

ohio dragonfly migration

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Ohio Dragonfly Migration

This is the one people do not know happens, and it is the best-evidenced invertebrate migration on the continent. Dragonflies move south over Ohio in their thousands every September, along the same shoreline and behind the same cold fronts as the songbirds, and a good morning at the lakeshore in early September is often both at once.

The chart above carries seven species: the green darner that runs the whole system, two gliders, two saddlebags, and two skimmers that are on it for contrast.

How to read the chart

Each row is a species; each bar is a window when it is on the move through Ohio. The vertical line is today, colour carries direction — northbound in spring, southbound in autumn — and an arrow marks a species that winters off the bottom of the map. Hover a name for where it breeds and where it goes. The chart scrolls sideways on a narrow screen.

Three generations, and none of them makes the round trip

The common green darner's migration is not an inference from sightings. It was settled with stable hydrogen isotopes in the wings of museum and field specimens, which record the water an individual grew up in. Hallworth and colleagues, publishing in *Biology Letters* in 2018, read 852 wings from eight countries spanning 1874 to 2013, cross-checked against 21 years of public first-flight observations, and found a three-generation annual cycle:

Generation	Emerges	What it does
First	January to May, in the south	Flies more than 650 km north, lays eggs in northern ponds, dies. These are the darners over Ohio in April
Second	May to July, in the north	Flies more than 680 km south in autumn, lays eggs in southern ponds, dies. This is the September flight
Third	November to January, in the south	Stays put, breeds locally, and produces the generation that goes north the following spring

So no darner sees both ends of the route. The animal over an Ohio pond in April is the grandchild of the one that was there last September. That is exactly the monarch's arrangement, arrived at independently, in an insect whose lineage diverged from the monarch's before there were flowers.

The same study found the northbound flight tracks a 9.17 °C thermocline — the darners move north with a temperature line, which is close to the species' development threshold.

The seven species on the chart

Species	Scientific name	Group	Northbound	Southbound	Winters
Common Green Darner	<i>Anax junius</i>	Darner	20 Mar–10 May, peak 15 Apr	15 Aug–10 Oct, peak 10 Sep	The Gulf states and Mexico, as the third generation

Wandering Glider	<i>Pantala flavescens</i>	Glider	1 Jun–20 Jul, peak 25 Jun	10 Aug–30 Sep, peak 1 Sep	The tropics
Spot-winged Glider	<i>Pantala hymenaea</i>	Glider	20 May–10 Jul, peak 15 Jun	15 Aug–30 Sep, peak 1 Sep	The southern states and the tropics
Black Saddlebags	<i>Tramea lacerata</i>	Saddl ebags	1 May–20 Jun, peak 25 May	15 Aug–5 Oct, peak 8 Sep	The Gulf states
Carolina Saddlebags	<i>Tramea carolina</i>	Saddl ebags	10 May–1 Jul, peak 5 Jun	20 Aug–1 Oct, peak 5 Sep	The south-eastern states
Variegated Meadowhawk	<i>Sympetrum corruptum</i>	Skimmer	1 Apr–25 May, peak 25 Apr	1 Sep–25 Oct, peak 25 Sep	The southern and south-western states
Twelve-spotted Skimmer	<i>Libellula pulchella</i>	Skimmer	10 May–25 Jun, peak 1 Jun	20 Aug–30 Sep, peak 5 Sep	The southern states

What the bars do not say:

- **Common green darner** — the first dragonfly of the Ohio year, in March, and the last big flight of it, in September. Both are migrants. The resident darners that grew up in Ohio ponds do not emerge until June and never leave, which is why the species appears to be present all summer while two different populations are being watched.
- **Wandering glider** — the most widely distributed dragonfly on Earth and the longest insect migration known: the Indian Ocean population crosses open sea between India and East Africa. Ohio sees the northern edge of a much larger habit. It breeds in temporary pools — water that will not last a month.
- **Black saddlebags** — the commonest migrant after the green darner and the easiest to pick out of a September swarm; the dark patches at the wing base are visible at fifty feet.
- **Twelve-spotted skimmer** — a partial migrant. Most of the Ohio population is resident and a fraction joins the autumn swarms. It is on the chart because it is the species people most often photograph in one and misidentify.

The two corridors

Corridor	What it carries	Where it goes
Interior	Green darner, spot-winged glider, black saddlebags	The Great Lakes basin down the Mississippi and over the Gulf coast into Mexico
Coastal	Wandering glider, Carolina and red saddlebags	Down the eastern side and out along the Atlantic seaboard to Florida and the islands

Read either one knowing that no individual travels the whole of it.

Where and when to watch

The south shore of Lake Erie, late August into September, on a morning behind a cold front with a north-west wind. Southbound darners and saddlebags stack up along the shoreline rather than crossing sixty miles of open water, which is why the swarms are seen there and seldom fifty miles inland — the same barrier, and the same behaviour, that makes the lakeshore famous for warblers.

Look low over open ground: hayfields, dune grass, car parks and beaches in the late morning, when the air

has warmed enough to fly and the swarm is feeding as it drifts. Spring is quieter and more diffuse. A green darner over a pond in the third week of March is the first migrant of the Ohio year, weeks before anything else is flying.

Recording what you find

The **Ohio Odonata Society** and the ODNR Division of Wildlife ran the modern **Ohio Dragonfly Survey** from 2017 to 2019, following an earlier statewide survey from 1991 to 2001, with MaLisa Spring as state survey coordinator. The formal survey period is over, but the photo-record project it ran on continues to accept observations, and the society's database holds more than 165,000 records curated from them.

Its published outcome is *A Naturalist's Guide to the Odonata of Ohio* (2024), by Dave McShaffrey, MaLisa Spring and Jim McCormac, from the Ohio Biological Survey — the reference to buy if you want to name what you photographed.

The **Migratory Dragonfly Partnership** is the continental effort on the same question. Its site declines automated access, so it is named here rather than linked; go to it directly.

What the chart does not show

Ohio has well over a hundred species of dragonflies and damselflies, and almost all of them are resident. This chart is the migrants, plus two species that illustrate what a partial migrant and a chiefly-western wanderer look like next to them. Damselflies do not migrate and are not here.

The other trackers

- [Ohio Bird Migration](#) — same shoreline, same fronts, same mornings
- [Ohio Bat Migration](#) — tree bats and cave bats, out of phase with each other
- [Ohio Butterfly and Moth Migration](#) — the monarch runs the same three-generation cycle
- [Ohio Flower Bloom Times](#) — 54 plants, four seasons, and the nectar the other three run on
- [Ohio Wild Mushroom Seasons](#) — 35 fungi, four seasons, and the only one of these charts with anything lit in January

Related pages

- [Ohio Bird Migration](#) — where to stand on the lakeshore, and when; the September mornings are often both at once
- [Animal Sanctuaries](#)
- [Endangered Freshwater Fish](#) — the other half of the water story

Sources

- Hallworth, M. T., Marra, P. P., McFarland, K. P., Zahendra, S. and Studds, C. E., "Tracking dragons: stable isotopes reveal the annual cycle of a long-distance migratory insect", *Biology Letters* 14, 2018, DOI 10.1098/rsbl.2018.0741 — the 852 wing samples from eight countries across 1874–2013, the 21 years of citizen-science first-flight data, the three-generation cycle, the 650 km and 680 km flights, and the 9.17 °C thermocline. Open-access copy at the National Library of Medicine:

<https://pmc.ncbi.nlm.nih.gov/articles/PMC6303508/> Verified 2026-08-15. The publisher's own copy at royalsocietypublishing.org returns 403 to any automated request, so the PMC copy is linked instead.

- **Ohio Odonata Society**, About the Ohio Dragonfly Survey — the survey's launch, its coordinator, the 165,000-plus records, and the 2024 field guide.

<https://www.ohiodonatasociety.org/ohio-dragonfly-survey-about> Verified 2026-08-15.

- **The Ohio State University**, Ohio Dragonfly Survey project site — the 1991–2001 and 2017–2019 survey periods and the partnership with the ODNR Division of Wildlife.

<https://u.osu.edu/ohiodonatasurvey/> Verified 2026-08-15.

migratorydragonflypartnership.org names this project's crawler in its robots.txt with Disallow: /, so the Migratory Dragonfly Partnership is named above rather than linked.