

Ohio Dragon-Flyer

Newsletter of the Ohio Odonata Society



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Cover: **Cyrano Darner** *Nasiaeschna pentacantha*.

Miami Whitewater Forest, Hamilton County, Ohio, June 10 2019
Canon 7D II, 420mm, 1/2000, f/5.6, ISO2000, Jim Lundberg.

This primitive, thick-bodied darner is, seemingly, absent from Southeast Ohio. The earliest recorded Cyrano Darner Ohio flight date is 17 May.

Ohio Odonata Conference 2022



Registration is Open – register and save the date! The 2022 Dragonfly Conference and Ohio Odonata Society Annual Meeting Saturday June 25, 2022 at Possum Creek Metro Park in Dayton, Ohio. We deferred meetings in 2020 and 2021 due to pandemic concerns, so we look forward to seeing the group this summer. The OOS has implemented Covid precautions. Reference the registration and information website for details. For additional info and registration, go to <https://u.osu.edu/ohioodonatasurvey/> and click on the conference link.

The search continues – the Ohio Odonata Society needs a new treasurer! Bob Restifo is officially retiring from the treasurer position that he has held for 2 decades. If you would like the Ohio Odonata Society to continue to exist, please consider stepping up as a new treasurer. This topic will be discussed at the society business meeting at the conference, but feel free to reach out to us beforehand if you think you would like to take up the role. We will also be recruiting a new member-at-large position, but the treasurer position is more important.

2022 Field Season Stats to date: 131 Research Grade Observations, 38 Observers, 9 Species, 31 Counties.

Common Green Darner - 67 observations in 28 Co's, Fragile Forktail - 20/13, Eastern Forktail - 18/12, Swamp Darner - 6/2 (including new Pike Co record), Painted Skimmer - 5/4 (including new Fayette Co record), Citrine Forktail - 5/3, Blue Corporal - 5/3, Carolina Saddlebags - 4/3, Aurora Damsel - 1/1. 35 of the 131 observations establish new county early flight dates. That's cool, and a reason to get out in the field. This follows the new early state flight date from Mar 6 for Common Green Darner. Stats: Jim Lemon.

Anax junius* Invasion** Ohio hosted an influx of the **Common Green Darner *Anax junius in April with 67 observations in 28 counties. Butler, Cuyahoga, Lorain and Pickaway all have new early flight dates. Common Green Darners travel an average of 16 kilometers an hour and are capable of migrating 140 kilometers in a day with a trip average of 900 kilometers [[CGD 1](#)]. Sarah White described her March 6 Ohio dragonfly early date record as following roaring winds out of the south. Like migratory birds, migratory dragonflies depend on frontal system winds for a migratory push. Unlike birds, for the dragonflies, it's a one-way trip – emerge, ride the tailwinds, mate and die. The study here, [[CGD 2](#)], indicates that CGD populations are composed of at least three generations. The first generation migrates north. The second generation migrates back south, sometimes in swarms large enough to create Doppler weather radar returns. The third generation does not migrate but breeds where it emerges, in the population's southern range.

Mighty Morphin' Dragons – Part 3 (last in the morph series)

Sally Isacco disacco@roadrunner.com | Jim Lemon jlem@woh.rr.com

Over the last months we have looked at 1) various morphs in Eastern Forktail *Ischnura verticalis* (age-related color-change, androgenic females, unusual markings), and then 2) Sexual Dimorphism in Skimmers *Libellulidae*. Our last goal in this series is to look at Polymorphism as it occurs in female Damselflies *Zygoptera*. With this we see variety in individuals that occurs in the population based on genetics, and unrelated to gender or development. Once again, we'll provide some examples that you should be able to find. Our example list is not exhaustive, given the range of habitats and species, some things can be out of the ordinary.

The most common color forms in polymorphic female Damsels are blue-form and brown-form. These differences are apparent soon after emergence and, unlike age-related differences, do not change as the females mature. It can be helpful to photograph tandem pairs where the males are easy to identify.



Blue-tipped Dancer pair. Male with brown-form female. Geauga Co, Jun 3, 2018, Sally Isacco.



Blue-fronted Dancer pair. Male with brown-form female. Tuscarawas Co, Jul 15, 2020, Sally Isacco.



Powdered Dancer pair. Male with brown-form female. Miami Co, Aug 15, 2019, Jim Lemon.

Blue-tipped Dancer *Argia tibialis* is common in many areas near moving water. The males are a straightforward field ID: large dark Dancers with deep purple and black stripes on the dorsal thorax and bright blue S9 and S10 abdominal segments. Both color forms of the Blue-tipped females can be recognized by the “fork” in the shoulder stripe. Also indicative is a mostly black abdomen.

Blue-tipped Dancer, blue-form female. Stark Co, Jun 7, 2020, Sally Isacco.



Blue-tipped Dancer, brown-form female. Highland Co, Jul 7, 2021, Jim Lemon.

Detail of female with forked shoulder stripes. Darke Co, Jul 22, 2021, Jim Lemon.



Detail of female with forked shoulder stripes. Williams Co, Jun 16, 2021. Note the range of colors in the females.



Be careful that other Dancer species can also have the “fork.” Here is a Violet Dancer *Argia fumipennis violacea* with this same field mark. Note the “not mostly black” abdomen. Violet Dancer, tandem pair.



Blue-fronted Dancer *Argia apicalis* is the most commonly observed Dancer. Males are large and bright light blue on both the thorax and end of the abdomen. Females can be blue-form or brown form. Note the “short” stigma.



Blue-fronted Dancer, brown-form female. Stark Co, Jun 7, 2020, Sally Isacco.

Blue-fronted Dancer, blue-form female. Wood Co, Aug 18, 2019, Jim Lemon.



Powdered Dancer *Argia moesta* is another Dancer primarily associated with moving water, and it seems the bigger the stream, the better. Males develop a unique pattern of pruinescence that make them appear to be white on the thorax and end of the abdomen. Females can be blue-form or brown form, and very similar to the Blue-fronted females.

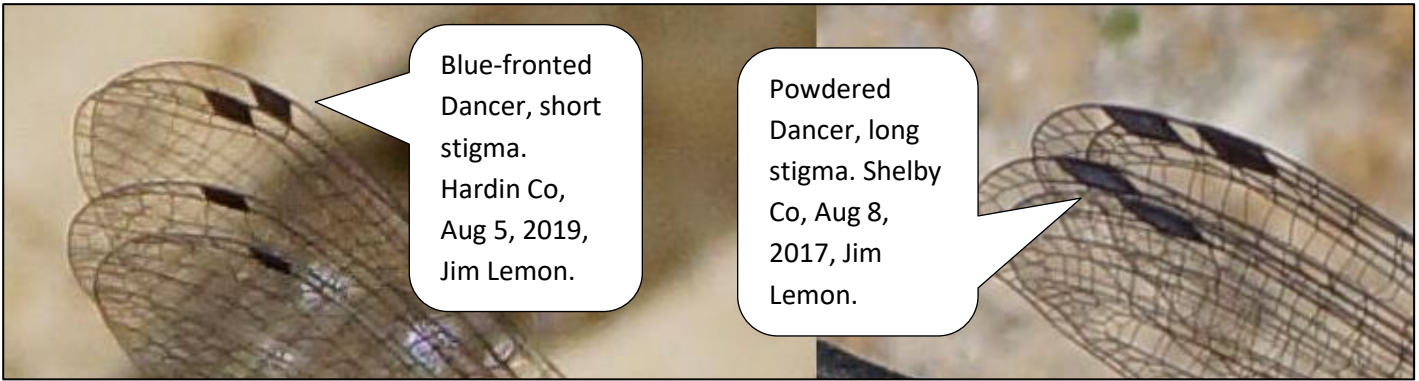


Powdered Dancer, blue-form female. Allen Co, Sep 1, 2021, Jim Lemon.

Powdered Dancer, brown-form female. Lake Co, Jul 7, 2018, Sally Isacco.



Blue-fronted and Powdered Dancers both have a long flight, peaking in July. Males are unmistakable, large and uniquely-patterned. Note that the range of these two species is the entire state (we still would like to document Powdered Dancer in Carroll and Perry Counties). While we’re here, note the similarities in females of Blue-fronted and Powdered. Contrast this with the very distinct males. This female couplet represents one of the most common problematical IDs. One field mark is the pattern and color of S9. This is frequently obscured, especially after the females have begun to oviposit. A second distinguishing field mark is the crossvein wing pattern in the cells below the stigma. Powdered females have two cells, Blue-fronted have just one. This can be difficult to see in the field. While this can be definitive, many photos don’t adequately document this small difference.



Blue-fronted Dancer, short stigma. Hardin Co, Aug 5, 2019, Jim Lemon.

Powdered Dancer, long stigma. Shelby Co, Aug 8, 2017, Jim Lemon.

Familiar Bluet *Enallagma civile* is our most commonly observed Bluet with records in every Ohio County. In a productive site, like the St Mary’s Fish Hatchery, thousands can be flying during a late summer emergence. Big numbers of individuals can help highlight the different color-forms, as they are literally side-by-side. Male Familiars are large and mostly blue. Female Familiars can be blue or brown, and in a slight switch-up from the blue- and brown-forms of the Dancers, Familiar females can also have a lovely olive-form.

Familiar Bluet tandem, w/blue-form female. Trumbull Co, Oct 6, 2018, Sally Isacco.



Familiar Bluet tandem, w/olive-form female. Lake Co, Jun 30, 2017, Sally Isacco.

Familiar Bluet tandem, w/brown-form female. Defiance Co, Jun 8, 2019, Jim Lemon.



Tule Bluet *Enallagma carunculatum*. Not as common as Familiar, but recorded in many Ohio counties other than the SouthEast. Tule females have a blue-form, a tan-form, and an olive-form. I have also photographed a gray form, which is not mentioned in any of the field guides, so this may be developmental.

Tule Bluet in wheel, w/tan-form female. Champaign Co, Sep 25, 2017, Jim Lemon.



Tule Bluet, blue-form female. Lake Co, Jun 14, 2020, Sally Isacco.

Tule Bluet, gray-form female. Champaign Co, May 15, 2017, Jim Lemon.



So, over three installments we've seen that a number of common Odonata species can give you a number of "looks" that can make ID challenging. Half the exercise is understanding that individual creatures change as they develop, that males and females don't necessarily look alike, and that there variety even in a species.

Where to next? Stay tuned.

May Dragons! Jim Lemon jlem@woh.rr.com



Here we go! May is our biggest month for the first sightings of Odonata species with 87 species being recorded in May. With the 35 species from March and April, by the end of May we could have 122 species in flight. Here’s a map of Counties with observations in May. Note that we only have a few counties with no recent May observations. Darker where observations are in the last 5 years. Franklin and Champaign are the clear county leaders in number of May observations.

Here is a table of the species that have been first recorded in May. Sightings prior to the date will constitute new early flight dates.

Species	Earliest Flight Date	Observations All Data	Observations Recent Years	Migratory?
Eastern Pondhawk	1-May	343	286	
Emerald Spreadwing	1-May	22	10	
Sphagnum Sprite	2-May	8	3	
Dusky Clubtail	3-May	35	12	
Swift River Cruiser	3-May	12	3	
Spangled Skimmer	3-May	87	66	
Wandering Glider	3-May	9	5	
Pronghorn Clubtail	4-May	104	49	
Widow Skimmer	4-May	77	58	
Ebony Jewelwing	5-May	405	296	
Prince Baskettail	6-May	48	38	
Eastern Red Damselfly	6-May	199	123	
American Rubyspot	7-May	22	17	
Amber-winged Spreadwing	7-May	64	44	
Marsh Bluet	7-May	5	0	
Harlequin Darner	8-May	22	14	
Elegant Spreadwing	9-May	35	20	
Eastern Amberwing	10-May	42	35	
Chalk-fronted Corporal	10-May	25	2	
Swamp Spreadwing	11-May	12	10	
Gray Petaltail	12-May	33	23	
Lilypad Clubtail	13-May	16	11	
Black-shouldered Spinyleg	13-May	7	1	
Arrowhead Spiketail	13-May	38	22	
Calico Pennant	14-May	114	91	
Boreal Bluet	14-May	9	0	
Stream Bluet	14-May	88	58	
Handsome Clubtail	15-May	26	9	
Band-winged Dragonlet	15-May	1	1	

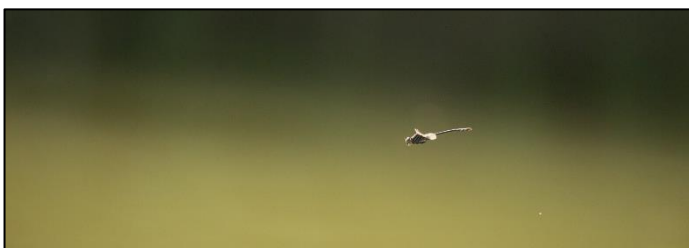
Violet Dancer	15-May	107	79	
Vesper Bluet	15-May	52	41	
Paiute Dancer	16-May	10	10	
Rusty Snaketail	17-May	14	0	
Cyrano Darner	17-May	8	7	
Spatterdock Darner	17-May	36	29	
Elfin Skimmer	17-May	24	21	
Yellow-sided Skimmer	17-May	2	0	
Sweetflag Spreadwing	17-May	9	5	
Northern Spreadwing	17-May	2	1	
Slender Spreadwing	17-May	71	57	
Sedge Sprite	17-May	8	3	
Turquoise Bluet	17-May	149	126	
Green-faced Clubtail	18-May	4	0	
Cobra Clubtail	18-May	44	29	
Comet Darner	18-May	15	13	
Delta-spotted Spiketail	18-May	18	7	
Southern Pygmy Clubtail	19-May	12	3	
Brown Spiketail	19-May	57	32	
Frosted Whiteface	19-May	3	0	
Blue-tipped Dancer	19-May	48	38	
Hagen's Bluet	19-May	10	1	
Band-winged Meadowhawk	20-May	1	0	
Lilypad Forktail	20-May	12	12	
Rainbow Bluet	21-May	30	7	
Halloween Pennant	22-May	4	1	
Slaty Skimmer	22-May	25	22	
Seepage Dancer	22-May	13	10	
Westfall's Slender Bluet	22-May	15	14	
Skillet Clubtail	23-May	2	0	
Slender Baskettail	23-May	7	4	
American Emerald	23-May	9	3	
Lyre-tipped Spreadwing	23-May	2	0	
Powdered Dancer	23-May	30	18	
Dusky Dancer	23-May	3	3	
Splendid Clubtail	24-May	9	1	
Racket-tailed Emerald	24-May	3	0	
Banded Pennant	24-May	9	9	
Four-spotted Skimmer	24-May	1	0	Maybe
River Jewelwing	24-May	10	8	
Russet-tipped Clubtail	25-May	2	0	
Eastern Least Clubtail	25-May	8	2	
Golden-winged Skimmer	25-May	1	1	
Northern Bluet	25-May	3	1	

Tule Bluet	25-May	12	12	
Riffle Snaketail	26-May	2	0	
Great Blue Skimmer	26-May	8	7	
Blue-fronted Dancer	26-May	21	15	
Common Sanddragon	27-May	1	0	
Plains Clubtail	27-May	1	0	
Tiger Spiketail	27-May	6	1	
Blue-faced Meadowhawk	27-May	1	0	
Blue-ringed Dancer	27-May	7	6	
Ruby Meadowhawk	29-May	3	0	
Autumn Meadowhawk	29-May	1	0	Maybe
Elusive Clubtail	30-May	1	0	
Spotted Spreadwing	30-May	1	0	
White-faced Meadowhawk	31-May	1	0	

Flight Photos – Exposure Triangle Jim Lundberg lundbergj@hotmail.com

Think of the exposure triangle (aperture, ISO speed and shutter speed) as three consumers competing for a limited resource (available light). With flight photos, meeting the demands of the exposure triangle is problematic because the subjects are fast, small and distant requiring greater magnification and blur control than still photos. This second article in the Flight Photos series addresses the difficulties of budgeting available light to create sharp, properly exposed flight photos.

Canon R6, R100-500 at 500mm, f/7.1. 1/2500, ISO 6400. Evaluating your images, the good, the bad and the ugly, is a valuable learning exercise. The first article evaluated these images from the standpoint of Depth of Field; the aperture was as wide as practical without risking a soft photo due to a shallow DOF, so proper exposure depends on the other two points of the exposure triangle (ISO and shutter speed). The ISO for this image was 6400, already a compromise. That leaves shutter speed to prevent under-exposure. As the Elusive Clubtail was on slow patrol and distant, panning accuracy was fair and would have allowed a reduced shutter speed, maybe down to 1/1600th of a second, without introducing subject blur. The reduced shutter speed would have allowed a lower ISO or a narrower aperture, but not much from either. Flight photos are all about *compromise*; experiment with aperture, ISO and shutter speed to understand the interaction between the three factors of the exposure triangle and your ideal settings and compromise limits for each.



Aperture – the variable opening by which light enters the camera measured as f/stop . The Exposure Triangle and the Depth of Field Triangle share the common factor – Aperture. The first article described the need to maintain a reduced aperture or risk soft images. Post-process sharpening of soft images is limited. Post-process over-sharpening creates spots and white-lined edges (halos); there is no really good fix for a soft image, so prevention of soft images is the best policy. We need a reduced aperture to prevent soft images. Ah, but to reduce aperture is to reduce light, so the ideal aperture for adequate DOF will always be at odds with the ideal aperture for adequate exposure. In choosing between DOF and exposure, the more critical demand is to maintain adequate DOF. With experimentation, you will find the ideal DOF aperture for the focal length you work with. For a 500mm focal length, it might be somewhere in the range of $f/16$ out to 10 feet, $f/11$ from 10-20 feet, $f/8$ from 20-30 feet and $f/5.6$ beyond 30 feet. Abandoning the ideal DOF aperture should be a last resort; first, consider increasing ISO or decreasing shutter speed to prevent under-exposure.

ISO speed – a measure of the sensitivity of your camera’s sensor to light as determined by the International Organization for Standardization. Greater sensitivity to light (higher ISO) allows faster shutter speeds and narrower apertures, both necessary for producing sharp images. There is a downside; higher ISO will also increase image artifacts (noise), degrading image quality. Lower ISO creates less noise, but the demands of magnification and blur control for flight photos most often requires compromise. Fortunately, technology controlling high-ISO noise continues to improve; the sensors are better, in-camera, high-ISO noise reduction is better and so are post-processing noise reduction programs. But limits remain; excessive noise reduction will create soft images. Cameras and personal preferences differ; your go-to flight photo ISO setting might be in the range of 800 to 3200 with a compromise limit in the range of 6400 to 12800.

Shutter Speed – duration that the shutter is open, allowing light to reach the sensor. Faster shutter speeds are needed to eliminate subject blur of flight images, but how fast is fast enough? There is no single, perfect flight photo shutter speed because, in addition to shutter speed, there are other factors that affect subject blur. Your go-to flight photo shutter speed might be $1/2000^{\text{th}}$ of a second with a range between $1/1000^{\text{th}}$ and $1/5000^{\text{th}}$ depending on those other factors affecting subject blur, the topic of a later article in the series.