
CONTENTS

New Records

First record for North Carolina of *Rhionaeschna multicolor* (Blue-eyed Darner)..... 23
Brian Bockhahn

First record for North Carolina of *Rhionaeschna multicolor* (Blue-eyed Darner)

By Brian Bockhahn

Rhionaeschna multicolor, Blue-eyed Darner, is a common species in the western United States, where it inhabits a variety of wetland habitats (Paulson 2009). It ranges from British Columbia south to Mexico and eastward to Wisconsin, Iowa, Kansas, Oklahoma, and Texas (Fig. 1). An extralimital record from Martha's Vineyard, Massachusetts, was recorded in 1943 (Paulson 2011). Here, I document a second record of this western species for the United States east coast.

On 10 December 2020, in Stones Creek Game Land, Onslow County, North Carolina, I was surveying for spiders for the North Carolina Biodiversity Project, when I noticed a large darner patrolling the edge of Dry Lake, a 13-acre man-made lake (34.55894, -77.48828). It was 1:25 pm EST, sunny with a few clouds, and the air temperature was in the high 60s F. The darner spent several minutes in aerial pursuits of small caddisflies or other flying insects at the shoreline with a tree canopy height of 20–25 feet. It then began patrolling low over an eroded embankment with some sparse grasses and a few cut shrub stems, where it soon perched. With my Canon PowerShot sx540, at approximately 100× digital zoom, I was able to capture two quick photos. As I moved toward it with a net the darner took flight out over the lake edge and disappeared from view.

The sighting of any darner species at this time of year is unusual, so I quickly looked at my camera screen to see which species it was. This individual had bright blue eyes, a bright blue face, a brown thorax with thin narrow blue stripes, an abdomen with blue spotting, clear wings, and cerci that were forked

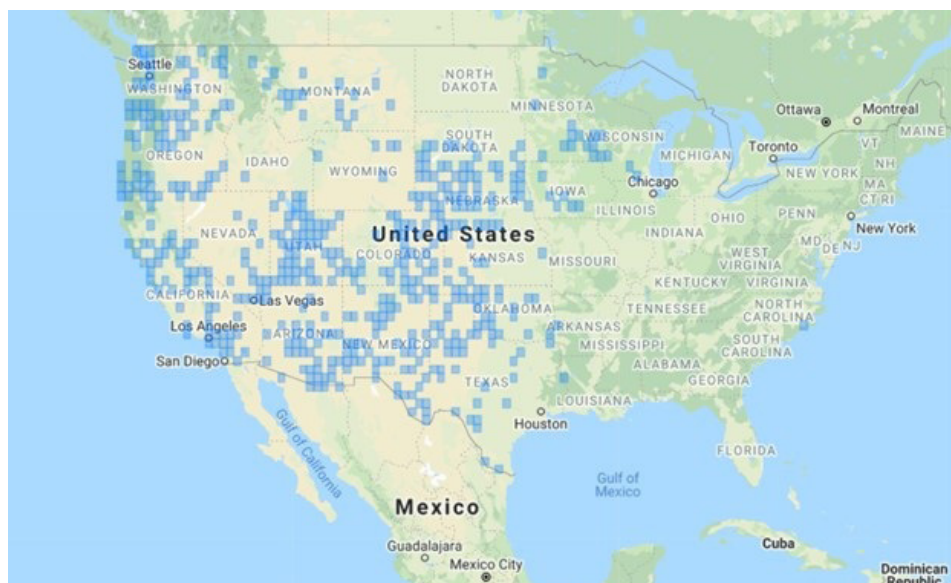


Figure 1. Range map of *Rhionaeschna multicolor*, Odonata Central.

at the tips (Fig. 2). I tentatively identified the darner as *R. multicolor*. I ruled out *R. mutata* (Spatterdock Darner) based on the narrower and straighter thoracic stripes and the more deeply forked cerci. Realizing that if my identification was correct, this was an extraordinary sighting for the East Coast, I quickly sent photos to several other dragonfly enthusiasts for their opinions. All agreed that it was, indeed, *R. multicolor*. This record was later submitted to Odonata Central and accepted as *R. multicolor* (OC#1915449).

Mark Shields and Hunter Phillips arrived at my location within 90 minutes of the sighting. Together, we searched the entire eastern shore of Dry Lake in the late afternoon sun for another hour but did not see the darner again. On 11 and 12 December Shields and Phillips made return trips, completely encircling Dry Lake, as well as visiting other nearby man-made lakes in the game lands, with no success.

As evident in the photo (Fig. 2), the individual appeared fresh with bright coloration and no discernible wing wear or damage, leading to speculations on provenance. One intriguing possibility is that it had eclosed locally. But how could an *R. multicolor* egg or larva find its way hundreds of miles to the east in coastal North Carolina? Dennis Paulson (personal communication) suggested two possible scenarios: (1) it may have arrived as an egg or nymph in aquatic plants imported from a western state, or (2) it may have been caught as a nymph and sold as fish bait.

Dry Lake is a borrow pit with no aquatic plantings, but several miles away are all manner of developments and retirement villas, often with numerous non-native plantings. Most of our imported plant exotics are from the northeast or the south, so it seems unlikely that eggs or larvae arrived in aquatic plants shipped in from Blue-eyed Darner range, but it is possible. I am unaware of dragonfly nymphs

New Records

being sold as fishing bait in North Carolina, and this location's proximity to the coast where saltwater fishing predominates makes this possibility even less likely.

Barring human intervention, the alternative explanation for this darner's appearance in eastern North Carolina is that it arrived naturally as an egg, nymph, or adult. It seems unlikely that an egg or nymph could have been transported in or on the body of a migratory animal, such as a waterbird. A more plausible scenario is that the adult flew here from the west.

R. multicolor is thought to be migratory in California, where it flies into December (Paulson 2009), and Smith and Patten (2021: p. 315) state "records ... indicate that *Rhionaeschna multicolor* wanders eastward in the fall in Oklahoma." Their latest record is 29 November. One of four patrolling males was photographed in Austin, Texas on 2 December 2008.

R. multicolor does range south into uplands of Mexico to Michoacan (Paulson 2009), where perhaps it has a later flight period. It is possible that one of several hurricanes that hit the Gulf of Mexico that fall could have pushed individuals into the United States.

In summer and fall of 2020 there were also several major and catastrophic wildfires in the western United States that could have caused an eastward movement of western strays.

We will never know how this individual made it to coastal North Carolina, but the fact that it did indicates that observers in the eastern United States should be on the lookout for *R. multicolor* in the fall and winter. Don't assume that a late season darner is just a Common Green (*Anax junius*)!

Acknowledgements

I'd like to thank Mark Shields, John Petranka, and Kyle Kittelberger for their feedback on an earlier version of this note and Dennis Paulson and Harry LeGrand for comments on the sighting, Mark and Hunter Phillips for the rapid



Figure 2. *Rhionaeschna multicolor*, first North Carolina record.

response, and Kyle Kittelberger for immediate digital research through text.

Citations

- Paulson D. 2009. *Dragonflies and Damselflies of the West*. Princeton Field Guides. Princeton University Press, Princeton, New Jersey.
- Paulson D. 2011. *Dragonflies and Damselflies of the East*. Princeton Field Guides. Princeton University Press, Princeton, New Jersey.
- Smith BD, Patten MA. 2021. *Dragonflies at a Biogeographical Crossroads: The Odonata of Oklahoma and Complexities Beyond its Borders*. CRC Press, Taylor & Francis Group, Boca Raton, Florida, USA.

Brian is the Regional Education Specialist for North Carolina State Parks, where he travels across the state conducting biodiversity inventories and teaching wildlife identification workshops. While he is the leading expert of arachnids in North Carolina (see: <https://auth1.dpr.ncparks.gov/arachnid/index.php>), he has been observing odonates in the state for over two decades.