

Vagrant Emperors and other scarce dragonflies at Ryall and Ripple Pits in 2019.

Andy Warr

After an unseasonal period of torrential rain and extensive flooding along the Severn Valley during mid-June, dragonfly numbers at both Ripple and Ryall Pits decreased significantly after a promising start from late May, with Ripple holding good totals of Club-tailed Dragonfly, plus a Scarce Chaser along the River, whilst the earliest county record for Ruddy Darter was logged by the south lake on 1st June. Four-spotted Chaser frequented Ryall in still greater numbers than 2018, and included three individuals of the rarer form *praenubila*.

On the 22nd June, with improving conditions and a more southerly airflow over the previous couple of days, I decided to checkout Ryall Pits and in particular a wetland area once dominated by reedbed and willow scrub, which had been bulldozed the previous autumn. Dragonfly and notably damselfly numbers were still very low, but I soon located a few Four-spotted Chasers, Black-tailed Skimmers, Emperor Dragonfly, and two newly emerged Ruddy Darter. My main hope though, was to find something a little more exotic, as Red-veined Darters were beginning to trickle into the county. Sure enough, I soon located a striking male Red-veined resting on the bare mud, alongside a small pool and seasonal flash, lightly vegetated at the east end with a decent sized bed of *Phragmites* to the west.



01. Red-veined Darter at Ryall Pits 27.06.19. Andy Warr.

By the 27th, three male Red-veined patrolled the same area, and with a strong southerly airflow straight from North Africa crossing Europe, plus a brisk south-easterly breeze, with temperatures expected to reach

the low to mid 30s forecast for the 29th, expectations were high for the weekend.



02. The dragonfly pool and seasonal flash at Ryall Pits. Andy Warr.

Arriving at Ryall Pit early Saturday afternoon, the car temperature gage indicated 32°C, so I slapped on the sun cream, filled my water bottle and headed straight for the favoured dragonfly pool. I soon spotted decent numbers of male Red-veined Darters skimming over the water, but my attention was immediately drawn to a medium sized Hawker heading in my direction. As it swung to the left at close range, then headed away, I noticed an obvious blue patch across the upper abdomen, the remaining lower segments appearing brown throughout. Even without binoculars, I knew I'd just observed one of the two rare UK Emperor Dragonflies, but which one. Lesser Emperor seemed the most likely, with some historical records previously in Worcestershire and a few reports from across Britain in recent days. I remained mindful that reasonable numbers of Vagrant Emperor had been reported from southern and eastern coastal counties throughout June, but I knew inland records were very rare and this species was not yet on the Worcestershire list.

I immediately phone a few birders who had a keen interest in dragonflies, but none were available to visit, as most were setting off to twitch a Scarlet Darter in Dorset, so I sent a message via Twitter of "male Lesser or Vagrant Emperor at Ryall Pits" and waited, camera poised for subsequent views.

The Emperor continued to show reasonably well in flight, but was almost impossible to follow through my 10x40 binoculars and stubbornly refused to land. I soon realised I would need some flight shots to confirm identification and after an hour of unsuccessful attempts at a decent shot, I finally achieved the required photo. Confirmation of the upper eye colour is one of the critical features when trying to separate Vagrant from Lesser, being brown in the former and green the latter. The photo clearly depicted the brown eyes of Vagrant, so I took a back of the camera shot with my mobile phone and posted it on Twitter for comment. A message soon came through confirming Vagrant, so I left a phone message and emailed the photo to the county recorder Mike Averill.



03. Male Vagrant Emperor at Ryall Pits 29.06.19. Andy Warr

With identification now firmly established, I could relax and soon confirmed the presents of a second male, plus at least six male and one female Red-veined Darters, with coupling and egg laying documented by the latter. I took many photographs over a five hour period, which

proved critical in establishing the true number of Vagrant onsite a few days later. I then returned home for a busy evening downloading and sorting through my pictures.



04. Coupled Red-veined Darters, Ryall Pits 29.06.19. Andy Warr.

Next day a few expectant observers, including Mike Averill were gathered around the pool by late morning, but weather conditions weren't so conducive for dragonflies as yesterday, with a cooler wind wiping in from the west, though temperatures were by now in the mid 20's. Due to the pools elevation and open aspect, it was almost void of

dragonflies, holding just a couple of Red-veined Darters, plus a few Four-spotted Chaser and Black-tailed Skimmer, but the target species was soon relocated nearby, frequenting another more sheltered seasonal flash.



05. Male Vagrant Emperor, Ryall Pits 30.06.19. Ben Ofield

Another individual with a darker abdomen showed the blue saddle extending far into segment three caused some confusion as it closely resembled the pattern shown by male Lesser Emperor, but the brown eyes and a brown, not yellow collar above segment two, revealed it

true identity as an unusually marked Vagrant which goes to show how a certain degree of caution is required when separating these two Emperors from flyby or brief perched view.



06. Male Vagrant Emperor with unusually extensive blue saddle, Ryall Pits 30.06.19. Andy Warr.

Next, to everyone's astonishment, a coupled pair landed briefly just a few feet from where we stood and though egg laying was not observed

during the day, it will be interesting to see if any progeny emerge, but to date, successful breeding has yet to be confirmed in the UK.



07. Coupled Vagrant Emperors, Ryall Pits 30.06.19. Ben Ofield

By late afternoon, we had estimated that four males and one female were present but close scrutiny of wing condition and body markings pictured in photos taken by myself and Ben Ofield during the weekend established the actual number of males to be six. Though sizable groups have been recorded in Britain, including ten this year at Donna

Nook, Lincolnshire on June 21st, this is unprecedented for an inland county and an once-in-a-lifetime event to witness.

Here are the photographs depicting differences between the six male Vagrant Emperors 08 & 09.



08. Male Vagrant Emperors 1-3. **Male 1:** Damage only to lower tip of the left, rear wing and blue saddle restricted to segment 2. (Taken on 29th) **Male 2:** Similar to male 1, with blue saddle restricted to segment 2, but all wings undamaged. (Taken on 30th)

Male 3: A darker individual, with damage only to the trailing edge of the right, rear wing and some blue extending onto segment 3. (Taken on 29th June)



09. Male Vagrant Emperors 4-6. **Male 4:** All the wings are pristine and some blue extending onto segment 3. (Taken on 29th)

Male 5: Similar to male 4, with no damage to wings, but different abdomen and thorax markings. (Taken on 29th)

Male 6: A darker individual, with a blue saddle marking in segment 3 similar to that seen in Lesser Emperor. Extensive damage to the left wings, but minimal on the right wing, particularly the rear, ruling out male 3. (Taken on 30th June)

There were no further sightings of any Vagrant on the subsequent visits I made during the week, but a final bonus came in the form of a male Lesser Emperor at the same pool on Thursday 4th July. How a tiny

pool in south Worcestershire can hold three species of Emperor in less than a week almost beggars belief.



10. Male Lesser Emperor, Ryall Pits, 04.07.19. Andy Warr

With little rainfall throughout July, water levels in the seasonal flash receded dramatically, so proved less attractive to dragonflies, though water was retained in the reedbed area. One or two male Red-veined Darters continued to frequent the pits during the month, but all subsequent sightings came from the sludge lagoons to the south of the complex, with the addition of a few Small Red-eyed Damselflies.

On Sunday 4th August, whilst carrying out my WeBS waterfowl count at Ripple Pits, I observed a female Lesser Emperor egg laying in floating aquatic vegetation, a few meters off the western shoreline of the south lake. In this species the female is usually accompanied in

tandem by a male during oviposition unlike most other hawkers, including the Emperor Dragonfly but despite the presents of a male hawking the lakes southern shore just 100 yards away this behaviour was not observed, though coupling prior to their discovery seemed highly likely.

This is the first record of egg laying and probable breeding attempt by Lesser Emperor in Worcestershire.



11. Female Lesser Emperor egg laying at Ripple south lake, 04.08.19. Andy Warr

With three months passed since my first sightings of Red-veined at Ryall, it was time to search for any progeny, as this is a species where rapid larvae development is possible during its first summer if an ample food supply is available. Fortunately, this proved to be the case and a newly emerged male was observed at Ryall sludge lagoons on 21st September. The next day, whilst walking the shoreline of Ripple north lake, I discovered another fresh Red-veined, this time a female

with wings still not fully expanded. Surprisingly I hadn't noted any adults at Ripple earlier in the year, despite extensive searches, though the bare mud shoreline of north lake looked the ideal habitat. I soon located an exuvia (shed skin of the larva), attached to a sedge stem a couple of feet from where I found the darter, which Mike Averill kindly confirmed later that evening to be Red-veined.



12. Newly emerged Red-veined Darters, Ryall Pits 21.09.19 male left & Ripple Pits 22.09.19 female right. Andy Warr.



13. Exuvia of Red-veined Darter at Ripple Pits 22.09.19. Andy Warr.

Images

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- 12. Newly emerged Red-veined Darters, Ryall Pits 21.09.19 male left & Ripple Pits 22.09.19 female right. Andy Warr.
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