

Odonate Species Richness in Shropshire – a summary

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Introduction: The map below (Fig.1) shows the Odonate species richness per hectad in Shropshire. This map was produced in February 2015 by Jonathan Groom (Shropshire Council Biodiversity Data Officer) using the Shropshire Ecological Data Network data set (including the 2014 flight season data). 32 species have ever been recorded throughout Shropshire however 3 of these are extremely rare migrants (Red-veined Darter *Sympetrum fonscolombii*, Yellow-winged Darter *Sympetrum flaveolum* and Vagrant Emperor *Anax ephippiger*) and 1 species has only 1 recorded sighting (Scarce Chaser *Libellula fulva*). Odonate species richness per hectad ranges from 1 to 29 and is directly affected by recorder effort. This summary should therefore be read in conjunction with that on Odonate recorder effort in Shropshire.

High Species Richness: SJ43 has 29 species recorded and represents the most species rich hectad in Shropshire. This is due to the inclusion of Whixall Moss where specialist habitat supports a number of less common species, the most notable being White-faced Darter *Leucorrhinia dubia* which is found nowhere else in the county. This site is also heavily recorded (1595 records) due to popularity with visitors and a long term dragonfly recording transect. SJ50 in central Shropshire has 26 species recorded and is the second most species rich hectad supporting a number of rare Shropshire species such as Downy Emerald *Cordulia aenea* and Variable Damselfly *Coenagrion pulchellum*. The location of this hectad makes it extremely accessible to recorders and when coupled with the fact that a good number of well known dragonfly sites are within this 10km square (Venus pool, Attingham Park, Berrington Pool, Bomere and Shomere) it is no surprise that this is also the second most recorded hectad in the county (1019 records).

Low Species Richness: Figure 1 highlights in red, orange and yellow those hectads with the lowest species richness. Many of the hectads located on the county borders have a low species richness because the map is based purely on SEDN data and does not take into account species records from neighbouring counties. Of more concern are those hectads where 50% or more of the 10km square lies within Shropshire and the species richness is still relatively low; SO38 has only 11 species (52 records in total), SO37 has 12 species (33 records in total) and SO27 has 7 species (9 records in total). Clearly species richness is directly affected by recorder effort and it is far more likely that certain species are simply unrecorded rather than absent. On closer inspection the 3 aforementioned hectads do lack fairly common species such as Emperor Dragonfly *Anax imperator* and Four-spotted Chaser *Libellula quadrimaculata*.

Recent Changes in Species Richness: Though directly related to recorder effort, analysis of records received in 2014 shows 11 species have increased their local distribution, now being present in a further 1 or more 10km squares within the county. Interestingly 7 of these species have also shown a national increase; Red-eyed Damselfly *Erythromma najas*, Beautiful Demoiselle *Calopteryx virgo*, Banded Demoiselle *Calopteryx splendens*, White-legged Damselfly *Platycnemis pennipes*, Migrant Hawker *Aeshna mixta*, Emperor *A.imperator*, and Black-tailed Skimmer *Orthetrum cancellatum* (Cham et al., 2014).

Action: Further recording should be carried out in those areas of relatively low species richness. In addition thorough recording producing a full site list of Odonates at a particular site should also be encouraged as opposed to adhoc one-off records. Equally recorders should not be discouraged from visiting species rich hectads as such richness is often due to 1 particularly good site such as Whixall Moss. There may well be lesser known possibly under recorded sites that are over looked within the same hectad.

References

Cham, S., Nelson, B., Parr, A., Prentice, S., Smallshire, D. and Taylor, P. (2014) **Atlas of Dragonflies in Britain and Ireland**. Wallingford: Biological Records Centre.

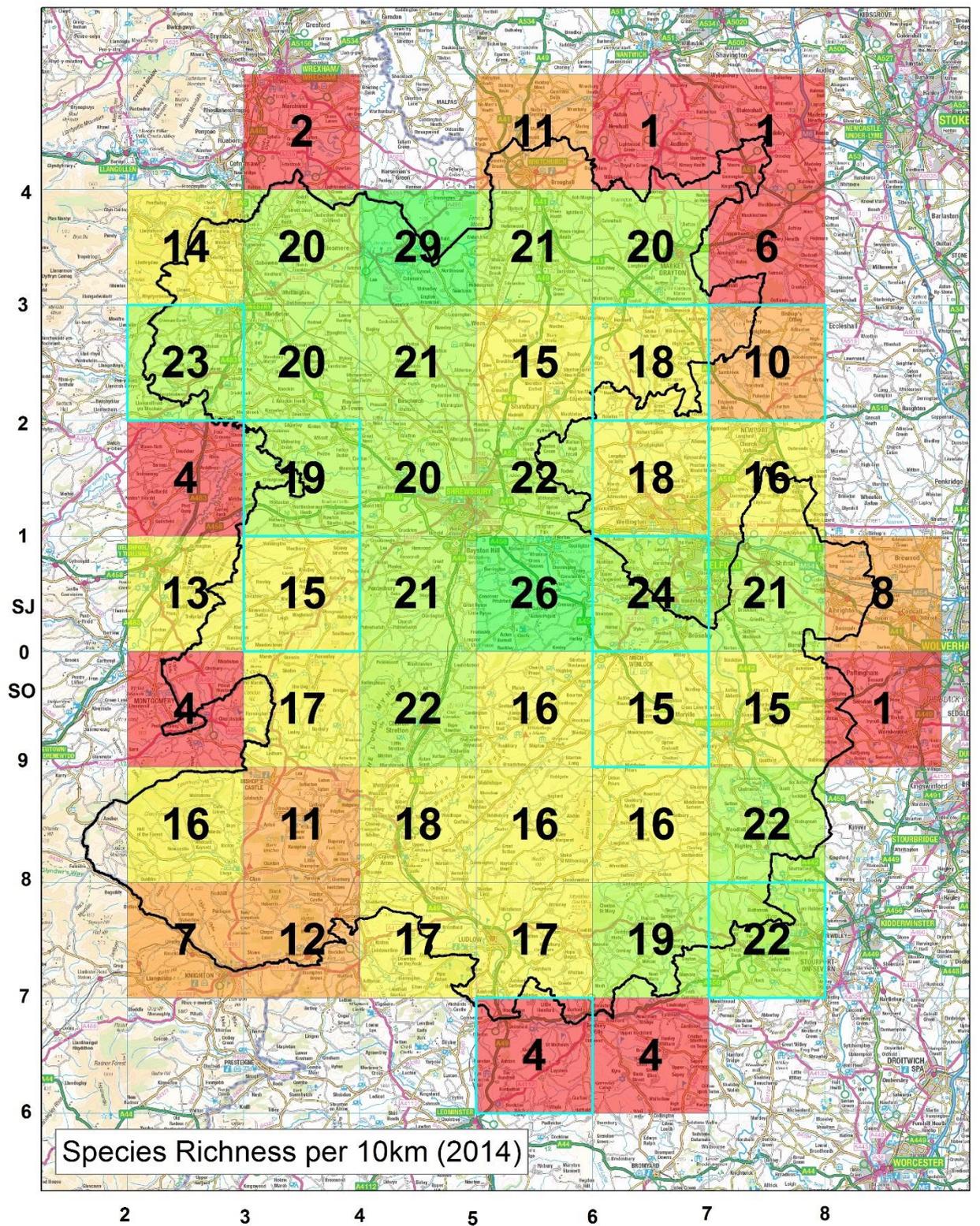


Figure 1. Odonate species richness per hectad in Shropshire