

Odonata Tetrad Mapping in Cornwall - 1983 to 1998 v 2010 to 2025

The aim of the slides in this article are firstly, to show the current distribution & status of dragonflies & damselflies in Cornwall, and secondly, to compare two time periods of Odonata recording in Cornwall, to highlight possible trends in tetrad, (2x 2km squares), occupancy for some of the 36 species that are known to have occurred in the county. This comparison may show the decline or increase of a species locally, but it may also reflect a change or decline in recording within the county over the past 15 years.

Using some of the most common species, (Large Red Damselfly & Azure Damselfly), as control markers it appears that there has been a 25 to 33% decline in recording in the county in the last 15 years, so that needs to be considered in any comparison of tetrad occupancy suggested here.

The main maps are based on iRecord data for Cornwall and the Isles of Scilly, from 2010 to 2025 inclusive, where each blue dot represents a tetrad occupied by the named species on at least one occasion during that period.

The hand drawn maps in the bottom right corner are tetrad maps which appeared in the 1998 Cornwall Dragonfly Group Newsletter and are based on records submitted to the Odonata Recording Scheme from 1983 to 1998 inclusive, where each black dot represents a tetrad occupied by the named species on at least one occasion during that period.

Each slide gives a count of the total number of tetrads occupied by the species for each of the two time periods. The arrows are either green for an apparent increase in occupancy, or red for a decline. The first percentage figure represents the basic increase or decrease that the tetrad counts suggest, and the percentage figure in brackets is that same figure reduced by the likely 30% decline in recorder effort.

Where there are no 1998 tetrads map shown, no percentages, and no trending arrows shown, the species represented is new to Cornwall in the last 15 years.

How you can help

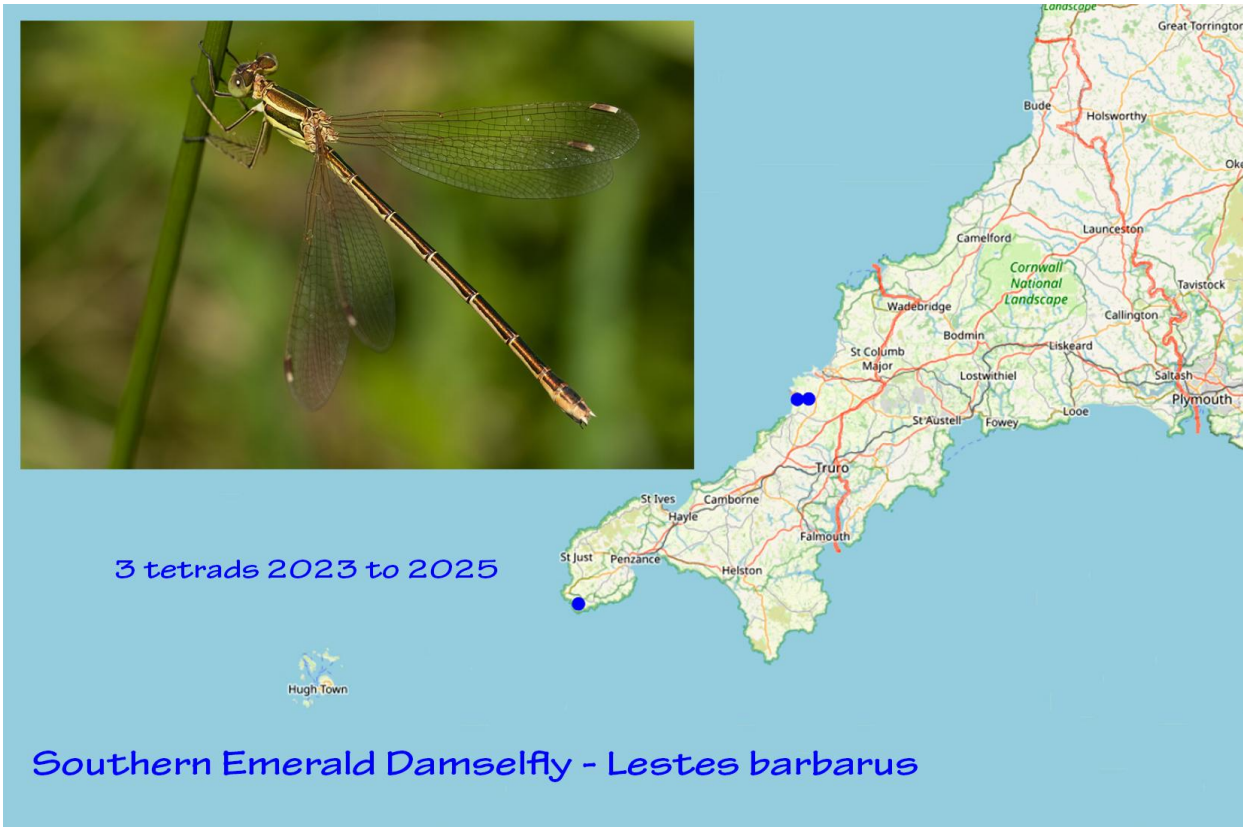
Whether or not the decline suggested by this comparison is more of a reflection of a decline in a species distribution, or perhaps a decline in recorder effort, (or a bit of both), it does highlight the need for regular odonata recording away from some of the migrant rich honeypot sites. Can you help with recording in some of those areas that appear to have lost species, or simply haven't been visited in recent times?

There are former odonata key sites dotted around throughout the county that would benefit from an up-to-date survey, so please do get in touch if you'd like the location of sites in need of a visit near you. My contact details can be found on the County Dragonfly Recorders page of the BDS website.

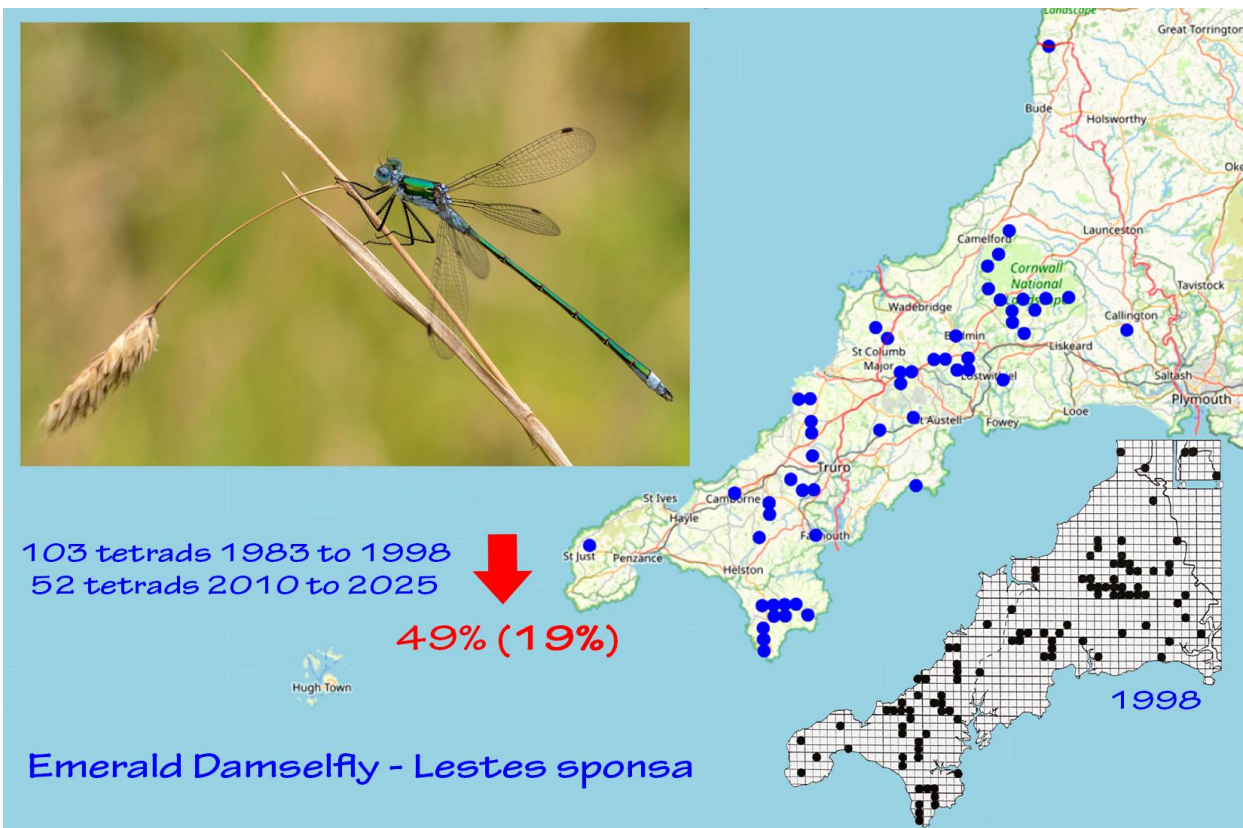
Steve Jones, 20th April 2026

All photographs by Steve Jones, except Hairy Hawker by kind permission of Christine Moore

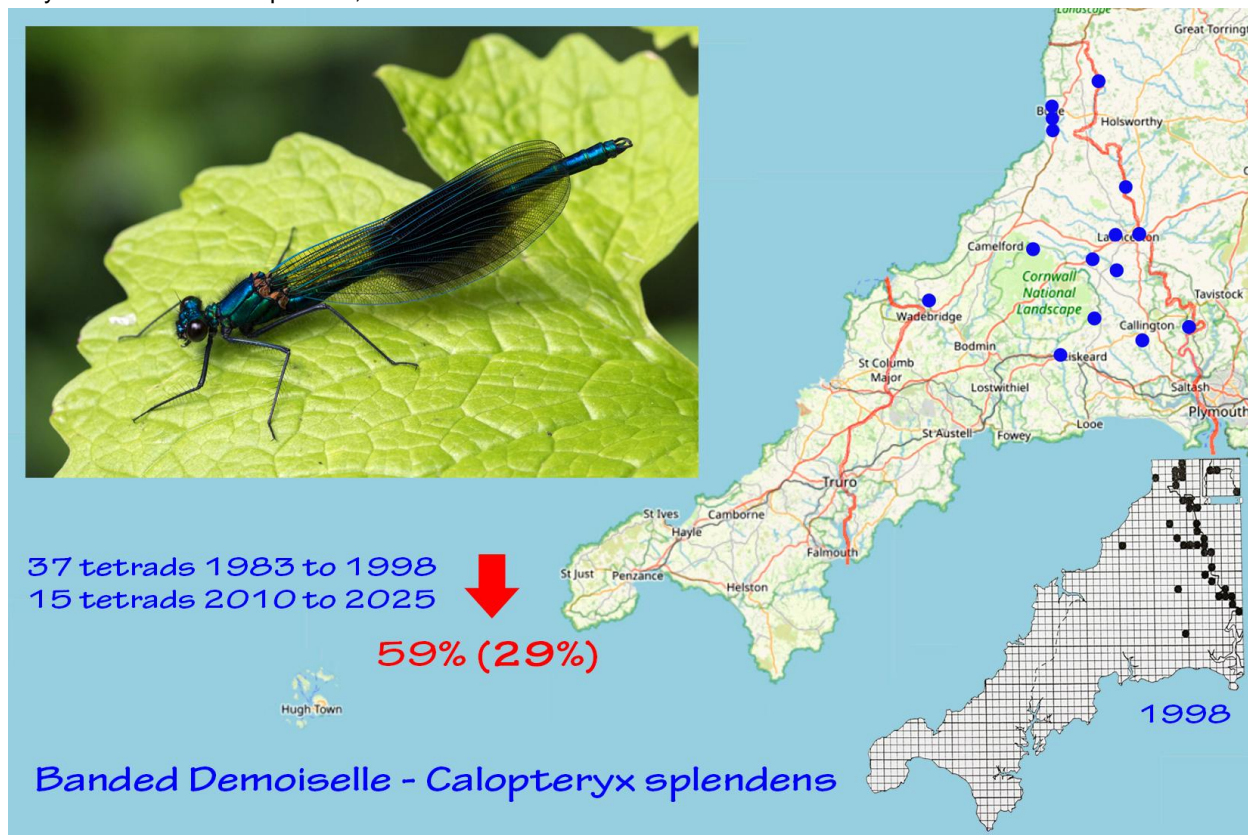
The Southern Emerald Damselfly is the newest of our resident breeding species with retrospective photographic evidence suggesting it may have first arrived in Cornwall in 2022, bred and then successfully emerged at Penhale in 2023



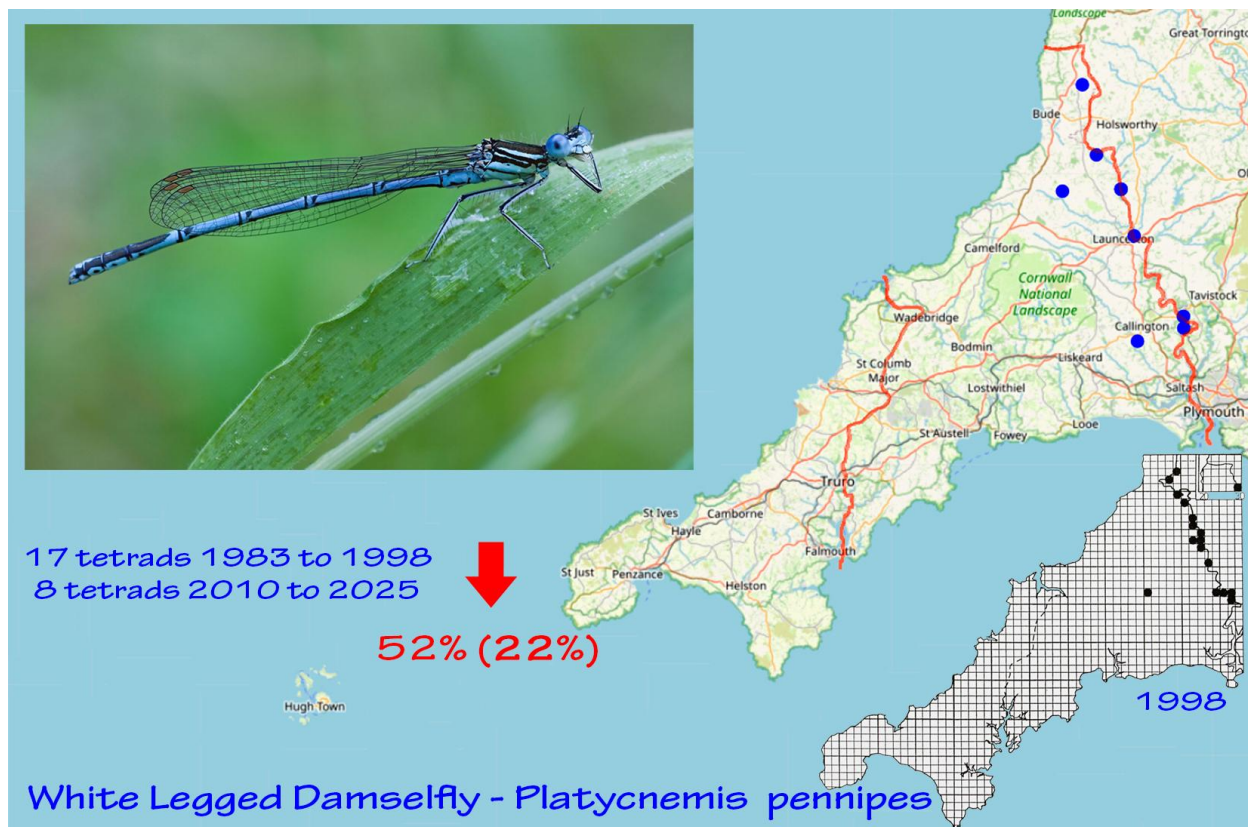
The BDS report "State of Dragonflies 2021" found that the Emerald Damselfly was in decline nationally and that seems to be reflected here in Cornwall.



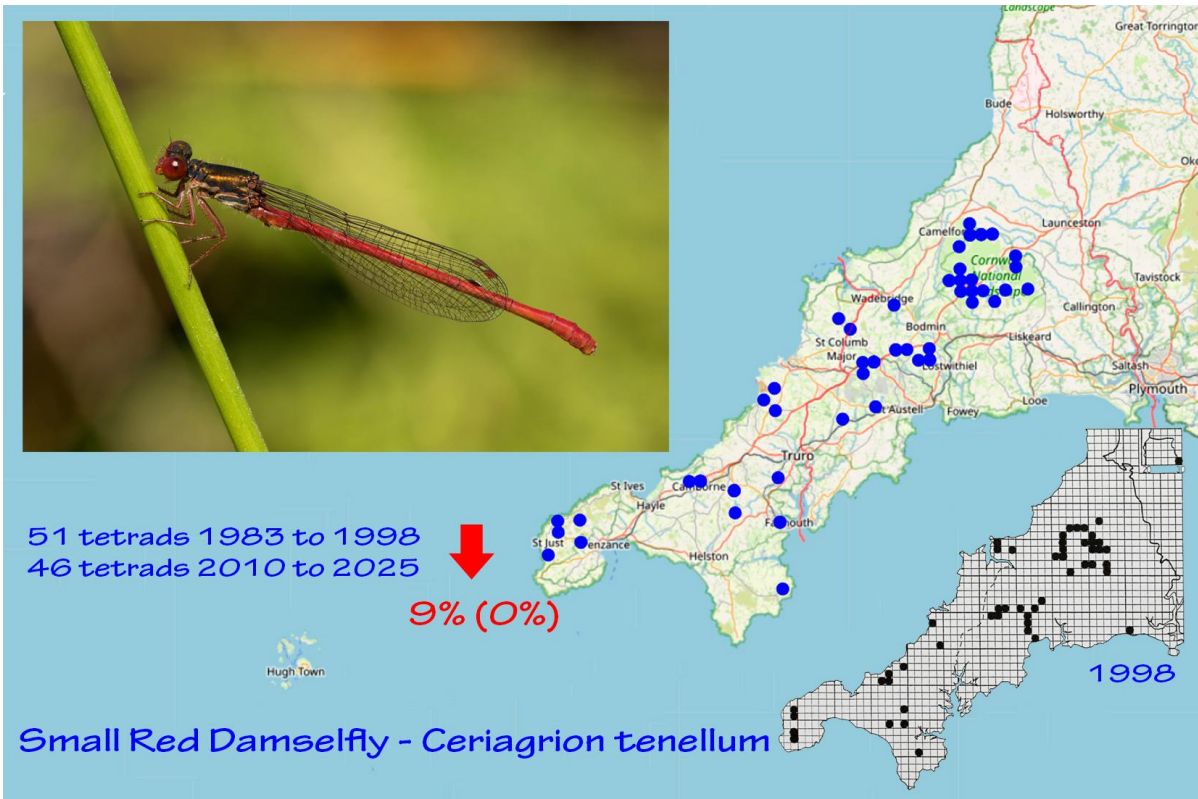
The Banded Demoiselle is restricted to the Tamar and its immediate tributaries as a breeding species in Cornwall and is very under recorded at present, but does that mask a local decline?



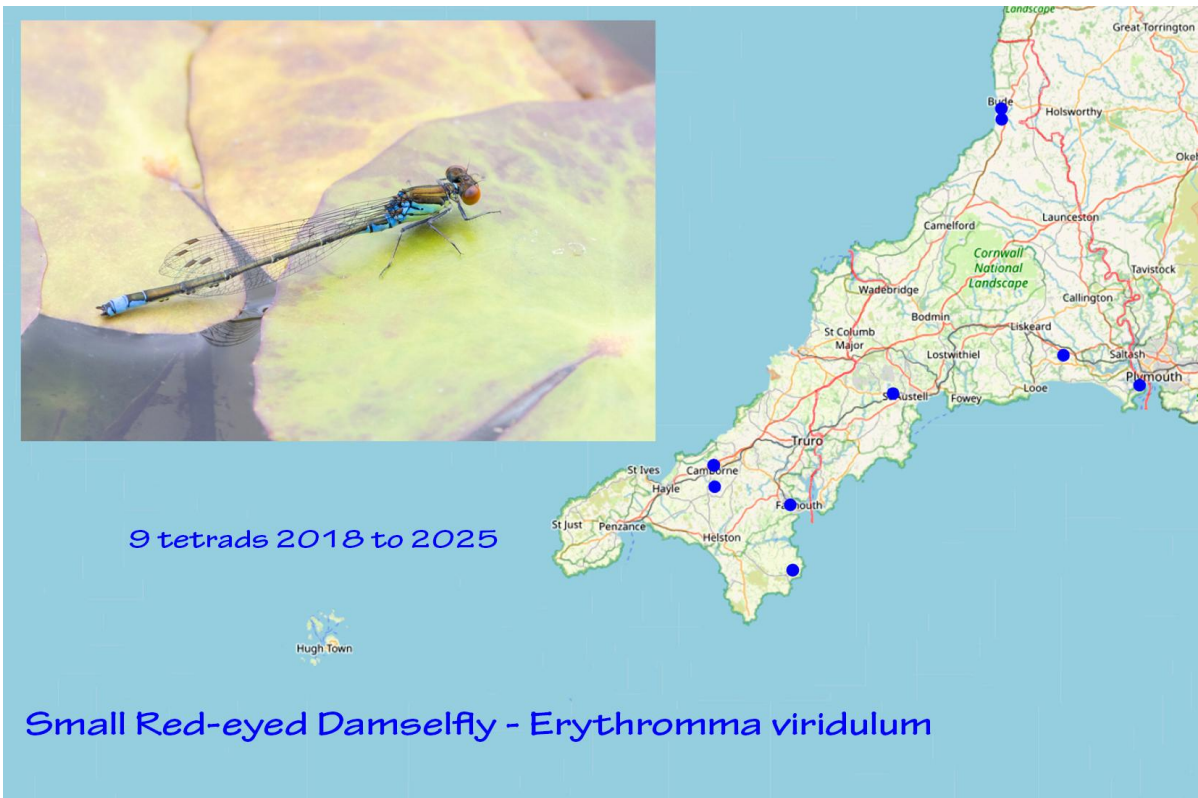
The White Legged Damselfly is also restricted to the Tamar and its immediate tributaries as a breeding species in Cornwall and is very under recorded at present, but does that mask a local decline? In terms of reported sightings, this species remains one of the rarest in Cornwall, as does the Banded Demoiselle.



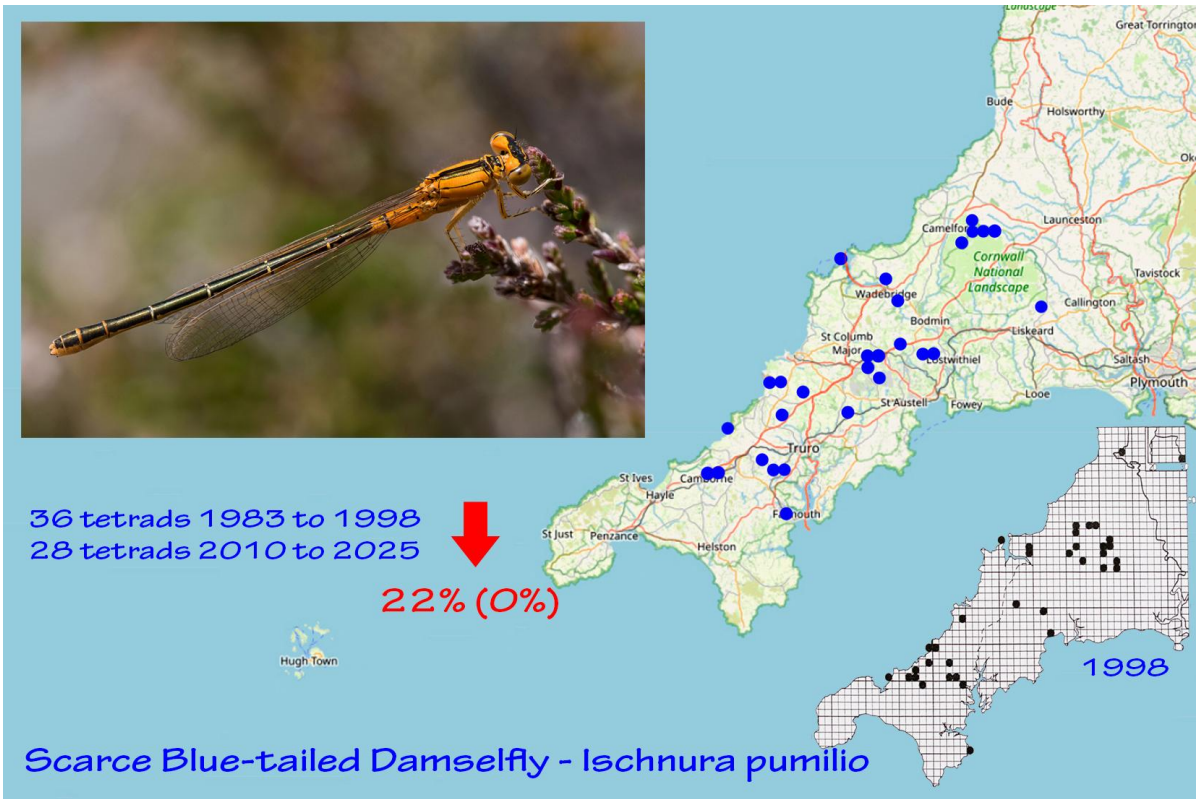
The BDS report “State of Dragonflies 2021” found that the Small Red Damselfly is in decline nationally but surprisingly, that isn’t reflected locally in these tetrad occupancy comparisons. Perhaps the local picture shows that recording for the Small Red Damselfly and Scarce Blue-tailed Damselfly are more targeted because of their rarity and the fact that Cornwall is a long-term stronghold for both species.



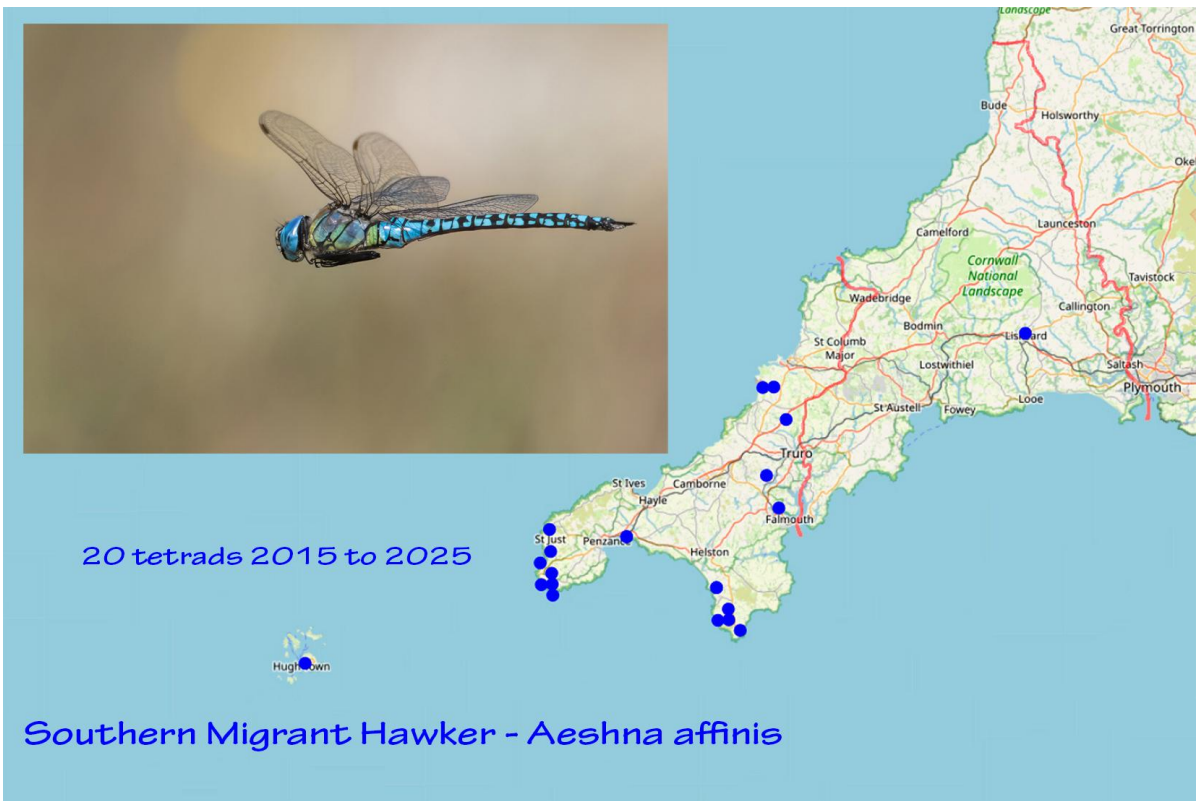
The Small Red-eyed Damselfly was first recorded in Cornwall on the Lizard peninsula in 2018 and is now established as a breeding species at two sites near Camborne.



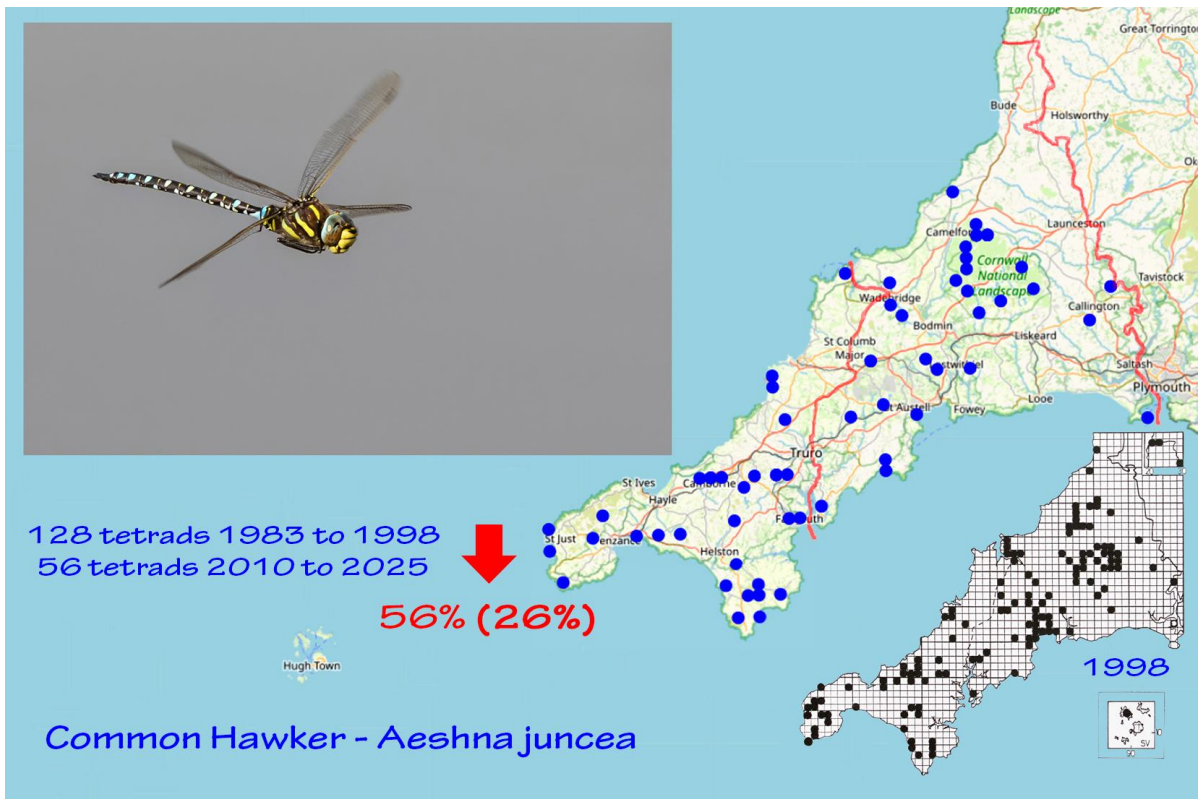
The BDS report “State of Dragonflies 2021” found that the Scarce Blue-tailed Damselfly is also in decline nationally but that isn’t perhaps reflected in the tetrad occupancy levels suggested here, (allowing for a 30% reduction in recorder effort). However, only one in nine of the traditional Red River Valley strongholds remains, a statistic that is likely to be mirrored elsewhere in other old Cornish tin streaming valleys with natural succession finally making such sites unsuitable.



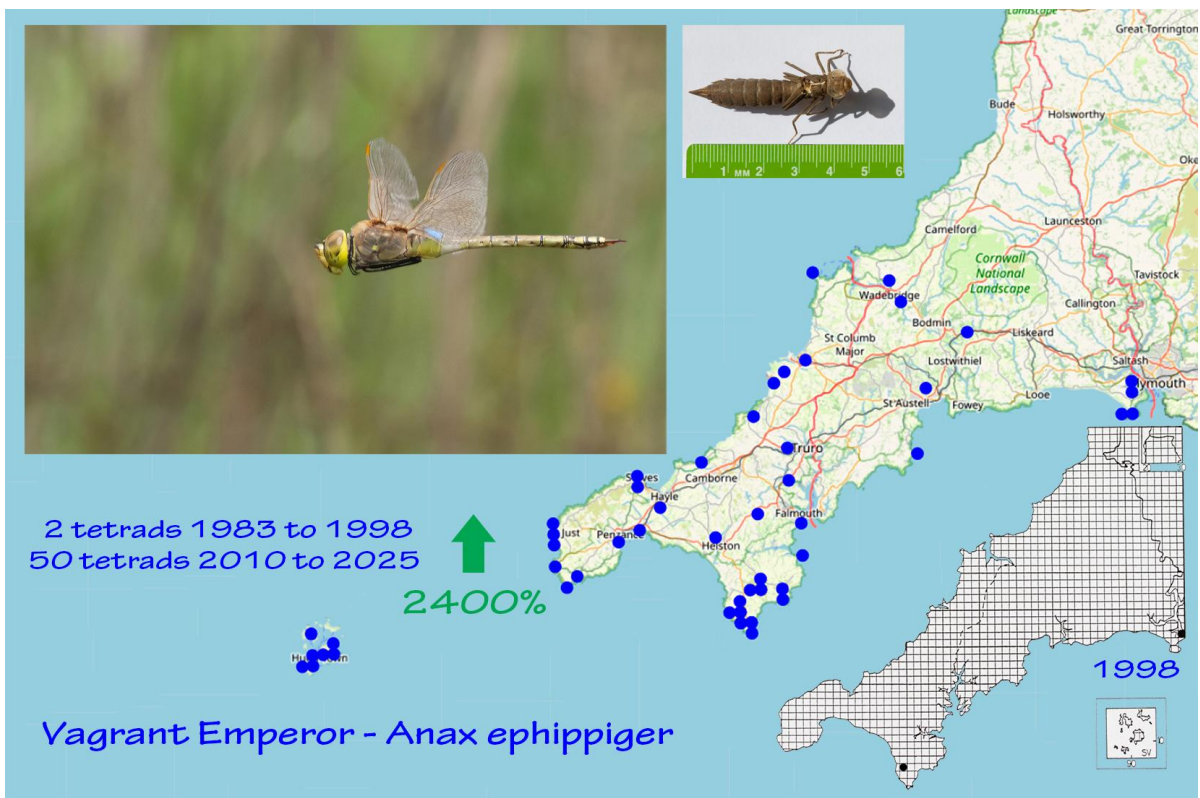
First recorded at Marazion Marsh in 2015, the Southern Migrant Hawker has since become an annual in Cornwall and may perhaps be the next new breeding species in the county, (at a coastal site)?



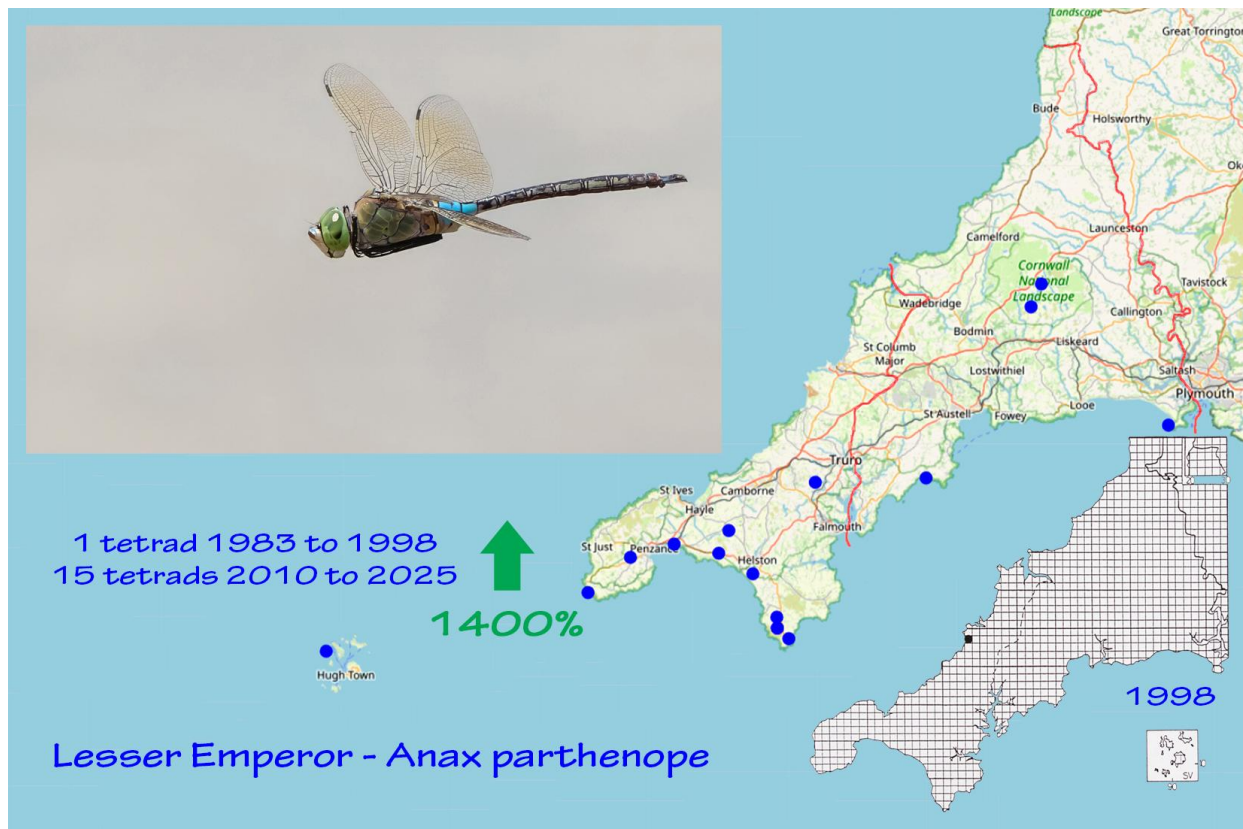
The BDS report "State of Dragonflies 2021" found that the Common Hawker is one of 5 species in decline nationally and that is certainly reflected in the difference between the two tetrad occupancy periods shown here, mirroring my own impression that I see the species far less frequently now than in the past.



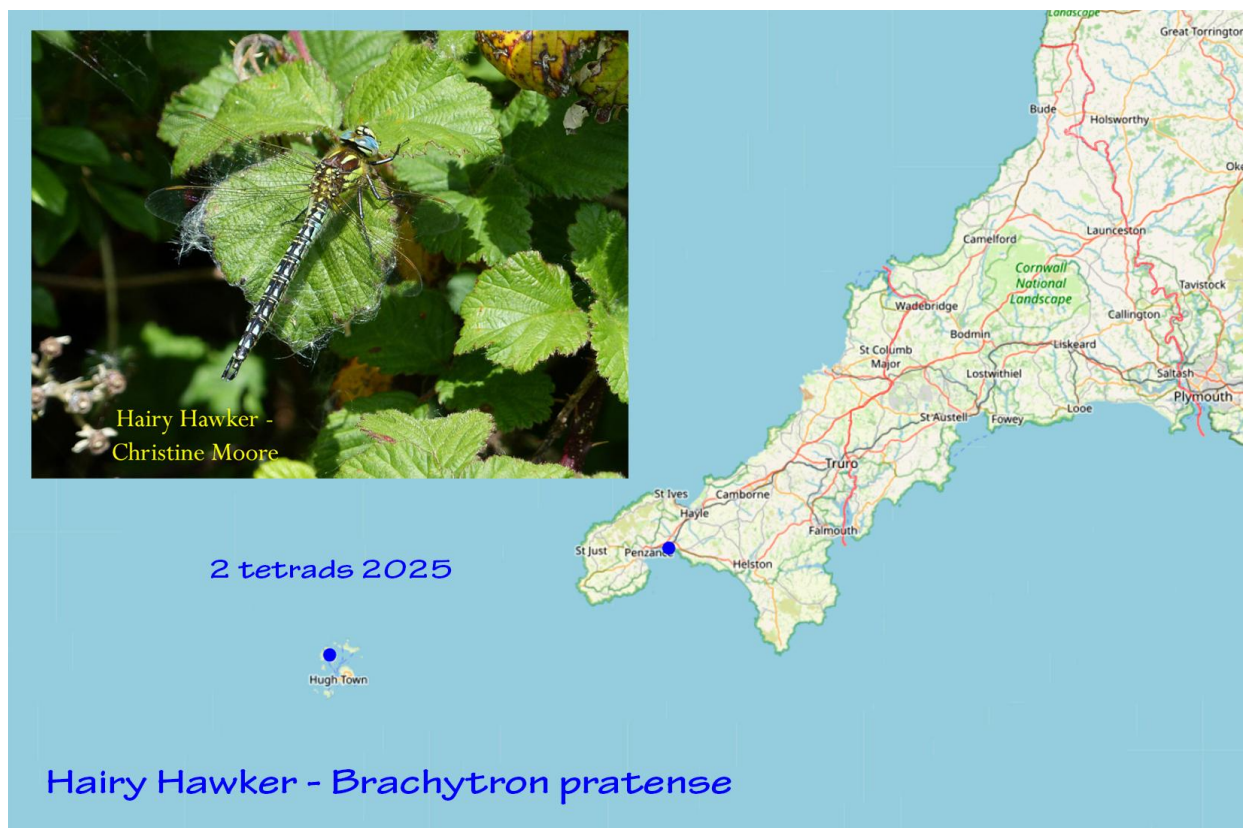
The frequency of Vagrant Emperor sightings has increased dramatically since the 18th June 1998 when the Hayle Kimbro Pool sighting became the 18th UK sighting ever! The species was proven to have successfully breed in the UK for the first time with the discovery of a single male exuvia at Windmill Farm on the 22nd September 2023



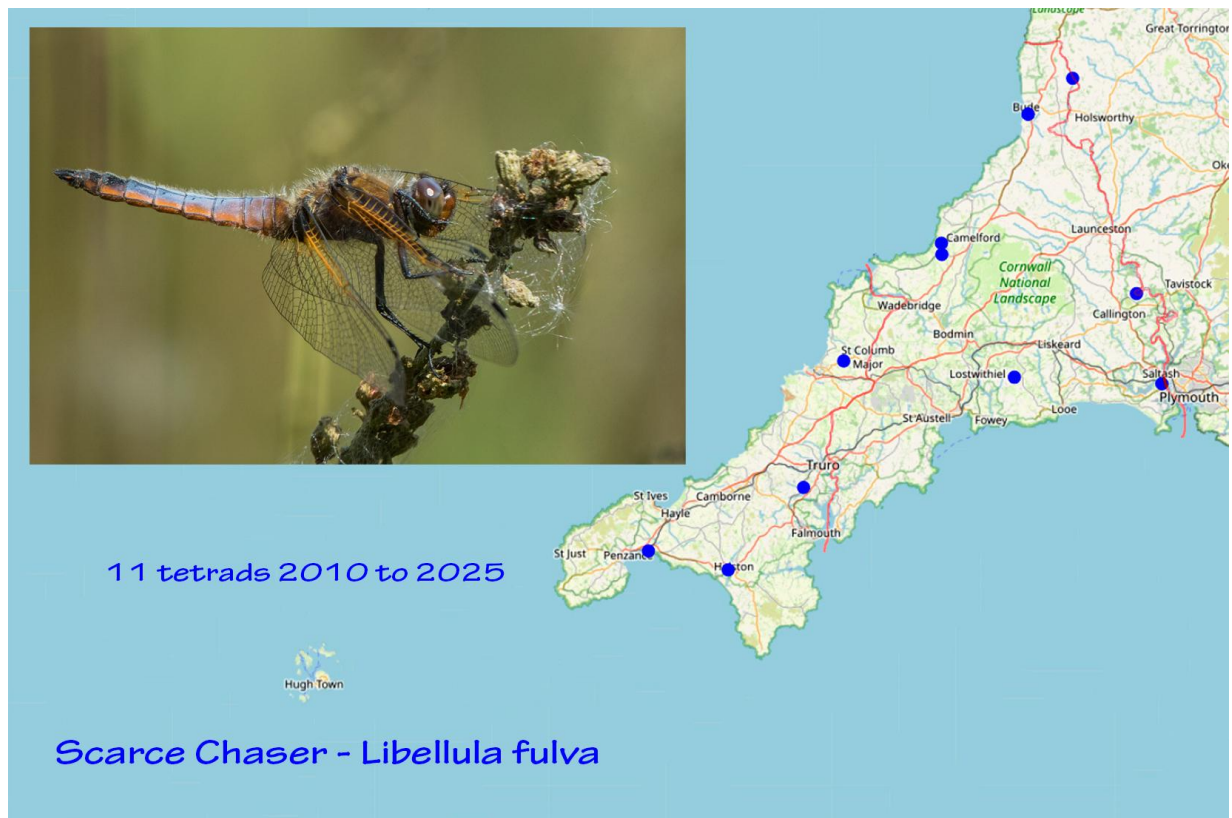
Sightings of the Lesser Emperor have also increased dramatically since the first sighting at Gear Sands on 25th May 1997, (2nd ever UK sighting) and the first proof of breeding, (a single exuvia), in the UK at Hayle Kimbro Pool on 31st July 1999.



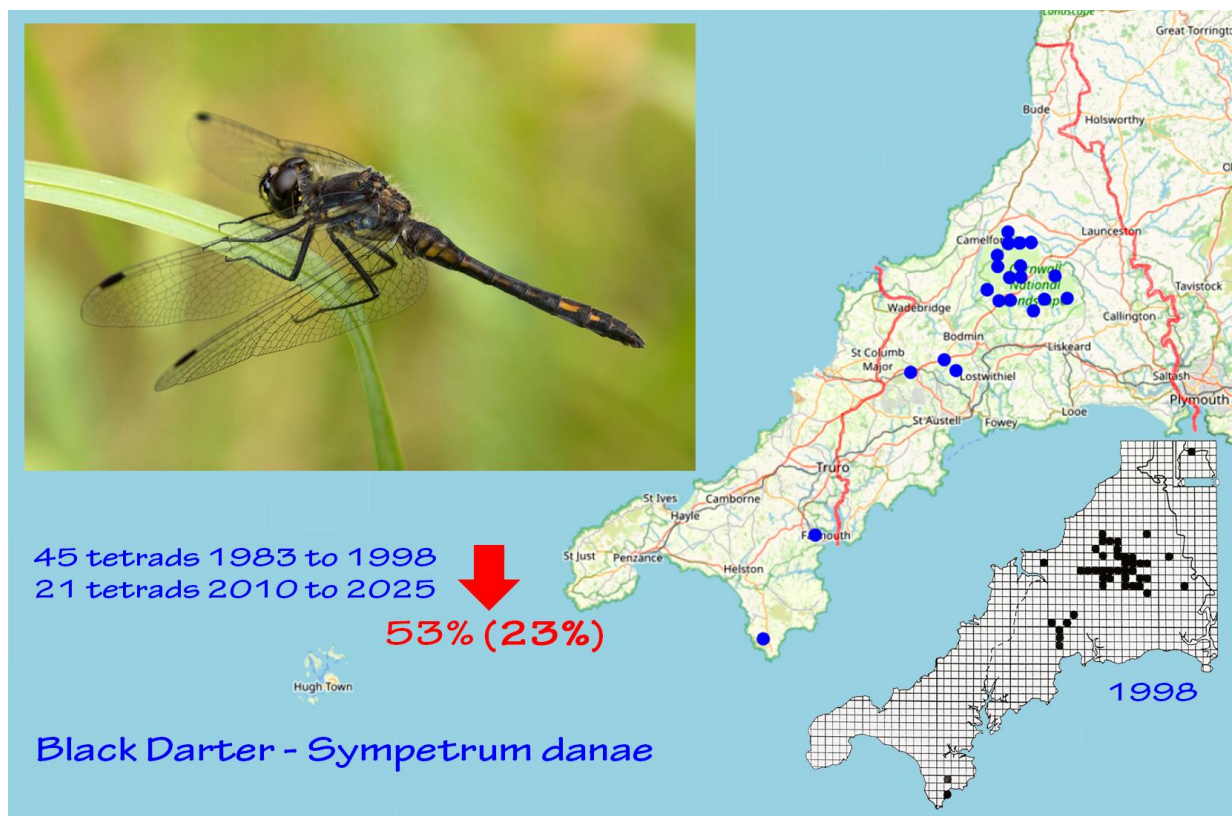
The Hairy Hawker is the latest species to be added to the Cornish list in 2025 having been a resident across the border in Devon for many years. Another candidate for the next new breeding species in Cornwall?



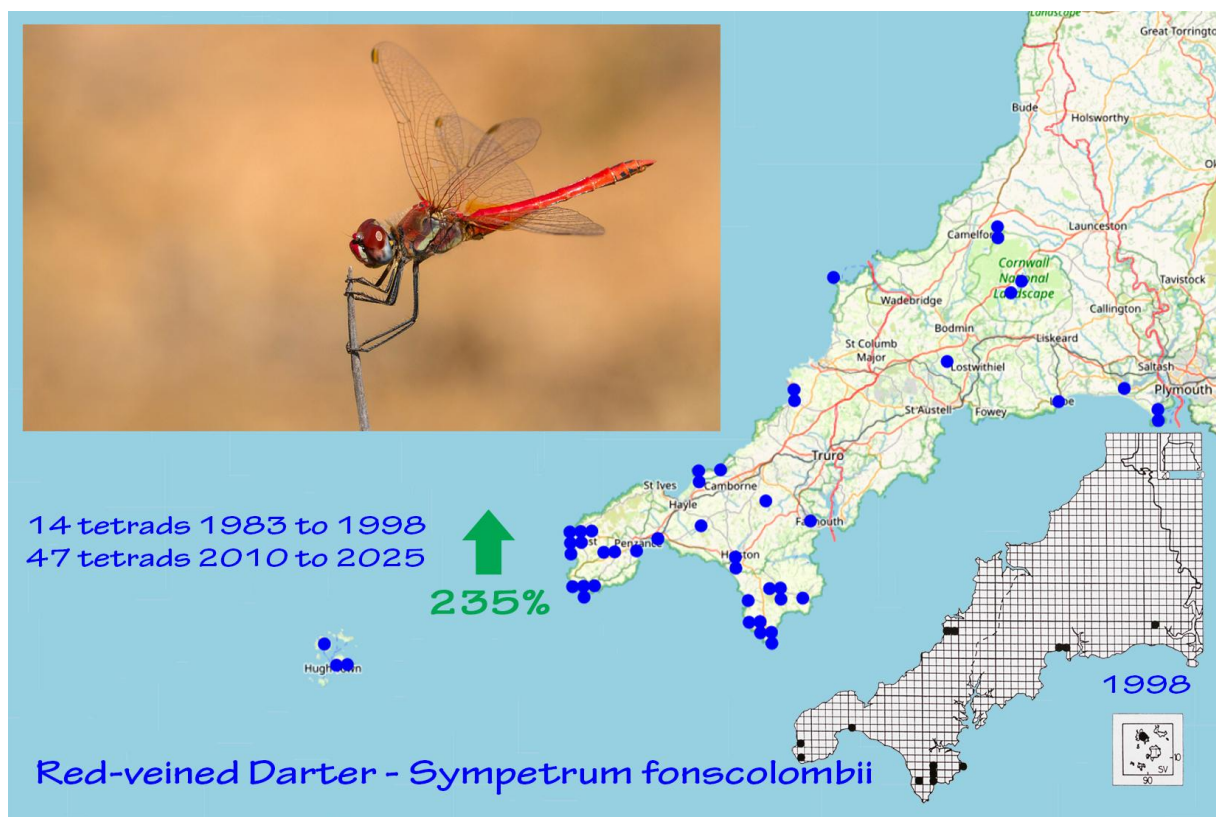
The Scarce Chaser has been expanding its range in recent years, popping up across Cornwall for much of the last decade, particularly in the Bude & Lanreath areas, where it probably breeds at both. A species that is pushing west.



The Black Darter in another species found to be declining in the BDS report "State of Dragonflies 2021" and that is certainly mirrored in Cornwall. The species does well on Bodmin Moor but has lost breeding sites at the western edge of its range. Confined to East Cornwall as a breeding species, in the past rarely occurring in West Cornwall as a wanderer.



In the 1980s & 1990s the Red-veined Darter was generally an infrequent arrival in the county, but by the turn of the century it had become an expected annual visitor/occasional resident, sometimes overwintering as larvae.



Sadly, the Ruddy Darter became extinct as a breeding species in Cornwall at the end of the 1990s and some of the records since then have been suspect. It may well turn up in the county as a wanderer in the future, but given its rarity, all new records need to be well documented to be accepted.

