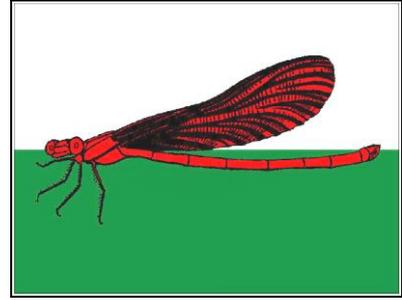


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**North Wales
Dragonfly
Newsletter
No. 98**

16 Feb 2019



**Odonata news and events from across the vice counties of
Anglesey, Merionethshire, Caernarvonshire, Denbighshire and Flintshire**



Hi all,

Invasion of Vagrant Emperor?

John Bratton was at Fedw Fawr [SH603820] on the northern coast of Anglesey, north of Llangoed, yesterday and saw a dragonfly criss-crossing a clearing. Unfortunately he couldn't get close enough for a good look and although he waited sometime it didn't reappear. He perceived no distinct colour and it could have been brown and its size would fit that of a small hawk. This has to be *Anax ephippa* (Vagrant Emperor) as no other dragonfly is on the wing this time of year. Presumably the warm southerly air currents we have witnessed recently have encouraged the species to move up from Morocco or the Canaries. I asked Adrian Parr, BDS Migrants Officer if he had received reports of other northern European sightings of the species recently and I was surprised that he hadn't.

About 5 minutes before seeing the dragonfly John saw a very faded painted lady on the wing.

Dragonfly migration secrets unlocked!

This article has been copied from the January 2019 e-newsletter of the British Dragonfly Society.

Researchers in America, with the help of citizen scientists, have unlocked the mysteries of dragonfly migration: "The researchers explain how the common Green Darner—a large, abundant dragonfly found across North America—takes three generations to complete its annual cycle. One generation migrates north in spring, the second south in fall, and the third is resident in the southern part of the species' range over winter. These insects have a wingspan of just 7.5 cm (3 inches), but they migrate an average of over 600 km (373 miles), with some individuals covering more than 2,500 km (1,553 miles)."

The research team used a combination of data sets, including 21 years of citizen science data, more than 800 dragonfly wing specimens from museums going back 140 years, and specimens caught in the wild. The team's creative analysis included looking at the prevalence of different forms of hydrogen in the dragonflies. The ratio of three forms of hydrogen in the atmosphere shifts with latitude. Dragonflies pick up an imprint of the hydrogen ratio at their birthplace, so a scientist can determine where a dragonfly came

from by looking at how much of each hydrogen type is present in a tiny piece of the dragonfly's wing. That information enabled the team to discern the three-generation migration system.

The citizen science data—information collected by members of the general public—helped the scientists learn what factors cue the dragonflies to migrate or to emerge as flying adults after their aquatic juvenile stage. It turns out temperature plays a big role: the dragonflies both emerge and initiate migration at around 9 degrees Celsius (48 degrees Fahrenheit).

"With climate change we could see dragonflies migrating north earlier and staying later in the fall, which could alter their entire biology and life history," says Michael Hallworth, postdoctoral fellow at the Smithsonian Migratory Bird Center and first author on the paper. Studds adds, "Climate change is a threat to all kinds of migration systems, and this could be one of them."

Read the full story: https://phys.org/news/2018-12-1000s-miles-scientists-mystery-dragonfly.html?fbclid=IwAR25bITTKaqU7cKTvkd_MucL9ZyhH9bh927jrM6k2kbK5fNy6AeCF_TYQJg&mc_cid=7a86c718ee&mc_eid=2a067a1efa#jCp

Field meeting in June

This meeting is now on the BDS programme of field trips:

Sat 22 June 2019. - Dragonflies of a Celtic Rainforest lake

Llyn Tecwyn Isaf, Llandecwyn, Gwynedd, Wales.

Meet on the road that skirts the northern shore of the lake around SH63023711 (Post Code LL47 6YS) **at 11am**. The glacially sculptured lake is in a beautiful mountainous and oak woodland setting. It is perhaps the premier site for dragonflies in North Wales and home to some rare or local dragonfly species including the Downy Emerald, Small Red Damselfly, Hairy Hawker and Keeled Skimmer. Parts of the lake are sphagnum bog so wellington boots are essential! Wear suitable field clothing and be prepared for potential showers. No dogs. Bring lunch and drink.

Leader: Allan Brandon: allanrowenconwy@sky.com

This meeting is held in collaboration with **Llinos Alun** from the Snowdonia National Park Authority www.eryri.llyw.cymru

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