alienate a casual reader. Tips on distinguishing dragonflies from damselflies in the adult form and as larvae are given, and even separating hawkers and chaser larvae. The illustration of a "typical damselfly" is a little curious to me as it depicts a Banded Demoiselle with the wing patches, which is unlikely to appear in a garden pond and isn't really typical. Aside from that, the line drawing illustrations are perfect for the intended aims of this book.

The remainder of the book describes in excellent detail how to build a pond, from choice of materials, shape and size and even considers the necessary water supply. A good pond is illustrated from an

aerial view and cross-sectional views to give as much detail as possible. I found the list of recommended plants (always use local species) to be very useful as I have always struggled to know what to plant.

This is an excellent and inexpensive little book that I wish had been around when I built my pond. **DN**



A Field Guide to the Dragonflies of Hainan

by Graham Reels & Zhang Haomiao.

Published by China Forestry

Publishing House

463 pp, softback.

Price £20

ISBN 9781910192115

Review by Mark Tyrrell

Hainan is a province in southern China including the country's largest island and from the looks of this new field guide, is home to an incredible variety of dragonfly species. Delights such as the Chinese Signaltail mix with the Sparkling Jewel to the fearsome sounding Dark Titan (that one should always be written in upper case letters I feel!), and although there are no UK species (unsurprisingly) there are UK families such as Orthetrum, Lestes, Anax and Ischnura that show fascinating differences to those dragonflies most familiar to us.

The authors have quite a pedigree in Chinese odonatology, and have extensive experience in the region and this clearly shines through this excellent book. At over 460 pages it makes for a hefty field guide but a perfect record of the 165 or so species found in the region. The opening sections naturally cover

dragonfly life cycles, conservation, their ecological role as well as brief notes on how to record and photograph them. There is also a section covering the geography of the islands with notes on the major nature reserves. The standard of photography is excellent as are the overall production values for this book.

The species section takes up the majority of the book and cover a good level of detail. Necessarily, this is a bilingual field guide in English and Chinese. Missing are distribution maps for each species, although a list of sites is given.

Overall, I enjoyed reading this guide and marvelling at the stunning insects that live in this region and recommend this guide to all interested in exotic odonata. **DN**

Available now from the BDS Shop, price £20 + £3 p&p. See back page.

Reviewers wanted

Dragonflies News needs

book, DVD and equipment

reviewers. If you think you can

help, please write to the Editor

explaining why you would

be suitable. In return you will

receive review copies of books

for you to keep.



Minutes of the 28th Annual General Meeting, University Campus Suffolk, 14 November 2015

1. Notice of this AGM was published in Dragonfly News 67.
2. Mark Tyrrell was appointed Minutes recorder, proposed by Henry Curry and seconded by Nigel Scott.
3. Adoption of the agenda was proposed by David Hepper, seconded by Mick Parfitt.
4. Minutes of the 27th AGM were published in Dragonfly News 67. Adoption of the Minutes was proposed by Nigel Scott, seconded by Mick Twinn.
5. Apologies for absence were received from: Bill & Chris Wain, Alan Nelson, David Clarke, Jill Lucas, Sue McLamb, Kerry de Koenigsweter.
6. One minutes silence was held to remember deceased members.

Peter Mill gave an obituary of Norman Moore.
7. There were no elections for Officers or Trustees held this year.
8. Greetings were sent to Honorary members and our patron Sir David Attenborough. Proposed by Henry Curry, seconded by David Goddard.
9. Secretary's Report
 - a. Our Conservation Officer, Claire Install has left the BDS to become Senior Conservation Officer for Rutland Wildlife Trust. With over 70 applicants for the vacancy, Genevieve Dalley was the successful applicant.
 - b. Daniele Muir had resigned as Scottish Officer but was able to continue in the post due to a change of circumstances.
 - c. Our Records Officer Steve Prentice retired and was replaced by David Hepper. This has coincided with the introduction of the new iRecord recording system.
 - d. Dave Smallshire has stepped down as Convenor of the DCG to be replaced by

Pam Taylor.
e. The second recipient of the Cynthia Longfield Certificate was Steve Jones. So far one nomination has been received for 2015 and any others should be sent to any Trustee.
f. David Goddard completed his term as a Trustee and three new Trustees were appointed – Ben Price, Val Perrin and Clem Tacconi.

10. Treasurer's Report

- a. Strong atlas sales have contributed funds to the BDS income as has a large legacy left to the Society. This money will be used to further develop the Society. Publications remain the main expenditure on the BDS account.
- b. SNH and NRW remain the main funders of the CONSOFF account, where salaries form the main expenditure.
- c. Adoption of the accounts was proposed by Sue Parfitt and seconded by Heather Twinn.

Nigel Scott then gave a summary of proposed changes to the Constitution to change the Society to and Charitable Incorporated organisation. Further details will be published in Dragonfly News 69 along with a ballot form.

A fundraiser has been appointed on a 1 years contract

11. Notice of the 29th AGM will be published in Dragonfly News 69.

13. Any Other Business.
There being no other business, the meeting was adjourned. **DN**

A Note from the Membership Office

Hi all, I hope you are well and are looking forward to the new dragonfly season. It is the time of year for you to renew your membership to the BDS, (the membership year runs from the 1st April to the 30th March each year).

There are now 3 ways that you can pay your membership:

- On our web site using credit / debit card or PayPal. Just follow the link for membership renewal, please remember to quote your membership number if possible.

- By cheque, if you pay your membership annually by cheque please could you complete and return the enclosed membership renewal form to me, together with your membership fee.

- By Standing order, If you pay your membership by standing order you need to take no action yourself (but you could pass the form on to a friend who may wish to join the society!)

If you are unsure whether you already have a standing order in place, please contact me before you send any money and I will check your details on the database.

If you normally pay by cheque or via the web site you may find it more convenient to set up a standing order for this and any subsequent payment, if you wish to do this please could you complete all of the enclosed membership renewal form and return it to me, alternatively contact your bank and set up a standing order, it is very easy on-line.

Please also remember to keep me informed of change of postal or e-mail address.

If you have any membership queries please do not hesitate to contact me.

In the unlikely event of your wishing to leave the society, please let me know. This will prevent the extra expense of sending you an unnecessary reminder letter.

Thank you

Lynn (membership@british-dragonflies.org.uk) **DN**



Changing the legal structure of the British Dragonfly Society

The British Dragonfly Society was formed as an Unincorporated Association in 1983 and was registered as a charity in 1988. It has always been a membership organisation and, like all charities, elects from its members Trustees who are responsible to the members for the governance of the charity.

The Constitution of the Society has been amended on occasions over the last 27 years but the legal basis means the same. Although the Constitution contains a clause stating to the contrary, the legal position is that Trustees are jointly and severally liable for any debts incurred by the Society. While the Society was simply an association of members, this was an acceptable position since the Society was not entering into contracts for services or employment.

In 2015 the Trustees decided to review the Constitution not only because of decisions to increase our employee numbers and taking on responsibility for the Dragonfly Centre at Wicken Fen but also because for the last two years we have been unable to recruit a Chairman or Vice Chairman. Under the old Constitution these latter two posts had to be recruited directly from the membership, not from existing Trustees. If an existing Trustee was interested in either role they would have to stand down and be re-elected to the new position. Moreover the role of the Chairman was also that of President, a combination of roles which is onerous and was unattractive to potential candidates. Issues from the broader charity world also brought home to us the importance of good, modern governance.

The Trustees reviewed the options and decided to opt for a new legal format introduced by the Charity Commission following the 2006 Charities Act – the Charitable Incorporated Organisation. The Charity Commission provide a standard Constitution, capable of adaptation to suit our requirements, which has been reviewed over the last year by the Trustees and which we feel offers significant benefits to us as an organisation. These benefits are summarised below:

- We create a legal entity capable

of entering into contracts with staff and suppliers and thus protecting Trustees from most personal liability;

- We continue to be a membership organisation;
- We can elect from the membership up to 12 Trustees, with a minimum of 3. We are stipulating that one of these Trustees must be the Convener of the Dragonfly Conservation Society;
- From these 12 the Trustees themselves will elect a Chair and other Officers as are thought fit;
- The President becomes a separate honorary role reflecting the individual's significant contribution to the conservation of odonata. The President will be a person who is nationally known and respected for his or her work and will be prepared to provide a public face for the charity when required.

The Trustees are recommending that this change be made. Under the existing Constitution we are required to put any suggestions for changes to a vote of all members by means of a ballot form issued with the next available issue of the journal or newsletter. Members have one full calendar month to respond to the Secretary and a two-thirds majority of the votes cast is required for the amendment to take effect. A ballot form is enclosed with this edition of Dragonfly News, please act and support this recommendation to enable the Society to move ahead with its ambitious plans.

If you have any questions on this proposal please contact Nigel Scott on

DN

Safeguarding Our Dragonflies & Damselflies ☐ A Lasting Legacy

A legacy to the British Dragonfly Society will provide a lasting gift. Dragonflies and damselflies are beautiful insects. They are spectacular creatures that have inhabited Earth for over 300 million years. With your support, by remembering the British Dragonfly Society in your will, we can safeguard our dragonflies and damselflies to provide a lasting legacy that will ensure future generations enjoy these fascinating insects.

Gifts, in wills, make a positive difference. Legacy gifts enable The British Dragonfly Society to:

Conserve dragonflies and their wetland habitats.

Conserve Nationally-Important species.

Record and monitor the distribution and populations of dragonflies.

Encourage the scientific study and research of dragonflies.

Undertake education projects.

Please consider leaving something to the BDS when you write or update your will.

If you are able to do this then please accept our thanks.

You may like to use the following wording to include this legacy:

"I give the sum of £..... to the British Dragonfly Society (Registered Charity No. 800196), 23 Bowker Way, Whittlesey, Peterborough, PE7 1PY, for its general purposes."

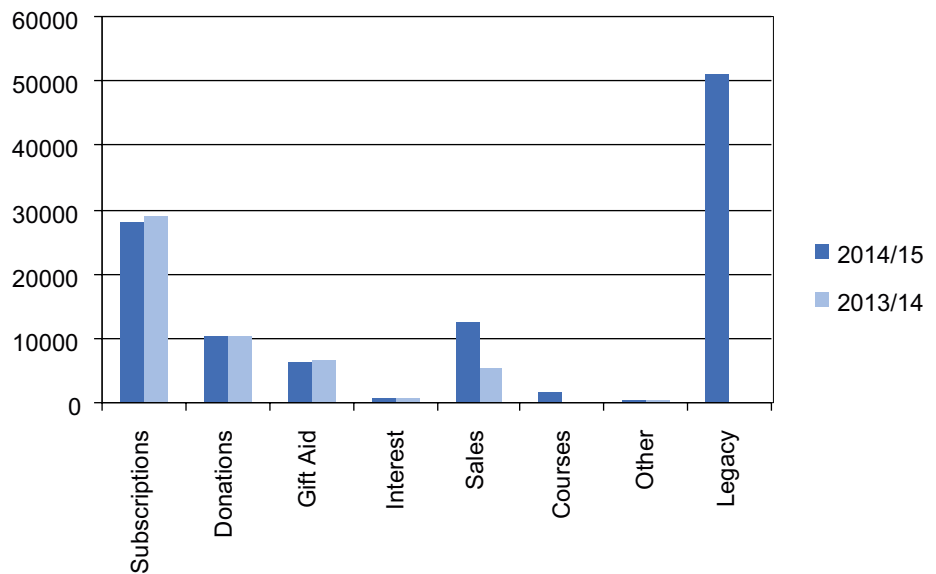
Henry Curry



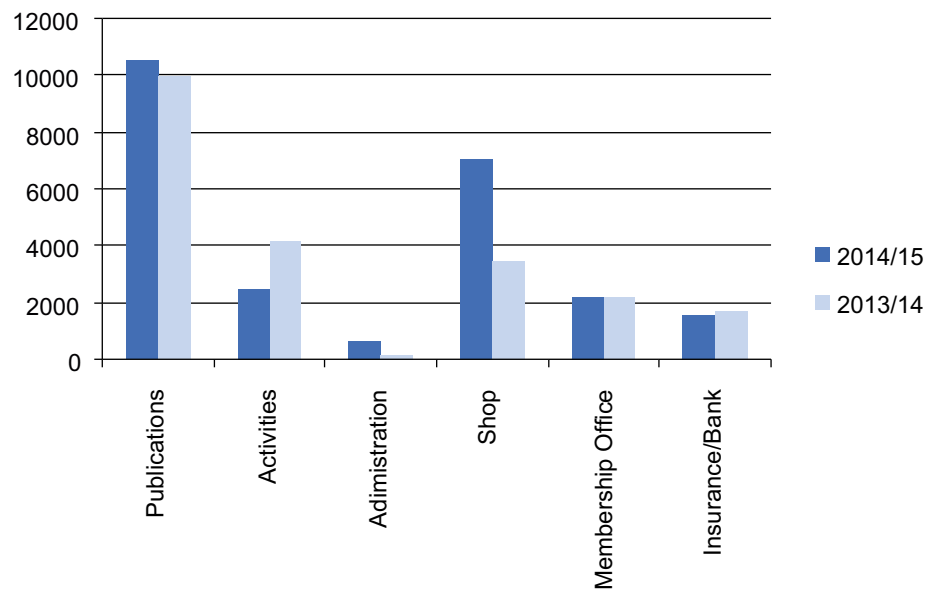
BDS Treasurer *Brian Walker* summarises the BDS accounts.

Following several years of running an overall deficit BDS had a small operating surplus in 2014/15. This was significantly augmented by the receipt of a substantial legacy, which will be a great aid in developing the Society in future as our traditional funders, the Government Agencies, have significantly less funds available to distribute. As before, we split our accounts between the Society itself and our conservation activities which have the potential to attract outside funding.

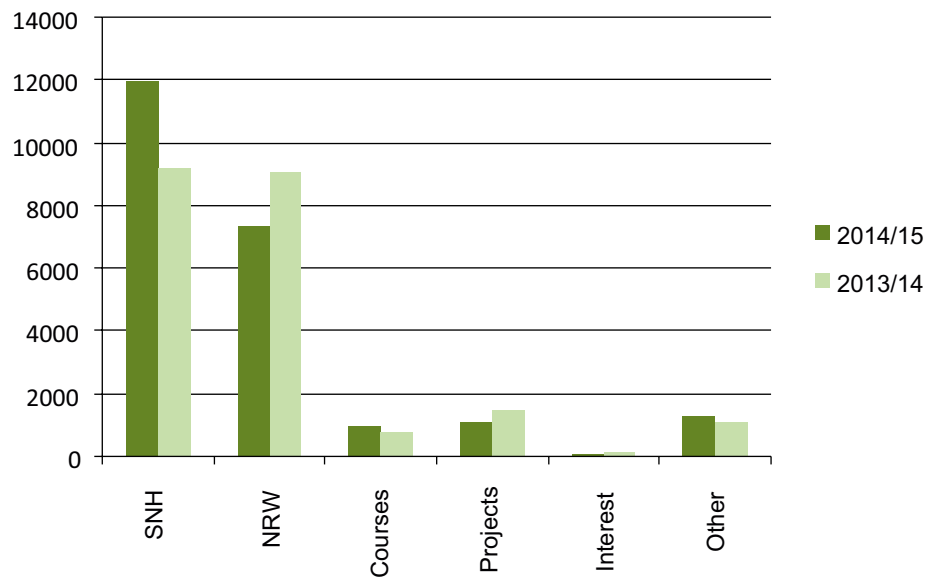
BDS Income
Income streams in 2014/15 were similar to previous years, with a boost in sales from the shop because a number of new books became available, including the Atlas and revised field guides. The legacy came from the estate Joyce Frances Watts, who died in 2011 and left her money in trust. Her husband, Brian Reece Watts died in 2014, allowing the trust monies to be distributed to a number of charities of which BDS was one. The amount received in 2014/15 was an initial payment from the estate and we received a final payment in 2015/16 to give a total legacy of £181,000 to BDS.



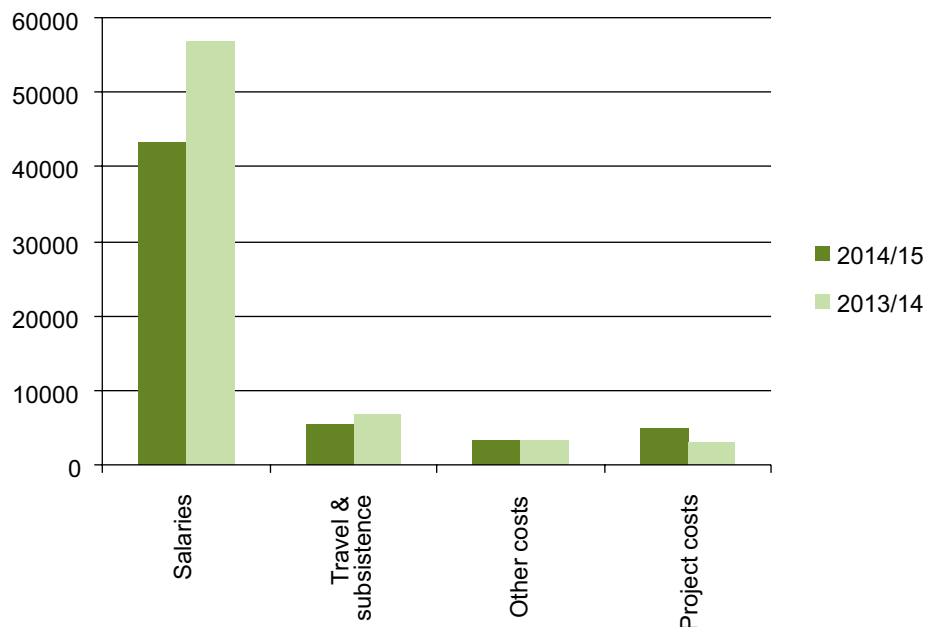
BDS Expenditure
Expenditure was also similar apart from the cost of stock increasing substantially, matching the rise in sales.



Restricted Income and Expenditure
Income was similar to last year with a small increase in grant funding from Scottish Natural Heritage (SNH) and a slight reduction from Natural Resources Wales (NRW). Note that timing of payments can distort the picture slightly with part of the grant payment relating to the previous year and part of the payment for the current year yet to be received. This has a greater effect for SNH. We continued to receive very valuable funding in kind from Natural England to accommodate and provide services to our Conservation Officer in their Telford Offices.



Expenditure was reduced as our Records Officer was working on one day per week after the Atlas was published and this reduced salary costs, although this saving was balanced by our Scottish Officer working a full year and increased hours.



The Future

We achieved a balance between income and expenditure on operating costs in 2014/15 as we aimed to do. The receipt of the legacy has allowed us to recruit a replacement Records Officer and increase the time for our Scottish Officer in the current year. We will also be recruiting a Funding Officer to help find longer term sources of funding to maintain our activities. This is particularly important as funding from Government Agencies is getting more and more restricted. We were unsuccessful in our bid for funding from NRW for 2015/16. Total bids greatly exceeded their reduced pool of available funding.

Simple Balance Sheet

	£	£
Total cash at 31 March 2014	187,655	
BDS Income	110,310	
Restricted Income	22,707	
Total Income		133,017
BDS Expenditure	25,227	
Restricted Expenditure	56,576	
Total Expenditure		81,803
Total cash at 31 March 2015		238,869
Stock at 31 March 2014		6,164
Stock at 31 March 2015		7,246



BDS Annual Meeting

The 33rd Annual Meeting will be held on Saturday, 19 November 2016

The meeting is open to everyone to attend.

Venue will be Nottingham Trent University,
Burton Street, Nottingham, NG1 4BU.
Tel 0115 941 8418
(www.ntu.ac.uk)

The day starts with coffee at 0930hrs for a 1000hrs start and ends at 1630hrs

The full programme will be announced, when finalised,
on the website and in the Autumn edition of Dragonfly News (DN70).

The day will include topics of local, national and international interest.

Please note, if you have a suggestion and the name of a willing person to deliver a talk
we will try and accommodate that in the programme – please contact the Secretary.

AGM

Notice is hereby given that the 29th Annual General Meeting
of the British Dragonfly Society will be held on
Saturday 19 November 2016 at Nottingham Trent University.



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

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 Lynn Curry, 23 Bowker Way, Whittlesey, Peterborough, PE7 1PY, Tel [REDACTED] e-mail shop@british-dragonflies.org.uk or visit our website (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	grey, royal blue, emerald green	S	£7.00	£2.00
T-shirt with 3 coloured logo	Natural	S	£7.00	£2.00
Ruddy Darter T-shirt	White	M,XL,XXL	£7.00	£2.00
Golden Ringed Dragonfly T-shirt	Natural	S, XXL	£7.00	£2.00
Polo shirt	Bottle Green	S,M,L,XL,XXL	£12.50	£2.00
Rugby Shirt	Blue	S,M,L,XL,XXL	£18.00	£2.00
Hooded Sweatshirt	Navy Blue	S,M,L,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
Ruddy Darter Sweatshirt	Green	S	£12.00	£2.50
Golden Ringed Dragonfly Sweatshirt	Beige	XL,XXL	£12.00	£2.50
Base ball Cap	Natural		£6.50	£1.50
Bush Hat	Sand or Olive Green		£9.50	£2.00



Books & DVDs	Price	p&p
Field Guide to the larva and exuviae of British Dragonflies	£10.00	£2.00
Spinning Jenny and Devils Darning Needles by Jill Lucus	£5.00	£1.50
Field Guide to the Dragonflies of Britain and Europe	£21.95	£2.50
Dragonflies of Hampshire	£10.00	£0.00
The Dragonflies of Lancashire and North Merseyside.	£10.00	£1.50
Dragonflies and Damselflies of Hertfordshire	£10.00	£2.00
The Dragonflies of Essex	£15.00	£2.50
Dragonflight by Marianne Taylor	£14.00	£2.00
Dragonfly by David Chandler and Steve Cham	£12.00	£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	£10.00	FREE
Field guide to Dragonflies and Damselflies of Great Britain and Ireland	£18.95	£2.00
Photo Guide to the larvae of Dragonflies in North-West Europe by Christophe Brochard & Ewoud van der Ploeg	£38.00	£2.00
Photo Guide to Zygoptera and Anisoptera the exuvia of Dragonflies in North-West Europe by Christophe Brochard, Dick Groenendijk, Ewoud van der Ploeg, Tim Termaat	£40.00	£2.00
Guide to the Dragonflies and Damselflies of Ireland by: Robert Thompson and Brian Nelson illustrations by Richard Lewington	£20.00	£3.00
Dragonflies and their Home by Dan Powell	£5.00	£1.50
Atlas of European Dragonflies and Damselflies	£55.00	£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 Kompiers Price	£27.00	£3.00
Atlas of Dragonflies in Britain and Ireland	£32.00	£3.00
DVD Sexual Conflict in Dragonflies by Georg Ruppell	£5.00	£1.50
DVD British Dragonflies	£15.00	£1.50
DVD British Damselflies	£15.00	£1.50
Both 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
Damselfly Mug	£4.00	£2.00
Set of 6 Damselfly Mugs	£20.0	£5.00
Dunoon Folklore Mug	£10.00	£2.00
BDS Key Ring	£1.50	£0.75
BDS Car Sticker	£1.00	£0.50
BDS Logo Pin Badge	£2.00	£0.75

