British Dragonfly Society Sussex Group Newsletter Winter! 2019

No 43





Expect the Unexpected By John Arnott

Chichester Natural History Society members have been monitoring dragonflies at RSPB Medmerry since summer 2014, soon after it was flooded in autumn 2013. As many people know, this newly created wetland complex was designed primarily as a coastal flood mitigation system but with many natural habitat features built in. On the western edge is a complex of runoff channels with many bends and interconnected pools, all providing ideal habitat for dragonflies.

Six years on and the channel system has become filled with a lush growth of aquatic plants dominated by tall emergents such as Branched Bur-reed Sparganium erectum, Reed Sweet-grass Glyceria maxima and Water-plantain Alisma plantago-aquatica together with submerged aquatics, in particular, dense mats of Spiked Water-milfoil Myriophyllum spicatum. The management priority here is for Water Vole Arvicola amphibius so good aquatic plant growth is encouraged. too

I've always thought that Medmerry would be in the front line for migrant species of dragonfly from the Continent. We recorded our first sightings of Small Red-eyed Damselfly *Erythromma viridulum* on Ist August 2014 but since then it has been quiet as far as migrant dragonflies are concerned.



I've always been a keen follower of Adrian Parr's Migrant Dragonflies Facebook page and before every survey I spend time going through his books to remind myself what migrants to look out for.

On 5th July this year we arrived at the RSPB Medmerry car park at Earnley in good time to meet other members of Chichester NHS and have lunch before our first dragonfly survey of the season. As usual I flicked through the WildGuides Britain's Dragonflies book to check out possible migrant species we might encounter. When the book fell open at the Norfolk Hawker *Anaciaeschna isoceles* page I didn't give it a glance, thinking "Well that's one we definitely won't see". I did have a close look at the Lesser Emperor *Anax parthenope*, Vagrant Emperor *Anax ephippiger* and Southern Migrant Hawker Aeshna affinis pages though.

The survey route starts at the T-junction near Marsh Barn where there is a smallish pool formed by tall emergents cutting off a section of ditch from the rest of the complex. CNHS members often spend quite a bit of time by this pool as it is a particular hotspot for dragonflies. Sure enough, there were a couple of Four-spotted Chasers *Libellula quadrimaculata* and some 'blue' damselflies. While everyone was sorting out the latter (they turned out to be all Common Blue Damselfly *Enallagma cyathigerum* with a few Blue-tailed Damselfly *Ischnura elegans* mixed in) I noticed a large brownish hawker patrolling fast to left and right in front of us.



Norfolk Hawker © Dr Christian Hance

I didn't recognise it as a species I knew and was racking my brain to get to a positive ID for it. Everyone else was absorbed in sorting out the damselflies but I knew that sooner rather than later someone would ask me what it was, especially as it was now bullying the Four-spotted Chasers. I got as far as discounting other large hawkers with spotted abdomens and was checking it for a blue 'saddle' at the base of the abdomen, hoping for a Lesser or Vagrant Emperor, when the first person called out "What's that one?".

All optics present instantly swung onto our mystery dragonfly. It was flying fast and tirelessly on an erratic course, making it difficult to focus binoculars on it to look for distinctive features. So we all gathered round and went through a process of elimination. All agreed it lacked a spotted abdomen and there was no sign of a blue 'saddle'.

What about a female Vagrant Emperor though? This was an exciting possibility but it was astonishingly difficult to check whether it had a black stripe along the top of the abdomen. Then someone mentioned Brown Hawker *Aeshna grandis*. Were the wings suffused with amber? Several minutes elapsed while everyone tried to check out these features or lack of them. It was then that the first muttered "Why doesn't it land?" comments started.

"Clear wings, it's got clear wings!" "Yes, but what about the black dorsal stripe down the abdomen?" Then someone suggested the possibility that it might be a Norfolk Hawker. No, surely not. "It must be some sort of unusual migrant species." "If only it would land!"

Time was getting on and we were still at the start of our survey. So while most of the group continued on the survey route, a small number of us remained in case the mystery dragonfly decided to settle. Christian was ready with his DSLR camera and suddenly, shockingly, it landed! With bins on it I was able to clearly see the yellow triangle at the abdomen base (no dorsal black stripe) and the green eyes. Christian, with commendable sang-froid, managed to frame, zoom, focus and fire off a couple of shots. Then, after no more than ten seconds, it was off again on its high-speed patrolling. However, we had nailed it . . . it was a Norfolk Hawker.

I ran after the rest of our group, mainly to retrieve my camera from my wife, and passed on the news to much relief and astonishment. I went back to the pool and stood by it for about another ten minutes but the Norfolk Hawker didn't settle again. However an Emperor *Anax imperator* had appeared and the two commenced tail chases, first one then the other taking the lead. They reminded me of those Benny Hill chase scenes at the end of his TV programmes. By putting my bridge camera on wide angle, pre-focussing and panning without looking through the viewfinder, I managed to grab a few blurry images of these two dragonflies chasing each other.

Oh, and right at the far end of our survey we found a Red-veined Darter Sympetrum fonscolombii sitting on the service road. Another first for our Medmerry records. It had been a great start and end to our survey. At the time we didn't know that ours was the first confirmed record of a Norfolk Hawker in Sussex. Where did it come from? The NBN Atlas shows two records at Titchfield Haven NNR, south Hampshire, both on 26.08.07 and by the same observer. Norfolk Hawker has also been recorded at WWT London Wetland Centre (e.g. 28.07.18 and 24.06.19) and at several sites in east Kent. It is expanding its range, but could our specimen have hopped across the Channel from France? Whatever its route, there has been no Water-soldier Stratiotes aloides seen at this site.



Red-Veined Darter © John Arnott

Ruling the Roost!

Over the last couple of summers we've noticed something rather magical at the Knepp Estate Hammer Pond. Taking a closer look at the vegetation on the edge of the pond at dusk we have spotted a Blue-tailed Damselfly roost each evening, with approximately 700 damselflies present. It's a wonderful opportunity to see the different colour forms of the females, which are just beautiful, along with the green and blue males. The range of colour forms are genetically and age-determined so there is a wide variety to enjoy.

The thorax of the female can be pink (rufescens), lilac (violacea) or green (infuscans). And in the male it can be blue or green. Just to complicate things, mature females can also look like males! There is a more in-depth and complex explanation in Brooks and Lewington's Field Guide to the Dragonflies and Damselflies of Great Britain and Ireland.

The pictures show the wonderful variety of different female and male colours. All together they were a delightful sight!



Author P Green. Photos by D Green



Your Mission for 2020 should you choose to accept it !?

Just in case you have some spare time in spring to bimble around our Sussex wetlands in pursuit of flying varmints of dragonfly shapes and sizes, we do like to give you some ideas. So for 2020, your mission, should you choose to accept it – is to look out for small red eyed, willow emerald, lesser emperor, southern migrant, keeled skimmer and small red dragonflies and a damsels.

We would like to start building a much clearer picture about where these species are holding and expanding territories. Some species appear to be rapidly colonising and spreading across parts of Sussex, whilst others are being a little more reticent.



We also thought you'd be interested to know that there have been another three record of vagrant emperor recently along the central Sussex coast, on top of the record from Steyning earlier in the year. So if you have some spare time to wander the wetlands of the Cuckmere haven, Dyke road in Hove, or Cissbury ring, then let us know what you see. It has been described as 'an erratic migrant species' by the <u>BDS</u>, and was first seen in the UK in 2016.

9	ID ¢	Src o	Species ©	Common name 0	Location 0	Map ref. 9	VC no.	Date 🕸	Recorder 0	Determiner 0	Media	Checks	Last updated 0
0	12120555	23:42	Anax ephippiger	Vagrant Emperor	Cissbury	TQ14450826	13	2019-11-03	Bentley, Val	Peter Denyer			03/11/2019 16:02
0	12091802	23:42	Anax ephippiger	Vagrant Emperor	Dyke Road Park, Hove	TQ29980574	13	2019-10-30	Wilson, Keith			•	31/10/2019 17:12
0	12079187	<u>23(207</u>	Anax ephippiger	Vagrant Emperor	Cuckmere Haven	TV51489920	14	2019-10-30	Matt Eade			•	30/10/2019 17:05

You can also visit the <u>BDS Migrant Dragonfly Pages</u> for further information on our increasingly frequent migrant visitors.



Would you like to be our new newsletter editor?

Now is the chance for any creative types to step forward and let us know. Our long term newsletter editor is hoping to take a step back from all things wildlife next year to focus on family and we need someone who is good with words to take her place. It's not an onerous job - just two newsletters a year to keep the dragonfly punters happy and informed.

If you are interested, then please contact Fran at fransouthgate@sussexwt.org.uk



Sussex Dragonfly Society Newsletter

Etchings and Sketchings of **Dragonflies**

We are always interested to hear from local people about their interactions with the winged dragons. The artwork below is a lovely example of how these incredible aerial beasts can inspire and enchant us.

lan Seccombe is an experimental printmaker who creates linocuts, collagraphs, monoprints and drypoint etchings. He is a member of Lewes Printmakers and a keen dragonfly watcher, often bringing these two interests together in his designs which feature exuvia, nymphs and adult odonata.

The print shown below is approximately 26cm by 37cm and is made on HoSho — a specialist Japanese printing paper made from kozo (mulberrry bark). It combines monoprint and linoprint techniques to create the final result which is a lovely representation of a dragonfly nymph.



FORTHCOMING EVENTS

An illustrated talk — Dragonfly Diaries By Dave Chelmick 6th Feb, 2020 7 p.m.

Come and join us in February at Sussex Wildlife Trust's Woods Mill headquarters in Henfield for an exploration of the rivers of southern Andalucia, the saline Lagunas of central Spain, the UAE and Oman. Stories will be told through the enigmatic and exceptionally dragonfly literate Dave Chelmick, who will endeavour to explain some of the dragonflies of these regions and to understand the puzzles and mysteries of their lives.

Dave is a very engaging character, and extremely knowledgeable about all things dragon and damselfly. We are very grateful to him for giving up his time to come and educate us about some of his ex-situ adventures. You can see from the image below in Andalucia how dedicated he is to the cause ! :)



2019 Field Trips

Botany Bay & Burton Mill Pond, West Sussex Sunday 23rd June,

We are very lucky in Sussex to be home to some internationally rare and wonderful habitats called chalk streams. These amazing little streams are spring fed from pure groundwater which bubbles up from the chalk aquifers in and around the South Downs — creating crystal clear, blue tinged pools and channels.



We were allowed access to one of these amazing chalk stream locations in West Sussex at a private site called Botany bay for one of our Dragonfly Field Trips this year. The SDS wanted to see if these calcifying chalk waterbodies were good or bad for dragonflies. In theory they can be both— good because of incredible wetland habitat / wetland plant flora, with some of the purest water that you can find; and bad, because there is a chance that some species may not be able to tolerate the calcifying effects of the chalk water on the larvae.

We are privileged to have some great ecologists on the team at the Sussex Dragonfly Society, all of whom came along to share their knowledge and wildlife identification skills with us on the day. And although the weather wasn't the best, we still found some great stuff — including the lovely Penny Green lurking in the shrubbery looking for bugs and mini beasts :) !



Botany Bay continued ..

Although the weather wasn't particularly on our side, we managed a reasonable list of dragons and damsels including :-

- Azure damselfly (in cop)
- Banded demoiselle
- Common blue damselfly
- Blue tailed damselfly
- Large red damselfly
- Beautiful demoiselle (f)
- Black-tailed skimmer (m)
- Emperor (exuviae)

There was a fairly spectacular list of other species that we saw as well—not including

all the luxuriant ferns, mosses, lichens and liverworts that we couldn't identify. This rare and marvelous encrusting algae called Hildenbrandia is also prolific on the site. Other species that we saw included Firecrest, Tree creeper, Kingfisher, Wild angelica, Hornet, Field maple gall, Grass vetchling, Red kite, Cream spot ladybird, Depressaria daucella (caterpillar), Tufted duck, Andrenan cineraria, Marsh tit, Orange tip caterpillar, and Mistle thrush.

Admitting slight defeat on the dragonfly front, but having been wowed by the chalk stream, we then headed to Burton Pond in the afternoon to look for additional species which included :-

- Red-eyed damselfly
- Blue-tailed damselfly (inc. form violacea)
- Emperor
- Black-tailed skimmer (in cop & egg-laying) .

Thanks to Sam Crocker for the lovely violacea photo below.



Botany Bay continued ...

Not content with our dragonfly lot, we then skipped across to Lord's piece at Lavington Common — another beautiful local site — this time fed by greensand (acidic) springs and with some fantastic wet heath habitat.

We wanted to see if we could find a few more of the heathland loving species, and we found Broad-bodied chaser, Four-spotted chaser and Black-tailed skimmer



The highlight of the day however was the discovery of this rather unusual chap—the Field Cricket., hiding in his little burrow. These crickets which once hovered on the brink of extinction have been subject to an intense conservation management programme across the local area. Their unusual, large, black form, and the burrows that they live in make them a very charming species to spot, and thanks to Sam Crocker we got a fantastic shot of this chap below. All in all, a fantastic day out.



Field Cricket © Sam Crocker

BDS – Sussex Field Trips

Etchingham, East Sussex Sunday 28th July 2019

We had a very interesting and engaging day spotting dragonflies around New House Farm, which is in private ownership and tenant farmed by the Newingtons. The Newingtons are a young couple who have been managing the land using Regenerative Agriculture. This innovative form of farming works in harmony with nature to build up soil nutrients, soil health and soil and surface carbon, as a solid base from which to farm both productively and sustainably.

The Newingtons farm organically, and use the minimum amount of chemicals and lvermectin wormers on their farm, which helps to encourage a much more diverse insect fauna, including the dragonflies that we all know and love. They use mob grazing techniques, and natural forage from meadows and hedgerows to help livestock self medicate, and to provide healthy pastures with a low parasite burden.

Regenerative agriculture is a beacon of hope for the future, and is confounding predictions of ecosystem collapse by showing how healthy and robust a more natural agricultural system can be. We could all see from the diversity of habitat and habitat structure available on the site, how much this style of land management is contributing to local wildlife and natural capital.



The weather wasn't particularly playing ball with us and it was a little windy for the winged wonders.

However, after a very slow start in the morning where we wondered if we'd see any at all, we ended up with a reasonable count of 13 dragon and damselfly species including :-

- 4 spot
- Azure damselfly
- Banded demoiselle
- Beautiful demoiselle (f)
- Broad bodied chaser
- Brown hawker
- Common darter
- Emerald damselfly
- Emperor
- Golden ringed
- Migrant hawker
- Ruddy darter (m immature & f mature)
- Southern hawker



If anything, the challenge of finding a dragonfly made things a bit more adventurous. We trawled the woodland, meadows, floodplain, regenerating scrub, scrape, ponds and river areas and saw some great habitat.

You can see from the image below just how much structural diversity there is in the land, with everything from open water, bare mud and short grass, through to long, tussocks, rush and scrub habitats, flowering herbs and woodland. There are very obviously many places for insects and wildlife to thrive here.



Between us we recorded a further 62+ species, including this rather charming Long horn beetle (image below), Roesel's bush cricket, 16 spot ladybird, yellow shell moth and sparrowhawk. It was fantastic to be joined by the Newington's young son, whose enthusiasm for spotting wildlife grew with each new mini beast discovered.



The crew were all so keen that even on our lunch break they were still spotting dragonflies!



Some lovely images from Alison Playle of some of the other wildlife we saw during the day :-

Sparrowhawk ; Gasteruption jaculator ; Beautiful china mark moth ; Golden ringed dragonfly.







National News—BDS What do the BDS do?



The British Dragonfly Society (BDS) was founded in 1983 by a small group of dragonfly enthusiasts and scientists. The Society has grown substantially since that time and the current BDS membership of 1,700 is spread the length and breadth of the country, as well as into Europe and beyond. The BDS has three main aims:

- Carry out and support research on dragonflies
- Conserve dragonflies
- Engage the public with dragonflies and their wetland habitats

Research

Science is at the core of what they do, with rigorous research and recording helping to understand dragonfly populations and the changes they are undergoing. Within the British Dragonfly Society is the <u>Dragonfly Conservation Group (DCG)</u>, a consortium of dragonfly experts who focus on the research and conservation aspects of the society. The DCG provides support to a number of key partnerships, such as the <u>State of Nature Partnership</u> and the <u>Wales Biodiversity Partnership</u>.

The BDS also runs the BDS Recording Scheme, which compiles data that allows them to monitor changes in dragonfly populations in response to factors such as climate and habitat change.

The BDS supports both student and professional level research projects looking at a variety of aspects of dragonfly biology and ecology, and publish research on dragonflies in our well respected Journal of the British Dragonfly Society.

BDS National Continued ...



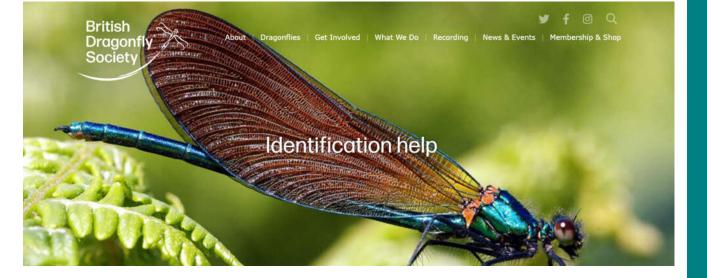
Public Engagement and Education

Awareness raising through effective communication is a vital part of the BDS work. To help save dragonflies, damselflies and the habitats they rely upon, then they need to know why this work is important and why these species are so special. This is the job of their Conservation Outreach Officer, supported by a network of fantastic outreach <u>volunteers</u>. Together they work hard to increase public understanding and awareness of dragonflies and get more people involved in their conservation.

Through their <u>Dragonfly Hotspots Project</u> the BDS work in partnership with site managers to provide communities with local learning hubs, where they can go to connect with dragonflies and the wonderful wetland habitats they call home. Throughout the year the BDS also attend and host a multitude of public events, from field meetings to family fun days, to give more people the opportunity to explore the amazing world of dragonflies.

Conservation

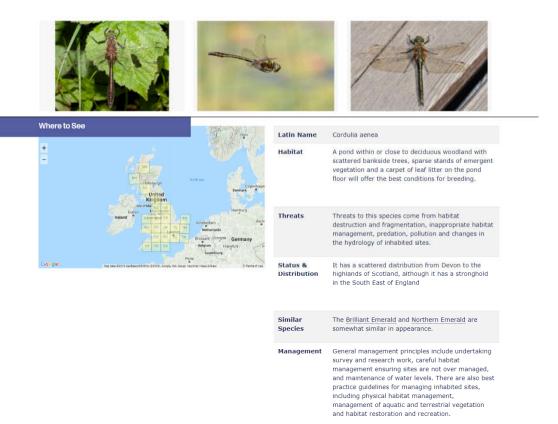
The work the BDS does for dragonfly research is put to good use in conserving dragonflies and their habitats. The BDS work with various partner organisations on dragonfly conservation projects, including habitat restoration and species re-introductions. They also provide advice to other conservation organisations, governmental bodies and private landowners on managing for endangered dragonflies. In addition to their policy support work, the BDS also engage in consultations and development plans which impact threatened dragonflies and their habitats, working to protect dragonflies both now and in the future.



The BDS also has some great <u>Identification Help</u> pages which we recommend making use of. If you are struggling to ID things in the field, then you can just google them on your phone and get some helpful ID tips. The website includes photos, maps and descriptions of favoured habitats.



Description Hairy green-copper dragonfly and bright apple green eyes. Males: Thin waist and club-shaped abdomen. Females: Thick abdomen.





To all our readers !

New to Recording Dragonflies?

Here's a few tips to help you get started. A basic dragonfly record has 5 parts to it:

- I. Your name and contact details
- 2. The date you made your sighting
- 3. The name of the site you were at
- 4. An OS Grid Reference for the site (Guide on how to do this to follow very shortly)
- 5. What you saw

Other information that can be recorded, and is useful to us, includes the type of habitat, the weather, the altitude of the site and breeding behaviour.

Please send your records to bobforeman@sussexwt.org.uk or enter them into i record on the web.



Top Ten Things To Do To Keep Dragons Flying In Sussex



- I. Report your sightings either at www.brc.ac.uk/irecord, or to the Sussex Biodiversity Records Centre at Woods Mill
- Take photos of unusual dragonflies that you see and post them on the SDS website or SWT twitter feed
- 3. Come on our free training days and guided walks with local experts more pairs of eyes mean we know more about what's happening with our dragonflies
- 4. Create a pond in your garden—even a pocket or a bucket pond helps
- Become a member of your local group No charge, just send your contact details to fransouthgate@sussexwt.org.uk or c/o Fran Southgate, Sussex Wildlife Trust, Woods Mill, Henfield, BN5 9SD, and we'll keep you up to date with our newsletters.
- 6. Adopt a waterbody near you and report back to us on its dragon and damsel fauna
- 7. Report the first and last times you see individual species in each year
- 8. Use less water! Simple as it sounds if we use less water there is less pressure on our water resources and therefore on our wetlands that these amazing insects rely on.
- 9. Use eco products for washing clothes and washing up they leave less damaging residues in our waste water and so help our winged friends by reducing pollution.
- 10. Don't pour chemicals down the drain or on your gardens. Be as organic as possible and use eco-washing products wherever you can.



I'm sure that many of you get out and about in the countryside on a regular basis, and that on your way you spot the odd streak of dragonfly colour zooming across your field of vision. If you would like to adopt a local pond, reservoir or stream that you visit regularly and tell us what dragonfly life you see there then it couldn't be easier.

Just complete and return the form below to Bob Foreman, Sussex Dragonfly Society, c/o Sussex Wildlife Trust, Woods Mill, Henfield, BN5 9SD. All returns will be held in our local database so that we can provide you with support on identification. If you're not great at identifying dragonflies, never fear, you can email or send us your pictures and we'll get our experts to identify them for you!

Name

Address

Contact Tel No

E-Mail

Name of Adopted Site

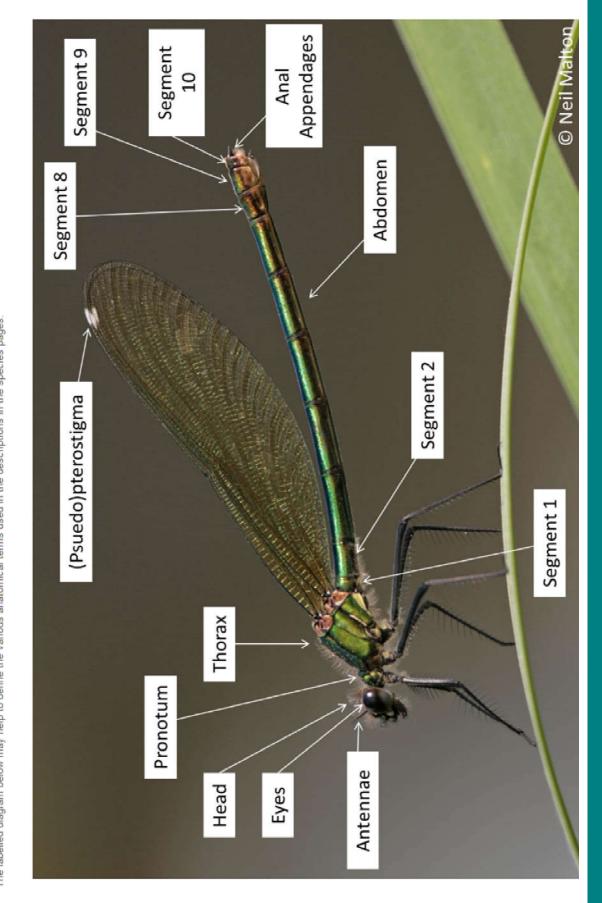
OS Grid reference



Downy Emerald © S Cocker

Confused by dragonfly and damselfly terminology? These handy diagrams from the British Dragonfly Society web pages should help you learn your pterostigma's from your pronotums!

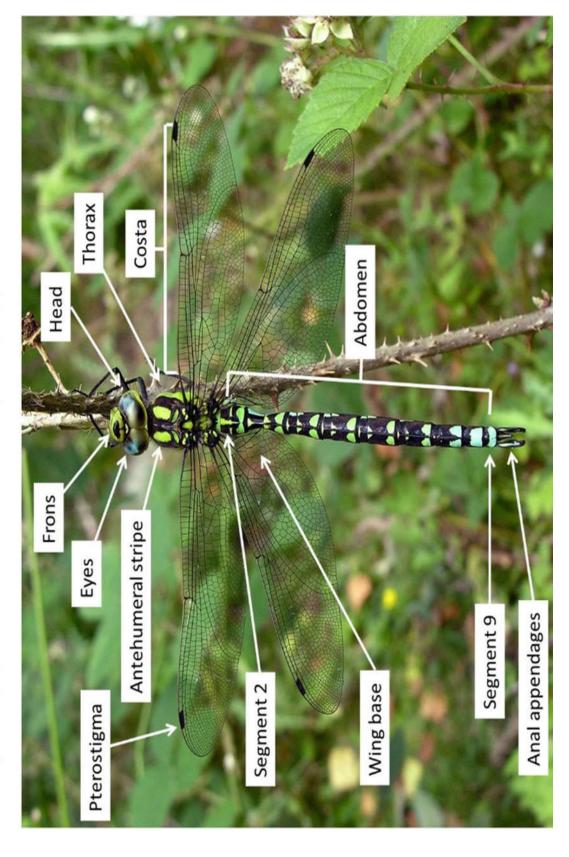
The labelled diagram below may help to define the various anatomical terms used in the descriptions in the species pages



Dragonflies

insects that can often be found flying well away from water. When at rest, they hold their wings out from the body, often at right angles to it. The eyes are very large and usually touch, at Dragonflies are insects in the sub-order Anisoptera (meaning "unequal-winged"). Hind wings are usually shorter and broader than forewings. They are usually large, strongly flying least at a point. The larvae have no external lamellae (gill plates).

The labelled diagram below may help to define the various anatomical terms used in the descriptions in the species pages





Core Group

Chair: Editor & Wetland advisor: Sussex BRC: Website: & Publicity Secretary: Technical specialists: Ben Rainbow — <u>ben.rainbow@wealden.gov.uk</u> Fran Southgate - <u>fransouthgate@sussexwt.org.uk</u> Bob Foreman - 01273 497521 - <u>bobforeman@sussexwt.org.uk</u> **Vacant position.** Please contact Fran Southgate Fran Southgate Phil Belden — <u>philbelden@sussexwt.org.uk</u> Penny Green — <u>Penny@knepp.co.uk</u>

Other Useful Contacts

Wildcall – Free advice on all wildlife issues. 01273 494777; <u>WildCall@sussexwt.org.uk</u> British Dragonfly Society - <u>bds@british-dragonflies.org.uk</u> Booth Museum - <u>boothmuseum@brighton-hove.gov.uk</u>. 01273 292777 Freshwater Habitats Trust (ex Ponds Conservation) — <u>www.freshwaterhabitats.org.uk</u> Sussex Wildlife Trust — <u>www.sussexwildlifetrust.org.uk</u> National Insect Week — <u>www.nationalinsectweek.co.uk</u>



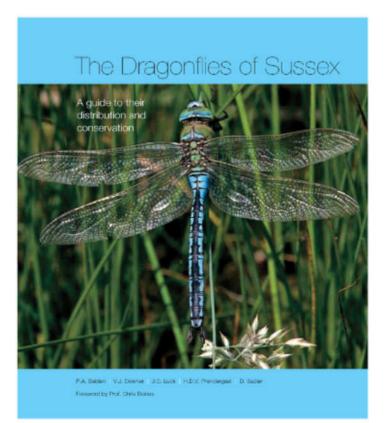
The Sussex Dragonfly Society is run exclusively with donations and proceeds from the sale of the Dragonflies of Sussex book.

If you would like to make a donation towards dragonfly work and restoring wetlands for dragonflies then please write a cheque made out to British Dragonfly Society (Sussex Group), and send it FAO Fran Southgate, Dragonfly project, c/o Sussex Wildlife Trust, Woods Mill, Henfield, BN5 9SD. All donations will be reserved exclusively for dragonfly and damselfly work, surveys, and wetland habitat enhancement work.

Useful Publications

- The leaflet 'Dragonflies and Damselflies in your garden is available as a pdf file at :www.british-dragonflies.org.uk/sites/british-dragonflies.org.uk/files/images/ GardenDragonflies_0.pdf
- Field Guide to the Dragonflies & Damselflies of Great Britain & Ireland. S Brooks & R Lewington.
- Guide to the Dragonflies and Damselflies of Britain. Field Studies Council
- Dragonflies: New Naturalist. PS Corbet. Collins
- How to encourage dragonflies and damselflies on your land can be downloaded here.
- "British Dragonflies" 2nd edition. D Smallshire and A Swash.

The Essential Garden Companion & Guide for Countryside Explorations THE DRAGONFLIES OF SUSSEX



The first ever published book on Sussex Dragonflies. by Phil Belden, Vic Downer, John Luck, Hew Prendergast & Dave Sadler.

The indispensable guide to these aerobatic, highly colourful and beautiful insects. With detailed distribution maps and notes on status, habitat and conservation, , etc.

Available from Sussex Wildlife Trust, Woods Mill, Henfield, Sussex BN5 9SD. (01273) 492630, or from good book shops (ISBN 0-9525549-1-7)

NOW JUST £5 plus post & packaging Payable to 'Sussex Wildlife Trust' c/o Fran Southgate Proceeds go to dragonfly and wetland conservation

Generously sponsored by: Environment Agency, English Nature, Southern Water, East Sussex County Council, West Sussex County Council, Brighton & Hove City Council, Chichester District Council, Horsham District Council, Wakehurst Place, Profile Security, Temple Environmental Consultants, The Wetland Trust, Gravetye Manor, Harveys Brewery.

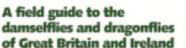
A fully revised and updated <u>Britain's Dragonflies: A Field Guide to the Damsel-</u> <u>flies and Dragonflies of Great Britain and Ireland</u> by Dave Smallshire and Andy Swash was published this August.

Britain's Dragonflies is a comprehensive photographic field guide to the damselflies and dragonflies of Great Britain and Ireland. Written by two of Britain's foremost Dragonfly experts, this fully revised and updated fourth edition features hundreds of stunning images and identification charts covering all 57 resident, migrant and former breeding species, and six potential vagrants.

This redesigned, updated and expanded edition features:

- An introductory spread that covers the twelve types of dragonfly and damselfly with a to-scale example of each, including additional introductory sections for the most difficult groups; blue damselflies, hawkers and darters.
- Over five hundred stunning photographs many of which are new and even more b/w and colour illustrations
- Up-to-date distribution maps that reflect recent range changes and records
- Detailed, easy-to-use identification charts for adults and larvae







Fourth Edition Fully revised and updated



Princeton University Press

Dave Smallshire and Andy Swash

