British Dragonfly Society Sussex Group Newsletter

Spring 2018

No 40

Willow Emeralds at Warnham

Following on from our autumn newsletter artilcle on Willow emeralds, we received a note from Jake Everitt, the Senior Countryside Warden at Horsham District Council. A keen dragonfly spotter, Jake informed us that a Willow emerald had been seen at Warnham Local Nature Reserve in Horsham in October last year.

Attached is a fantastic photo taken by Damian Pinguey one of their volunteers recorders. The Willow emeralds were also recorded at Warnham Deer Park. If you have any more records of this newly emerging local resident, then we'd love to hear from you.

2017 dragonflies

A note from the SDS Chair

The 2017 Dragonfly recording year started off rather typically with the common and widespread Large Red Damselfly (*Pyrrhosoma nymphula)* being recorded on the wing on the 6th April 2017 at Waltham Brooks by Graeme Lyons. Club-tailed Dragonfly (*Gomphus vulgatissimus)* maintained their rather elusive and spontaneous nature in 2017, but despite this Dave Sadler observed 12 tenerals from the 16th May through until mid-June at their Sussex stronghold on the banks of the River Rother. Adults were also recorded by Dave near Amberley where they are generally less frequently observed. This helped to add to the national data

Broadwater Warren in the northeast of Sussex has been transformed from gloomy and monotonous conifer plantation back to thriving vibrant heathland. Samantha Crocker recorded Keeled Skimmer (*Orthetrum coerulescens)* on the 8th July, Small Red Damselfly (*Ceriagrion tenellum)* on the 14th August and Black Darter (*Sympetrum danae)* on the 9th August. It is amazing how quickly the site has been recolonised by rare and localised heathland dragonflies.

The surprising and transient nature of dragonflies continued not to disappoint last year: Following the discovery of Willow Emerald (*Chalcolestes viridis)* breeding at Woods Mill in 2016, the species was spotted for the first time in October 2017 at Warnham Local Nature Reserve and Warnham Deer Park by Damian Pinguey and Jacob Everitt. Excitingly, the species was again recorded at Woods Mill, Henfield from the 11th August until the 6th October by Dave Sadler who saw 3 mating/ovipositing pairs and 7 lone males. Rather uniquely, Willow Emerald damselfly oviposit into overhanging willow branches and the scars on the tree left by this activity were also observed.

The Sussex Dragonfly Society would love to hear about further records of this species to document its spread; an identification guide is available on the Sussex and national British Dragonfly Society websites. They are often hard to spot at first, hanging unobtrusively from willow twigs around the edges of waterbodies, but once you get your eye in, they become much more visible.

Black Darter © B Rainbow

Continued …

Yvonne Taylor photographed this most unusual Common Darter (*Sympetrum striolatum)* with 6 wings! (pictured) observed at Pulborough Brooks RSPB Nature Reserve on the 12th of October. In our autumn newsletter last year, we reported this unusual phenomenon. With echoes of genetically modified dragonflies worrying the SDS, this prompted many musings about how the image might have come about.

Yvonne kindly offered an uncropped version of the image showing another dragonfly alongside the original cropped image. As you can see from the image above — alongside the other specimen it shows the 5th and 6th wings from the cropped version of the photo were actually shadows! It just goes to show that the camera doesn't always tell the truth. Just a note of caution in case you find any more freaky photos!

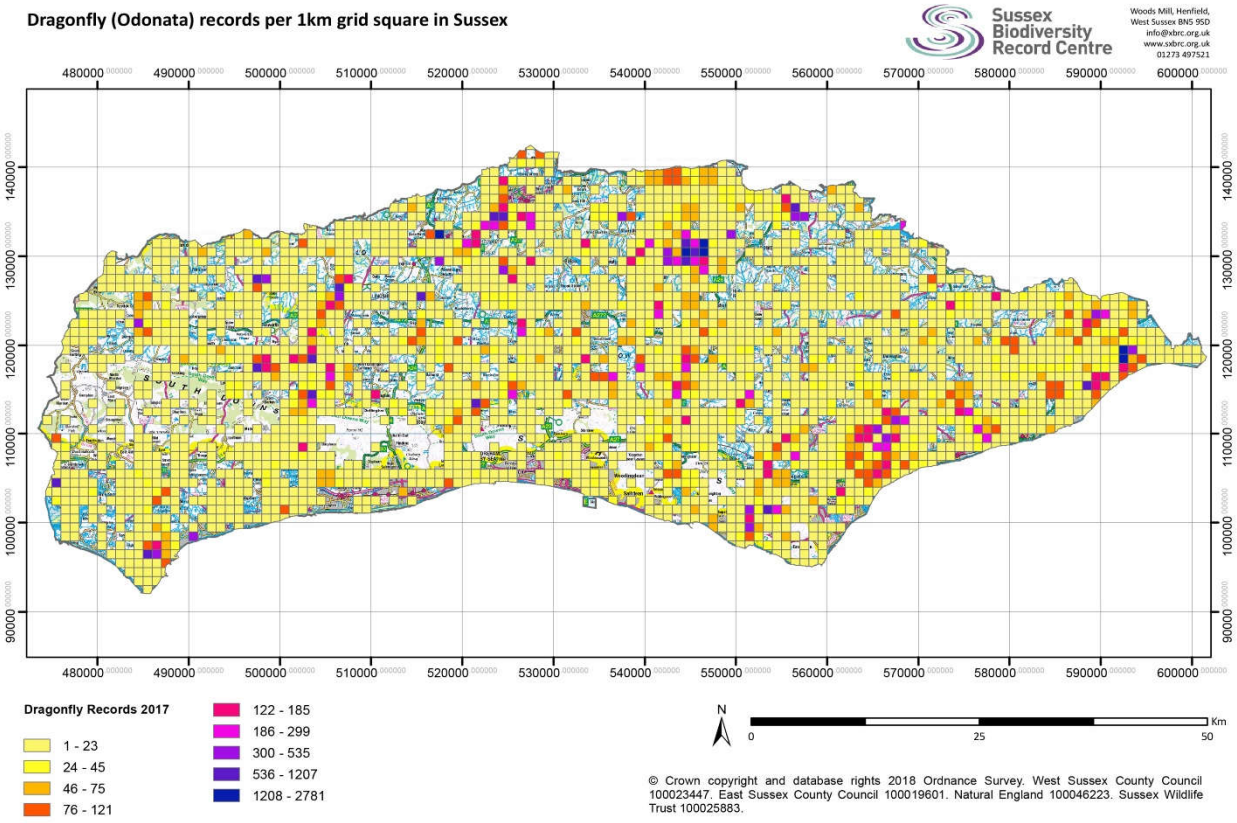
Sarah Stuart recorded another (4-winged!) Common Darter (*Sympetrum striolatum)* in Possingworth Park on the on the 26th November, which may be the latest record we have for the season.

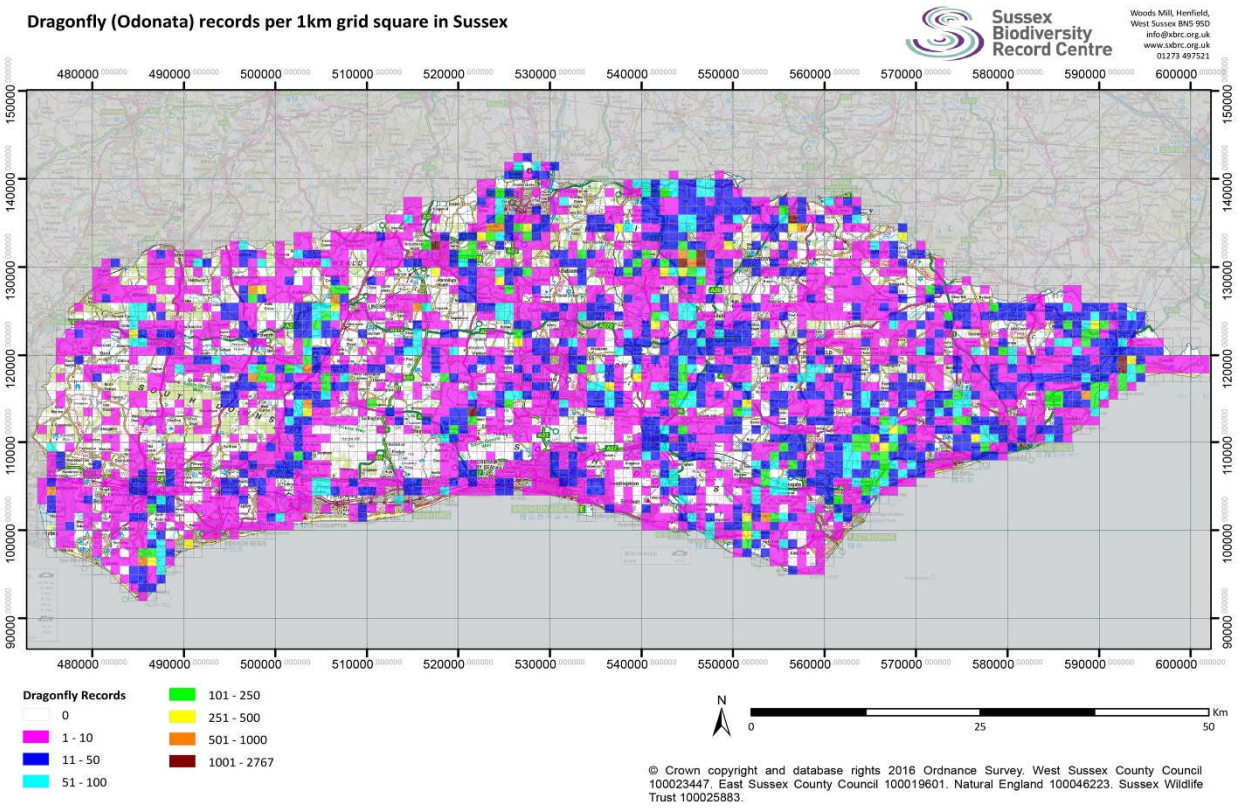
The Sussex Dragonfly Society have a website: www.webjam.com/bdssx where you can submit sightings, share photographs and download our bi-annual newsletter. We run a number of free walks during the summer months where you are welcome to join us to enjoy dragonflies at some of their best sites in Sussex. Do take a look at the maps below too — if you can fill any of the gaps in dragonfly records for us this year we would be very grateful.

By Ben Rainbow, Sussex Dragonfly Recorder, and the Sussex Dragonfly Society Committee

This year, apparently there are no dragonflies in .....

Well a few places, as you can see from the maps below. The map at the bottom shows all dragonfly and damselfly records to May 2016, and the map at the top shows all records to May 2017. If you want to become a dragonfly star then help us fill the gaps this year :)





Spotting at the Warren

A journey into dragonfly surveying and photography

My partner Rob and I are volunteers at RSPB Broadwater Warren reserve in Sussex which is a heathland and woodland restoration site that the RSPB have owned for 10 years.

In 2016 the RSPB management team asked the volunteers if anyone would be interested in performing Dragonfly surveys at the reserve. Rob stepped forward and attended 'An Introduction to Dragonflies and Damselflies' course held by the Sussex Wildlife Trust which was a great introduction to the different species in Sussex. As a keen photographer I decided to join him on the surveys.

Our surveys are on a fixed route that was designed to try and ensure that it covered habitat types for as many Dragonflies as possible. The route covers open heathland and mixed woodland and has numerous small ponds, a large pond and also a fast flowing stream. In accordance with BDS guidelines we were asked to survey between May and October and only under conditions when the Dragonflies are most active.

Our first survey took place on 17th July 2016 and, with the assistance of Matt, our RSPB warden, we recorded 13 species. During 2016 we performed 5 surveys in total and finished with a year list of 16 species. This was very encouraging as we had started relatively late in the season.

In 2017 we keenly started our surveys on 6th May. The season started slowly, as expected, with only Broad-bodied Chasers and Large Red Damselflies in sight. As we moved into mid-June the Dragonfly activity was picking up and we identified 3 new species for the site; Red-eyed Damselflies sitting obligingly on lily pads, White-legged Damselflies with their characteristic hammer shaped heads and Four-spotted Chasers.

During the summer months we looked to expand our knowledge; I attended the Sussex Wildlife Trust course and we both joined the BDS Sussex field trip at Graffham & Lavington Commons hoping to get our eye in for the Black Darter which were known to be present on the Ashdown Forest nearby.

Downy Emerald © S Crocker

Continued...

Female Emperor ovipositing © S Crocker

By the end of the 2017 season we had completed 8 full surveys, and the additional training & experience had paid off, as we found 3 more new species; the heathland specialist Keeled Skimmer, the striking Banded Demoiselle and to our delight, another heathland specialist and the smallest UK resident Dragonfly, the Black Darter.

Golden ringed dragonfly © S Crocker

After two seasons of surveying we believe that Broadwater Warren is a significant haven for Dragonflies as we now have a site list of 22 species.

In 2018 we look forward to reconfirming our existing species but also have a few target species we are hoping to find!

Broadwater Warren by Samantha Crocker

I've had a fantastic time learning to spot dragonflies, and in the process I've managed to capture some great shots of these amazing creatures.

What's on the menu for dragonflies ?

Researchers from the Universities of Turku and Helsinki, Finland, are the first in the world to discover which species adult dragonflies and damselflies prey upon, as new laboratory techniques enabled the study of the insects' diet. In the study, prey DNA was extracted from the tiny dragonfly droppings and the researchers managed to identify dozens of prey species from the samples. The results shed light on dragonflies' position in natural food webs with an unprecedented specificity.

Dragonflies and damselflies, (the Odonates) are numerous and quite large insects. As adults, they control the air space as the apex predators of invertebrates.

However, the diet of dragonflies has never been understood comprehensively as it is difficult to observe them catching or eating their prey. Now for the first time, a research group led by Finnish scientists has established which insects the adult dragonflies prey on.

Variable Damselfly image © Tuomas Kankaanpää

The dragonflies' menu was studied by extracting and identifying the DNA of prey species from faecal samples. With this method, the researchers were able to identify in detail which insects the three studied dragonfly species had eaten and a large group of different prey species was identified as their prey. At the same time, the researchers discovered that the three dragonfly species prey upon practically the same species - and that they share their diet with birds and bats which are the dominant vertebrate predators.

The research group included researchers from the Biodiversity Unit of the University of Turku, the Department of Agricultural Sciences of the University of Helsinki, and Swedish University of Agricultural Sciences.

This study is very significant as dragonflies are at the top of the insect food webs all over the world and regulate the number of many other insect species. Therefore, it is important to know exactly which species they eat. From there, we can, for example, assess the dragonflies' impact on the populations of those insects that are harmful to humans.

Continued...

In the study, the researchers also tested the applicability of different methods for extracting DNA, and their results can be utilised in future research.

When Kari Kaunis of the University of Turku told me of his idea, I was immediately interested. It was surprising that no one had done this before and I accepted the challenge at once. Often in research, earlier studies provide a starting point for laboratory work, but in this case we had to start from the beginning. In a new project, it's a good idea to test different methods and we wanted to lay a good foundation for future studies, says researcher Eero Vesterinen from the University of Helsinki, who in his earlier research has specialised in the research of feeding biology, especially by applying molecular research methods based on DNA.

As dragonflies are large insects, they have long interested researchers as well as nature lovers. The number of the Odonate species is relatively small and identifying different species is easier than with other insect groups. Dragonflies are excellent model species for biological research also because they give indications of the state of both terrestrial and aquatic environments. Dragonflies spend their larval phase in water, after which they control the air space as the flying apex predators of invertebrates. The new study sheds additional light on dragonflies' role in the aerial food web, notes Professor of Insect Ecology Tomas Roslin from the Swedish University of Agricultural Sciences, who also participated in the study.

To this purpose, they compared three different methods for extracting DNA from fecal samples: the Macherey-Nagel Nucleospin XS kit, a traditional salt extraction, and the Zymo Research Fecal Microprep kit. From these extracts, they amplified group-specific mitochondrial markers (COI and 16S rRNA) from 72 odonate individuals, and compared them to comprehensive reference libraries. The three odonate species show major overlap in diet, with no significant differences between individuals of different size and/or gender, reflecting opportunistic foraging of adult odonates. Of a total of 41 different prey species detected, the most frequently consumed ones were Diptera, with additional records of six other orders. Based on our data, the best DNA extraction method is the traditional salt extraction, as it provides the most information on prey content while also being the most economical.

Article taken from Science Daily, October 3rd 2017
www.sciencedaily.com/releases/2017/10/171003111127.htm
The study was recently published in the international *Ecology and Evolution journal*

Kari M. Kaunisto, Tomas Roslin, Ilari E. Sääksjärvi, Eero J. Vesterinen.
Pellets of proof: First glimpse of the dietary composition of adult odonates as revealed by metabarcoding of feces. *Ecology and Evolution*, 2017; DOI: 10.1002/ece3.3404

Kids Corner

How to make dragonfly snacks !

Okay, so these are snacks that look like dragonflies, rather than the snacks that dragonflies eat, but we figured that these would be a bit more tasty ! At least you won't have to catch these delightful creatures before eating them :) . Please get an adult to help you with this one.

For full details please see https://www.tasteofhome.com/recipes/dragonfly-snacks

INGREDIENTS

- White icing sugar mixed with a little water
- 6 'stick shaped' biscuits or sweets
- 12 pretzels
- Marshmallows
- Edible things for decoration

DIRECTIONS

Line an ungreased baking sheet with grease proof paper and set it aside.

Add some icing sugar to a bowl with a dash of water (and a bit of lemon juice to taste if you want to). Make sure the icing sugar is thick.

Coat the stick shaped biscuits / sweets with the icing sugar and place them on the prepared baking tray.

Sprinkle with your decoration. Allow to stand until the icing sugar has set.

Dip the pretzels in the icing sugar and allow the excess to drip off.

Press two coated pretzels against each stick cookie, propping up either side with the marshmallows. Add a bit more icing sugar where the wings join if you need to to make them stick.

Sprinkle with hundreds and thousands, edible glitter, anything else you want, or leave them plain.

Let the dragonflies stand until set. Carefully remove dragonflies from waxed paper and marshmallows and enjoy eating them :)

Clubtail Count 2017
The Big Results

The results of Clubtail Count 2017 have revealed the 'Near Threatened' Common Clubtail is absent on many of the surveyed rivers. However, there was also a ray of hope as the species was spotted for the first time in Devon.

Last year, the British Dragonfly Society asked the general public to come together to help survey the elusive Common Clubtail Dragonfly, the only species of Clubtail Dragonfly to inhabit the UK. Despite its conspicuous bright yellow and black coloration, few people have ever seen this secretive insect, which only breeds on a handful of major rivers in England and Wales. The species is currently listed as Near Threatened in Britain so is a conservation priority; however, until now, very little data was available on its distribution and abundance.

Over the summer of 2017, 110 volunteers scoured 206 km of bankside along major British rivers in search of evidence of breeding Common Clubtail. Their hard work paid off; together they generated 954 records of this elusive species.

Results showed mixed fortunes for the species, which appears to be thriving on the River Severn, from Shropshire to Gloucestershire, and the River Dee in Cheshire. Excitingly, the survey also found the first evidence of Common Clubtail breeding on the River Vyrnwy, across the English/ Welsh border. However, the best find was made by a visiting Polish entomologist, Paweł Buczyński, who is now the first person to ever find Common Clubtail in Devon, after spotting it on the River Otter.

Sadly, most of the findings were not good news as the species appears to have suffered catastrophic declines elsewhere. No evidence of breeding Common Clubtail was found on the River Avon in Warwickshire, or on the River Kennet, Oxfordshire. In Wales, the Rivers Towy and the River Teifi also failed to produce any Clubtail sightings.

Clubtail Count Project Coordinator, Genevieve Dalley, explains: "It was truly a mixed bag for this beautiful Dragonfly last year, with worrying declines on some rivers offset by the new finds elsewhere. The important thing now is to keep looking, as we need more data to really understand the changes that are occurring. Now we have launched Clubtail Count 2018, we would love to recruit kayakers and canoeists to reach those difficult stretches of rivers, such as along the Rivers Teifi and Towy. We are really proud of all our volunteers from 2017 for putting so much enthusiasm into this survey. Without their help, the Clubtail's future would be left purely to fate."

For the full report and to find out how to take part in Clubtail Count 2018, visit the Clubtail Count webpage now

The British Dragonfly Society is on the hunt for this rare and beautiful dragonfly and we need your help!

The Common Clubtail dragonfly (*Gomphus vulgatissimus*) is listed as Near Threatened on the British Red List. It is an elusive species which is found on a limited number of slow flowing stretches of mature, lowland rivers in southern Britain, with the River Dee supporting the most northerly population. We have been growing increasingly concerned about the status of the Common Clubtail, with reports from our Local Dragonfly Recorders suggesting the species might be declining. It is unknown whether this is due to a decrease in records or a genuine decline. Current records for the Common Clubtail are patchy and many are dated. In order to establish the status of the species, we need to change that.

Clubtail Count is easy to take part in and could lead to your first glimpse of this beautiful insect. Once allocated a survey area, you will carry out a minimum of 3 visits between May and July, simply walking along the river bank looking for the Common Clubtail or its skin cast. You don't need prior experience of dragonfly identification: in your volunteer's welcome pack, you will receive an ID guide, which tells you all you need to know to identify this dragonfly.

We are interested in the rivers Dee, Severn, Vyrnwy, Wye, Tywi, Teifi, Thames, Kennet, Otter and Arun. We will be providing a map for volunteers to allocate themselves a monad (1km square) of their choice. In the meantime, if you would like to get involved, please email Project Coordinator, Genevieve Dalley, on genevieve.dalley@british-dragonflies.org.uk.

Choose Your Survey Square!

This year we are allowing volunteers to allocate themselves monads (1km by 1km survey square) using our interactive allocation map. Just take a look at the options on the map and double-click on the square or squares you would like to survey to allocate them to yourself. Take care when using the map to ensure you are choosing the correct square as any allocated square is no longer available to other surveyors. We will then email you the survey pack with all the information you need to know to carry out the survey. Survey square allocation is on a first come first serve basis, so don't delay!

IMPORTANT NOTE:

Before choosing your square it is important that you ensure you have permission to walk alongside the river in that area. You can zoom in on the allocation map to check there are footpaths, bridleways or roads running to and along the river in each monad. For help on reading the map symbols, please visit the wiki open street map symbols website. If you are the landowner of the square or have permission from the landowner (i.e. you volunteer on a nature reserve and have permission to do the survey there) then there doesn't necessarily need to be footpath access.

Please visit our allocation map to choose your monad now!

Sussex Dragonfly Society Newsletter

Project Overview

The White-legged Damselfly (*Platycnemis pennipes*) is a delicate insect that can be found along lushly vegetated margins of rivers, streams, pools and lakes in southern England and Wales. At first glance they can be mistaken for other, more common species of blue Damselflies, such as Azure Damselflies; as a result, it is likely that White-legged Damselfly are under-recorded. However, on closer inspection the species can be easily be identified by a number of features, the most prominent being its pale legs, which are broad and feathery in males.

In recent years there have been increasing concerns that this species is disappearing, with Country Dragonfly Recorders reporting population collapse along a number of river systems. However, our understanding of White-legged Damselfly population trends it limited by a lack of long term data. Thus, in order to better understand these observations, the British Dragonfly Society has launched the White-legged Damselfly Investigation.

Project Aim

- Train volunteer recorders to identify and monitor White-legged Damselfly.
- Encourage the recording of White-legged Damselflies in under-recorded areas.
- Establish the distribution and population trends of White-legged Damselfly through long term monitoring.
- Use collated datasets to assess the need for conservation action, for White-legged Damselfly and their habitat

Continued…

Become a Featherleg Finder!

We're asking members of the public to look of for White-legged Damselfly between May and August this year.

Enter your sightings straight on to iRecord here. Remember you will also need to report:

- Your name
- The date you saw it
- The name and 6 figure grid reference of where you saw the species
  (you can select the grid reference from the map on irecord or find it using the Grid Reference Finder website)

- The habitat type where you found it. e.g. river
- *Optional:* A photo (this can help us verify your sighting).

You don't need to include the number of damselflies you saw or its breeding behaviour.

White-legged Damselfly Surveys.

We are also looking for volunteers to take part in White-legged Damselfly surveys. Volunteers will be asked to carry out surveys between May and August. The survey will involve counting the number of adult flying White-legged Damselfly at a wetland, and noting any breeding behaviour.

To get involved please contact
Eleanor Colver (Project Coordinator):
email: conservation@british-dragonflies.org.uk
Tel: 07792 231 925

White legged damselfly © B Rainbow

Some thoughts on the oviposition strategies of Odonata

By Dave Sadler

I spent many hours at Woods Mill in the late summer of 2017 looking for tandem pairs of Willow Emerald Damselflies, eventually managing to see quite a few. I had searched for this tandeming behaviour in previous seasons without success. The Willow emerald species has a very interesting and unusual method of oviposition in that the female of the tandem pair lays her eggs on young branches overhanging the water, often as much as 3 metres above the surface. A line of distinctive scars is left on the branch. The larvae will then hatch the following Spring, dropping into the Water.

Willow Emerald Damselflies ovipositing on a Sallow branch

This is quite an extreme form of endophytic oviposition, where eggs are carefully inserted into plants or mud, and it led me to consider the many methods of egg-laying used by different species of damselflies and dragonflies.

Continued...

All British damselflies oviposit endophytically as do the hawkers amongst others. The other major technique often used is known as exophytic oviposition which is used by groups such as the chasers, skimmers, darters and (our) Clubtail. In this case the female, or tandem pair depending on species, flies over the water dipping the tip of her abdomen so that the eggs are washed off. This apparently random broadcasting contrasts with the painstaking positioning technique adopted by the 'endophytics'. The emerald dragonflies can sometimes be said to oviposit epiphytically, as they will often place their eggs on moss at the water's edge.

Brilliant Emerald ovipositing epiphytically on damp moss

Within the two main categories there are numerous variations. The damselflies mostly oviposit in tandem with notable exceptions such as the Common Blue and Blue-tailed Damselflies. The female demoiselles oviposit alone with the male nearby, guarding. Many species will submerge together to oviposit. Also, while pairs may be solitary, some species oviposit in a group, including Azure, White-legged and Large Red Damselflies.

Red-eyed Damselflies submerging to oviposit on a water lily stem

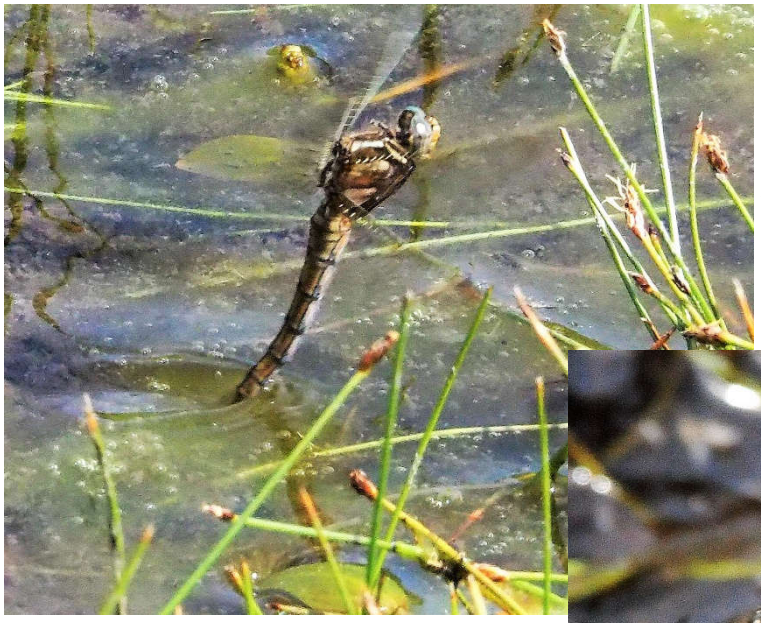
White-legged Damselflies ovipositing en masse

Hawker, golden-ringed and emperor dragonfly females oviposit (endophytically) alone but Lesser Emperors will be in tandem, a useful identification indicator should one spot a distant pair of larger dragonflies on a mat of vegetation.

Golden-ringed Dragonfly ovipositing into mud substrate in a shallow stream

Continued…

The chasers and skimmer females oviposit alone but usually the male will be present, hovering nearby guarding her. Darters usually oviposit in tandem.



Keeled Skimmer ovipositing exophytically

Black Darters ovipositing in tandem

A reason for the different strategies in oviposition has to be for the avoidance of predation although each method will still have its own vulnerabilities. Species ovipositing endophytically above the water may be almost static for long periods and can be picked off by birds, especially wagtails and warblers, while submerged species are vulnerable to fish and aquatic insects such as the voracious water beetle larvae amongst others, and are also at risk from drowning.

Those species ovipositing exophytically, by remaining in flight and mobile, and releasing their eggs quickly, avoid many predators but remain at risk from certain birds (e.g. hirundines) and their eggs, washed into the water haphazardly, may be eaten by fish.

I am always fascinated by all the variations in oviposition strategies, which, of course, have only one purpose; to ensure that the larva finds itself in a habitat where it will thrive for next few months or years until emergence.

With patience, all these different methods can be observed in Sussex.

Creating water out of thin air ?

Many of you who get involved with dragonfly work out there, are part of a large community of individuals and organisations, dedicated to trying to make our environment better for people and for wildlife. Increasingly we are trying to find ways of restoring 'natural services' to our landscape, which provide natural capital benefits such as carbon and flood storage whilst also being good for wildlife.

This year, the Sussex Flow Initiative Natural Flood Management project (www.sussexflowinitiative.org) was asked by Ashurst Organics Farm (www.ashurst-organics.com) to help them restore the old path of a stream on their land. The stream had been piped under a field many decades ago, running in a culvert for over 500 metres before popping out in a nearby mill leat. We didn't want to stop the water flow to the mill leat, but we did want the old stream course to re-activate every time there is heavy rain or a flood.

It took a few days with a digger, and a level to create a series of 7 shallow scrapes along the old river valley bottom, which during times of high rainfall will hold between 300,000 and 1,300,000 litres of water. (See before and after pictures below). Not only this, but they will hopefully provide several hundred metres more wetland habitat than was previously there, all of which we hope will be beneficial to dragonflies and other wetland wildlife. The SDS committee hope to visit the site this year to see what we can find. It's a simple project, but it will have huge benefits long term.

BDS – Sussex Field Trips

Pevensey Perambulation

Sunday 1st July 2018

Location : Montague's and Court Lodge Farms, Pevensey Levels.

Morning : Montagues, Hankham, TQ 62356 05763 (limited parking available) .
BN24 5BB montaguefarm.co.uk
Afternoon : Court Lodge Farm, Wartling, TQ 65982 08823 . www.courtlodgeorganics.co.uk

Meet at the parking spaces in the farm yard.

Leaders : Fran Southgate and Phil Belden
Please call Fran's mobile in case of inclement weather—07825 797520

Meeting time: 10.30 a.m. at Montague's and approximately 1.30 p.m. at Court Lodge for finish approximately 15.30 p.m.

PLEASE NOTE: parking is limited, please car share where possible. These sites are private land so please be respectful. No dogs please.

What you might see : A diverse range of dragonflies including Variable damselfly, Scarce chaser and Emperor dragonflies along with lots of other lovely wildlife.

Broadwater Warren Wander

Sunday 5th August 2018

Location :
Broadwater Warren RSPB reserve. www.rspb.org.uk/reserves-and-events/reserves-a-z/broadwater-warren. Broadwater Forest Lane, TN3. Grid Ref TQ 55427 37221. Meet in the car park.

Leaders : Ben Rainbow and Penny Green

Please call Penny to check if not sure about the weather on 07960 388096.

Meeting time: 10.30 a.m. until approximately 15.30 p.m.

PLEASE NOTE: No dogs please. Paths can be muddy and we may walk some distance. Please bring lunch, sun protection and please dress to protect from ticks.

What you might see : Hopefully a diverse range of heathland specialist dragonflies including Black darter, Small red damselfly and Keeled skimmer

Local Dragonfly Events

An Introduction to Dragonflies and Damselflies

(23/06/18) Saturday, 23rd June 2018 10:00 AM - 4:00 PM

Learn about the adult stage of these wonderful insects where the following topics will be covered:

- Basic dragonfly biology
- Habitats and management
- Distribution in the UK and in Sussex
- Techniques in Identification
- Dragonfly field guides and identification aides

Suitable for anyone interested in natural history, no previous experience necessary. Both indoor and field session.

Woods Mill, Henfield, West Sussex, BN5 9SD

Booking essential through Sussex Wildlife Trust - sussexwildlifetrust.org.uk

Minibeasts

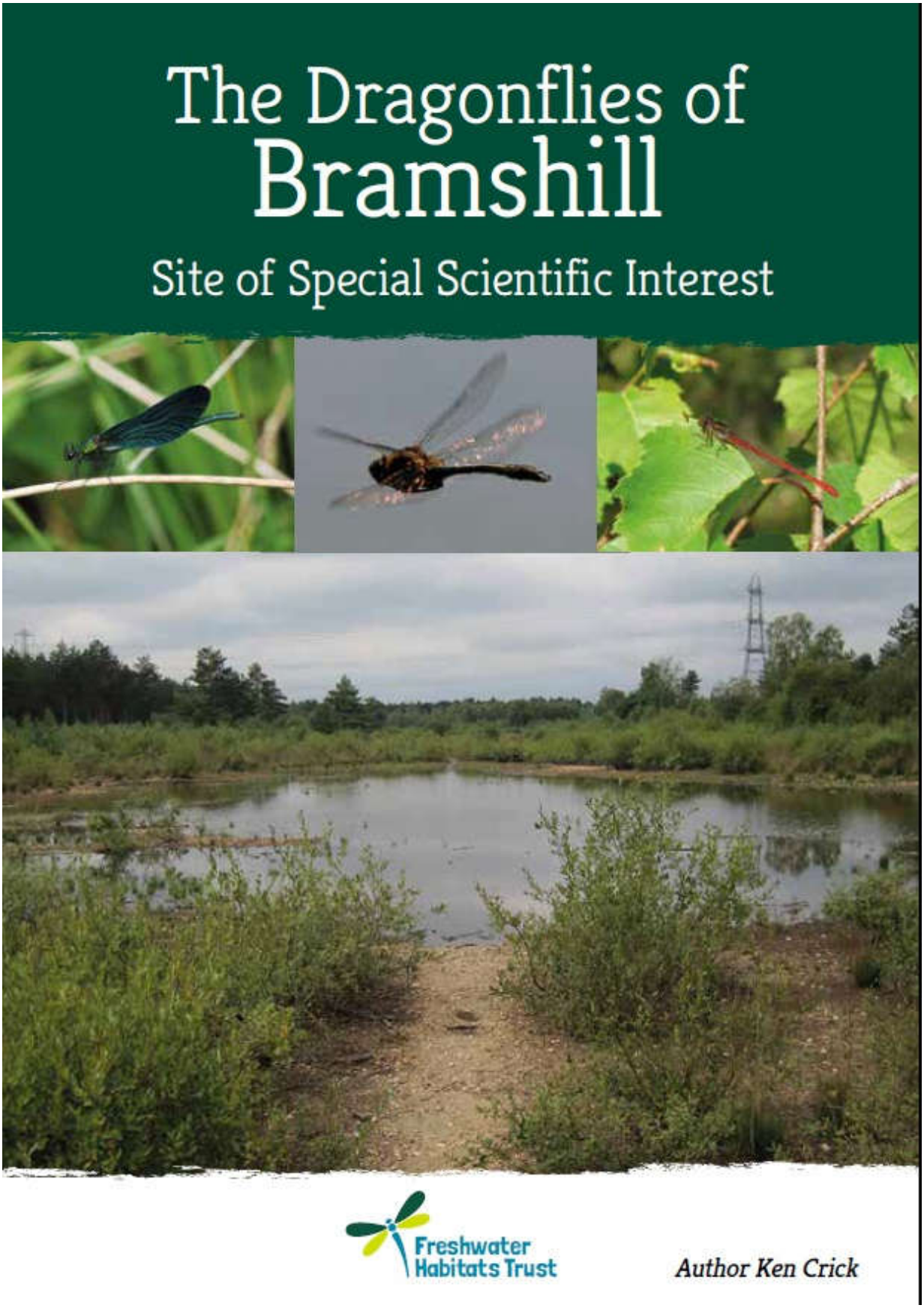
(01/08/18) Wednesday, 1st August 2018 2:00 PM - 3:00 PM

Bring the family to find out about the weird and wonderful world of minibeasts. Suitable for accompanied children of all ages.

Meet at Rye Harbour village car park, Rye Harbour, TN31 7TX

Booking essential through Sussex Wildlife Trust - sussexwildlifetrust.org.uk

Newly available from the Freshwater Habitats Trust for Bramshill in North Hamspshire



EYE — D Corner No 20

Red—Veined darter

The Red-veined Darter (*Sympetrum fonscolombii*) is a Mediterranean species that is a migrant here but with an increasing number of spring arrivals staying to breed. The larvae develop quickly and adults emerge in the autumn but depart quickly. Any red coloured Darter seen in the spring is worth a second look. The red wing veins are not always obvious but if the underside of the eyes is blue then it is this species.

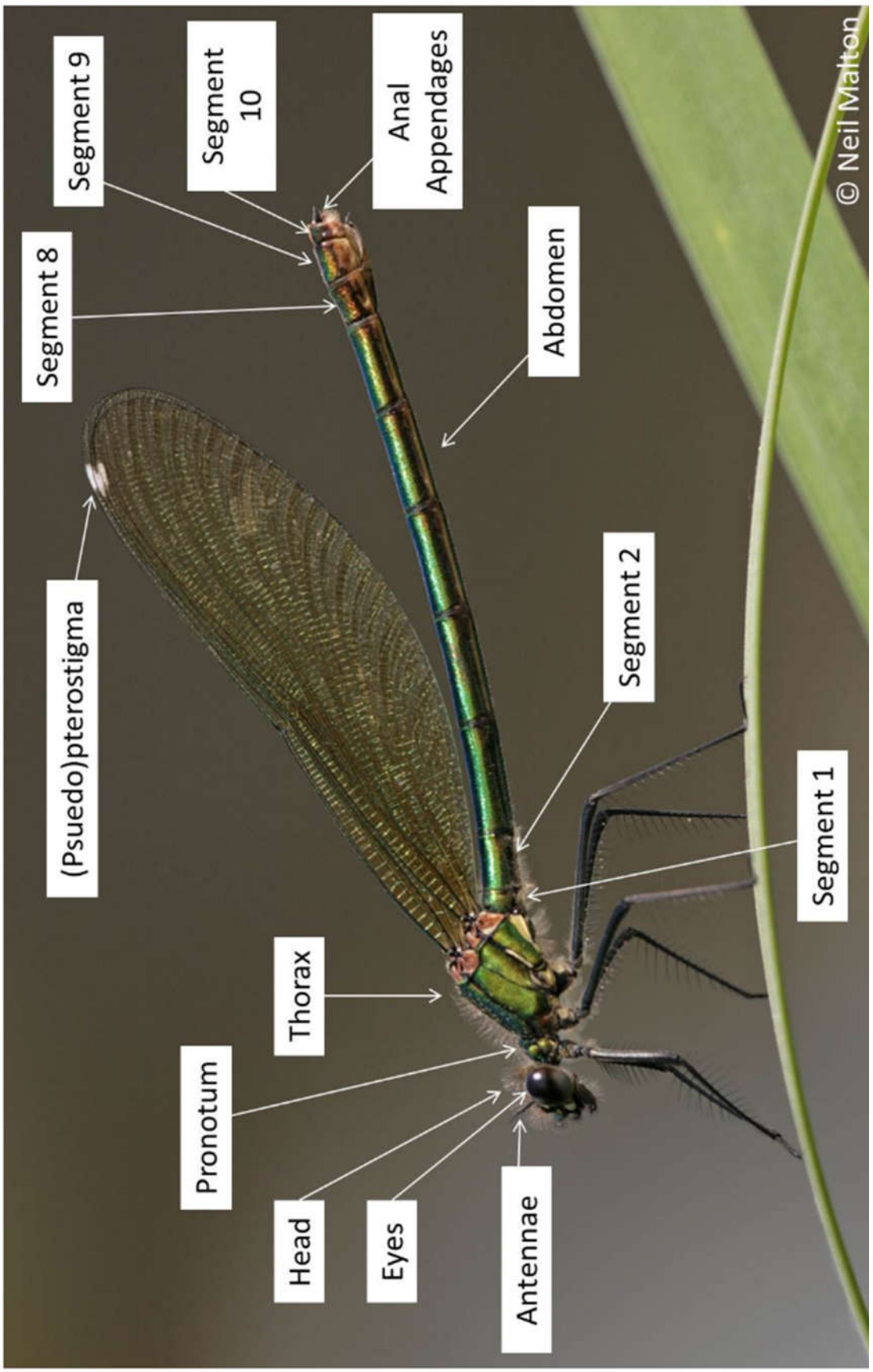
The bright red males and clear yellow-brown females are attractive. The eyes are brown above and blue below and the wing bases are yellow. The pterostigma is yellow to orange, strongly outlined in black. The male becomes a deep red with maturity with red veins on the wings, particularly on the leading edges. The frons and the thorax are red-brown. The females have an ochre yellow abdomen with two black lines along each side. The wing veins are yellow at the costa, leading edge and base. Immature males are coloured similar to the females but have only a single line along each side of the abdomen

Their flight period is June to September (occasionally May, October and early November) and they breed in large shallow water bodies such as rice paddies in Sothern Europe. They are a fairly frequent migrant, principally to southwest England though there are scattered records from elsewhere and the species has reached Scotland. The Red-veined breeds nearly annually, but colonies appear to not be stable.

The various resident and migrant species of Darter in the UK are easily confused, with the females being particularly difficult to tell apart

Red-veined darter © J Luck

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!



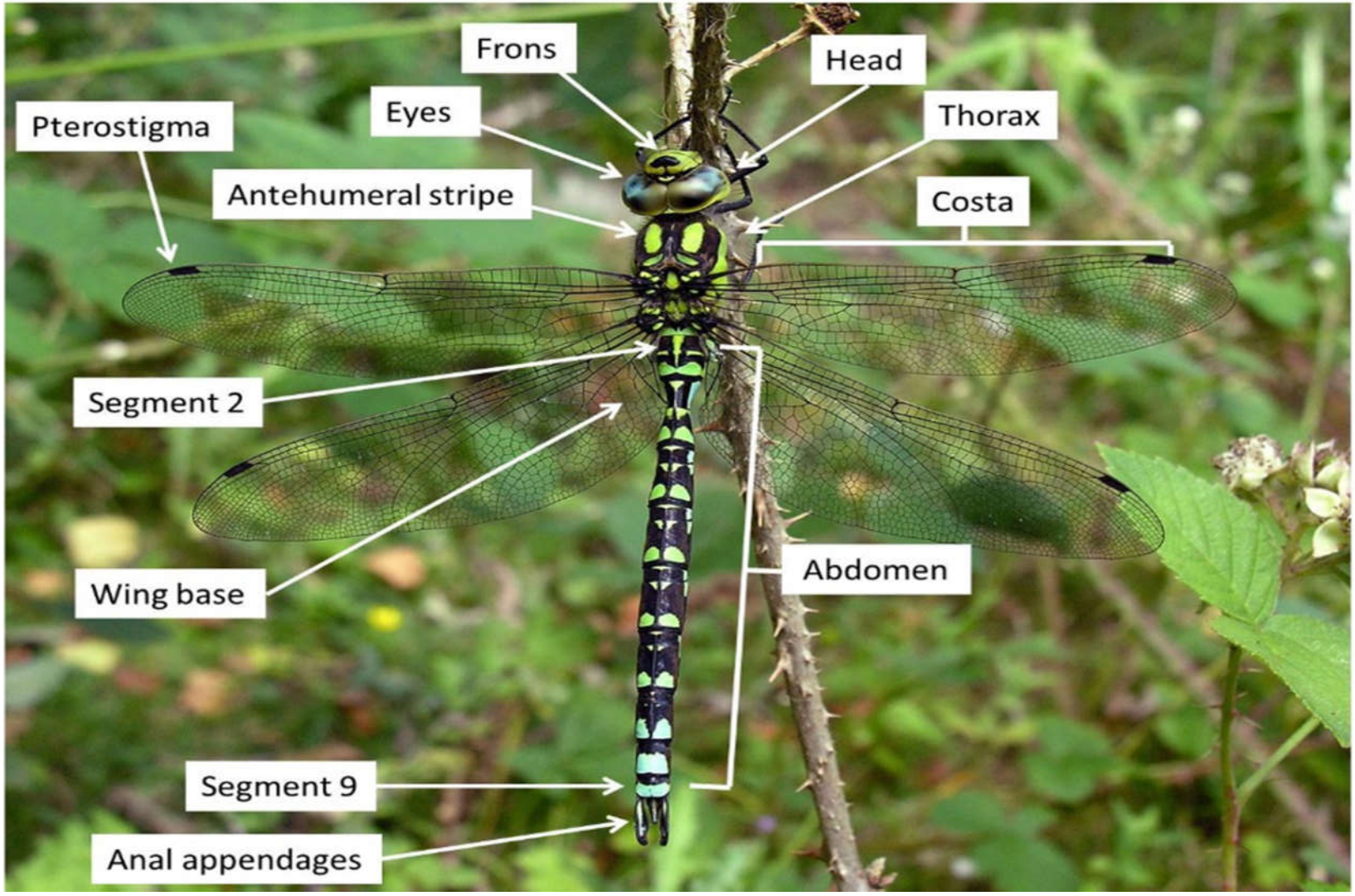
Damselflies are insects in the sub-order Zygoptera (meaning "paired-wings"). All four wings are near enough equal in size and shape. They are usually small, weakly flying insects that stay close to the water margins or water surface. When at rest, most species hold their wings along the length of their abdomen. The Emerald Damselflies are an exception and usually hold their wings partly open when at rest. They are therefore known as Spreadwings in North America. The eyes are always separated, never touching. The larvae have external plates (lamellae) at the end of the abdomen, which act as accessory gills.

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

Dragonflies

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 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 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.



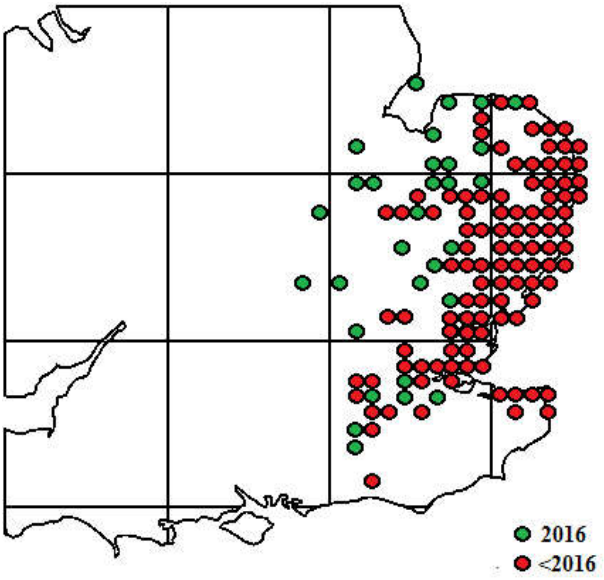
National News—BDS

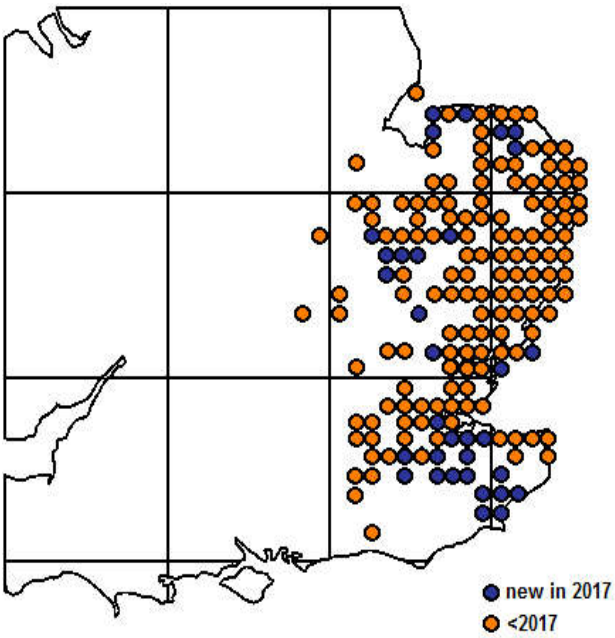
Willow Emerald Watch

Join us in tracking the remarkable spread of this enigmatic species…

Just a decade ago, the Willow Emerald Damselfly had only been reliably recorded in the UK on 2 occasions, in 1979 and 1992. A single individual was then recorded in south east Suffolk during 2007, followed in 2009 by a sudden boom of 400 records of the species from this same area (SE Suffolk/ NE Essex). Since then, the Willow Emerald has spread rapidly across the south-east of England, gaining footholds in new counties on a yearly basis.

The natural colonisation and spread of this damselfly is incredible. It is important we track the species in order to understand how it is spreading so rapidly and what might limit the species in the future. For this reason, the BDS have developed the 'Willow Emerald Watch' project. Thanks to the efforts of our volunteer dragonfly recorders we have been able to record it's spread since those first sightings in 2009. The spread was steady at first but the rate of expansion increased rapidly and in 2015 the species was found in 8 counties: Suffolk, Norfolk, Essex, Kent, Cambridgeshire, Hertfordshire, Surrey and West Sussex. In 2016, the species colonised yet further new counties, including Bedfordshire, Lincolnshire, Northamptonshire and Buckinghamshire





Willow Emeralds were reported in good numbers from southeast England during 2017, with records from most of the sites where they first appeared only the year before. There was however little sign of significant further range expansion. Few new records were received that were more than 10 km from previous sightings. The only real exception to this was in Kent, where numerous records were made along the Royal Military Canal. Even here, the numbers of individuals seen and the length of canal involved imply that this area has been colonised for some time, but has only just been spotted. There was significant 'infilling' still being noted in Cambridgeshire however. Perhaps the Willow Emerald's recent range expansion has been so rapid that the species has overstretched itself, and populations in outer-lying areas now need to build up before further expansion can take place. The next couple of years should tell! Please send records for the Willow Emerald Watch to either to the Project Co-ordinator, Adrian Parr (adrian.parr@btinternet.com), or to the relevant BDS Local Dragonfly Recorder . An online identification guide can be found here.

New to Recording Dragonflies?

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

1. 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.

First and Last

At last, both large red damselflies and broad bodied chaser females seen the 4 days before we went to press (14.5.18) after a week long burst of sunshine. Sarah Stuart also recorded Common Darter (*Sympetrum striolatum*) in Possingworth Park on the on the 26th November 2017, which is currently the latest record we have for the season.

Chailey Common School kids creaking pocket pond habitat for dragonflies and natural flood storage on Chailey Common

Adopting a Waterbody

It's easy!

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

Top Ten Things To Do To Keep Dragons Flying In Sussex

1. Report your sightings either at www.brc.ac.uk/irecord, or to the Sussex Biodiversity Records Centre at Woods Mill
2. Take photos of unusual dragonflies that you see and post them on our website
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. Build a pond in your garden
5. 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. Look out for aliens! Not little green men, but plants: Parrotsfeather, Australian swamp stonecrop, Floating Pennywort and Water fern among others. These non-native plants when released into our wetlands can reproduce rapidly and can smother ponds and ditches etc making it difficult for dragonflies and damselflies to breed and to reproduce.

Contacts

Core Group

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

Other Useful Contacts

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

Donations

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

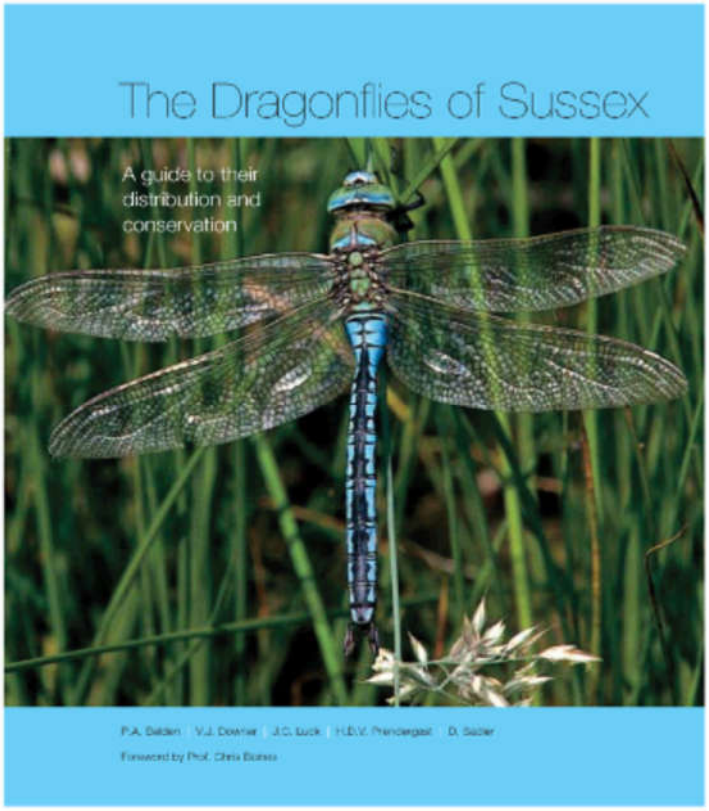
If you would like to make a donation towards dragonfly work and restoring wetlands for dragonflies then please write a cheque made out to British Dragonfly Society (Sussex Group), and send it FAO Fran Southgate, Dragonfly project, c/o Sussex Wildlife Trust, Woods Mill, Henfield, BN5 9SD. All donations 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 — www.sussexotters.org/wildlife/dragonflies.htm
- "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

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