North Wales Dragonfly Newsletter No 42. 20th April 2010

Hi all,

Here is some useful information on which species to look out for to fill the gaps in the recording for the new atlas. Please note that this targeted atlas recording is not a replacement for the usual ongoing recording of North Wales Odonata species. The more detailed ongoing recording should include data on abundances and breeding status, not just occurrence.

The distribution list for this newsletter currently stands at 122. If you know of potential dragonfly aficionados who might be interested in receiving it please let me know. If you have any articles, stories, photos or comments on North Wales dragonflies that you would like added to the newsletter then kindly send them in. Also, if you no longer wish to be on the list just let me know and your name will be removed. Thanks to Aisling, the current newsletter now appears on Cofnod's website.

As in previous years I would encourage everyone to be on the look out for the **Hairy Dragonfly** (*Brachytron pratense*) during May and June in areas of North Wales where it has not been seen before.

Please find attached the latest 'Darter Magazine' which has a new look. It has been supplied by Clair Install in pdf format. 'Darter Magazine' is one of three publications of the British Dragonfly Society, the others being the topical 'Dragonfly News' and the scientific 'Journal of the British Dragonfly Society'. I hope it may inspire you to join the society. Dragonflies certainly need your help.

Targeted 2013 Atlas recording and gap filling

Using the species plots at 10km resolution that I sent out with the last newsletter I have compiled a chart (see below) that shows for each 10 km square those species that have not yet been recorded since the start of 2000 but are thought to be potentially present. Species last seen in a 10 km square before 2000 are shown in italics. For the squares that straddle adjacent vice counties I have taken note of records in the datasets of Cheshire and Cardiganshire and I thank David Kitching and Lin Gander respectively. I will get the results of Shropshire and Montgomeryshire recording in due course to amend the chart. I have also taken account of the recent batches of records sent in by Mike Howe and John Bratton that filled in some gaps.

In compiling the missing species lists on the chart I have had to assess the likely distribution of each species and make some assumptions. For species that are known to have extended, or are extending, their range I have assumed that they would be fairly widely distributed across North Wales by 2013. This applies to *Aeshna mixta*, *Aeshna cyanea*, *Anax imperator* and *Orthetrum cancellatum*. For reasons which I have highlighted in previous newsletters I have assumed that *Ischnura pumilio* and possibly also *Brachytron pratense* are far more widespread than our records currently show.

Rare species restricted to one square, such as *Coenagrion mercuriale* and *Cordulia aenea*, or occasional vagrants such as *Sympetrum fonscolombii* and *Anax parthenope*, are omitted from the chart.

Although the chart shows that no North Walean 10 km grid square has a full complement of species, several squares come close to this. The best squares, with only one species missing, are: SJ45 which is mostly in Cheshire and waiting for a sighting of *Sympetrum danae*; SH77 is situated around the north Conwy valley where we haven't yet seen *Orthetrum cancellatum*; SN69 in the south where there is regular recording at Borth NNR in north Cardiganshire and where *Ischnura pumilio* might yet be expected to turn up. But several other squares have decent coverage with 4 or less species short of optimal recording. However, many squares still have far too many species missing. Most of these lie in Merionethshire and south Dengbighshire, and around the northern coastal strip from Anglesey to the Dee estuary. It is acknowledged that for some of these coastal squares the land area is very small and in that case there may not be a variety of water habitats to support a full quota of species. I think to be realistic it would be ideal to get the number of missing species for each 10km square down to about 4. This target should be more or less achievable by the end of 2012 with your help.

The 10km squares with the largest number of missing, but potentially recordable, species are:
Anglesey north coastal – SH28, SH29, SH39, SH49 & SH68;
Anglesey north other - SH38;
Caernarvonshire, Lleyn Peninsular – SH13, SH32, SH43 & SH45;
Caernarvonshire, Snowdonia NP – SH65;
Merionethshire, Snowdonia NP - SH50, SH51, SH60, SH61, SH70, SH81, SH82, SH84 (with Denbigh & Caernarvon), SH91, SH92, SN59;
Merionethshire other – SJ03, SJ04;
Denbighshire –SH86, SH97, SH98, SJ06, SJ12, SJ13, SJ14 (with Merioneth), SJ15, SJ16 (with Flint), SJ22, SJ23;
Flintshire - SJ08, SJ18, SJ25, SJ27, SJ36.

Potentially missing species for each 10 km square in North Wales: April 2010

SH29 5%	**SH39 45%**	**SH49 40%**										
Cv Cs Pn Cpa *Cpm* Ec Ip Bp Ac Aj Am Ai Cb *Lq* Ld Oca	Cv Cs *Pn* Cpa Cpm *Ip* En Bp Ac Am Ai Cb Oco Oca Sd	Cv Cs *Ls* Cpa Cpm Ip *Bp* Ac Aj Am Cb Ld Oco Oca *Sst Sd*										
SH28 30%	**SH38**	**SH48**	**SH 58 20%**	**SH68 10%**	**SH78 25%**	**SH88 15%**	**SH98 10%**	**SJ08 45%**	**SJ18 30%**			
Cv Cs Ls *Cpa* Cpm *Ip* Bp Ac Aj Cb *Lq* Ld Oco Oca	Cv *Pn* Ct Ip Bp Ac Am Ld Oco Oca Sd	Cv *Cs Ct* Am	Cv Cs *Ct Ip* Am Oco Oca *Sd*	Cv Cs Ls Cpm Ec Ie *Ip* Bp Am Ai Cb Lq Oco Oca Sd	Cv Cs Ec Bp Aj Cb Lq Oco Oca	Cv Cs Ls Pn Ec Bp Aj Am Cb Lq Oca Sd	Cv Cs Ls Pn Cpa Ec Ie Bp Ac Aj Am Ai Ld Oca Sst	Cv Cs Ls Pn *Cpa* Bp Ac Ag Aj Am Lq Ld Sst Sd	Cv Cs *Ls Pn* Cpa Bp *Ac Ag Aj Lq* Ld *Ssa Sd*			
SH27 25%	**SH37 90%**	**SH47**	**SH57**	**SH67 50%**	**SH77**	**SH87**	**SH97**	**SJ07**	**SJ17**	**SJ27 60%**	**SJ37 10%**	
Cv Cs Ac Aj Cb Oco Oca	Cv Ip Ac Aj Am Ai Ld *Oco* Sd	Ct Oca *Sd*	Ct Oca *Sd*	Cs Ls Ip Bp Oco Oca Sd	Oca	Cv Cs Bp Am Cb *Lq Ld* Oco *Sd*	Cs *Ls* Pn *Cpa* Bp Am Cb *Lq* Ld Oca	Ls Bp Ag Cb Oca	Cs *Bp Ag Aj* Cb *Sd*	*Cv* Cs Ls Cpm En Bp *Ac Aj* Cb Lq *Ld* Ssa Sd	Cv Bp *Aj* Gv	
	SH36 35%	**SH46**	**SH56**	**SH66**	**SH76**	**SH86**	**SH96**	**SJ06**	**SJ16**	**SJ26**	**SJ36 70%**	
	Cv *Cs* Cpm Ip *Bp* Aj *Cb* Ld Oco	*Ct Cpm Bp* Ac Ai *Oco* Oca Sd	*Ls* Cpm Ip Bp *Aj* Am	Cs *Ls Ie* Ip Bp Ai *Ld* Oca *Sst*	Cs Ip Bp Am Oca	*Cv* Cs Bp Ac Aj Ai Ld Oco Oca Sd	*Cv* Cs Bp Aj Am Ai Ld Oca	Ls *Pn* Bp Ac Ag Am Cb Lq Oca Sd	*Cv* Cs Ls Cpm En *Bp Ag Aj* Ai Lq Oca Sd	Cv *Cpm* Bp Cb Gv Ssa Sd	Cv Cs *Ls Cpa* Cpm *Ec Ie* En Bp *Aj* Cb Ld Oca Ssa Sd	
		SH45 70%	**SH55**	**SH65**	**SH75**	**SH85**	**SH95**	**SJ05**	**SJ15**	**SJ25**	**SJ35 95%**	**SJ45 10%**

Partly sea; rough proportion of land shown as %

Partly Cheshire VC; North Wales prop. in %

Partly Shropshire VC; North Wales prop. in %

Partly Montgomery VC; North Wales prop.

Partly Cardigan VC; North Wales prop. in %

Species in italics refer to pre-2000 records only.

			Cs Cpm Ip Bp Am Lq Ld *Oco* Oca Sd	Cs Cpm *Ie* Ip Bp Am Ai Oca *Sst*	*Cv Cs* Ct Cpa Cpm *Ie* Ip Bp *Ag* Ac Am Ai Lq Ld Oca	*Cv Cs Cpm Ip* Bp *Ag* Am Oca	*Cv* C Bp Am Ld Oco Oca	*Cv* Cs *Bp* Am	Cv Cs *Ls* Bp *Ag Am* Lq Oca *Ssa Sd*	*Cs* Ls *Cpa Ie* Bp Ag *Aj* Am Ai *Lq* Oca Sd	Cv Cs Ls *Pn Cpa Ie* En Bp Am Cb Gv *Lq* Oca Ssa	Cpm *En Aj* Cb Sd	*Sd*	
	SH24 5%	**SH34 50%**	**SH44**	**SH54**	**SH64**	**SH74**	**SH84**	**SH94**	**SJ04**	**SJ14**	**SJ24**	**SJ34 95%**	**SJ44 65%**	**SJ54 5%**
	Cpa Ip Bp Ac Am Ai Ld Oca	Cs Ct Cpm *Ip* Bp Ac Am Ld *Oco* Oca	*Ct Cpm* Bp *Ag* Oca	*Cv* Cs *Ct* Cpm Ip Bp *Ac* Am *Ld* Oca	Cs Ip *Bp Ag* Am *Ai* Oca	Cv Cs Ip Bp Ac Am Ai Ld *Oco* Oca	*Cv* Cs Ls Cpa Ec Ie Ip Bp Ac Am Ai Lq Ld Oco Oca Sst Sd	Ip Bp Am Oca	*Cv* Cs *Ls* Bp Ac *Aj* Am Ai *Cb* Lq Ld Oca *Sd*	Cv Cs *Pn Cpa Ec Ie* Bp Ag *Aj* Am Ai Cb Lq Oca Sd	Ls Bp Gv *Lq* Ld Ssa	En Am Sd	Pp Cpm Ip En Bp Aj Cb Oca Sd	Cv Pp Bp Aj Gv Oca Sd
SH13 15%	**SH23 50%**	**SH33 80%**	**SH43 40%**	**SH53 50%**	**SH63**	**SH73**	**SH83**	**SH93**	**SJ03 95%**	**SJ13**	**SJ23 65%**	**SJ33 10%**	**SJ43 35%**	**SJ53 5%**
Cv Cs Ls Ct Cpa Ec Ip Bp Ac Aj Am Ai Cb Lq Oco Oca Sst	*Pn Ct* Cpm *Ip* Bp Ac Aj Am Ai Lq Oca	*Cpm* Bp *Ac* Oca	Cs Ct Ip Bp Ac Aj Ai Lq *Ld* Oco Oca Sd	*Cv Cs* Ct *Ip Ag* Oca Sst	Cs Cpm *Ip Ac Ag* Am Ld Oca	Cs Ct Ip Bp Ac Am Ai Ld Oca *Sst*	Bp Ac Am Oco Oca	*Cv Cpa* Ip Bp Am Ai *Cb Lq* Ld Oca *Sd*	*Cv* Cs Ls *Pn* Cpm *Ec* Ie Bp Ac *Aj* Am Ai *Cb* Lq Ld Oca Sst Sd	*Cv* Cs Ls *Cpa* Ec Ie Bp Ac *Ag* Am Ai *Cb* Lq Ld Oca Sd	Cv Cs Ls Ec Ie Bp Ac Ag Aj Am Ai *Cb* Lq Ld Oca Sst Ssa Sd	Cv Cs Ls Pn Cpa Ec Ie Ip En Bp Ac Aj Am Ai Cb Gv Lq Ld Oca Sst Ssa Sd	*Cv Pp Cpm* Bp Cb Gv *Ssa*	Cv Cs *Ls* Cpm Ec *Ie* Ip En Bp Ac *Ag* Am Ai Cb *Lq* Ld Oca Sst Ssa *Sd*
SH12 30%	**SH22 35%**	**SH32 15%**		**SH52 35%**	**SH62**	**SH72**	**SH82**	**SH92 30%**	**SJ02 5%**	**SJ12 65%**	**SJ22 10%**			
Cv Cs *Ls* Ct Cpm Ip Bp Ac Oco Oca *Ssa*	*Ct Cpm* Ip Bp Ac Aj Am *Lq Oco* Oca *Sd*	Cv Cs Ls *Pn Ct* Cpa Cpm Ec *Ie Ip Bp* Ac Aj Am Ai Lq *Ld* Oco Oca *Sst*		Cs *Ls Ct Cpm* Ip Bp Ac *Aj* Am *Ai* Oca *Sd*	Cs *Ls Ct Ie* Ip Bp Am *Ld* Oca	Cs Ip Bp Am Oca	Cv Cs Ls Cpa *Ec* Ie Ip Bp Ac *Aj* Ai *Lq* Ld *Oco* Oca *Sd*	Cv Cs Ls Pn Cpa Ec Ie Ip Bp Ac Aj Am Ai *Cb* Lq Ld Oca Sst Sd	Cv Cs Ls Pn Cpa Ec Ie Ip Bp Ac Aj Am Ai Cb Lq Ld Oca Sst Sd	*Cv* Cs *Ls Pn Cpa Ec Ie* Bp Ac *Ag Aj* Am Ai *Cb* Lq Ld Oca Sd	Cv Cs Ls Pn Cpa Ec Ie Bp Ac Ag Aj Am Ai Cb Lq Ld Oca Sst Sd			
				SH51 5%	**SH61**	**SH71**	**SH81 95%**	**SH91 15%**						
				Cv Cs Ls Pn Cpa Ec Ie Bp Ac Aj Am Ai Cb Lq *Ld*	*Cv* Cs Ip Bp *Ac* Am Ai *Cb Lq Ld* Oca *Sd*	*Cs Cpa Ip Ac* Ai Ld Oca	Cv Cs Cpa Ie Ip Bp Ac Am Lq Ld Oco Oca Sst	Cv Cs Ls Pn Cpa Ec Ie Ip Bp Ac Aj Am Ai Cb Lq Ld						

	Oco Oca Sst Sd				Oca Sst Sd
	SH50 35%	**SH60**	**SH70 60%**		
	Cv Cs Ls Pn Cpa Ec Ie Ip Bp *Ac* Aj Am Ai Lq *Ld* Oco Oca *Ssa* Sd	Ls Ip Bp *Ac* Aj Am Ai Lq *Ld* Oco Oca *Sst* Sd	*Cv* Cs *Pn Cpa* Ip Bp Ac Am Ai *Cb Lq* Ld Oco Oca Sst *Sd*		
	SN59 5%	**SN69 25%**	**SN79 3%**		
	Cv Cs Ls *Pn* Ct Cpa Ec *Ie* Ip Bp Aj Am Ai Cb Lq Ld Oco Oca Sd	Ip	*Cv* Cs Ls *Pn* Cpa Ec Ie Ip Bp Ac Aj Am Ai Cb Lq Ld Oco Oca Sst Sd		

I would appreciate it if, before sending me Odonata records over the next three years, they are checked against the chart so that I can regularly keep it up to date.

So, please 'Mind the Gap'. I'm sure for the new dragonfly atlas you all want North Wales to be up there with the best recorded parts of Britain so I would encourage you to please take note of the 10 km grid square you live in or regularly visit and keep an eye out for any potential species to fill in those gaps.

Abreviations used for missing species in the following chart:

Cv *Calopteryx virgo* (Beautiful Demoiselle)
Cs *Calopteryx splendens* (Banded Demoiselle)
Ls *Lestes sponsa* (Common Spreadwing or Damsel)
Pp *Platycnemis penninpes* (Blue Featherlegs or White-legged Damsel)
Pn *Pyrrhosoma nymphula* (Large Red Damsel)
Ct *Ceriagrion tenellum* (Small Red Damsel)

Cpa	*Coenagrion puella* (Azure Bluet or Damsel)
Cpm	*Coenagrion pulchellum* (Variable Bluet or Damsel)
Ec	*Enallagma cyathigerum* (Common Bluet or Damsel)
Ie	*Ischnura elegans* (Common Bluetail)
Ip	*Ischnura pumilio* (Small Bluetail or Scarce Blue-tailed Damsel)
En	*Erythromma najas* (Large Redeye or Red-eyed Damsel)
Bp	*Brachytron pratense* (Hairy Hawker)
Ac	*Aeshna cyanea* (Southern Hawker)
Ag	*Aeshna grandis* (Brown Hawker)
Aj	*Aeshna juncea* (Moorland or Common Hawker)
Am	*Aeshna mixta* (Migrant Hawker)
Ai	*Anax imperator* (Blue Emperor)
Cb	*Cordulegaster boltonii* (Common Goldenring)
Gv	*Gomphus vulgatissimus* (Common Clubtail)
Lq	*Libellula quadrimaculata* (Four-spotted Chaser)
Ld	*Libellula depressa* (Broad-bodied Chaser)
Oco	*Orthetrum coerulescens* (Keeled Skimmer)
Oca	*Orthetrum cancellatum* (Black-tailed Skimmer)
Sst	*Sympetrum striolatum* (Common Darter)
Ssa	*Sympetrum sanguineum* (Ruddy Darter)
Sd	*Sympetrum danae* (Black Darter)
Ld	*Leucorrhinia dubia* (Small Whiteface or White-faced Darter)

In case the chart doesn't come out to well embedded with the newsletter I've also attached it as an Excel file.

Trithemis werneri (Werner's Dropwing) male in the extreme obelisk posture at midday with the sun directly overhead. Selous Game Park, Tanzania 2007. I remember it being remarkably hot! (Photo A. Brandon)

Did you know …..?

…….. that before mating a male dragonfly or damselfly has to perform an elaborate manoeuvre to get his sperm into the right place on his abdomen. You must all be ware that Odonata of all species mate in a rather unusual position known as the ‘wheel’ which is probably unique in the insect world. In order to adopt this posture a devise on the underside of the second segment of the male’s abdomen has to lock on to the underside of the 8th segment of the female’s abdomen as shown below. A heart-shaped body pattern results from this.

Calopteryx haemorrhoidalis (Copper Demoiselle), mating pair in ‘wheel’ position.
La Desix, Pyrenees Orientales, France 2007. (Photo A. Brandon)

All this seems remarkable when one realises that the primary sexual organs of both sexes lie on the underside of the abdominal 8th segment. In order to achieve this elaborate copulatory position the male has to first transfer a packet of his sperm from his primary genitalia to a secondary one located beneath his second segment. This is done in the following way. Firstly, the couple adopts a tandem position by the male gaining hold of the female by his anal appendages or claspers. In damselflies there is a special plate called a pronotum situated behind her head onto which the claspers lock. In the dragonflies the male claspers grasp the female around the top and back of the head and eyes (see Emperors mating below). After flying to a suitable perch (except with the Chasers where the whole process is briefly carried out on the wing) the female is then induced to mate by moving the tip of her abdomen up and forward at the same time as the male tranfers his sperm. In the photo below the same pair as above are completing this stage before going on to complete the ‘wheel’ position above.

Calopteryx haemorrhoidalis (Copper Demoiselle), pair starting to mate. La Desix, Pyrenees Orientales, France 2007. Note that the male is transferring sperm from his genitalia on the underside of his 8th abdominal segment to his secondary genitalia on his 2nd. (Photo A. Brandon)

Dragonfly *Anax imperator* mating pair in ‘wheel’ position. Abergwyngregyn, Gwynedd 2009. (Photo A. Brandon)

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