

Darter

Magazine

Celebrating
30
Years Conserving
Dragonflies

BDS
British Dragonfly Society

Hi and welcome to the 2013 edition of Darter. This year is both the 30th anniversary of the BDS and the year in which we aim to publish the National Dragonfly Atlas. I would like to thank and congratulate everyone who has sent in records. Also all of the VCRs for their hard work co-ordinating recording, enthusing people to collect records and for collating / verifying all of the records in their Vice Counties. As you can see from the map below, our database is looking very healthy.

This edition will give you some information about how the atlas is progressing as well as letting you know what the BDS plans for life after the atlas! Dave Smallshire has written an article describing 'DragonflyWatch' the new BDS recording framework – turn to page 4 to find out more.

Yet again, the weather was poor for dragonflies during 2012, but the photo below of Thorpe Perrow Arboretum in North Yorkshire taken by Keith Gittens is proof that there was at least one sunny day. Hopefully 2013 will be sunnier than the last few years and we will see lots of dragonflies.

Claire

Claire Install, Editor

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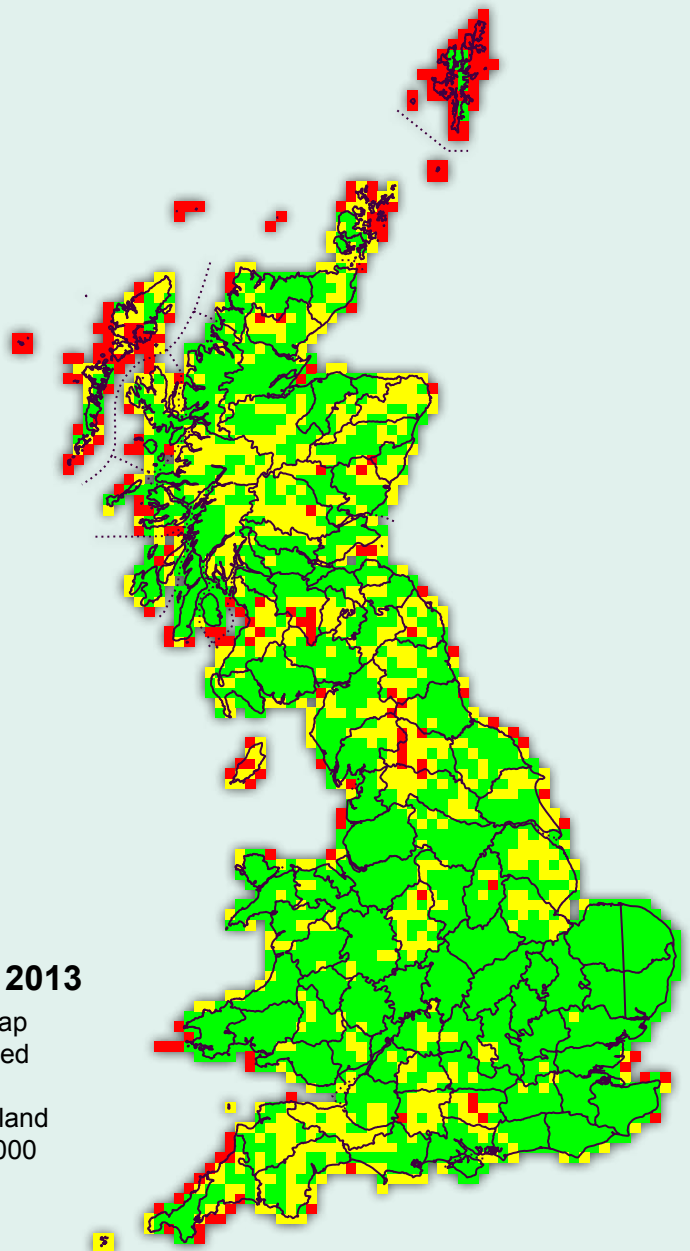
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Keith Gittens

Atlas Recording Progress - End of February 2013

We now have over 1 million records and the majority of the map is green showing that most of the 10km squares have exceeded their regional diversity threshold. A lot of the yellow squares, where the diversity threshold has not been reached, are in upland areas. Most red squares, which were only recorded before 2000 or contain no records at all, are coastal. Read more on page 3.



Pilot British Dragonfly Monitoring Scheme - Update

Dave Smallshire, *Dragonfly Conservation Group*

Many thanks to those committed recorders who undertook transect (and point) counts last year, the fourth and final year of the pilot. Steve Prentice has collated counts and sent them on to the Centre for Ecology and Hydrology for analysis. At the time of writing it's too early to give any results, but it is hoped that the results will form a future paper in the BDS Journal.

With recent developments in 'occupancy modelling' as a means of producing national trends, we are moving away from the use of fixed transects or fixed point counts to annual site occupancy (see *Site Species Lists* in the *DragonflyWatch* article). However, this still leaves a potentially important role for transects and point counts: site monitoring.

At many reserves and designated sites it is important to check how dragonflies have responded to wetland management and for reporting purposes. If you have been monitoring such a site for the Pilot Scheme, please consider carrying on with this valuable work. At many sites it may be highly desirable to keep an eye on important species by recording exuviae and other evidence of breeding as well counting adults. It has also become apparent that some wetland complexes, such as grazing marsh ditch systems, may be monitored more easily by noting just presence and any breeding activity in identifiable sectors of a site (a ditch section, for example), rather than by counting adults.

For those of you who helped counting other Pilot Scheme sites, please consider putting your efforts into recording *Site Species Lists*!

Migrant and New Colonist Species in Britain during 2012

Adrian Parr

As has become increasingly the case in recent years, migrant and new colonist species provided some major highlights during 2012.

Southern Emerald Damselfly: A few individuals were seen from July to September at the breeding colony at Cliffe in Kent. Several migrants appeared at Winterton Dunes in Norfolk during September where oviposition was noted on two occasions. Both sites require continued monitoring.

Willow Emerald Damselfly: This recently-established colonist, previously confined to eastern parts of East Anglia and to northern Kent, may have dispersed west during August 2012. A female was photographed at Culford Lake in Suffolk on 20 August. There were possible sightings at Sutton Gault, Cambridgeshire and Biggleswade, Bedfordshire. During 2013 it will be important to determine whether a significant range expansion did take place.

Dainty Damselfly: No sightings were made at the publically-accessible site on the Isle of Sheppey, Kent, in 2012. Records from one of the nearby private sites show that the species still survives in the area. The size and stability of the new Kent population urgently needs to be established; the possibility that populations may now also exist elsewhere should not be overlooked.

Southern Migrant Hawker: After a quiet season during 2011, this recent colonist reappeared in considerable numbers in its Thames Estuary stronghold, with records from sites such as Wat Tyler Country Park, West Canvey Marsh, Vange Marshes and Rainham Marshes in southern Essex, and from Cliffe and the Isle of Sheppey in northern Kent. There was also a record of a male, perhaps an immigrant, from



Figure 1. The Norfolk Hawker at Little Paxton pits in 2012. Ian Dawson.



Strumpshaw in Norfolk. It would be useful to clarify the status of the species at individual sites.

Norfolk Hawker: After unexpected records from Paxton Pits, Cambridgeshire, and from Stodmarsh, Kent, during 2011, last year saw a further sighting at Paxton Pits and also a record from Chislet in Kent – only 3 km away from Stodmarsh. New breeding colonies may have become established in both counties, which will need monitoring.

Lesser Emperor: This species was recorded from twenty sites, mainly in southern coastal counties or East Anglia and apparently referring to migrant individuals. An early season sighting at New Hythe Lakes, Kent, comes from a known breeding site. Oviposition was noted in Surrey, Hampshire and East Sussex.

Large White-faced Darter: A major migration of this species noted in northwest Europe during 2012, and lone males were seen at two sites on the Suffolk coast during late spring. These represent the second and third British records of the species, the first was in 1859! New populations may have become established on the near Continent, so this is a species to look out for.

Red-veined Darter: There were very significant influxes of Red-veined Darter during spring and summer 2012, with records from 40 sites as far north as Dunbar, Scotland. An autumn generation of locally-bred individuals were seen at several sites in southern England. Over 250 exuviae were found at Crookham Common in Berkshire. The autumn individuals dispersed (perhaps migrating southwards) before sexual maturity was reached. It will be interesting to see if any spring emergences take place during 2013; there is circumstantial evidence that such spring-emerging individuals may be more site-faithful than the autumn generation, and hence more likely to give rise to resident populations.

Atlas recording progress

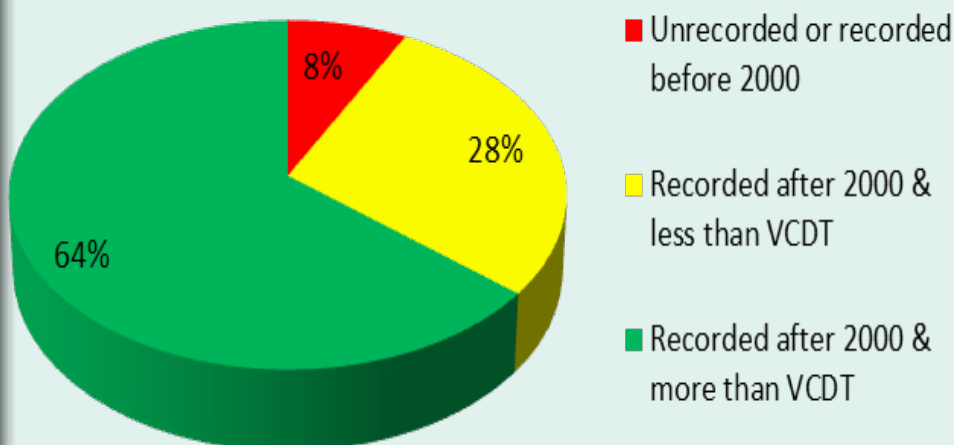
Steve Prentice

Every year I seem to write about how bad the weather was in the preceding season. 2012 seems to have been the worst but when you look at the atlas progress you can see what an amazing effort Dragonfly Recording Network volunteers have made to cover all the 10km squares. Several Vice County Recorders deserve special mention. First is Pat Batty who despite being responsible for the whole of Scotland, a vast area with a small population and even smaller number of dedicated dragonfly recorders has organised her resources and has records from over 86% of the Scottish 10km squares. We should not forget all those recorders from the south who have gone to Scotland on holiday and have picked off a few squares. A couple worthy of mention are Stephen and Anne Coker who after completing their own two Vice Counties offered to take over Montgomery which did not have a local Vice County Recorder. It is hardly surprising that Wales has been the best recorded part of Britain. Looking at the progress map I realise that it represents the enthusiasm and efforts of so many people, I would like to thank you all and I'm sure like me you can't wait to see the final publication.

The table and pie chart below show how recording has progressed. Hopefully the picture will improve further as this was a snapshot of the database as at the start of February with records still being received.

	Number of 10km squares	Unrecorded or recorded before 2000	Recorded after 2000 & less than VCDT	Recorded after 2000 & more than VCDT
England	1,511	61	389	1,061
Scotland	1,119	156	387	576
Wales	287	8	48	231
Total	2,917	225	824	1,868

Dragonfly atlas recording progress February 2013



In the final year of recording for the new atlas over 10% of squares have changed to green, showing that more species than the VCDT have been recorded. If we removed the coastal squares with little land and few dragonfly habitats, the results would look even better.



DragonflyWatch

A BDS Framework for Dragonfly Recording

Dave Smallshire, BDS Dragonfly Conservation Group

We have a long history of dragonfly recording in Britain, but the objectives of all this recording have not always been clear – except for the publication of distribution atlases. Our second atlas, 17 years after the first, is eagerly anticipated, but what else can our fantastic, 1 million-records-strong dataset be used for?

What can we use our 1 million records for?

At a general level, **atlases** tell us where species are or were. They also tell us which species are restricted in range and hence more vulnerable to changes in habitat condition or climate. Having identified which species are most in need of conservation action, we then need to know more precisely where they breed and how their populations are changing in the short term. To be able to do this, we need more information than just the basic what, where, when and who. We need to know how many there are and whether species of national or regional importance are actually breeding there. In the past, this led us to launch the **Key Sites Project**, which sought to identify which wetlands are of importance for our scarcer species.

Identifying and monitoring important sites?

Unfortunately, we are still some way from having a comprehensive list of sites of conservation importance for dragonflies. Following a species review for a revised 'Red List', which identified conservation priorities through a detailed analysis of recent records, the Dragonfly Conservation Group developed robust criteria for identifying Key Sites. More recently, Steve Prentice has computerised the process for determining them from our dataset. The recent production of the larva and exuvia identification guides has now given us the tools for obtaining proof of breeding – an essential Key Site criterion. So now we are well placed for putting important dragonfly sites clearly

on the map and, more importantly, raising their profile to wetland managers, conservation bodies and planning authorities. (You can read more about the Red List and Key Sites at <http://jncc.defra.gov.uk/page-4517> and www.british-dragonflies.org.uk/content/key-sites.)

Producing national trends?

So, we have made considerable progress with distribution mapping and have the tools in place to identify and monitor sites for scarce species, but what can we say about trends at a larger scale and for our commoner species? Unfortunately, population monitoring – a subject that our government agency funders have been very keen to progress for several years – has been rather neglected. Since 2009, the Pilot British Dragonfly Monitoring Scheme has trialled the use of transect counts, broadly following a Dutch method. Unfortunately, experience has shown us that this method is too demanding to be taken up in the quantity needed to produce national

population trends. The methods are still useful for monitoring the results of management actions at specific sites, such as nature reserves, but something more 'user friendly' is needed to achieve the holy grail of national population trends. Again led by the Dutch, complex statistical analyses have shown that national trendlines can in fact be produced from the sort of records that some observers have been submitting for years!

New challenges

With a new atlas (nearly) under our belts, we can now rise to new challenges. Continued, basic and geographically-targeted recording means we can update distribution maps, perhaps every five or 10 years. The information from such recording may also help towards the production of national trendlines, but the major source of records for this will need to come from gathering **Site Species Lists**. These lists will consist of all species recorded during repeated visits to sites each

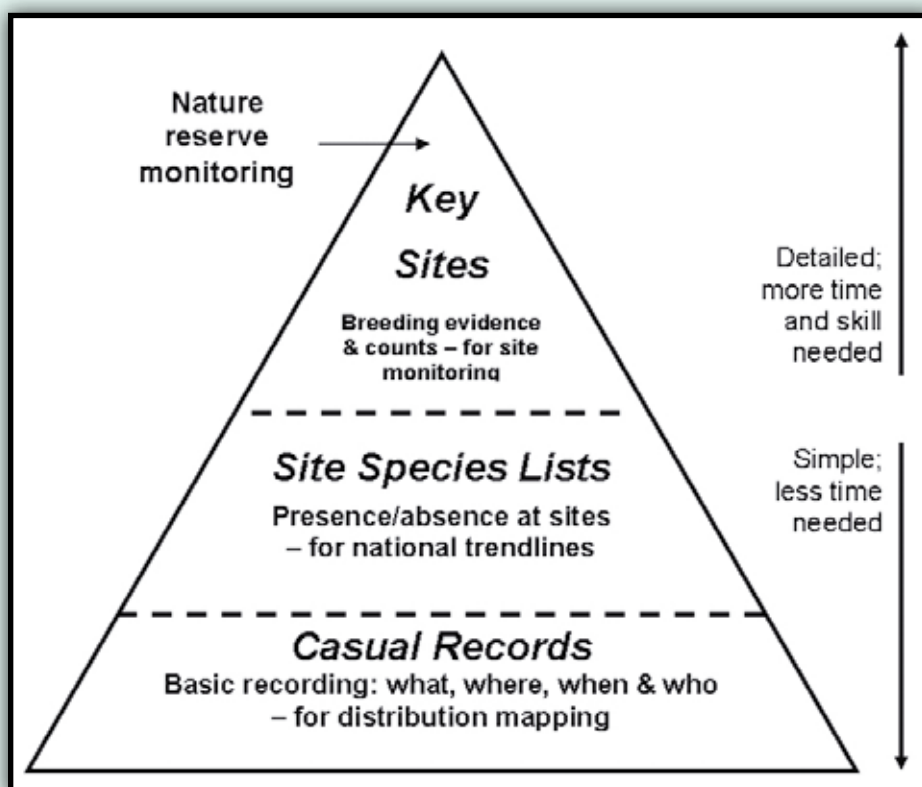


Figure 2. This illustration demonstrates the three levels of recording that make up *Dragonflywatch*, the new BDS recording framework.



British Dragonfly Society year. All you need to do is make and submit a full list of the species you see during each visit to a site. When you have more time to spare and feel skilled enough to count dragonflies, note breeding behaviour and identify exuviae, your records will increase in value for conservation purposes and could help us to identify and monitor Key Sites.

Figure 2 illustrates how you can all contribute in different ways to what we are calling **DragonflyWatch**, the framework that encompasses the collection and uses of dragonfly records for mapping, producing trendlines and for identifying and monitoring important sites.

Casual Records

We hope that you will all continue to submit your records, especially using online submission. Dragonfly records from other recording initiatives, like *BirdTrack*, *Garden BirdWatch* and the *Wider Countryside Butterfly Survey*, will also be adding to our database, as will those gathered by local biodiversity records centres. All Casual Records must have four essential bits of information: What (the species), Where (ideally a grid reference and site name), When (the date) and Who (the observer).

This level of recording can also be the first step to taking on more committed recording. As your experience increases and/or you have more time to devote, we urge you to add value to your records by counting or estimating the numbers you have seen (our abundance codes makes this quicker and easier: A=1, B=2-5, C=6-20, D=21-100, E=101-500, F>500). Going further, if you see any evidence of breeding (tandem or mating pairs, egg-laying, larvae, exuviae or newly-emerged adults), then please note this as well; reporting forms have columns for submitting this sort of information, either using '+' for present or preferably entering a count or estimate.

Your casual records might also contribute to trendlines, where they add to records contributed by others for the same site. In addition, isolated records of rare and scarce species can be valuable when they come from sites not being recorded

more systematically. Such records can also contribute to trendlines, as by their nature scarcer species will be noted at fewer sites and hence may suffer from under-recording.

So, even if your time or expertise is limited, please keep submitting your records: they are all valuable. You may well find that you can contribute to even more valuable data collection in future.

Site Species Lists

This important new initiative combines a simple recording technique – the submission of a list of all species noted at a site on a single date – with a sophisticated analysis (by the Centre for Ecology and Hydrology) to produce annual national population trends for individual species. Along with updated distribution maps, these trends will enable us to report periodically on the status of dragonflies in Britain.

The collection of this presence/absence data may seem crude, but it avoids the insurmountable problems associated with trying to count dragonflies, or indeed any insects. The value of the method comes in the large number and geographical extent of records that should be suitable for analysis. The trendlines will be based on the proportion of sites in which each species is recorded in a year. This is used as a surrogate measure of population size.

Ideally, we need to know all the species that are present at a site in a year, at as many sites across the country as possible. The best method involves visiting sites in good weather, with visits spanning the main flight periods of adults (typically May/June to August/September). You can choose which site to visit – perhaps a favourite wetland of yours. A visit need last only until it is felt that all species have been recorded on each date and might only need repeating two or three times in a year. Submit your lists either online or through Vice County Recorders as in the past. A check box to indicate that a full list has been submitted has been added to the online submission page (note that a full list in some cases might only be a single

species!)

As with **Casual Records**, you can add value to your species lists by noting breeding behaviour and assessing abundance, though again this will depend on your level of skill and time commitment.

Key Sites

Where you are able to add abundance and breeding information to your **Casual Records** and **Site Species Lists**, this will help to determine whether the site in question is a **Key Site**.

Key Sites are those maintaining viable populations of 'key species' (Red List and other nationally or locally important species) or outstanding assemblages of species – see www.british-dragonflies.org.uk/content/key-sites for further details. Key Sites can be assigned as Confirmed, Probable or Possible, depending on the level of breeding or abundance evidence gathered. Confirmed Key Sites can be regarded as being of national (i.e. Site of Special Scientific Interest) or local (e.g. County Wildlife Site) value for dragonflies. Repeated assessments, every 5-10 years if resources are limiting, will inform conservation priorities and contribute towards SSSI, SAC and other biodiversity monitoring initiatives.

The identification and subsequent monitoring of **Key Sites** typically means making repeated visits during one or more seasons, to confirm breeding and to assess population levels. Such recording needs a time commitment and a high skill level, notably the ability to identify exuviae and teneral as well as adults. The aim is to prove breeding and exceed an abundance threshold, these being measures of population viability for a species.

Nature reserves with significant dragonfly interest form a sub-set of Key Sites. Those with protected status (e.g. SSSI) may require some robust monitoring to check on their condition or on the effects of management undertaken. Ideally, this needs weekly transect counts annually over a period of years and is therefore most likely to be undertaken at sites with a resident



warden or dedicated volunteer. The methodology will follow that of the Pilot Monitoring Scheme (see www.british-dragonflies.org.uk/content/british-dragonfly-monitoring-scheme), using counts along fixed transects or fixed points. At some

sites, or parts of sites, presence/absence assessments might be more appropriate. As Key Sites, evidence of breeding should also be obtained at regular intervals to confirm that viable populations of valued species are still present; ideally, these will

entail searches for exuviae.

To summarise, the table below shows how your level of recording will contribute to the various elements of **DragonflyWatch**.

Product	Types of recording		
	Casual Records	Site Species Lists	Detailed (breeding & abundance)
Distribution maps	✓	✓	✓
Population trends		✓	✓
Key Sites identification & monitoring			✓

Dragonfly Trends in Britain and Europe

Dave Smallshire

Population trends for birds and butterflies have been produced in recent years for both Britain and Europe, but producing trends for dragonflies has lagged behind. Trends in dragonflies have, however, been produced from fortnightly counts at a large number of transects in the Netherlands. As observer interest waned in the Netherlands, the search has been on to find a practical alternative method. Recently, statistician Arco van Strien used data from datasets in Belgium, Britain, France, Ireland and the Netherlands to produce the first international trends, using Banded Demoiselle (*Calopteryx splendens*) as an example. The trend shows a significant increase, perhaps related to generally improving water quality.

Complex statistical methods ('occupancy modelling') were used to adjust for the ad hoc nature of opportunistic records, like those in our Dragonfly Recording Network database. This paved the way for similar analyses of the DRN database by the Centre for Ecology and Hydrology to produce British trend lines for the forthcoming Atlas. It is also the reason why the BDS is asking recorders to start submitting 'Site Species Lists' – full lists of species seen during site visits through the flight season. The place this new initiative takes in our recording framework is explained above.

Reference:

Arco J. van Strien *et al.* 2013. Occupancy modelling as a new approach to assess supranational trends using opportunistic data: a pilot study for the damselfly *Calopteryx splendens*. Biodiversity &

Conservation.

Read the abstract online at: <http://link.springer.com/article/10.1007/s10531-013-0436-1>



Figure 3. Male Banded Demoiselle. Claire Install.



Photographs Needed for the Atlas

Steve Cham

Many of the atlas species texts have now been written with updating and editing in progress. The other sections are in the process of being written and analyses done. The aim is to publish the atlas in the second half of 2013, with 400 pages illustrated with colour photographs throughout. The page allocation will ensure that each species and their associated habitats are clearly portrayed with analyses of the data showing trends and comparisons with the last atlas.

We still need some good colour photographs for each species and habitat and wish to use submissions from the BDS membership. Here is your opportunity to see your photographs in print, all photographs will be credited. We need images that are well focused and sharp with good colour balance. For habitat photographs, we would ask that they have good frontal lighting, rather than backlit, and ideally with blue skies. If you have photographs of any of the items listed below that you think would be suitable, we would love to see them for consideration.



Figure 4. Black Darter in Breconshire 2012.
Keith Noble.

Species

For all UK species we would like photos of the following:

- A male or female portrait or in flight.
- A female ovipositing – to show breeding habitat.
- A good emergence site with exuviae or emerging dragonfly.
- The habitat of a strong population.
- Unusual habitats with a reasonable population.

Habitats

Very few previously published books on dragonflies illustrate the range of freshwater habitats that attract dragonflies. We intend to illustrate a significant section on habitats with photographs that show key features. We need photographs of the following habitat types along with a short note of what makes them special and which species they are good for. In addition we would like photos of excellent local sites – in contention to be the 'best site in Britain'.

Habitat Types:

Upland lakes & lochans

Lowland lakes & reservoirs

- Flooded mineral workings
- Recently flooded
- Mature
- Flooded peat workings (alkaline/neutral)
- The Broads
- Woodland lakes
- Oxbow lakes

Ponds

- Urban, village, garden & school ponds
- Farmland ponds
- Woodland ponds
- Artificial ponds in landscaped gardens
- Balancing ponds
- Temporary ponds, pingos & turloughs
- Dune ponds

Blanket & raised bogs

- Bog pools in upland heathland

Basin mires

Lowland heath pools & mires

- Peat workings & Schwingmoor

Swamps

Fens

Canals

Ditches, dykes & drains

Upland rivers & streams

Upland streams

Acidic seepages, flushes and streams

- Lowland
- Upland

Lowland rivers & streams

- with muddy bottom (fine sediment)
- with stoney bottom (coarse sediment)
- Streams and flushes in heathland
- Seasonal flowing waters (winterbournes)

There is a lot to go for, so please send us your photographs saved in any format either on a CD to Steve Cham, 24 Bedford Avenue, Silsoe, Beds, MK45 4ER or e-mail your photos to stevecham1@aol.com.

We look forward to your submissions and being part of this significant new publication.

BDS Dragonfly Habitat Survey

Dave Smallshire

A big thank you to everyone who took the trouble to complete and send me a Habitat Survey form. Unfortunately, there still weren't enough after a second year to merit a full analysis and most were still describing garden

ponds. Nevertheless, they provide valuable background information for the habitat sections being written for the Atlas. We still need to know more about the precise aquatic requirements of our dragonflies, so

the forms will be retained for possible future use and consideration given to how we might continue to build on them.



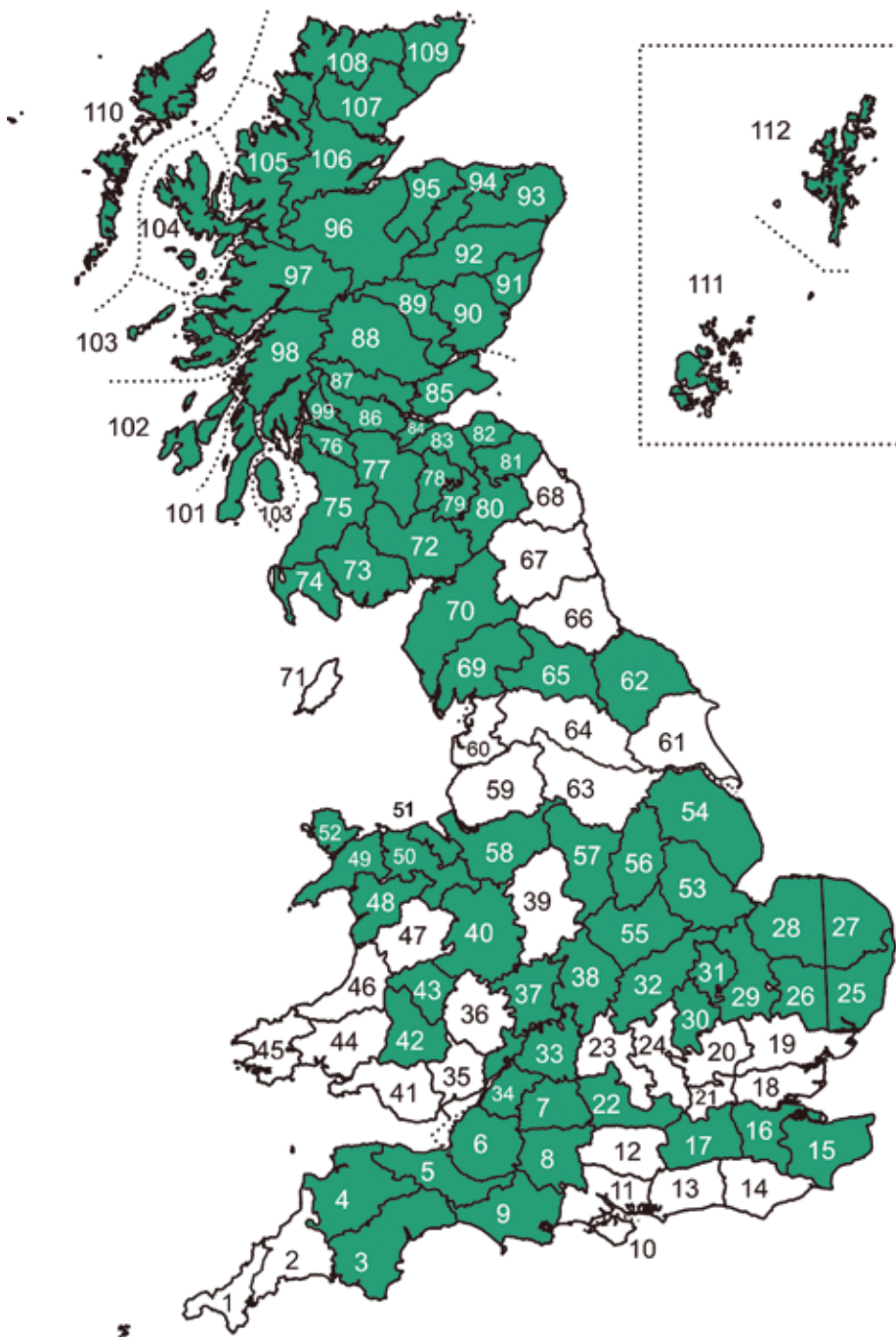


Figure 5. Vice county map. Vice Counties for which 2012 accounts have been written are coloured in green.

Vice County Reports

Devon – VC 3 & 4

Dave Smallshire

Despite an exceptionally warm March, the subsequent cool, wet weather led to 2012 being the worst year for dragonflies (and insects in general) that I can remember. Not surprisingly, this reflected the numbers of records submitted, though some notable gaps in atlas coverage were filled. This report focuses on the county's scarcer species.



Hairy Dragonfly *Brachytron pratense* records all came in May-June and from well established sites in the Bovey Basin and Exe Marshes, with the exception of the Grand Western Canal, where small numbers have been found in recent years. Simon Mitchell counted 8 in one section, including an emerging adult and exuvia, on 23 May and next day Ray Jones found 4, with one ovipositing, in the adjacent section. Emergent **Scarce Chasers** *Libellula fulva* were seen at Exminster Marshes and Grand Western Canal, while a female by the Alphin Brook at Countess Wear was the first

there since the first Devon record in 2003. The only records of **Downy Emeralds** *Cordulia aenea* came from Clare & Rick Carter's transect counts at Bystock, and then only one or two.

Small numbers of **Red-eyed Damselflies** *Erythromma najas* were reported only from Exeter and Grand Western Canals, Stover and Squabmoor Reservoir. The Stover individuals were on a non-native water lily only accessible to the rangers by rowing boat; it's good to know that the species still persists there, despite the demise of the native lilies. Dave Hopkins found single **Small Red-eyed Damselflies** on Exeter Canal by Countess Wear STW in late July-August, while the rangers at Dawlish Warren saw at least three on the main pond on 1 September.

Southern Damselflies *Coenagrion mercuriale* were monitored at all seven sites, with peak transect counts of 100-130 at the three main Dartmoor sites and 59 at Aylesbeare Common. Only very small numbers were seen at Lower Prewley and Colaton Raleigh; the latter site has now being targeted for remedial grazing. The biggest surprise came in the form of singles found at Venn Ottery Common, where the re-establishment occurred in an odd year and emergence was not predicted in an even year, as this species has a two year life cycle. Was this the result of more rapid development, perhaps triggered by the warm March, or slower development because of cooler summers in recent years? Up to 27 **Small Red Damselflies** *Ceriagrion tenellum* were counted on the Carters' transect at Bystock Reserve; the only other reports were from Smallhanger.

Scarce Blue-tailed Damselfly *Ischnura pumilio* was reported from Smallhanger and, well out of range, at Tor Woods, Salcombe. The latter record concerned a well-documented female on the late date of 31 August, possibly a 2nd generation wanderer, perhaps of Continental origin (the latter is supported by coincident records on the Norfolk coast around the same time). **Ruddy Darter** *Sympetrum sanguineum* was only seen at Slapton Ley during late

August to late October. Breeding here is possible but the late dates suggest that migrants were involved.

South Somerset – VC 5 & 6

Chris Iles

Dismal weather during the majority of the flight season caused problems for our dragonflies, and most species seem to have had a poor year. The exceptions seem to have been **Four-spotted Chaser** *Libellula quadrimaculata*, **Common Darter** *Sympetrum striolatum* and **Ruddy Darter** *Sympetrum sanguineum*, late-emergers that seem to have escaped the worst of the weather, and the two **Demoiselles**, whose flight season extended into August to a far greater extent than usual. The **Beautiful Demoiselle** *Calopteryx virgo* in particular has rarely been recorded in August this century; this year it was out in large numbers at Combe Hay (Bath) on the not-unusual date of 25 May, but still present in good numbers on the Levels on 18 August, and not uncommon on Exmoor and at Alhampton in east Somerset in the last week of August. It proved relatively easy to find sites for this species in poorly-recorded south and east Somerset, and it looks to be much more widespread here than previously realised. A **Large Red Damselfly** *Pyrhosoma nymphula* at Landacre Bridge (Exmoor) on 26 August was exceptionally late.

Few records were received for many species; this may reflect a bad

year or a reluctance of recorders to brave the conditions. There were no reports at all of **Scarce Chaser** and **White-legged Damselfly**, and only three individuals of **Black-tailed Skimmers** *Orthetrum cancellatum* and four of **Brown Hawker** *Aeshna grandis*.

Targeted searches for **Keeled Skimmer** *Orthetrum coerulescens* provided the first records for south Somerset since 1994. It was found at two Exmoor sites (and may well be much more widespread than this) and at Yarty Moor on the Blackdowns – the first Blackdowns record since 1954, though doubtless the species has been here all along.

A good number of historic records have been received, many of which have come through online recording. The most fascinating however has been a long-running dataset from west Somerset sent by David Gliddon, with particular highlights being a first west Somerset record for **Hairy Dragonfly** *Brachytron pratense*, on the grazing marsh by Minehead, and numerous records of essentially lowland species such as **Emperors** *Anax imperator* and **Black-tailed Skimmers** rarely recorded in west Somerset.

Wiltshire – VC 7 & 8

Steve Covey

Despite this year being the second wettest on record I am pleased to be able to report some successes!

During the all too brief days of bright, calm, sunny weather I, and other Wiltshire observers (including 2 new recorders: Lorraine Blakey and Peter Sketch), managed to visit all the remaining hectads in the county that had had no or few records between 2000 and 2011. The end result is that all but one of our 10km squares now have had some species recorded in them. The next task will be to infill to tetrad level or finer for a proposed Wiltshire Atlas.

Also completed was all the fieldwork for the Cotswold Dragonfly Atlas Project. Gareth Harris now has the mammoth task of collating all this information and producing the eagerly awaited publication!

Moving on to the species themselves. Again, despite the general weather conditions, several species had a very good year. Perhaps it was a case of poor weather for the recorder but not for the recorded?

Downy Emerald *Cordulia aenea* had an exceptional season within the Cotswold Water Park (CWP), with large numbers of emergences and exuviae noted at existing and new locations. I found an exuvia on the early date of 30th April at Lower Moor Farm. This was followed up by welcome observations of emergence (for proof of breeding) in early May.

In late May Rosie Ray found 2 male **Hairy Dragonfly** *Brachytron pratense* at different lakes within



Figure 6. Downy Emerald had an exceptional season within the Cotswold Water Park (CWP). There was proof of breeding at Lower Moor Farm. (Images l to r: S. Covey; T. Dabner; C. Beard).





Figure 7. Ruddy Darter and Emerald Damselfly in Wiltshire. Images by Steve Covey.

the CWP. This constitutes the first sightings of this species within the Wiltshire section of the CWP (and only the second for the CWP as a whole) as well as being the first confirmed sighting of Hairy Dragonfly in Wiltshire in recent times - breeding records next year?

Emerald Damselfly *Lestes sponsa* and **Ruddy Darter** *Sympetrum sanguineum* also had an excellent 2012. Often appearing together in habitats which frequently dry out during hotter summers; a boom or bust strategy which apparently works as, having been scarce for the past few years, this year they were present in good numbers at their traditional (and some new) sites!

Brown Hawker *Aeshna grandis* was also seen in higher than usual numbers [I saw 9 together in one small meadow!]

On the downside, **Small Red-eyed Damselfly** *Erythromma viridulum* wasn't seen at all at any of its Wiltshire sites! Hopefully a temporary setback...

For most of the rest of our species, numbers and distribution was much

the same as previous years.

Scarce Chaser *Libellula fulva*, for example, was seen at its regular haunts on the Bristol Avon and also at a couple of new maturation sites away from the river.

New and recolonised populations of **Scarce Blue-tailed Damselfly** *Ischnura pumilio* have been reported in VC8 and just 'north of the VC7 border' in Gloucestershire, mainly as a result of temporary pools developing in the soggy conditions, typical of their ephemeral lifestyle!

The main obvious negative effect of the wet and windy conditions on potential breeding success was the large amount of extensive wing damage caused during emergence. Chris Beard estimated on one visit to Lower Moor that 50% of the damsels (mostly **Common Blue Damselfly** *Enallagma cyathigerum*) were so affected. My wife Terri found a crumple-winged teneral **Red-veined Darter** *Sympetrum fonscolombii* (the only one reported in VC 7 or 8 this year) during our visit to Plaitford Common on the 8th September.

Finally, my grateful thanks go out to all who persevered in getting out

there during the brief windows of opportunity to observe and then send me their data (particularly through Living Record!). Fingers crossed for a return to warmer summers!

Dorset – VC 9

Andrew Brown

The last year of the atlas will be remembered by most of us as probably one of the wettest, similar to the year before only worse! Wet spring, wet summer, wet autumn and now a wet winter!

Despite the weather, we still managed to collect some decent records and one member of the group, Bryan Pickess, used Living Record to start adding many of his historical records. These filled in lots of gaps in our understanding of populations and sites in west and central Dorset.

I managed very few days when I could get out and look for dragonflies, but was very happy to find the **Common Hawker** *Aeshna juncea* on Upton Heath in the autumn. This species is incredibly rare in Dorset; found only on a small number of heathland sites. I had never seen it in the county so this was very satisfying.

My thanks go to Adrian Bicker for his continuing work on Living Record, more people are now using this system to enter records and the number of recorders is growing year by year, this is very encouraging.

The Dorset Dragonfly Group finally got its website launch in the spring; please take a look at www.dorsetdragonflies.org.uk. We had



Figure 8. The wet and windy conditions were thought to be the cause of large amounts of extensive wing damage that happened during emergence. Images: left and centre, Chris Beard; right, Steve Covey.



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some very positive feedback from this, so all the hard work was worth it. We also got into social media with Facebook and twitter accounts. I found these very positive as many people posted photos and it was nice to get them interacting with each other. I think social media can become quite a good way of reaching out to a new generation of people who use this relatively new medium and it is something I am keen to develop in the future. See you at the recorders meeting!!

Kent - VC 15 & 16

John & Gill Brook

2012 was generally another disappointing year due to the weather. Despite the low temperatures in April, exuviae of the **Large Red Damselfly** *Pyrrhosoma nymphula* were found on 17th April heralding the start of the dragonfly season.

On 13th June, the **Norfolk Hawker** *Aeshna isosceles* was seen and photographed by Marc Heath at Chislet Marshes fairly near to Stodmarsh where it was recorded in 2011.

Apart from the Dungeness and New Hythe Lakes where the **Lesser Emperor** *Anax parthenope* seems to be established, it was also seen on 22nd July and photographed by a number of people from the Kent Field Club at Folkestone Warren – a new 10km square.

A new site for the **Brilliant Emerald Dragonfly** *Somatochlora metallica* was discovered by the finding of an exuviae on the 29th May at a private fishing lake in West Kent and subsequently an adult male was photographed on 23rd July by Douglas Hands.

The **Southern Migrant Hawker** *Aeshna affinis* and the **Southern Emerald Damselfly** *Lestes barbarus* were again seen at Cliffe Marshes by Trevor Willis on 11th August. The **Southern Emerald Damselfly** was also discovered further east on the marshes just to the east of Cliffe village by Tim Caroen. Tim also saw the **Southern Migrant Hawker** near Kingsferry Bridge, Sheppey while looking for the **Dainty Damselfly**

Coenagrion scitulum.

We were pleased to see that the **Dainty Damselfly** was still at one of the private sites in June and that three pairs were ovipositing into hornwort *Ceratophyllum* sp. We hope to visit the second private site in 2013 and also another potential site near a public footpath on the mainland.

Later in the year, in August and September, the **Willow Emerald** *Lestes viridis* was again seen in reasonable numbers along North Stream, north of Marshside. It was discovered on 27th September a little further north at a ditch near Reculver by Phil Saunders, who also noticed them ovipositing, and also by Neil Anderson two days later.

Records this year were the fewest we can remember which we think was largely due to the inclement weather

much of the summer. Our thanks go to the faithful few who regularly send us their records and have helped with the coverage of Kent for the new National Atlas.

Surrey – VC 17

Surrey Biodiversity Information Centre

It has been a very interesting past couple of years for Surrey Biodiversity Information Centre since we took on the role of Vice County Recorder for Surrey. It has been a steep learning curve only made possible with the support of the Hampshire, Surrey & Berkshire Group and local recorders Mike Thurner and Katharine Trotman, who took time to take us out in to the field and teach us the basics. Since *Dragonflies of Surrey* was published in 1996 recording has generally been limited to a small number of favoured sites. However, after a great deal of

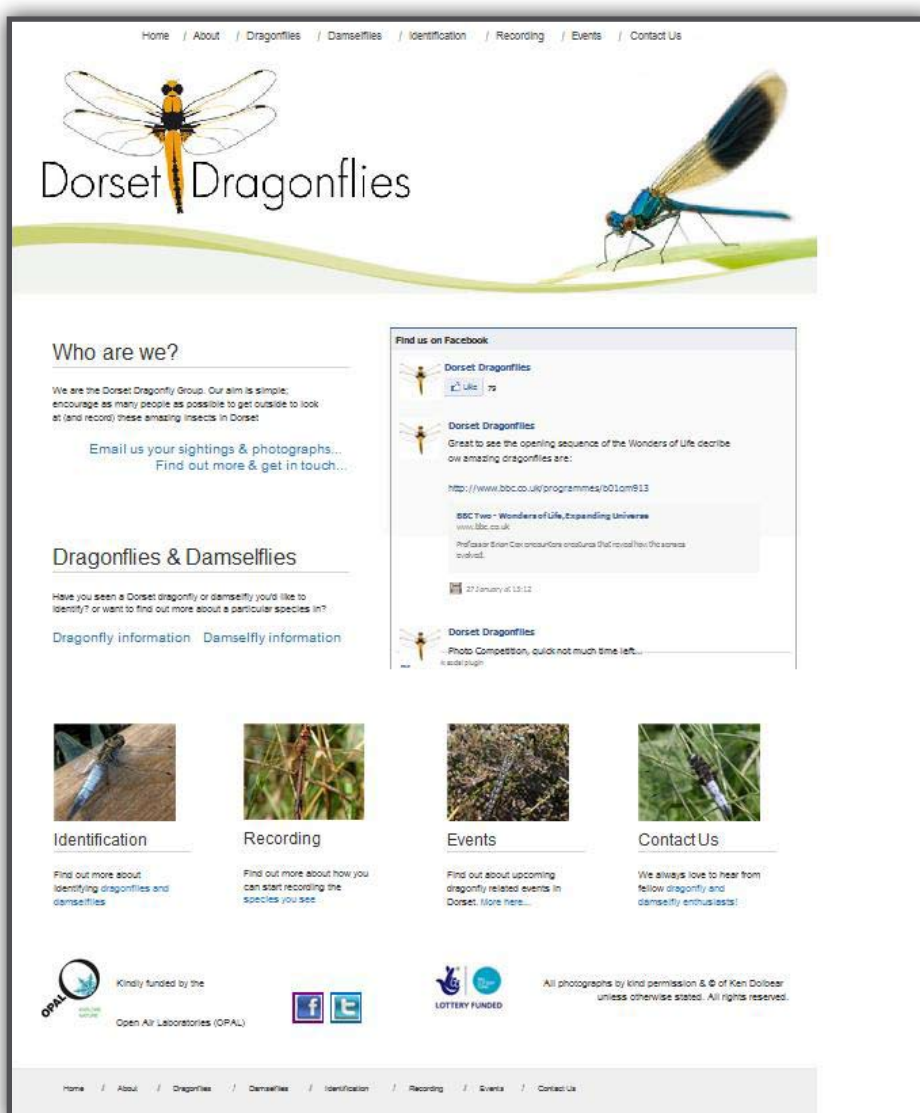


Figure 9. A screenshot of the Dorset Dragonfly Group's website.





Figure 10. Southern Hawker ovipositing in Breconshire. Keith Noble.

recording effort we have managed to build up a respectable number of records throughout the County with over 1300 records submitted in 2011 to just under 1000 in 2012 (quite an achievement considering the terrible Summer that we had).

Some of the most notable records we received included a mating pair of the **Lesser Emperor** *Anax parthenope* in an area near Dorking. This area also played host to another exciting find which was a **Scarce Chaser** *Libellula fulva* some distance from where it might usually be expected on the River Wey. These records received from Martin Grey and Mike Thurner were a result of some considerable efforts taken to increase records within the County. Special thanks in particular must go to Mike for almost single-handedly changing the Dorking area from an area largely absent of records post 2000 to an area which now exceeds the Vice County Diversity Threshold. Special thanks also go to Don Tagg for his help with verification and Ronald O'Mahony for the very large number of records he sent to us. We look forward to another productive year of recording in 2013.

Berkshire – VC 22

Mike Turton

The dreadful weather during the 'summer' of 2012 doesn't appear to have had much effect on numbers recorded for most species, although

only time will tell the impact on breeding success. Several species emerged later than normal, but late summer Hawkers and Darters seem to have had a particularly good year. This was especially noticeable for **Migrant Hawker** *Aeshna mixta* (records up 42% over 2010), **Brown Hawker** *Aeshna grandis* (records up 80% over 2010) and **Common Darter** *Sympetrum striolatum* (records up by 95% over 2010). Peak counts of 16 **Brown Hawkers** at Theale in August and 128 **Common Darters** at Padworth in September, both seen by Derek McEwan, were all-time county records. There were seven other counts of over 50 **Common Darters** between July and September. Numbers of **Black Darter** *Sympetrum danae* were the highest recorded with 42 adults seen by John Ward-Smith and Des Sussex at Crowthorne Woods in July.

Common Club-tail *Gomphus vulgatissimus* suffered this year with only eight adult sightings and just 12 exuviae found at Goring viaduct and Caversham Promenade in Reading. There were two sightings away from the Thames, one near the R. Kennet at Theale, continuing the string of sightings on the Kennet in recent years, and one on the Downs at Aston Upthorpe. Records of **Four-spotted Chaser** *Libellula quadrimaculata* and **Broad-bodied Chaser** *L. depressa* were also down and numbers reported were the lowest for three years.

2012 sightings of the county's scarcer species included the **Hairy Dragonfly** *Brachytron pratense*, recorded at eight sites, including two breeding sites in the Theale area. After only a single record in 2011, **Common Hawker** *Aeshna juncea* was at three sites in west or north Berkshire and exuviae were found at one site near Aldermaston. Unfortunately no **Scarce Blue-tailed Damselflies** *Ischnura pumilio* were found at Decoy Heath following their reappearance last year (for the first time since the mid-1990s), despite monitoring of the site by the local Wildlife Trust and visits by other recorders.

The really bright spots this year were the arrival in the county of **Scarce Chaser** *Libellula fulva*, with one spotted by Des Sussex in July (Shepherd Meadows, R. Blackwater) and the emergence of **Red-veined Darters** *Sympetrum fonscolombii* at Greenham and Crookham Commons. First recorded breeding in Berkshire (at this site) in 2007, there has been only one county record since; an adult male in May 2009. This year the exuviae count exceeded 320 and a new site at Radley Lake recorded one adult.

Greenham/Crookham Commons did well this year, with a **Lesser Emperor** *Anax parthenope* in August and the first **Small Red Damselfly** *Ceragrion tenellum* records for the site. Once again there were records of **Golden-ringed Dragonfly** *Cordulegaster boltonii* from three sites away from their normal breeding habitat – of note were Lavell's Lake (Dinton Pastures), which was the second record for the site in two years, and one near Wokingham town centre.

Suffolk – VC 25 & 26

Adrian Parr

The often disappointing weather during the 2012 dragonfly season meant that, as with many other areas, the final fieldwork for the new Atlas was not as productive in Suffolk as we would have liked. Never-the-less, there were still some very significant finds. The county – and in particular the south-eastern part – remains the UK stronghold for the new colonist **Willow Emerald**



Damselfly *Lestes viridis*, with the species now having been recorded from very nearly 100 tetrads. During 2012 perhaps the most significant record was of a female found at Culford Lake (near West Stow) on 20 August, this being well away from the few other West Suffolk sightings and not too far from the Suffolk/Cambridgeshire border. It would seem that the species' range is continuing to expand. In addition to Willow Emerald Damselfly, its close relative the **Scarce Emerald Damselfly** *Lestes dryas* also produced some important new records during the year. Less than a decade ago this species was unknown from Suffolk, though in 2007 it was discovered in the north of the county near the Norfolk border. During 2012 two further new sites were discovered near Brantham in the southeast of the county, the damselflies having presumably recently colonised from the coastal Essex populations.

In addition to the emerald damselflies, the **White-legged Damselfly** *Platycnemis pennipes* and the **Scarce Chaser** *Libellula fulva* also produced some exciting new records. The former species used to be restricted to the River Stour, which forms the border with Essex, while the latter species also had a major

population in this region. Recently both species have been starting to spread away from the Stour onto some of its tributaries and even onto still-water sites in the region. This trend continued during 2012, with many new sites for **White-legged Damselfly** in particular being found.

Finally, in addition to resident species, several migrants also produced some important sightings. During late spring, two male **Large White-faced Darters** *Leucorrhinia pectoralis* appeared on the Suffolk coast at Landguard and Minsmere/Dunwich Heath. These represent only the second- and third-ever confirmed UK records of the species, the first having been over 150 years ago! There are however other records of unidentified 'white-faced darter species' from Suffolk – most notably at Walberswick during May/June 1992 – and the arrival of migrant *Leucorrhinia* species on the east coast of England may be a perfectly normal, if still only occasional, occurrence. It will be interesting to see whether more records are to come in the near future. The other notable migrant species to be seen during 2012 was the **Lesser Emperor** *Anax parthenope*, with two males being spotted on the coast (at Lowestoft and Walberswick) during mid-summer; these are the first

county records since the start of Atlas fieldwork.

Norfolk – VC 27 & 28

Pam Taylor

Norfolk suffered less severely from adverse weather conditions last summer than counties further to the west and commoner dragonfly species had a reasonable year, despite the frequent periods of rain. **Brown Hawker** *Aeshna grandis* in particular thrived and good numbers were reported from many sites. Conversely, **Southern Hawker** *Aeshna cyanea* had another sparse year, with two thirds of all sightings being single individuals.

Norfolk Hawker *Aeshna isosceles* was reported from its main Broadland strongholds as usual and also from outlying locations at Westwick and to the west of Bawburgh. **Common Hawker** *Aeshna juncea*, which is certainly not common in Norfolk, was reported from only two locations. One was its known breeding site at Winterton Dunes and the other a single sighting from Burgh Common in the Broads.

Hairy Dragonfly *Brachytron pratense* was once again well reported in east Norfolk, whilst in west Norfolk further reports came in from coastal regions and from fen areas close to the Norfolk/Suffolk border.

Of the county's rarer species, good numbers of **Small Red Damselfly** *Ceragrion tenellum*, including many pairs, were found at Scarning Fen, but **Downy Emerald** *Cordulia aenea* numbers were apparently low at its main site. Recent colonist **Willow Emerald Damselfly** *Lestes viridis* again appeared at Strumpshaw Fen, with further individuals seen for the first time near Ranworth and on the River Waveney not far from Beccles.

The east Norfolk coast was productive for migrants during September. Up to five **Southern Emerald Damselflies** *Lestes barbarus* were present with at least two **Scarce Blue-tailed Damselflies** *Ischnura pumilio*. The latter included an andromorph female; only the second time this form has been reported in Britain. Further to the



Figure 11. Llyn Cystyllan, a heathland bog lake, one of several in the Harlech area, Merionethshire, where Small Red Damselfly has recently been discovered. Allan Brandon.



north, a colony of **Red-veined Darters** *Sympetrum fonscolombii* thrived during June and July with over twenty seen on several occasions. Ovipositing pairs were observed, but successful breeding could not be proven due to access restrictions at the site. There was also a report of a male **Southern Migrant Hawker** *Aeshna affinis* at Strumpshaw Fen in September that has been accepted by the Odonata Rarities Committee.

Finally, good numbers of **Keeled Skimmer** *Orthetrum coerulescens* were present at Holt Lowes, with smaller colonies continuing at Buxton Heath and Beeston Regis Common. As in previous years, one or two **Keeled Skimmer** were also found at Dersingham Bog and Roydon Common, indicating that small colonies may also be present on those reserves.

Cambridgeshire and Huntingdonshire – VC 29 & 31

Val Perrin

Being the final year of field recording for the atlas, a concerted effort was made to try and record as thoroughly as possible in 2012 throughout the modern county of Cambridgeshire, (VC29, VC31 and Peterborough). Cambridgeshire is very varied in terms of topography; chalk or clay prairie farmlands south of Cambridge; fertile river valleys of the Cam; gravel pits of the River Ouse area; historic lodes (ancient canals) between Cambridge and Newmarket; Fenland in the north, with the Ouse and Nene Washes providing extensive linear wetlands. There are also important wetland NNRs at Wicken, Woodwalton, Holme and Chippenham Fens.

Recording in the middle area of the county was relatively straightforward, with good access to the key sites, but recording in the south was hard-going. Scattered sites shown on the OS map were often found to be dry, infilled, overgrown or polluted. Even single records were precious here! Expeditions to the fens were time-consuming and access to sites difficult. Much recording here was done from the relative safety of



Figure 12. Penmon coastal pools, east Anglesey, a newly discovered site for Scarce Blue-tailed Damselfly. Allan Brandon.

overbridges or roadsides. However, despite this a great deal was achieved, along with some notable discoveries.

A single **Norfolk Hawker** *Aeshna isosceles* was seen and photographed in June by Ian Dawson at Little Paxton in a meadow near a pit containing extensive Water Soldier (see photo on p.2). Steve Brooks recorded an adult here in 2011. Whether this is now a small breeding population will remain to be seen. The last breeding records of the species for Cambridgeshire were about 150 years ago, before Burwell Fen was drained and turned into farmland!

Richard Fowling found and photographed a **Downy Emerald** *Cordulia aenea* at a small private lake at Shepreth, south Cambridgeshire. The site was reminiscent of larger ponds harbouring the species in Epping Forest, Essex but is otherwise a long way from there and it is a mystery how this insect came to be here. Richard also discovered several fishing lake sites near Shepreth for **White-legged Damselfly** *Platycnemis pennipes*, a rare species in the county and one usually confined to a few isolated stretches of the river Ouse.

I am extremely grateful to everyone who sent in dragonfly records last year and for previous years (approx 3000 in all). I hope to publish a separate account of the county's dragonfly records in a local natural history journal once the atlas is published, to update the account that Ian Johnson and I wrote for Nature in Cambridgeshire in 1995.

Bedfordshire – VC 30

David Anderson

As often is the case, 2012 cannot be considered as a typical year, due to the odd weather pattern. Records are still coming in, but so far we have 2311 records from 81 different people. The 1st record was on the 21st April, as always of a **Large Red Damselfly** *Pyrhosoma nymphula* and the last records were on the 25th November, of both a **Common Darter** *Sympetrum striolatum* and a **Southern Hawker** *Aeshna cyanea*. A total of 22 species were recorded, consisting of the usual 21 species and just one sighting of a **Red-veined Darter** *Sympetrum fonscolombii*. This dragonfly was found roosting and photographed during a Site Bioblitz at the new Wildlife Trust Reserve at Houghton Regis Pit, on a cold and overcast 10th July. Red-veined Darter has not been seen in Bedfordshire since 2009 and before that in 2007 & 2006.



Another new species for the county was probably seen in Biggleswade on the 27th August. An experienced observer found in suitable habitat a **Willow Emerald** *Lestes viridis*, but it disappeared before photographic or detailed observation could be made! Site checks on following days by several other people failed to refind the damselfly, so it would appear to have been a lone colonist that decided to move on.

Some species suffered from the periods of cold and wet weather coinciding with their emergent, but the **Emerald Damselfly** *Lestes sponsa* had a successful season, being recorded in locations where it is not usually seen. It was recorded in 12x10km squares in the county in 2012 against only 5x10km squares in 2011. A total of 59 records were obtained in 2012 against 48 in 2011. Another effect of the cold weather were reports of emerged **Large Red Damselflies** sitting at their emergent site for up to three days before they were warm enough to fly off.

Northamptonshire – VC 32

Mark Tyrrell

Every year I endeavour to see all our County species in each of the months within their flight season and until 2012 I had a good record. April's rains however, prevented me from seeing Large Reds and I failed to record Common Darter in November (although others did see them). Poor weather had a major impact on recording but, undaunted by the rains, a survey of the River Nene near Peterborough at the end of May revealed more breeding sites for **Scarce Chaser** *Libellula fulva* where either exuviae or emerging adults were found. This species has now been recorded in every 1km square along the Nene from Ferry Meadows Country Park to Stanwick Lakes – a remarkable position for this nationally important species.

The highlight of the year was the discovery of **Red-veined Darters** *Sympetrum fonscolombii* at three sites following a windy period in June. This species was last recorded in 2009 so made a welcome return to Northamptonshire. A single female was recorded at Finedon Pocket Park, 3 males at Old Sulehay quarry

and a number of adults at Maxey Pits. At Maxey, breeding occurred and exuviae were recovered in September. While the weather hampered our recording efforts, several species managed to cling on with extended flight seasons – a female **Broad-bodied Chaser** *Libellula depressa* was recorded at the end of July and **White-legged Damselflies** *Platycnemis pennipes* on 11 September.

Another record of significance was the return of **Black-tailed Skimmers** *Orthetrum cancellatum* to the River Nene. Prior to the appearance of the Scarce Chaser, Black-tailed Skimmers were regularly seen on some stretches of the Nene. They all but disappeared around the time the Scarce Chasers appeared, perhaps because of larval competition. At Nassington and other sites, they have now re-appeared and ovipositing was recorded late in their season. Perhaps these parts of the River can now support both the Scarce Chaser and Black-tailed Skimmer? Our County has achieved 100% green status on Steve Prentice's recording map so we are well placed to provide a good baseline dataset for the forthcoming National Atlas.

Gloucestershire – VC 33 & 34

Ingrid Twissell

In spite of the dismal weather, recording for the last season of the new Atlas was attempted on the very few good days in 2012. This proved to be an uphill task, as many of the squares requiring recorder effort were some way from home. Often the weather looked fair for the day, but had turned colder and cloudier by the time of arrival at the location.

There were some highlights! Two meetings were held, one for BDS and one for Gloucestershire Wildlife Trust, to look for **Scarce Blue-tailed Damselfly** *Ischnura pumilio*. These were successfully spotted at Laymoor Quag in the Forest of Dean on both occasions. They were also seen on the other side of the railway embankment to the main area. The earliest and latest dates were 25 May and 17 July, with a maximum of 7 adults on 10 July.

A new location for **Scarce Chaser** *Libellula fulva* was at Coombe Hill Canal NR when a female was seen on 27 June and a male on 5 July. The other known sites: The Mythe - 10 adults on 18 June, and Twynning - a good total of 63 on 25 June.



Figure 13. Well-marked female Four-spotted Chaser, Claife Heights, Windermere, Cumbria, June 14th. David Clarke.





Figure 14. Female Banded Demoiselle Without Pterostigma. Mike Averill.

There was also a new location for **Common Clubtail** *Gomphus vulgatissimus*, when a single adult was seen at Apperley along the Severn Way on 11 July. There were 10 at The Mythe on 18 June and a single on the River Wye at Symond's Yat.

A meeting was held on 19 May at a site near WWT Slimbridge, where restoration of the R. Cam channel had been carried out, to see whether the location was suitable for **Hairy Dragonfly** *Brachytron pratense*. A larva and newly-emerged adults were identified, giving evidence of breeding on the site – a success story! This species was also present at WWT Slimbridge where they have been breeding for some years, and Walmore Common where they were first discovered in 2011.

Also at Walmore Common, **Golden-ringed Dragonfly** *Cordulegaster boltonii* was spotted for the first time, as well as at the new ponds near Woorgreens Lake in the Forest of Dean. These ponds were the highlight of the year when on 26 July, a male **Red-veined Darter** *Sympetrum fonscolombii* was spotted, and on the following day one, possibly two, males were present. This is a splendid site, as 18 species have been recorded in one year, including the only recorded sighting of **Black Darter** *Sympetrum danae* in 2012.

Worcestershire – VC 37

Mike Averill

What a year of weather extremes;



from drought in March to floods in July. The summer was very wet with over 150% of annual average rainfall compared to 58% for the same period in 2011. Consequently it was a case of picking the days very carefully for insect watching. The only consolation being that aquatic insects would not need to search far for wetland habitat.

After a very warm, dry start in March, April brought frosts and this delayed insect activity. The **Common Clubtail** *Gomphus vulgatissimus* didn't emerge until late May; 14 days later than in 2011, but it wasn't a bad year and all emerged within a short two week period.

Once again **Beautiful Demoiselle** *Calopteryx virgo* did well with the species showing in as many locations as the more commonly encountered **Banded Demoiselle** *C. splendens*. Twenty years ago a walk up the river

Tem would reveal few Beautiful demoiselles other than in the minor tributaries but this year they were seen alongside Banded Demoiselles in most places. The species was also reported from smaller rivers east of the Severn.

Demoiselles do not have a true Pterostigma (thickened cell) in the wing. Females appear to, with a coloured area of cells near the tip of the wing. Occasionally this is missing, but rarely recorded. A **Banded Demoiselle** without one was seen in Kidderminster in late May 2012.

Red-veined Darters *Sympetrum fonscolombii* reached Worcs with a few being seen at Pirton Pool on the 25th June and several at Grimley Gravel pits from the 4th to 29th June.

Scarce Chaser *Libellula fulva* continues to expand its range with records occurring at Pendock, Churchill, Hurcott and most surprisingly at Hilditch Pool. All these sites are pools and not the classic river habitat that it is normally associated with this species. Breeding activity was seen and next season will be anticipated with interest to see if the populations increase at any of these sites.

Small Red-eyed Damselfly *Erythromma viridulum* appears to be making a relentless push westwards after initially appearing in Essex in 1999, but some evidence suggests it's progress is slowing. It first appeared in Worcestershire in 2006 and has centred its activity at Croome Park. In 2011 numbers were



Figure 15. Female Banded Demoiselle with Pseudo-pterostigma. Mike Averill.

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in the hundreds, possibly thousands, but this year they were down to a few hundred. That may be weather related and it could be due to less algal growth, one of its preferred plants.

We have had a handful of sightings of the rare blue form of **Southern Hawker** *Aeshna cyanea* in Worcestershire.

The damp cool summer continued and the flying season was all but over by mid-September. Only **Common Darters** *Sympetrum striolatum*, **Migrant Hawkers** *Aeshna mixta* and **Southern Hawkers** appearing on warmer days after this.

Warwickshire – VC 38

Kay & Peter Reeve

It has been a mixed year for dragonflies in the county. The poor weather, particularly in the earlier part of the year, produced many fewer records in May and June than in 2011 which was an early year. Up to 13th May only 13 sightings of three species were made compared to 142 of 12 species in 2011. In 2012, up to 12th June, there were 82 sightings compared to 370 in the previous year. However, for the whole year 1321 sightings were recorded with the last a **Migrant Hawker** *Aeshna mixta* on 11th November - the largest number of records ever for a single year. All the county breeding species were seen, albeit some in small numbers.

The somewhat fussy map (figure 16) summarises the county status of species for the new Atlas. For each 10k square, the number above the line represents species recorded in the atlas period 2001 to 2012, the number below the line species recorded from 1961 to 2000. The two numbers in brackets on the top are, respectively, new species recorded in the atlas period (+) and those species seen in the earlier period but not during the atlas period (-). The negative numbers represent "lost opportunities" for recording of species in that square however some of the "missing" species are rare vagrants.

Looking at individual species in 2012, two sightings of **Red-veined Darter**

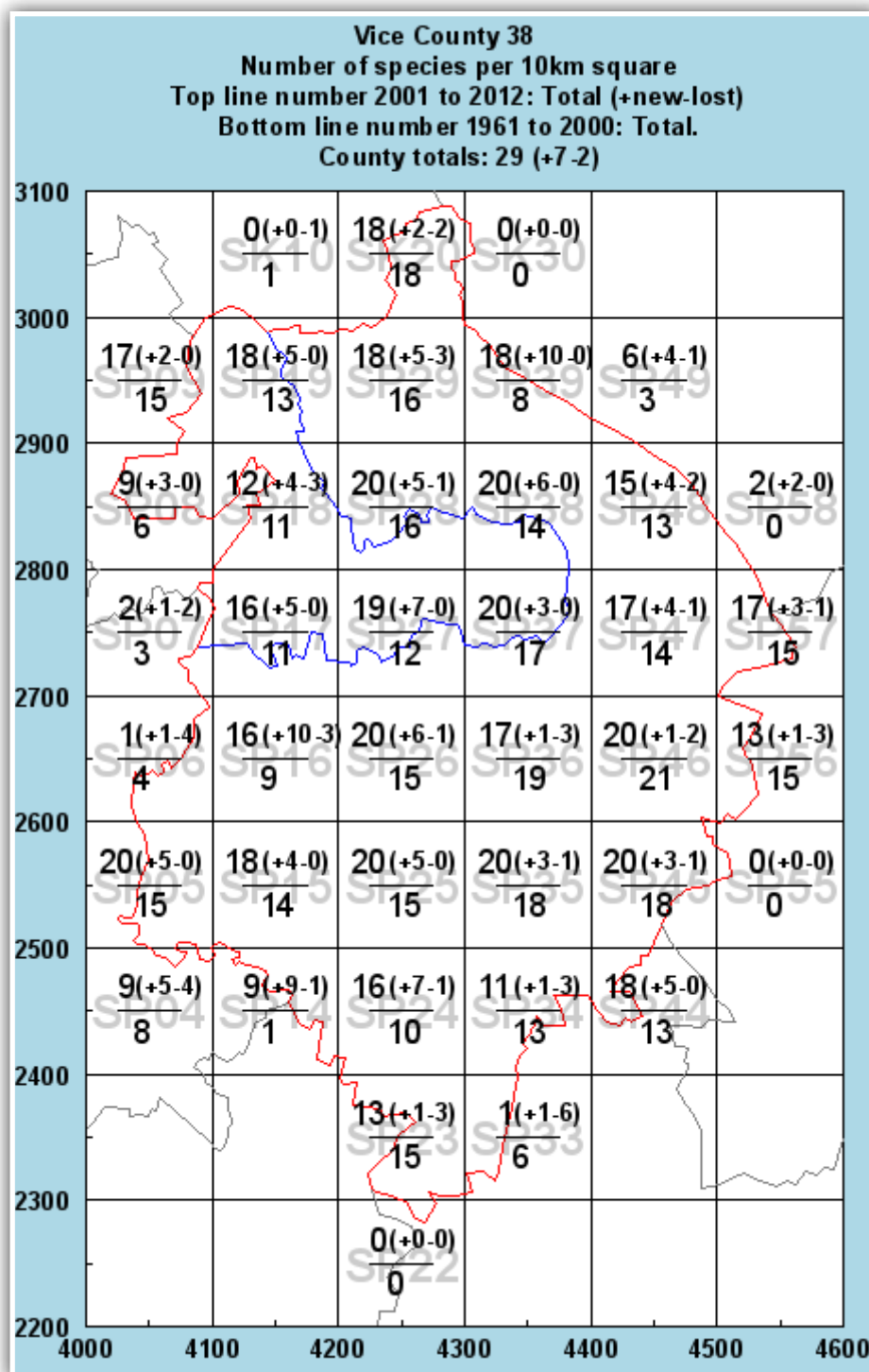


Figure 16. A map summarising the Warwickshire status of species for the new Atlas. Kay and Peter Reeve.

Sympetrum fonscolombii were made, one 10th June and one 4th August.

The other particularly exciting set of records for the year was for **Scarce Chaser** *Libellula fulva*. It was first seen in the county in 2010 on the Avon near Bidford-on-Avon when 3 individuals were recorded on two consecutive days in late June. In 2012, on the same stretch of river, counts of 15, and then 27, adults were made in late June and early July. Individual colouring varied from full adult through to immature though

none were teneral. Breeding in VC 38 is yet to be positively proved.

The other feature of 2012 was the later flying of *Aeshna* Hawkers. Large numbers of **Migrant Hawker**, **Brown Hawker** *Aeshna grandis* and **Southern Hawker** *Aeshna cyanea* were seen at many sites.

Shropshire – VC 40

Sue McLamb

Once again I start my report with a



huge thank you for your hard work. Despite such a soggy summer I have received 732 records from nearly 50 recorders. This represents a slight decrease in the number of records but an increase in recorders sending in records which is great. A total of 27 species were recorded in 2012 comprising 16 dragonfly and 11 damselfly species.

Most notably **Red-veined Darters** *Sympetrum fonscolombii* were spotted by Jim Almond at Venus Pool (SJ5406). Days later I was lucky enough to see them accompanied by Bob Kemp who confirmed the identification. The only previous Shropshire record was an anonymous sighting made at Whixall Moss in 1940. Jim Almond also recorded **Scarce Blue-tailed Damselfly** *Ischnura pumilio* for a second year in succession at Titterstone Clee. Male and female individuals were seen in 2011 at this location ending a 5 year absence of recorded sightings in Shropshire.

Surprisingly Keeled Skimmer was

unrecorded this year though no records were received from either location where populations are known to breed so this is most likely a direct result of no recording in such a glorious summer!

In general terms first recorded sightings were later than in 2011. Clearly this is directly influenced by recorder effort but this slow start to the flight season is illustrated by species frequently recorded such as **Large Red Damselfly** *Pyrrhosoma nymphula* and **Common Blue Damselfly** *Enallagma cyathigerum*.

With regards to the Atlas, Shropshire no longer has any 10km squares that are unrecorded since 2000. Two seasons ago there were 20 10km squares that had less than 11 species recorded and now just 8 fall below this diversity threshold. 5 such squares lie primarily in neighbouring counties and may be boosted when all records are entered. The remaining 3 frustratingly all have 10 species. I visited these (rain permitting!) but recorded just those

species already listed. Rest assured however that thanks to your efforts Shropshire is represented far more accurately in the forthcoming atlas than would have been the case.

Breconshire – VC 42

Keith Noble

Despite a season when the weather was often discouraging, the number of records - 211, and the number of people contributing - 20, were higher than in 2010 and 2011. While I am still supplying more than half the sightings myself, the proportion coming from others has increased year by year. Thanks to this growing interest, which I have encouraged through occasional emails of news and pictures, and thanks to additional coverage of shared squares by recorders in neighbouring counties, Breconshire now looks more Green than Amber.

Llangorse Lake, the largest natural waterbody in mid-Wales is the best site in the county with recent records of eight damselfly and nine dragonfly species. On some spring days the numbers of insects in the meadows can be most impressive, for instance a few thousand **Variable Damselflies** *Coenagrion pulchellum* on 25 April 2011. Another species for which Llangorse appears to be something of an outpost is **Migrant Hawker** *Aeshna mixta*. I made my highest count of 70 on 15 September this year, and sightings in the surrounding area have increased.

Mynydd Illtyd, west of Brecon with a grand view of the Beacons, has one large and many small pools, a stream and large areas of swamp. There is a good range of dragonflies, most notably a large population of **Scarce Blue-tailed Damselfly** *Ischnura pumilio*.

There were some sunny days in 2012 and I enjoyed visiting small shallow pools in the hills north of Brecon. Although the quantity of dragonflies was not great, the variety was rewarding, for instance 13 species at Llandefalle Hill, Llangoed and Brechfa Commons on 9 August.

The Atlas project has resulted in better knowledge of dragonflies in Breconshire, but there is plenty more



Figure 17. Male Golden-ringed Dragonfly, Swinburn's Park, Ullswater, 24th July 2012. David Clarke.



to learn. I look forward to exploring new places myself and encouraging others to develop their interest in dragonflies and recording.

Radnorshire – VC 43

Bob Dennison

Despite the weather, the 2012 recording effort resulted in 595 records from 25 contributors. Contrary to expectations, the species count - totalling 23 and comprising 14 Dragonfly and 9 Damselfly species – was an improvement on 2011 by virtue of **Scarce Blue-tailed Damselfly** *Ischnura pumilio* and **Ruddy Darter** *Sympetrum sanguineum* sightings made this season. No new species were added to our historic VC total of 25 - but follow-up to an end of season enquiry from Allan Brandon hinted at a possible 26th species.

In October, Allan requested views on a 1989 NBN record of **Small Red Damselfly** *Ceriatagrion tenellum* from the Elan Valley. Retired Head Ranger, Pete Jennings had previously advised me of the record and we had separately revisited the area without verification - which would always be an issue because of the upland, inland location.

Until reviewing this old record I hadn't appreciated that it had been supplied by a Dr Peter Kirby, described by Pete as "... doing .. fieldwork at Elan ... the author of *Habitat Management for Invertebrates* and a specialist consultant in invertebrates One of the very best invertebrate field workers in Britain". So we probably need to revisit the site in 2013!

Unseasonably warm spring sunshine triggered the same early emergence of **Large Red Damselfly** *Pyrrhosoma nymphula* that had been reported in Cornwall, Hampshire and Pembrokeshire. On 2nd April, Dick Eastwood recorded Radnorshire's first newly emerged damselfly take its maiden flight. If this was **Large Red Damselfly** (as suspected), it would predate the Vice County's 2011 earliest recorded emergence by some 17 days. The same species provided an end of the season surprise as Ian Standen observed an exceptionally late **Large Red Damselfly** at his pond on 6th

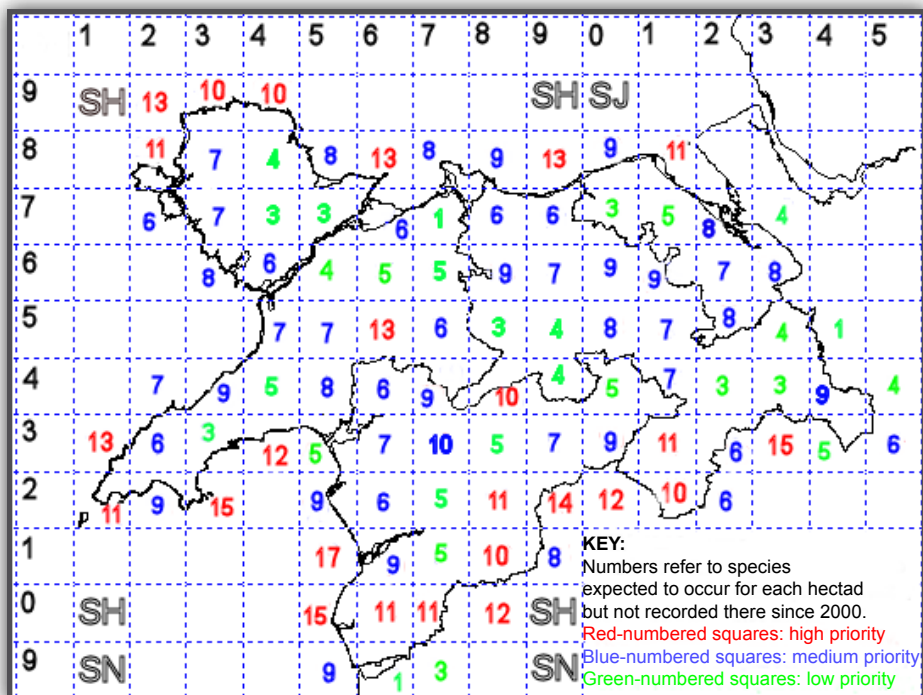


Figure 18. Hectad-scale map showing the current state of recording in North Wales. Allan Brandon.

October; a possible UK record. I am not yet sure whether the 4 remaining 'yellow' hectads in Radnorshire will change to 'green', but particular thanks to Darylle Hardy and to Stephen and Anne Coker for their efforts in those far flung parts of the Vice County. My thanks to all 25 contributors of records and photographs in 2012, but particular commendation again to Dick Eastwood and Ian Standen, who between them supplied well over half of the VC43 records.

North Wales – VC 48 – 52

Allan Brandon

Although the 2012 flight season started well enough, with some lovely Spring weather bringing on an unprecedented early emergence of **Large Red Damselfly** *Pyrrhosoma nymphula* for North Wales on the 6th April, it has been an exceptionally wet season all told. Still, with the help of an increased number of recorders, the number of records sent in reached an all time high and this has contributed to making Wales the best recorded part of the UK. I'd like to send a big thank you to all those who contributed to the region's records. Though these records range from one or two in ad hoc e-mails to spreadsheets with dozens I would find it unfair to single out particular individuals for special praise but they are all acknowledged in North Wales

Dragonfly Newsletter No. 69.

Notable highlights of 2012 include the discovery of more **Small Red Damselfly** *Ceriatagrion tenellum* sites in western Merionethshire, for example Llyn Cystyllan, south-east of Harlech (see figure 11 on p.13). Also there was the serendipitous find of a strong population of this species at an isolated coastal heathland pond at Amlwch Port, Anglesey SH454933 (see figure 18 on p.20). It had been thought the species was lost from the island, partly due to the afforestation of its old haunts in the Newborough area. It has not been seen at the large Cors Goch and Cors Erddreiniog NNRs farther north since 1955 and 1983 respectively. Consequently this Amlwch site, certainly the most northern in the UK if not Europe and therefore the World, is of special significance. Most new sites have the characteristic combination of Sphagnum and Bog St John's Wort.

More new sites in Anglesey were found for **Scarce Blue-tailed Damselfly** *Ischnura pumilio*, for example the Penmon coastal pools with spike-rush and water crowfoot in the extreme east of the county (see figure 12 on p.14).

The miserably wet, cold summer may have accounted for the unusual appearance of **Common Blue**





Figure 19. The heathland pond at Amlwch Port, UK's most northerly site for Small Red Damselfly. Allan Brandon.

Damselfly *Enallagma cyathigerum* adults with more black markings than is typical. Ian Standen found the most bizarre individual at a mining reservoir SH774601 in the Gwydyr Forest in June (see Dragonfly News No. 62, pp 24-25). Another interesting find was the later discovery by Sue Loose at the nearby Llanrhychwyn pond SH780617 of a male **Azure Damselfly** *Coenagrion puella* with S2 abdominal marking typical of **Variable Damselfly** *C. pulchellum* and its correct identification had to be confirmed by a close scrutiny of the pronotum plate. These Variable Damsel look-alikes certainly make one wonder about the veracity of other isolated *C. pulchellum* records for North Wales, for example the one recorded at Bodgynydd, Gwydyr Forest in 1974.

It was a poor year for picking up migrants though Rhys Jones did well in August to find a male **Red-veined Darter** *Sympetrum fonscolombii* on the Mynydd Gilan ponds [SH291236] along the Lleyrn.

The current state of recording across North Wales is shown as usual by the hectad-scale map (see figure 18 on p.19). All hectads in North Wales have been intensively surveyed since 2000 and records have been obtained from every square. Green numbers indicate that the hectad has

few unrecorded species that might be expected to occur there; red numbers indicate the hectad has 10 or more expected species still unrecorded and is a high priority for future recording; squares containing blue numbers have intermediate values.

Many coastal, and some mountainous hectads, particularly in the south of the region, contain so few water bodies and/or have such a low range of habitats that it has proved difficult to increase the number of species recorded.

Lincolnshire – VC 53 and 54

Nick Tribe

The highlight of 2012 was the discovery on 1st July by John Walker and Edmund Mackrill of 4 **Red-veined Darters** *Sympetrum fonscolombii* (2 males, 2 females), on a wet grassland created under the Higher Level Scheme in 2007 at Croft Marsh (TF56). This is a new 10km record and it is tempting to suggest that it was colonised from the long-established population at Gibraltar Point NNR (TF55) which is thought to have been established in 1998. Edmund and Monica Mackrill re-surveyed the site on 5th July and saw 12 males.

Steve Routledge recorded **Variable Damselfly** *Coenagrion pulchellum*

at Messingham Sand Quarry SSSI (SE93) on 13th May and no fewer than 33 **Brown Hawkers** *Aeshna grandis* at the same site on July 12th.

Between the Lincolnshire Environmental Records Centre and records submitted to me, over 13,000 records have been submitted to BDS for the Atlas effort. I am confident that all of Lincolnshire's 94 whole or part hectads have some post-2000 records and I am grateful to all those who helped out, particularly in some of the less-visited areas in the south of the county.

Leicestershire – VC 55

Ian Merrill

Although the 2012 Spring and 'Summer' weather did its utmost to thwart recording efforts in the final pre-atlas year, some targeted searching by a focused group of super-keen individuals managed to fill a significant number of the thankfully few gaping holes in VC55's 10km square coverage. Lorraine Ellison and Barbara Vickers were again at the forefront of these efforts, with Jim Graham chasing their tails and Matthew Billings delivering his usual plethora of records. Special thanks must also to Gill Chiverton, for painstakingly collating the Rutland Natural History Society records for many 'missing' years!

Of particular interest was the continued presence of **Common Hawker** *Aeshna juncea* at New Lount Nature Reserve, its only breeding site in VC55, where **Hairy Dragonfly** *Brachytron pratense* was also recorded for the first time in 2012; the latter record represented the most westerly occurrence to date of this species in the Counties.

Our knowledge of the distribution of **Small Red-eyed Damselfly** *Erythromma viridulum* was further increased, with four new 10km squares being added to the distribution map this year, including the most westerly VC55 record so far, at 'Nature Alive' in Coalville. As the latter is a well-watched site it is assumed that this represents a further expansion of the species' range in the Counties (see figure 20).

Elsewhere, **Variable Damselfly**



Coenagrion pulchellum was shown to be continuing to thrive in the gravel pit environment of the mid Wreake Valley, the only area away from the Grantham Canal at which this species occurs. Concerted atlas survey work in the under-recorded northeast of VC55 also led to discoveries of several exciting new sites and the associated population of dots in previously barren 10km grid squares.

I would like to conclude by thanking everyone who has so generously given their time over recent years, in the push towards record gathering for the 2013 atlas; I like to think that in terms of the ratio of active recorders to the area coverage achieved, we must be as good as any Vice County in the land!

Nottinghamshire – VC 56

David Goddard

It has become apparent that during the last two or three years the **Hairy Dragonfly** *Brachytron pratense* has spread from its Leicestershire haunts along the Grantham canal northwards into the southern parts of Nottinghamshire. It has now been recorded from the following sites during 2010 to 2012: Langer airfield, Attenborough Nature Reserve, Kilvington Old Ponds and Rushcliff Country Park. This is a species I would recommend you getting out and about during May and June 2013 to check, to see if it has spread to other nearby sites.

There have also been a few records of **Beautiful Demoiselle** *Calopteryx virgo* with the majority of records coming from the northern parts of Nottinghamshire, these being Centre Parcs at Sherwood Forest, along the River Poulter at Elkesley, and around Idle Stop. But there appears to be just the odd record here and there with no consistent numbers or location and thus is another species that requires checking during 2013.

Derbyshire – VC 57

David Goddard

Despite the poor summer weather over the last few years, which has reduced the number of days suitable for recording dragonflies, there has been a typical range of species

recorded within Derbyshire from many of the well watched sites that are covered each year.

Records have been received for a total of eighteen species which covers the typical range of species normally recorded. Of note however were the records for **Red-veined Darters** *Sympetrum fonscolombii* at Pleasley Colliery during 2007. Whilst the records received so far for the **Small Red-eyed Damselfly** *Erythromma viridulum* have been restricted to the lower parts (in altitude) of Derbyshire along the Trent valley in south of the county.

I am as always indebted to all those people and organisations that have submitted records.

Cheshire – VC 58

David Kitching

With so much rain and dull weather it was not surprising that 2012 turned out to be an unspectacular year for dragonflies and damselflies in Cheshire. It wasn't until 14th April that the first teneral **Large Red Damselfly** *Pyrhosoma nymphula* was seen by Michael Whiteside at Burwardsley. The first dragonfly recorded was a **Hairy Dragonfly**

Brachytron pratense exuvia that Janette Renshaw located at Marshall's Arm on the River Weaver on 13th May. At the end of the season a bit of sunshine revealed several species still flying with **Black Darter** *Sympetrum danae*, **Common Darter** *Sympetrum striolatum*, and **Migrant Hawker** *Aeshna mixta* seen at Blakemere by Pam Taylor. November records included Bill Morton's sighting of a **Migrant Hawker** ovipositing at Black Lake, Delamere on the 5th, and a male **Migrant Hawker** at Wigg Island, Runcorn by Tony Parker.

There were very few migrants reported, and the most interesting sighting was when Paul M Hill found a male **Lesser Emperor** *Anax parthenope* on territory at a farm in South Cheshire. There was also a possible but unconfirmed record of a male **Red-veined Darter** *Sympetrum fonscolombii* on the Wirral coast.

Once again several **Black-tailed Skimmers** *Orthetrum cancellatum* were seen over the raised bog at Danes Moss, indeed this site appears to have benefited from the rewetting works that have been undertaken there and there was a total of 14 species seen there in 2012.

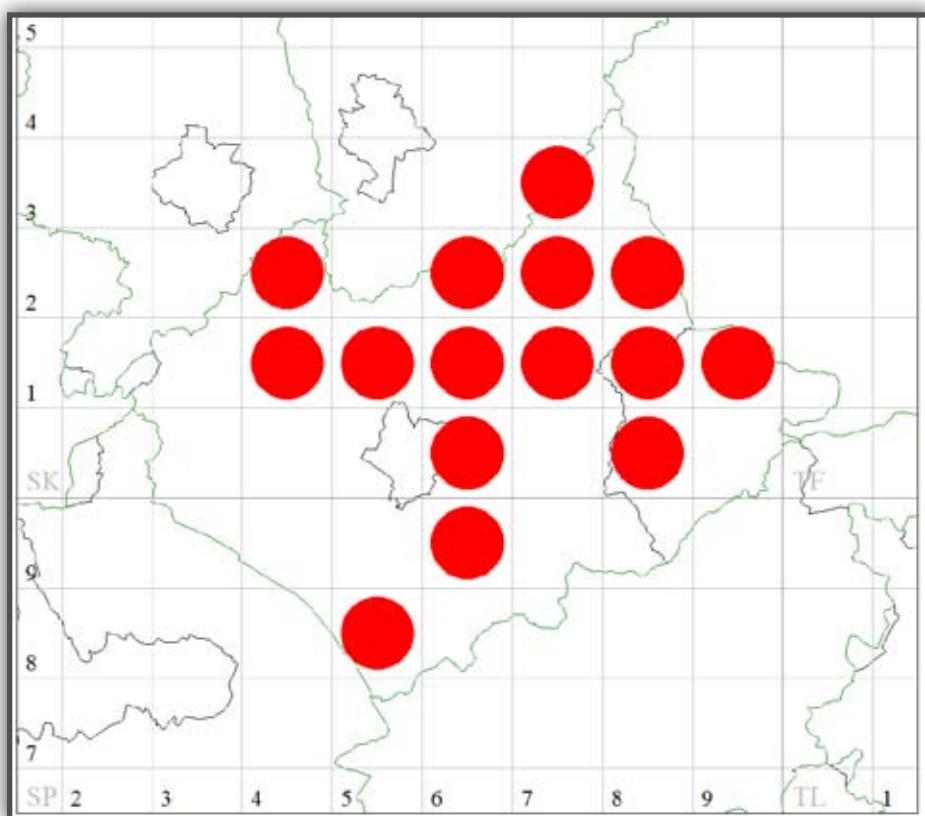


Figure 20. Small Red-eyed Damselfly distribution in VC55 on a 10km square basis, up to the end of 2012. Ian Merrill.



On the Dee the **White-legged Damselfly** *Platycnemis pennipes* continues to be present in low numbers around Adlford, whilst the **Common Clubtail** *Gomphus vulgatissimus* was seen at the usual haunts but only in small numbers and only during May.

Thanks are due to the many people who have submitted records over the past few years and particularly those who have explored the little visited parts of West Cheshire to seek out records in the under-recorded areas. I am confident that the records now show as true a picture as possible of the status of Odonata in Cheshire.

Details by month with photographs can be found on the Cheshire Odonata website at www.brocross.com/dfly/dfly.htm

North-east and North-west Yorkshire – VC 62 & 65

Keith Gittens

What a challenging year 2012 has turned out to be for the final atlas recording effort, the British weather throwing everything possible at us. The result has been a poorer year for records than 2011 but we can be pleased that the almost drought conditions are over. Ponds and lakes are now full to bursting which should be of benefit for future generations of dragonflies.

In 2012 early season records in particular were down as the weather took its toll. One **Four-spotted Chaser** *Libellula quadrimaculata* that did emerge was noted to be on the same stem two days after it was first spotted. Whether it ever made its maiden flight or was predated we will never know. How many more will have suffered a similar fate and what impact will it have on numbers in future years?

Later species seemed to have their emergence pushed back and when the weather did improve in late summer there were some decent adult counts. A visit to a previously unrecorded site, Thorpe Perrow Arboretum near Bedale, in early September proved a great success with 10 species recorded and egg laying noted by four Aeshna species. This is a good addition to sites for

VC65, which is under-recorded due to a shortage of recorders and water bodies in the northern Dales.

There continues to be a lack of Ruddy and Common Darters at some sites which previously held good numbers. One that is bucking the trend however is Foxglove Covert Local Nature Reserve near Catterick Garrison. Here at some recently dug ponds **Common Darters** *Sympetrum striolatum* are in profusion but only part of a rapidly developing dragonfly fauna.

One possible loss for VC62 which had only recently become an addition to the vice-county is Small Red-eyed Damselfly. With no records this year and no breeding activity recorded for two years the species has probably died out at its one site near Scarborough.

While outdoor activity has been limited, indoor activity for me has been at an all time high with a number of talks and ID sessions throughout the year to various wildlife groups. The benefit has been not only some much needed funds for both our local group and for the BDS with over £200 raised, but also some new recorders!

A big thank you to all those who have sent in records for not only this last

season but over previous seasons also.

Cumbria – VC 69 & 70

David Clarke

The record wet year did little for dragonflies or their recorders. It amazes me that despite this we managed to accumulate over 900 records to send in for the final Atlas year. Unsurprisingly there were few surprises, and sightings and numbers of most species were low. The most obvious exceptions to this were the large numbers of **Emerald Damselfly** *Lestes sponsa* and **Black Darter** *Sympetrum danae* that appeared on cue at coastal Mosses, both in the south and north of the county. Some of these extensive areas are benefiting hugely from restoration work that will ensure we have some fine wetlands, and dragonfly sites, bordering major estuaries on the Solway (at Drumburgh (figure 21 below) and other Mosses) and Morecambe Bay/Duddon in the south, within a very few years. There were no records of migrant species, and advancing species such as **Emperors** *Anax imperator* and **Migrant Hawkers** *Aeshma mixta* may well have suffered setbacks. At least 10 records of **Broad-bodied Chasers** *Libellula depressa* from the south of the county at least affirmed



Figure 21. Drumburgh Moss, Solway (Cumbria Wildlife Trust). David Clarke.



the recent 'surge' by this species; this included exuviae, confirming breeding at one site. **Black-tailed Skimmers** *Orthetrum cancellatum* also maintained a presence, with records from three west coast sites. An emergence at one of these would almost certainly have derived from breeding there in 2010. Amongst resident species it was a relief to know that **Variable Damselflies** *Coenagrion pulchellum* were still present at their single site; **Banded Demoiselles** *Calopteryx splendens* again produced a few interesting records in areas where they appear to be filling in their range, both in the Eden valley in the north, and in the extreme south-east where the Lancaster canal seems to be a 'corridor' from the adjacent county. The year proved a trying one for the ongoing project to re-introduce **White-faced Darters** *Leucorrhinia dubia* at Foulshaw Moss. An emergence of at least 150 individuals was encouraging, but these had to contend with extremely poor conditions throughout the flight period, and it was impossible to establish whether breeding took place. It is hoped to extend the project, which is already in its third season. Ian Brodie, Chris Lloyd-Rogers, Susan Brandes, Mike & Anne Abbs, Colin Adams were major contributors of records and, as always, Cumbria Wildlife Trust volunteers gave essential support for the re-introduction project.

Scotland – VC 72 – 112

Pat Batty

Scotland fared better with the weather in 2012 than further south, particularly in the North West which was unusually dry and sunny but cool. However, it was a different story in the east, with cool wet weather, fewer dragonflies were seen generally.

Despite the difficult season, volunteers made a tremendous effort for the last recording year of the atlas. Many of the red squares were visited, coverage is not complete, but is more extensive than for the previous atlas. It was not easy and I must commend the dedication of volunteers, some who travelled many miles often in poor conditions. Recording in Scotland would not be

possible on many occasions without searching for larvae and exuviae and Steve Cham's excellent new book has been well used.

Highlights of the season include new breeding sites for **Azure Hawker** *Aeshna caerulea* in the North West and confirmation of breeding at pre 2000 sites. However, this year again, many of the breeding pools in the North West dried out and few larvae were seen. New sites were found in Strath Vagstie, and in Glengowrie in the North East by Larry Templeton. He also discovered a new site for **White-faced Darter** *Leucorrhinia dubia* in Glen Lossie and had the furthest north sighting of **Northern Damselfly** *Coenagrion hastulatum* at Piperhill, south of Nairn.

The Perthshire sites for the **Northern Damselfly** were surveyed by myself and Ron Youngman, breeding is now confirmed at 5 sites. However, some sites are small and infilling, Lochan Bhuidhe was found no longer viable, Ron hopes to work with the Forestry Commission to try and improve this site. The main population is in the Cairngorms area, new sites have also been found here and in Aberdeenshire. The Tesco development has been approved which will result in the loss of a site. It is hoped measures can be taken to transfer the population and create a suitable pond but more work is needed on the habitat requirements. Juliette Dinning's work at Castle Fraser reveals numbers of **Azure Damselfly** *Coenagrion puella* are increasing at the Northern Damselfly site, this is also true at Logierait.

Some excellent **Brilliant Emerald** *Somatochlora metallica* sites south of the Loch Bran, discovered by Bob and Betty Smith, were revisited and the species continues to do well here.

The **Southern Hawker** *Aeshna cyanea* continues to spread in Scotland. The school children at Aberlour reared a strange larva from their new pond which was the **Southern Hawker**, it is now in 97 hectads post 2000. It was also found at 300m in Banffshire by Peter Gordon Smith. **Keeled Skimmer** *Orthetrum coerulescens* was seen on Col by Ro Scott and at 140m in Kintyre. Carl Farmer photographed

Variable Damselfly *Coenagrion pulchellum* at Loch Seil, south of Oban, it has had a restricted distribution in Argyll.

The **Migrant Hawker** *Aeshna mixta* was only recorded in Ayrshire this year by Iain Hamlin. A male **Broad-bodied Chaser** *Libellula depressa* was seen by David Graham at Reston in the Borders. The **Emperor Dragonfly** *Anax imperator* was only seen once at St Abbs, it may have suffered from the very cold winters of recent years.

Orkney highlights supplied by Keith Fairclough include **Emerald Damselfly** *Lestes sponsa* breeding at two sites on Hoy and **Common Hawker** *Aeshna juncea* breeding on West Mainland. Records for **Common Blue Damselfly** *Enallagma cyathigerum* on Westray and Papa Westray are the first ever dragonfly records for these two islands. The **Blue-tailed Damselfly** *Ischnura elegans* was also seen on Westray for the first time.

The BDS made its presence felt in Scotland this year with a display at Gardening Scotland thanks to Gary Roberts, a popular open day at the Botanic Gardens organised by Ruary McKenzie Dodds and Laura and Hughie Coventry, Jonathan Willets training events throughout Scotland and the BDS meets.

The scale of the fieldwork this year has been amazing. I have added over 8000 records, covering over a 1000 days fieldwork from over 120 people. I can't mention everyone but thanks to all who sent in records or travelled to Scotland. A special thanks to Denny Kennedy in Angus, Peter Gordon Smith in the North East, Barbara and Richard Mearns and Andy Riches in the South West, Margaret and Andy Scott, Ron Youngman, Lynette Borrodale, Larry Templeton, Peter Van Dome, Don and Mary Matthews and Ian Evans who spent many days recording.

What next? There are still several squares in Scotland with no recent records to visit and we need to find out more about the rarer Scottish species.



Recording in the Mists of the Scottish Highlands

Pat Batty Scottish Recorder

A quick glance at the atlas coverage map highlighted a large number of red squares, those with no post 2000 records in the far north of Scotland. My plan was to rectify this by holding a BDS meet in Rogart in East Sutherland and then to head north to Caithness. Early July was chosen in the hopes of seeing flying adults and larvae to get the best coverage of species.

The Rogart meet was a success attended by seven people. The Rogart Field Club joined us and their local knowledge was invaluable. We visited some interesting bog habitat and lochs. In particular a lochan near Little Rogart was a delight though not too easy to access as it was surrounded by large areas of tottery bog. The Least Water-lily grows here alongside Bulrush. Eight dragonfly species were found in all mainly through guddling for larvae. The main species were Large Red, Common Blue and Blue-tailed damselflies, Four-spotted Chaser, Common and Black darters, the latter being most numerous. Golden-ringed Dragonfly larvae were in the burns and Common Hawker in the bog pools.

This is a respectable number of species for so far north, considering there was no sun. Indeed these were the main species encountered during the rest of the trip. Only two species were found in the hectad to the north but we had a fleeting view of a Golden-ringed Dragonfly, the only flying species seen on the meet.

A good start, and a lovely evening was spent camping in Braegrudie Glen, a now empty strath with an isolated farm house, "cleared" in the past to make way for the sheep. The larvae of five upland species were found and with an impressive sunset hopes were high for the morning.

Roadside pools and old river meanders were visited whilst heading towards Brora. The extensive mire system at Clynelish Moss and Na Dubh Lochans set in planted pines, were very reminiscent of the Glen Affric area, six species of larvae were seen and Emerald Damselfly was added to the list. These sites have the potential to harbour the interesting northern species.

Caithness is a mixture of good

farmland, coastal cliffs and coves and moorland with bog pools. In the east is the Flow Country, an extensive area of peat bog though parts of this are now afforested. The map shows the county dotted with lochs and pools which varied in size from large open lochs with vegetated bays to deep small pools where stone had been quarried for Caithness Flags. Farm ponds varied in quality some good for dragonflies others were polluted. Other ponds included duck flight ponds and old mill ponds, some were disappointing as the dam was no longer functional. The moorland had peat bogs with sphagnum filled pools and ditches and old peat cuttings. This all made lots of potential habitat for dragonflies.

On the second morning the tent was shrouded in thick mist, not the usual mist of upland areas which eventually clears but the cool mists of Caithness had rolled in from the sea and stayed for three days! Hence recording was difficult. Visibility was so poor, a few metres, that it was difficult to see the edge of the road and farm tracks never mind find lochs, especially when they had been transformed into tall herb wetlands. Water temperatures were cool and even larvae were illusive especially in the larger lochs. Peat bogs were crossed to find small pools on compass bearings, and it was possible to zigzag between hectads on the network of single track roads and find lochs and wetlands. It was disappointing to visit Duncansby Head to hear the sea birds on nearby ledges but not see the spectacular cliffs.

Hectads varied, the most promising had eight species, Upper Smeral Loch was excellent, and Newlands of Force pool held six species. In other hectads, despite much searching, only two species were found or none at all. All were larval records of course, no adults were flying or visible.

Finally, when visiting sites on the coast north of Scrabster, the mists cleared to reveal magnificent sandstone cliffs and Orkney looming



Figure 22. Beinn Dronaig pool. Pat Batty.



out of the sea. The sight of Scottish Primrose amongst the flags was rewarding. The sun had warmth and dragonflies were flying at the bog pools near Scotscladder and in Strathmore Forest. In boggy clearings here Northern Emerald was seen briefly. It would have been great to explore more, walk into the wilderness of the flow country to the west, or take the train to Altnabrec station on the way to Forsinard but that is for another time.

Now it was east and south into Sutherland. Thankfully days were long and it was possible to investigate some of the thousands of bog pools on the Creag Dhearg na Fearna Ridge above Kinbrace with a late afternoon start. A number of hectads were visited. Some had a long trek in and had only bog pools and others held sheltered forestry lochans. The best had all the eight species recorded in the north and also water voles. The highlight of the trip was seeing Azure Hawker basking on a fence post in Chealamy wood Strathnaver and then finding one larva in the myriad of shallow pools on the ridge above. These held water at the time but there was evidence they had been dry earlier in the year.

The mists however returned with a vengeance accompanied by rain. Despite this an attempt was made to relocate Bob and Betty Smith's site for Azure Hawker at Loch nam Farileag bog pools, west of Borgie. From the map it looked easy, up the track to a hut and then west for a few hundred metres. The track petered out, the rain got heavier and the mist thicker, and the hut wasn't found. The compass was needed again. The site and species were eventually found, only one cast skin of Azure Hawker in an area where many larvae had been seen in the past but the species still bred there. Jonathon Willet's training meet in Borgie forest was also successful despite the rain, good for larvae and exuviae identification. All but one of the species previously recorded in the area were found.

In early August there was a rare heat wave in the north west and it was a great time for a back packing expedition linking two remote squares and climbing a few hills



Figure 23. Highland mists from Sgurr nan Ceathreamhnan. Pat Batty.

in the process. Leaving Morvich, Kintail in mid afternoon and feeling hot carrying a large rucksack, we were surprised at the numbers of Golden-ringed Dragonflies flying and egg laying in the seepages of the path. The small burns were dry! We camped by the remote Loch a Bhealaich, and I guddled for larvae in the bog pools finding the usual Common Hawker and Large Red.

A thick blanket of low mist enshrouded the hills in the morning, so disappointing. It was a steep climb up Sgurr nan Ceathreamhnan but then we were rewarded by a magnificent view of peaks above a sea of cloud. You could see from the Cuillins of Skye to Ben Nevis, a rare day. We headed north traversing the ridges and exploring hill pools lingering to keep above the clouds. Finally we dropped down to Loch an Droma, which was a hive of activity for dragonflies and we even caught a glimpse of a Northern Emerald before going down to Iron Lodge.

The campsite that evening was as high as possible to get a breeze through the col, the midges were bad. Dave tried to escape them by climbing a heather knoll and found eight hawker dragonfly wings, possibly prey of a merlin. Guddling in extensive pools on a flat shelf

near Loch na Maoile Buidhe, a larva and cast skin of Azure Hawker were found, a new site, a distance from others but very good habitat. Then it was down to the remote Maol Bhuidhe bothy and Loch Cruoshie. It was easy to cross its outflowing burn which can often require a wade and at times is impassable, one advantage of the dry weather.

The pools near the summit of Beinn Dronaig at 700m had several pairs of Common Hawker and three were egg laying. I have never seen such activity in hill pools with the quantity of adults and the profusion of flowers on the Floating Bur-reed. Usually I am wearing hat and gloves and find a single larva after much guddling with the colander. Bendronaig Lodge was visited and then a long walk out to Loch Carron visiting a number of lochs in pine woodland on the way.

Recording in the north was a big success with 36 mainly red 10km squares visited and dragonflies recorded in all but three, two of which were part squares on the coast with no habitat and the third now has records. A maximum of 8 species were found in a hectad and new sites found for the Azure Hawker and Northern Emerald. All in all successful trips despite the mist, bog trotting and long distance.



Birdtrack contributes to BDS Dragonfly Atlas

Pam Taylor - Article first produced for BirdTrack News

The addition of dragonflies to Birdtrack was a timely one, coming as it did at the start of the last recording season for the new dragonfly atlas. Over 6,000 dragonfly observations were submitted through Birdtrack during 2012, covering every major (100km) grid square of mainland Britain. This is similar to the number of records submitted by two or three major counties combined using more traditional routes. There were even records from more remote locations such as the Isle of Man, the Outer Hebrides, Orkney and the Isles of Scilly.



Figure 24. Male Common Darter. Allan Brandon.

This widespread coverage has plugged several gaps in the British Dragonfly Society's geographical data and significantly increased the number of sites recorded across the country. Also, with almost one sixth of these initial records stemming from 2011 or earlier, Birdtrack has managed to capture many sightings that might otherwise have stayed in observers' notebooks. The majority of records received came from commoner species, but migrants and new colonists were also represented.

Willow Emerald Damselfly reached Britain in large numbers as recently as 2009 and tracking its progress from its stronghold in Suffolk provides us with valuable scientific data. Similarly, Small Red-eyed Damselfly first arrived in 1999, but has spread rapidly across south-eastern Britain since that time. Both of these new colonisers are represented in the Birdtrack data, thereby contributing valuable new information about these two damselflies.

In total forty-two dragonfly species were recorded on Birdtrack during 2012, including three vagrants and missing only two resident species. Top of the dragonfly recording charts for 2012 was Common Darter with over nine hundred sightings. This is a species associated with late summer and autumn, but since good numbers can be seen from June onwards and persist into late November, it has more chances than most to be spotted. Three further species had over five hundred sightings each. These were Migrant Hawker, another late summer/autumn species, Common Blue Damselfly, a species that prefers larger sites and open expanses of water and Brown Hawker. The latter is rather a surprise, but it apparently had a very successful year in 2012, so it will be interesting to see what happens to its numbers next season.



Figure 25. Migrant Hawker pair. Keith Noble.

With the addition of Birdtrack data, the British Dragonfly Society's national database has reached in excess of one million records and these will all contribute to the new atlas due later this year. In this way Birdtrack data is contributing to a major new invertebrate publication.



DRAGONFLY RECORDING NETWORK

Please send your records to the correct Vice-County Recorder, who will send data to the DRN National Database.

Vice-County	Vice-County Recorder	Contact details
ENGLAND AND WALES		
1. West Cornwall (with Scilly)	Perry Smale	48, Madison Close, Hayle, Cornwall, TR27 4BZ Tel: 07412 262184 E-mail: smaleperry@yahoo.co.uk
2. East Cornwall	Perry Smale	
3. South Devon	Dave Smallshire	8 Twindle Beer, Chudleigh, Newton Abbot, TQ13 0JP. Tel: 01626 853393, E-mail: davesmallshires@btinternet.com
4. North Devon	Dave Smallshire	
5. South Somerset	Chris Iles	Arborfield, Holcombe Hill, Holcombe, Radstock, Somerset BA3 5DN Email: kifill22@hotmail.com Tel: 01761 239092
6. North Somerset	Position vacant	Send records to Chris Iles
7. North Wiltshire	Steve Covey	130, White Edge Moor, Liden, Swindon, Wilts, SN3 6LY. Tel: 01793 349040, E-mail: steve.covey@ntlworld.com
8. South Wiltshire	Steve Covey	
9. Dorset	Andrew Brown	No.5, 25 Windsor Road, Bournemouth. BH5 1DT Tel: 07891 573267 Email: brown_a_r@yahoo.co.uk website: www.dorsetdragonflies.org.uk
10. Isle of Wight	Elaine Rice	25 Bannock Road, Whitwell, Isle of Wight, PO38 2RD. Tel: 01983 730187 E-mail: erice73737@aol.com
11. South Hampshire	Peter Allen	Hackers, Martin, Fordingbridge, Hants, SP6 3LA. Tel: 01725 519 269, E-mail: allenbds@waitrose.com
12. North Hampshire	Peter Allen	
13. West Sussex	Penny Green	Sussex Wildlife Trust, Woods Mill, Shoreham Rd, Henfield, Sussex BN5 9SD, Tel: 01273 497521 Email: pennyggreen@sussexwt.org.uk
14. East Sussex	Penny Green	
15. East Kent	John & Gill Brook	1 Barrack Cottages, Lower Street, Broomfield, Maidstone, Kent, ME17 1PU. Tel: 01622 862227
16. West Kent	John & Gill Brook	
17. Surrey	Alistair Kirk	Surrey Biodiversity Information Centre, c/o Surrey Wildlife Trust, School Lane, Pirbright, Woking, Surrey, GU24 0JN. Tel: 01483 795448 Email: alistair.kirk@surreywt.org.uk
18. South Essex	Ted Benton	13 Priory Street, Colchester, Essex, CO1 2PY. Tel: 01206 86732, E-mail: tbenton@essex.ac.uk
19. North Essex	Ted Benton	
20. Hertfordshire	Roy Woodward	62c High Street, Cheshunt, Hertfordshire EN8 0AH. Tel: 07855 567332. Email: roy.rkwoodward@ntlworld.com
21. Middlesex	Position vacant	Send records to Steve Prentice, Dragonflies in Focus Officer
22. Berkshire	Mike Turton	7 Fawcett Crescent, Woodley, Reading, Berks RG5 3HX. E-mail: berksdragonflies@gmail.com
23. Oxfordshire	Anthony Brownett	28 Colesbourne Road, Brookside, Bloxham, Banbury, Oxon, OX15 4TB. E-mail: ab@brooksidebooks.co.uk
24. Buckinghamshire	Alan Nelson	74 Holland Way, Newport Pagnell, Milton Keynes, Bucks, MK16 0LW. E-mail: bucksdragonflies@googlemail.com
25. East Suffolk	Adrian Parr	10 Orchard Way, Barrow, Bury St Edmunds, Suffolk, IP29 5BX. Tel: 01284 810 465. E-mail: adrian.parr@btinternet.com
26. West Suffolk	Adrian Parr	
27. East Norfolk	Pam Taylor	Decoy Farm, Decoy Rd, Potter Heigham, Norfolk, NR29 5LX. Tel: 01692 670 311. E-mail: pamtaylor@british-dragonflies.org.uk
28. West Norfolk	Pam Taylor	
29. Cambridgeshire	Val Perrin	13, Pettitts Lane, Dry Drayton, Cambs, CB3 8BT. Tel/Fax: 01954 780467, E-mail: valperrin@aol.com
30. Bedfordshire	David Anderson	88 Eastmoor Park, Harpenden. AL5 1BP. Tel. 01582 712604. E-mail: dragonflies@bnhs.org.uk
31. Huntingdonshire	Val Perrin	See VC 29 above
32. Northamptonshire	Mark Tyrrell	8 Warwick Close, Raunds, Wellingborough, Northants, NN9 6JH. Tel: 01933 389 748, E-mail: mark.p.tyrrell@ntlworld.com Website: www.northantsdragonflies.blogspot.co.uk
33. E. Gloucestershire	Ingrid Twissell	Arfonia, The Green, Churchdown, Glos., GL3 2LE. Tel: 01452 714413, E-mail: canditwissell@btinternet.com
34. W. Gloucestershire	Ingrid Twissell	
35. Monmouthshire ¹	Ian Smith	Larus, 1 Hook Close, Osbaston, Monmouth, Gwent, NP25 3BD. E-mail: IDSLarus@aol.com
36. Herefordshire	Peter Garner	233 West Malvern Road, West Malvern, WR14 4BE. Tel: 01684 564 957
37. Worcestershire	Mike Averill	49 James Road, Kidderminster, Worcs, DY10 2TR. Tel: 01562 638571, E-mail: mike.averill@blueyonder.co.uk. Website: www.dragonfliesofworcestershire.weebly.com
38. Warwickshire	Peter Reeve	The Outspan, Leamington Hastings, nr. Rugby, Warwickshire, CV23 8DZ. Tel: 01926 632 400, E-mail: peter@reeve60.org.uk Website: www.warwickshire-dragonflies.org.uk
39. Staffordshire	Dave Jackson	11 Hyperion Drive, Penn, Wolverhampton WV4 5QW Tel: 01902 344716, E-mail: jacksongrus@talktalk.net
40. Shropshire	Sue McLamb	E-mail: mclamb1@btinternet.com Tel: 01584 876163. There is a Shropshire group page on the BDS website: www.british-dragonflies.org.uk/local_groups/ shropshire-dragonflies



41. Glamorgan ¹	Mike Powell	87 Coed Glas Road, Llanishen, Cardiff, CF14 5EL. Tel: 029 2076 2182 E-mail: mike.powell2@coorsbrewers.com
42. Breconshire ¹	Keith Noble	25 Belle Vue Gardens, Brecon, LD3 7NY, Tel: 01874 620133, E-mail: knoble.kn@btinternet.com
43. Radnorshire ¹	Bob Dennison	Maes y Geidfa, Crossgates, LLandrindod Wells, Powys, LD1 6RP. Tel: 01597 851 702. E-mail: rd19366@googlemail.com
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45. Pembrokeshire ¹	Stephen Coker	
46. Cardiganshire ¹	Lin Gander	Penwalk Llechryd, Cardigan Ceredigion, SA43 2PS. Tel: 01239 682405 E-mail: lingander@strandings.demon.co.uk
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48. Merionethshire ¹	Allan Brandon	Bryn Heilyn, Rowen, Conwy LL32 8YT. Phone 01492 651 066, E-mail: allanrowenconwy@sky.com
49. Caernarvonshire ¹	Allan Brandon	
50. Denbighshire ¹	Allan Brandon	
51. Flintshire ¹	Allan Brandon	
52. Anglesey ¹	Allan Brandon	
53. South Lincolnshire	Nick Tribe/Richard Chadd	Nick Tribe, 12 Little Bargate Street, Lincoln, LN5 8JR Tel: 01522 822069 E-mail: nick.tribe@ntlworld.com
54. North Lincolnshire	Nick Tribe/Richard Chadd	
55. Leicestershire (with Rutland)	Ian Merrill	125 Church Lane, Whitwick, Coalville, Leicestershire. LE67 5DP Tel: 01530 815886, E-mail: i.merrill@btopenworld.com
56. Nottinghamshire	Dave Goddard	30 Cliffe Hill Avenue, Stapleford, Nottingham, NG9 7HD; E-mail: david.goddard8@ntlworld.com
57. Derbyshire	Dave Goddard	
58. Cheshire	David Kitching	84, Broken Cross, Macclesfield, Cheshire, SK11 8TZ. Tel: 01625 423249, E-mail: davidk@broccross.co.uk Also online: www.broccross.com/dfly/dfly.htm
59. South Lancashire	Steve White	Email: stevewhite102@btinternet.com . Tel: 01519203769 (daytime).
60. West Lancashire	Steve White	
61. South-east Yorkshire	Paul Ashton	4 St Aiden Close, Market Weighton, E.Yorks, YO43 3HE. E-mail: vc61@erdragonflies.co.uk , Website: www.erdragonflies.co.uk
62. North-east Yorkshire	Keith Gittens	34, Fairfield, Thirsk, YO7 1FD. Tel: 01845 523545. E-mail: keith@brilliantemerald.wanadoo.co.uk
63. South-west Yorkshire	Alistair McLean	Museums Sheffield, Weston Park, Western Bank, Sheffield, S10 2TP Tel: 0114 278 2648 E-mail: alistair.mclean@museums-sheffield.org.uk
64. Mid-west Yorkshire	Tom Hubball	4 South View Terrace, Silsden, W.Yorks, BD20 0AS. Tel: 01535 678334, Email: vc64dragonfly@virginmedia.com
65. North-west Yorkshire	Keith Gittens	See VC62
66. Durham	Harry Eales	11 Ennerdale Terrace, Low Westwood, Derwentside, Co. Durham NE17 7PN. Tel: 01207 560732, E-mail: harryeales@talktalk.net
67. S. Northumberland	Harry Eales	
68. N. Northumberland	Harry Eales	
69. Westmorland	David Clarke	Burnfoot, Cumwhitton, Brampton, Cumbria, CA8 9EX. Tel: 01228 560117, E-mail: david.clarke19@virgin.net
70. Cumberland	David Clarke	
71. Isle of Man	Position vacant	Send records to Steve Prentice, Dragonflies in Focus Officer
SCOTLAND		
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113. Channel Isles	Julian Medland	Clyne, Rue de la Ronde Cheminée, Castel, Guernsey, GY5 7GE. Tel: 01481 255 411, Email: medland@cwgsy.net
NORTHERN IRELAND and EIRE	All records to Eugenie Regan	National Biodiversity Data Centre, WIT West Campus, Carriganore, Co. Waterford, Ireland. Tel: + 353 (0) 51 306240 Email: eregan@biodiversityireland.ie
Migrant Dragonfly Project	Adrian Parr	10 Orchard Way, Barrow, Bury St Edmunds, Suffolk, IP29 5BX. Tel: 01284 810 465. E-mail: adrian.parr@btinternet.com

¹ a lot of changes have occurred in the names and mapped borders of Welsh counties in recent years. If you are unsure of which vice county you have records for please send them to Steve Prentice who will then forward them to the relevant recorder.

Vice County Recorders - Any amendments or corrections to your contact details? Please contact Steve Prentice by e-mail stephen.prentice@naturalengland.org.uk

If you have any comments or suggestions on this edition of Darter, please contact Claire Install by e-mail claire.install@naturalengland.org.uk or Tel: 0300 060 2338 Mobile: 07792 231 925