

Portbury Wharf Nature Reserve - Dragonflies and Damselflies 2019

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A Ruddy Darter waiting at the edge of a pond to snatch insect prey

Our most optimistic expectations were exceeded when last year's survey confirmed the presence of sixteen species of dragonfly and damselfly at Portbury Wharf Nature Reserve (PWNR). The high number of species spotted was exciting enough (yes, we really do get excited), but to include uncommon species such as Scarce Chaser and Hairy dragonfly, plus Small Red-eyed damselfly amongst that number was something special. We eagerly anticipated the start of the 2019 dragonfly season, but did have one concern. You will recall that we had a long, hot, dry summer last year. A significant proportion of the reserve's ponds and pools dried out and, consequently, adversely affected prime dragonfly and dragonfly larva habitat. As a result, would 2019 turn out to be an anti-climax compared with 2018?

The 2019 Survey

This year's survey took a slightly different approach. We still used the same survey routes (transects), but undertook fewer surveys. This allowed us more time to watch for dragonflies on the North and South Pools. We appreciated that these large areas of

excellent dragonfly habitat had been under-surveyed last year, yet had the potential to harbour new species.

Our expectation was to see one or two species emerging as early as April, but this wasn't to be the case. The cool spring delayed the appearance of dragonflies and damselflies in any appreciable number until May. When they did eventually take to the wing, we were relieved that all of the species identified during last year's surveys were also spotted this year. In fact, we were in for a few very welcome bonuses, but we'll come back to these shortly.

We collected insufficient data to make any reliable, statistically significant conclusion on the abundance of each species present at the reserve, so cannot say what impact the 2018 dry summer had on this year's numbers. Information from the three transect surveys we completed between May and July this year, presented us with the opportunity to compare abundance of each species with the same period last year. Our results are shown in the table included at the end of this report. You will notice, from the table, that we saw more individuals for some species, fewer of others and some hardly any difference. Possibly, all we can conclude is that no species has failed to appear this year and there is no downward trend in abundance across all species.

Now for the bonuses mentioned earlier:

- **Small Red-eyed Damselfly** – last year our only sightings of this damselfly were restricted to one site located in the Sanctuary area of the reserve. This year we were pleased to see Small Red-eyes, not only in the Sanctuary, but also on the South Pools where some were paired and depositing eggs. Hopefully, this uncommon damselfly is strengthening its foothold at PWNR as it continues to extend its range across Britain.



Small Red-eyed Damselfly basking on vegetation in the Sanctuary

- **Scarce Chaser** – sightings of this uncommon dragonfly on the reserve have generally occurred as lone individuals. This year, during a survey in late June we observed at least five male Scarce Chasers within a 40-50 metre stretch of rhyme. This adds weight to the suggestion that the species now has a small breeding colony at the reserve.



One of the male Scarce Chasers seen during a late June survey

- **Brown Hawker** – we knew of previous Brown Hawker sightings at the reserve, but didn't manage to record any in 2018. This year we managed at least one confirmed sighting of a Brown Hawker.



The only Brown Hawker we managed to positively identify on the reserve this year

- **Banded Demoiselle** – last year’s Damselfly and Dragonfly report (available on the FoPWNR website) mentioned the existence of a colony of Banded Demoiselles very close to the reserve, but without its borders. We flagged this species as one that might possibly find its way onto PWNR. This happened on at least three occasions, with sightings of this stunningly beautiful insect at a small pool in the Ecology Park, the South Pools and another along the rhyne flowing past the two North Pool hides. There are plenty of obscured locations on the reserve where Banded Demoiselles could colonise without detection, so undoubtedly, a species to monitor closely next year.



Banded Demoiselles, such as this one photographed on a rhyne just outside PWNR, were spotted on the reserve this year

- **Red-veined Darter** – this species did cause real excitement amongst us surveyors. One of our number in particular (Dave), was convinced that Red-veined Darters were present on the reserve, but we had no proof other than the occasional sighting of an early darter that appeared to have a reddish flush to its wings. This species, with amazing bi-coloured eyes and red veins running through its wings, is an uncommon migrant that has started to establish colonies at a few British sites. We were delighted for Dave when his hours of searching finally confirmed his hunch. We recorded and photographed these very attractive dragonflies on several occasions around the South Pools. We only saw males and this raises the question as to whether we were seeing an influx of Red-veined Darters from the continent, or

is there a breeding colony at, or close to, PWNR. The anticipation for next year is already building!

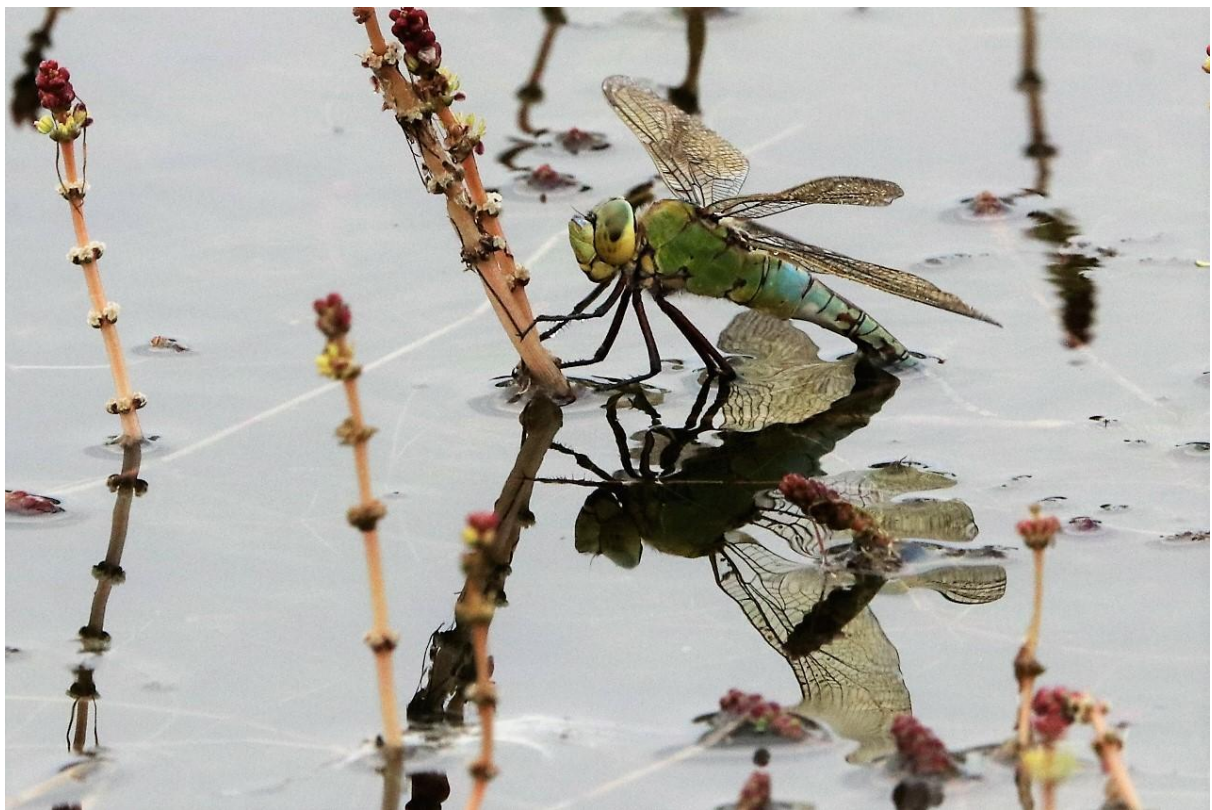


A scarce male Red-veined Darter basking on baked mud around the South Pools

- **Lesser Emperor** – just when we thought things couldn't possibly get any better, Iain raised the bar once more. There had been reports of Lesser Emperors appearing on the south coast. This dragonfly is another rare migrant from as far away as Africa and southern Europe and it is increasingly appearing in Britain. Once again, our hopes were fuelled on several occasions when we had vague and distant glances of a large, fairly dull hawk with a distinct blue thorax. We took a step towards confirmation on the 25th August when Iain, while supervising a volunteer session, spotted up to five possible Lesser Emperors patrolling over the North Pools. In spite of an urgent call to his surveyor colleagues, we were unable to capture absolute photographic evidence, but we now knew where to look. Final confirmation of the presence of this species came one month later, again during a volunteer session, when Iain spotted a suspicious looking Emperor hawkking over the North Pools. This time, telephoto lenses were to hand and we captured an image of a Lesser Emperor attacking an Emperor. A further sighting of Lesser Emperor was made on the 24th of September in the same location.



A Lesser Emperor attacking and submerging an Emperor on the North Pools.



The female Emperor after its ducking seemed to be unharmed by the event

The 2019 Dragonfly Season – Final Thoughts

Considering that the number of species recorded this year reached twenty, it is difficult to say that 2019 hasn't been anything other than a great dragonfly / damselfly season. It might possibly turn out to be an exceptional year.

Concerns held about the impact of the unusually prolonged hot summer of 2018 appear to be unfounded. Despite a late start to the season there were plenty of dragonflies and damselflies around. Even though it's not at all scientific to say so, the abundance of each species felt about right. Clearly, more detail on abundance is required in the future, particularly in view of the power transmission work programmed by National Grid over the next few years. Steps taken, so far, to mitigate the impact on wildlife have been impressive, so hopefully any negative consequences will be avoided.

Inevitably, amongst all of the positive observations we made, there were one or two potential areas of concern. For example, we recorded fewer Hairy Dragonfly sightings this year. This early emerging dragonfly is nationally scarce and only locally distributed: we are very privileged to have it at PWNR. We did, however, spot a female Hairy Dragonfly in the Sanctuary this year, whereas none were seen there during 2018. In contrast, the number of Hairy Dragonflies spotted this year at Walton Common was higher than usual. Potentially, the low number seen at PWNR was due to lack of observations, rather than a depletion of this species. Another oddity noted this year and last, is the low number of Large Red Damselflies recorded at the reserve. This sturdy looking damselfly is usually the first to emerge and is common across Britain from April to July. Much of the Portbury Wharf habitat is ideal for Large Reds, so perhaps we are looking in the wrong place, or at the wrong time. Definitely another species to watch for in 2020.

The appearance of the rare Red-veined Darters and the Lesser Emperors on our 'local patch' was a definite plus. We were also pleased to see evidence of the uncommon Small Red-eyed Damselfly strengthening its foothold on the reserve. Whereas it is wonderful to see species such as these expanding their range, we must not forget one of the reasons why this is happening. Our climate is changing and the warmer conditions this brings are beneficial for continental insect species. Previously, these insects would have had difficulty in completing their lifecycle in our cooler British climate. The results of our surveys are always submitted to local and national databases and provide a little more data to help assess the impact of climate change on biodiversity.

It is obvious that the presence of rare dragonflies at PWNR provided the highlights of the season. However, we must remember how essential it is to appreciate, monitor and maintain suitable habitat to support all species at the reserve. The importance of Common Blue Damselflies and Common Darters remaining 'common' is paramount and requires input from multiple directions. Getting involved with the volunteer group or Friends of Portbury

Wharf is one way in which you can help and perhaps, at the same time, increase your chances of seeing the occasional rarity!

Even in late October, as this year's report is being written, there remain a few active Migrant Hawkers, Southern Hawkers and Common Darters on the wing. The 2019 season isn't quite at an end, but this doesn't prevent us from looking ahead to 2020 and what we might discover. Will Scarce Chasers and Small Red-eyed Damselflies continue to consolidate their presence? Is evidence of breeding colonies of Banded Demoiselles and Red-veined Darters just waiting to be uncovered? Will we see more Large Red Damselflies, as we believe we should? Was the dip in Hairy Dragonfly sightings merely a blip? Are rarities such as the Lesser Emperor going to grace us with their presence once more and will they become a regular feature? Perhaps others species not yet recorded at PWNr might turn up, such as the Vagrant Emperor, which is currently being seen in small numbers on the south coast. In the meantime, as winter approaches, the reserve continues to offer many other fulfilling opportunities to observe and enjoy nature before, once again, dragonfly and damselfly larva emerge from pools, ponds and rhynes to start the process all over again.

**Comparison of the average number of each species
seen per transect survey during 2018 and 2019 (based
on three surveys May to July)**

Species	2018	2019	Direction of change
Damselflies			
Large Red	7	1	↓
Common Blue	66	25	↓
Azure	35	49	↑
Blue-tailed	20	12	↓
Emerald	12	14	↑
Small Red-eyed	0	3	↑
Banded Demoiselle	0	3	↑
Dragonflies			
Hairy	8	1	↓
Four-spotted Chaser	2	1	↓
Broad-bodied Chaser	12	3	↓
Scarce Chaser	0	1	↑
Black-tailed Skimmer	5	5	↔
Southern Hawker	1	1	↔
Migrant Hawker	0	1	↑
Emperor	3	2	↔
Common Darter	9	4	↓
Ruddy Darter	10	9	↔
Brown Hawker	0	1	↑
Red-veined Darter	0	1	↑
Lesser Emperor	0	~5	↑