

Ohio Dragon-Flyer

Newsletter of the Ohio Odonata Society



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Dragonflies and Dams: An introduction to the effects of dams on Odonate populations. Author: Jim Lundberg

Ohio Stream Access – Rights and Restrictions: A discussion of legal access to Ohio's streams and rivers. Author: Jim Lundberg

Odonata Identification Series – Overview: The first installment in the series, Jim and Sally offer an overview of the series with general tips on Ode photography and ID. Authors: Jim Lemon and Sally Isacco.

Volunteer Needed – Secretary/ Treasurer: Bob Restifo, long-time Secretary/Treasurer is ready to pass along this OOS role.

Small Grant Application: Up to \$500 may be awarded for a worthy project.

Data, Species Maps, Flight Charts: Includes a primer to the new, useful, combination Map-flight Charts which have been mailed as a separate PDF file. Author: Jim Lemon

Cover: Royal River Cruiser *Macromia taeniolata*.

Ohio Brush Creek, Adams County, Ohio, 2 July 2019.

Canon 7D Mark II, 420mm, 1/2000th, f/9.0, ISO2500, Jim Lundberg.



Before the dams were built, there were drought years you could walk across the Ohio Riverbed between Cincinnati and the Kentucky river towns.

Dragonflies and Dams

There are hundreds of dams in Ohio providing year-round navigation, flood control, water conservation and hydro-electric energy – and creating substantial ecological change. This article isn't intended to attack or defend damming, rather present a few of the effects damming has on our Odonate populations.

Single dams create lentic (still water) ecosystems within the reservoir upstream of the dam, favoring lentic species. Farther upstream of the reservoir, the river remains lotic (riverine). Downstream of the dam, the river remains lotic but is modified in other ways that may lead to local extinction of niche species (C.E. Klein et al); the river downstream of a dam experiences changes in flow, temperature, nutrient level, dissolved gasses, PH, algae, riverside vegetation and sediment. There is evidence that, of these factors, change in sediment load has the greatest effect on species richness. Heavier, coarse substrate, which supports diverse sets of macroinvertebrate taxa (Mathers and Wood 2016), tends to gravitate out of the water load behind dams. Fine substrate remains suspended in the water, flows over the dam and creates homogenous benthic habitats below the dam (Buendia et al 2013). Of note is that these homogenous habitats reduce species richness but increase abundance of the remaining species (Jun Wang et al). The greatest ecosystem change is found below the dam of a reservoir; the farther from the dam, the less the change (Jun Wang et al).

Multiple dams for navigation on large rivers create a series of interconnected linear pools, modifying the ecosystem along its entire navigable length. After damming, the river remains a lotic ecosystem but modified with qualities of lentic ecosystems, so we expect change to species composition as most Odonate species prefer one habitat over the other. A 2021 Chatham University study, [Odonata Upper Ohio River](#), of the Ohio River near Pittsburg, pulled six species of dragonfly larvae. The most abundant Odonate species caught was the Elusive Clubtail *Stylurus notatus* which is NatureServe-listed critically imperiled in Ohio. Dennis Paulson (2011) notes that the Elusive Clubtail habitat is large, slow flowing rivers, less often large lakes. While the increased lentic qualities of the dammed Ohio River ecosystem may have benefited this species, it has reduced populations of lotic species that were more abundant before the wild river was tamed.

Jim Lundberg lundbergj@hotmail.com

Ohio Stream Access – Rights and Restrictions

Right of Navigation: On navigable streams there is a public right of navigation, spelled out originally in the Northwest Ordinance, which states that navigable waters shall be common highways, forever free to the people of the United States. On such streams, boaters have the right to navigate on the stream regardless of who owns the land beside it. Right of Navigation opens hundreds of Ohio river miles which are not, otherwise, legally accessible.

A float survey can determine river ode populations more quickly than driving and hiking multiple small river sections. Kayaking allows access to backwaters, alongside islands, remote beaches and special habitats not otherwise physically and legally accessible. But how do we determine whether a stream meets the legal definition of navigability? Under Ohio common law, navigability cannot be determined by a precise formula. Traditionally, a test of navigability has been whether a stream is used or could be used as a highway for commerce. More recently, the definition of navigability has been broadened to include a stream’s capacity for recreational navigation as well (Ohio Department of Natural Resources). Practically speaking, most navigable streams will have known public watercraft access points. The Ohio Department of Natural Resources (ODNR) maintains the most comprehensive statewide watercraft access map. [ODNR - Division of Parks and Watercraft - Boater Access](#).

If you find a stream not listed on the ODNR watercraft access site, exercise due diligence to determine legal access: first you must determine navigability. A reasonable test of navigability is whether water depth allows continuous float without getting your feet wet; if you would have to walk shallow sections of the stream, it is both trespass and could harm sensitive habitat. Second, you must find access points to put in and take out without trespassing.

Riparian Rights and Pedestrian Streamside Access: For the issue of rightful pedestrian access, there are two components to a stream: the water flowing in it and the land beneath the water. Ohio’s Constitution does not directly address the question of who owns Ohio’s streams, so the answer is derived from common law. Under common law, the owner of the land beside the stream also owns the land beneath the stream. If the land on each side is owned by two different owners, then each owns to the center of the stream unless otherwise specified by the landowners’ deeds. Ohio’s application of Right of Navigation is more restrictive than most of our neighboring states; Right of Navigation in Ohio is not license to walk alongside or within the streambed adjacent to private property (ODNR).

Not every public property allows public access and not every private property denies public access. Look into local, state and national forests, greenways and parks. Look into preserves both public and private. Two other common streamside access points include bridge crossings and ODNR-listed watercraft access points. The public easement that is part of every public bridge crossing in the state often has vehicle pull-off points, especially in rural areas. A fair number of bridges are adjacent to tributary confluences which usually create shallow sedimented, or graveled banks and can be productive. Whether or not you plan to kayak, the ODNR watercraft access website referenced above shows hundreds of streamside access points worth exploring for odes.

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Odonata Identification Series – Overview

We want you to have successful dragonfly field days. Part of that is knowing what you're seeing and knowing what you need in order to document an observation. There's lots of detail. You will get better with time. Just as important as getting the photos is enjoying being out. Don't fret, have fun. Make photos. Try to do IDs. Struggle a little but not a lot. Getting photos into iNaturalist is a learning process. You'll develop your skills more and have better retention if you try to do the ID – even if you get it wrong. *We've all been corrected at some point.*



You're going to want a field guide. A number of great resources are available. Check the Dragonfly Project resource page:

<https://u.osu.edu/ohiodonatasurvey/identification-resources/>

Jim and Sally keep a pile of resources next to the computer. Here's Jim's morning routine. We're hoping to add a new field guide to the pile soon!

You can also use the Internet - search for something like "Dragonfly ID" or "Odonata Identification". Many of the links take you through a key process, which can be helpful. There's also Odonata Central, Ohio Odonata Facebook and iNaturalist. These are all useful in different ways.

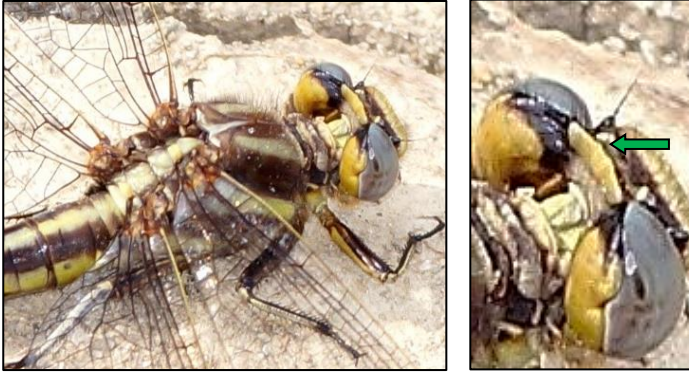


It's helpful to click on the Species list from the Dragonfly Survey page of iNaturalist. This shows the species and numbers we've recorded recently in Ohio. You may have come across something new, but more likely it's something one of us has seen.

iNaturalist is pretty good at ID. Hold that, iNaturalist is really good at ID, but not 100%; it can be *way* wrong. Fortunately, there are dedicated Ode Folk that don't let much get by. If iNat leads you incorrectly (like saying an observation is something specific to southeast Asia), iNat identifiers won't let that stand for long! These same identifiers point out some of our mistakes; some observations go back and forth. Community vetting has value; different people see different things.



Some Dragons are unmistakable even with marginal photos. An example is the Comet Darner. Comets fly fast and, sometimes, don't give you more than a pass or two. Try to get the shot! There's nothing else like the big green body and brick-red tail. Comet Darner *Anax longipes*. Left image – Stark County, 2021, Jim Lemon. Right image – Geauga County, 2021, Sally Isacco.



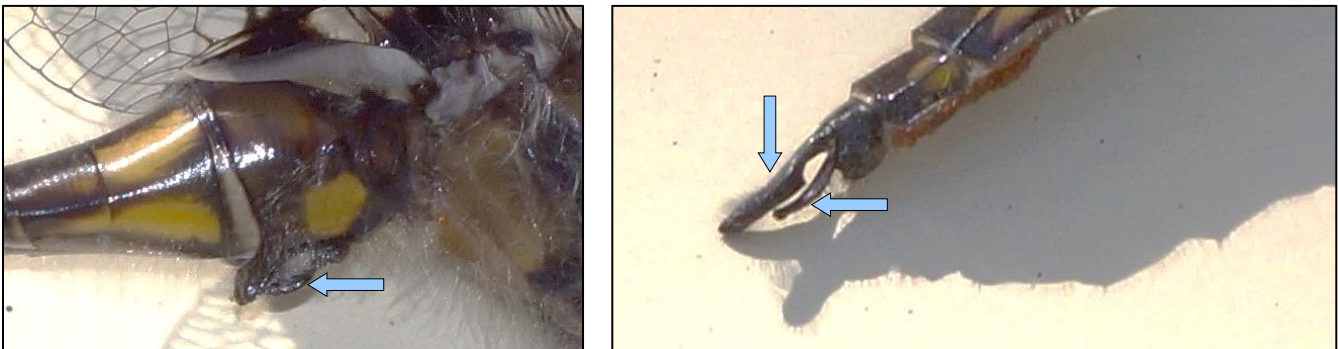
Others can require very specific photo documentation. Sidestepping our most challenging groups for the moment, let's use a female Dusky Clubtail as an example. The *Phanogomphus* can be tricky given natural variation in our three species. Female Dusky Clubtails can have a distinctive feature, a “tiara” or wavy occiput (the bit between the eyes). If you capture that single detail, there is no confusion on the ID. Dusky Clubtail *Gomphus spicatus*, Henry County, 2019, Jim Lemon.



Left image – Face: color, sutures, eyes clearly visible. Great Blue Skimmer *Libellula vibrans*, Mercer County 2021, Jim Lemon.

Middle image – Dorsal: top down, see all markings, width of thorax and abdomen, eyes. Delta-spotted Spiketail *Cordulegaster diastatops*, Ashtabula County, 2021, Sally Isacco.

Right image – Lateral: markings visible, lateral profile of appendages. Gray Petaltail *Tachopteryx thoreyi*, Lake County, 2021, Sally Isacco.



Left Image – Hamules: male accessory on bottom side of first abdominal segment.

Right image – Appendages: cerci and epiprocts. Common Baskettail *Epiptera cynosura*, Adams County, 2020, photograph by Jim Lemon.

Here's where we're headed in coming months: Dimorphism; Female Damselflies - Dancers, Bluets, Forktails; Spreadwings; Baskettails; Meadowhawks; Clubtails; Skimmers; Spiketails; Other Common Concerns

So, some guidelines – try to take multiple photos. Face, dorsal (top-down) view of thorax (where the wings attach), lateral (side-view) of thorax, legs, dorsal and lateral abdomen, close-up of terminal appendages, for males: close-up of hamules (secondary genitalia). We realize that you don't often have that much time or control, but if you don't know the species, the more photos, the better. With digital cameras, there is no real downside to taking a lot photos. Make multiples, then throw away all but the best, especially if you see something interesting! If you have specific questions, please email Jim or Sally. We'll try to include your feedback as we proceed.

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Small Grants

OOS has had a Small Grants program for a number of years. Funds have been available (up to \$500) but have never been used. In an effort to expand the awareness of the OOS Small Grants, OOS is partnering with Ohio Biological Survey Small Grants. If you are interested in applying for a Small Grant, please see the information on the Ohio Biological Survey web site.

Application deadline is March 15.

<http://www.ohiobiologicalsurvey.org/projects/>

Volunteer Needed – Secretary/ Treasurer

Bob Restifo, long-time Secretary/Treasurer is ready to pass along this role in the OOS. Bob has served long (since the mid-1990s) and served well. This is an important position for the society, requiring attendance at meetings and banking responsibilities. If you have questions or are interested in contributing in this effort, please get in touch. We will get past Covid and do things again, so we need help for this role. The other choice is do away with the Society as a financial entity.



Bob Restifo
Secretary/ Treasurer Ohio Odonata Society
2013 Oak Openings

Data, Species Maps, Flight Charts

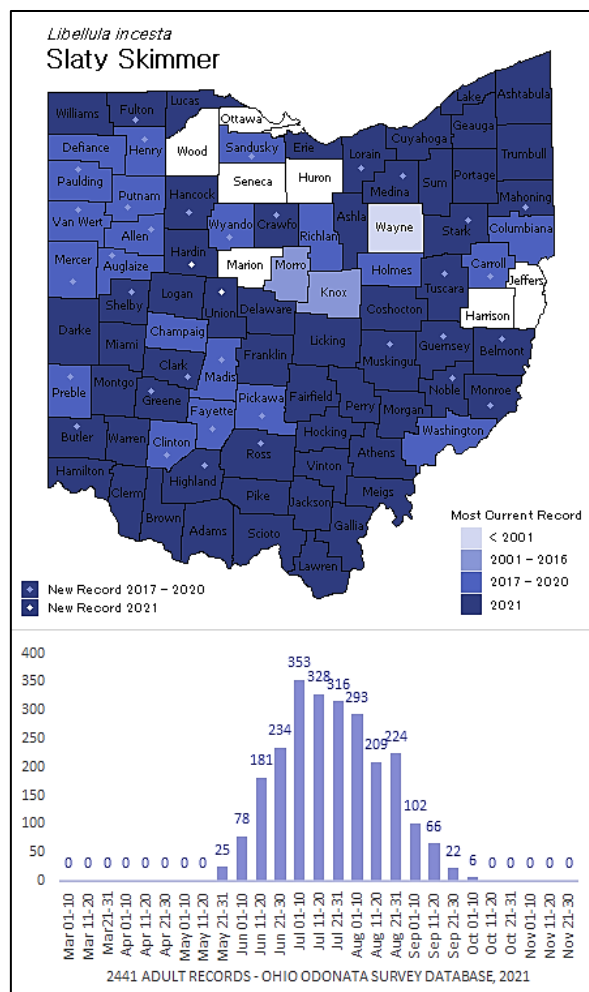
The OOS database has been updated with the observations submitted to iNaturalist in 2021. From the new data we have new species maps and flight charts.

The species maps show the counties where species were observed. Additional information includes how recently a species has been observed, I shifted things forward, so that categories are last year (2021), the previous four survey years (2017-2020), then the prior fifteen years (2001-2016), then everything before 2001. If we haven't seen something in 20 years, we need to look! New county records are shown for 2021 (bright star), then for the survey years (darker star).

The flight charts show the range and frequency of observations for a species through the Ohio season (March-November). Thanks to MaLisa Spring, these maps and chart are available at:

<https://u.osu.edu/ohiodonatasurvey/species-distributions-across-ohio/>

<https://u.osu.edu/ohiodonatasurvey/species-distributions-across-ohio/species-flight-dates/>



Something new this year are graphics that combine the maps and charts. Here's an example - Slaty Skimmer *Libellula incesta*. This example has the range of points: current and historical counties, both kinds of county records, enough data for smooth flight chart. Slaty has shown a sizable range expansion in the past 5 years (only Carolina Saddlebags had more county records). We added two Slaty counties in 2021 (Hardin and Union). But you can see all the other stars from the survey years. Note also that there are seven counties that we should be able to find this species. The flight for Slaty is pretty long, late May to early October, peaking in July. This is probably due to individuals blown north as well as local emergence.

A PDF of all 173 combo files is being sent with this newsletter.

If you would like a zip archive of the separate combo files, let me know. I also have xls files of the map data, and the complete database if you're interested. And, of course, let me know on questions or discrepancies (there's lots of moving parts, it's always something!)

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