

Welcome!

- Friday Agenda
 - Intro Presentation – 5:30
 - Emily Sandall – 6:00
 - Intro to ID – 6:30
 - Break – 6:50
 - Photography Panel – 7:00
 - Kurt Mead? – 8:00
 - Moth sheets – 9:00
- Acknowledgements

MaLisa Spring
State Coordinator of
The Ohio Dragonfly Survey



Other housekeeping items

- Meals: 1 catered meal on Saturday evening
- Not so fun “bugs”
- Specimen collection
- Field trips (and weather)

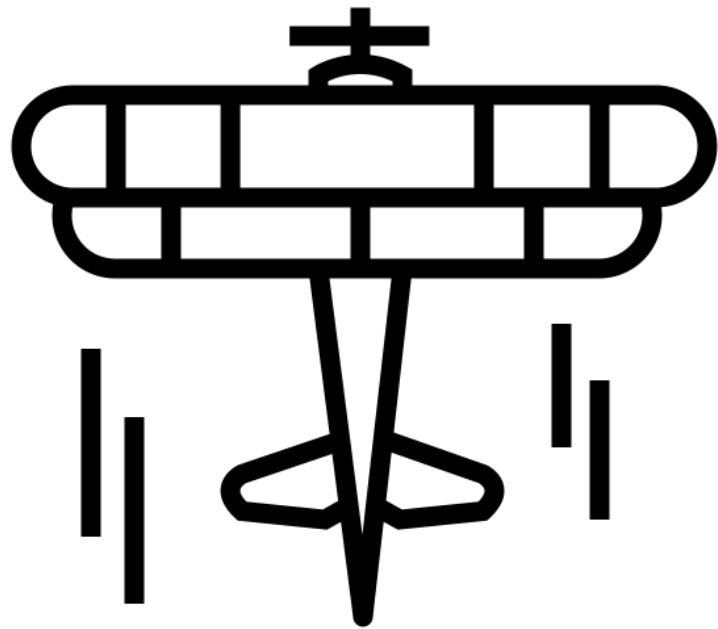
Odonata All Stars

- Bronze: 15-49 observations
- Silver: 50-149 observations
- Gold: 150 + observations
- County Records



How to differentiate dragonflies and damselflies

- Dragonflies



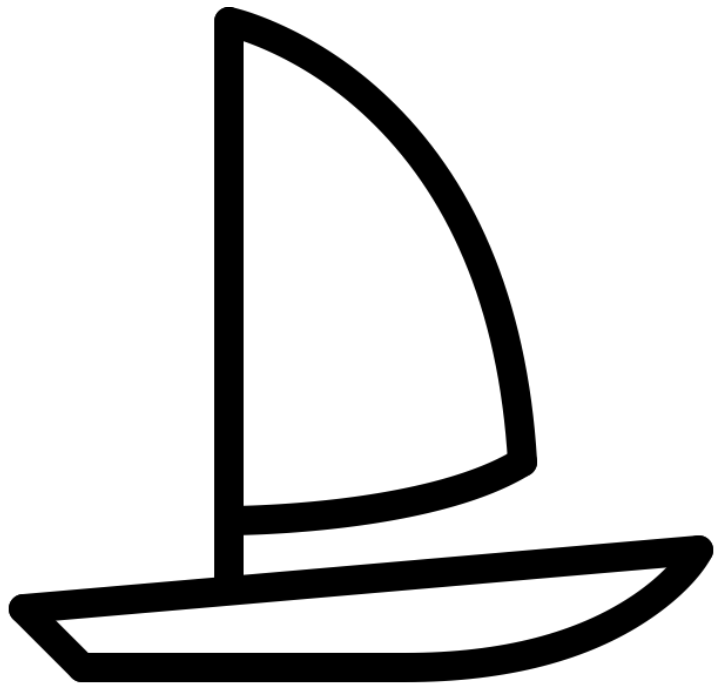
Created by Creative Mania
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© MaLisa Spring

How to differentiate dragonflies and damselflies

- Damselflies

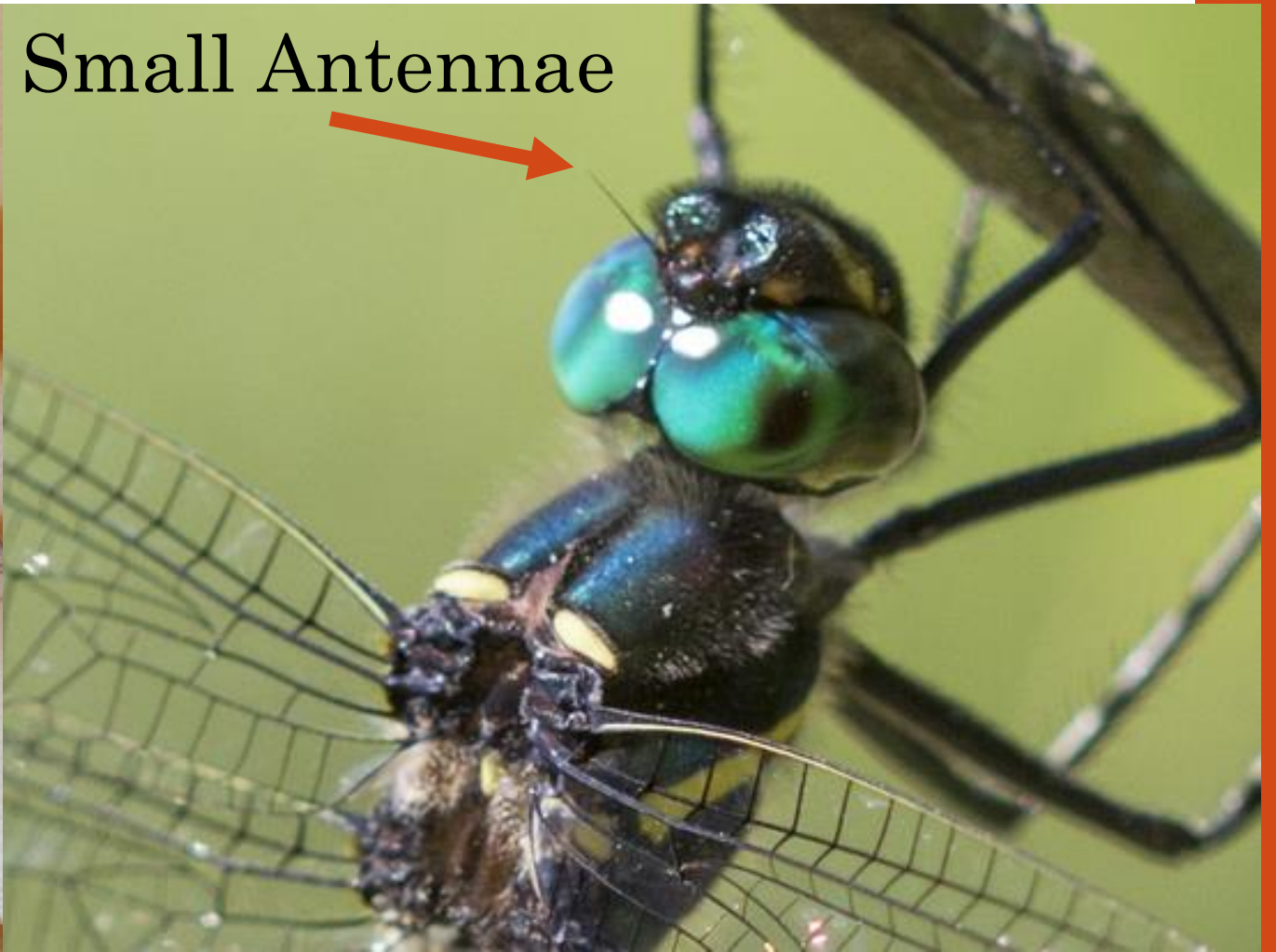


Created by Pham Thi Dieu Linh
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How to differentiate dragonflies and damselflies



Small Antennae

Why care about dragonflies and damselflies?

- They are cool!
- Speciose (169 reported species)
- Great alien prototypes



Why care about dragonflies and damselflies?



Why care about dragonflies and damselflies?

© Jan Hamrsky
www.lifeinfreshwater.net



© Jan Hamrsky
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Why care about dragonflies and damselflies?





Dragonhunter Larvae – Video by Laura Hughes

Why care about dragonflies and damselflies?

- Food for other organisms





© Brian Gooding



Pied-billed Grebe
© Andrew Cannizzaro



Eastern Kingbird
© Alan R Biggs



Green Heron
© Sam Kieschnick



Common Grackle
© Tracey Fandre

Challenges to our dragons and damsels?

(Aside from things trying to eat
them)

Habitat Loss and Degradation

Wetland loss → Ohio has lost 90% of all wetlands
Peatland loss → 92% of all peatlands gone



© Chris Spring



© Chris Spring



© Jakec

Turf



Endangered and Threatened species

- Endangered 16/169
- Threatened 6/169
- Species of Concern 1/169



Lilypad Forktail

© Jim Lemon



Elfin Skimmer

Only 2 sites in the state

© Jim Lemon



Racket-tailed Emerald

© Jim Lemon



Blue Corporal
© Jim Lemon



© Jim Lemon

Seepage Dancer

Hine's Emerald

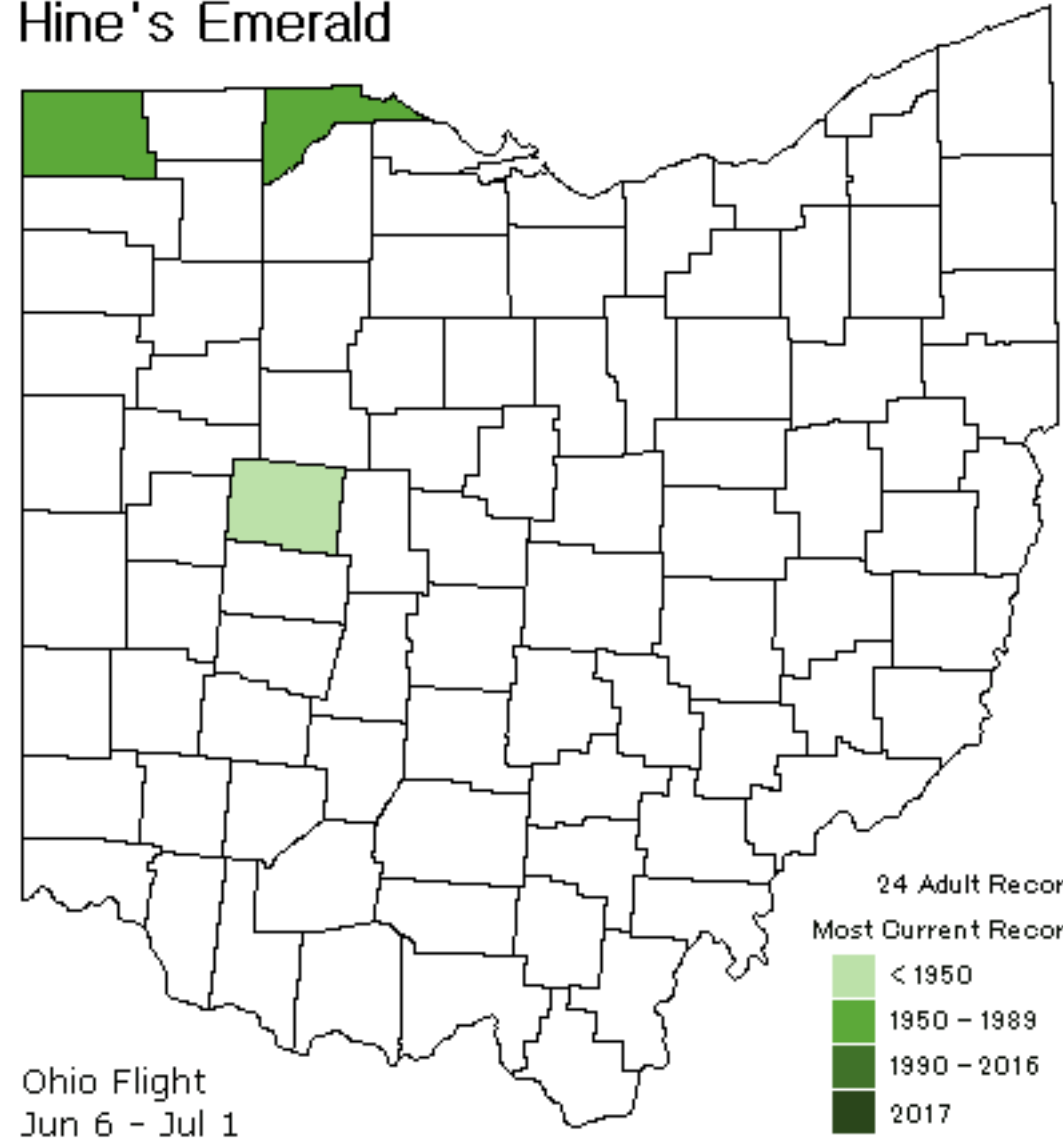
- Potentially extirpated



© Jim McCormac

Somatochlora hineana
Hine's Emerald

Endangered



Ohio Flight
Jun 6 - Jul 1

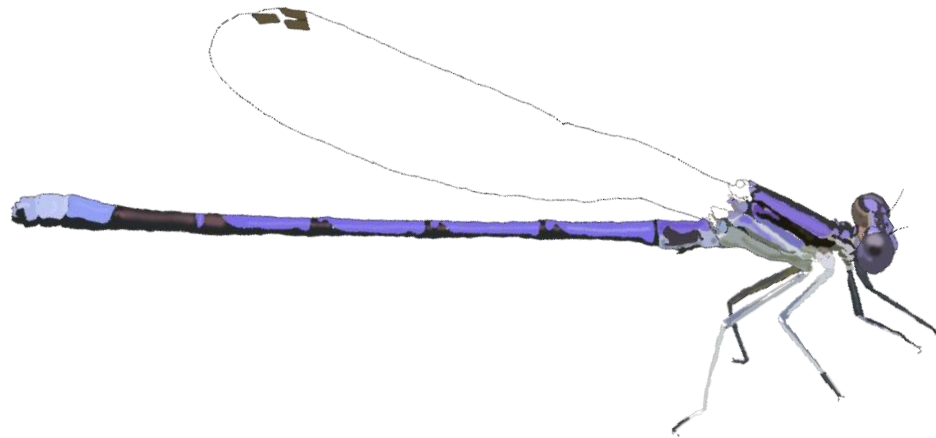
But, there is hope!

Habitat preservation and management



The Ohio Dragonfly (and damselfly) Survey Goals

- Identify every species for each county
- Teach others about Odonata
- Create an all Ohio Field Guide



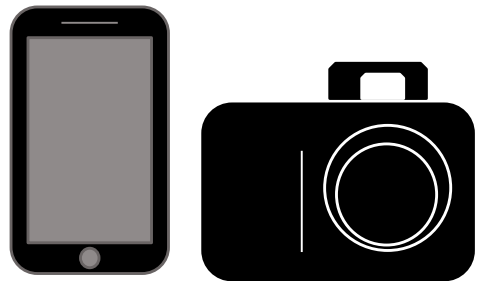
You can help!

- Photo submissions
- Physical collections





- Phone app
- Computer



Ohio Dragonfly Survey (Ohio Odonata Survey)

[Add observations to this project](#)

Stats






Totals

12898
Observations »






140
Species »

405
People »






Most Observations

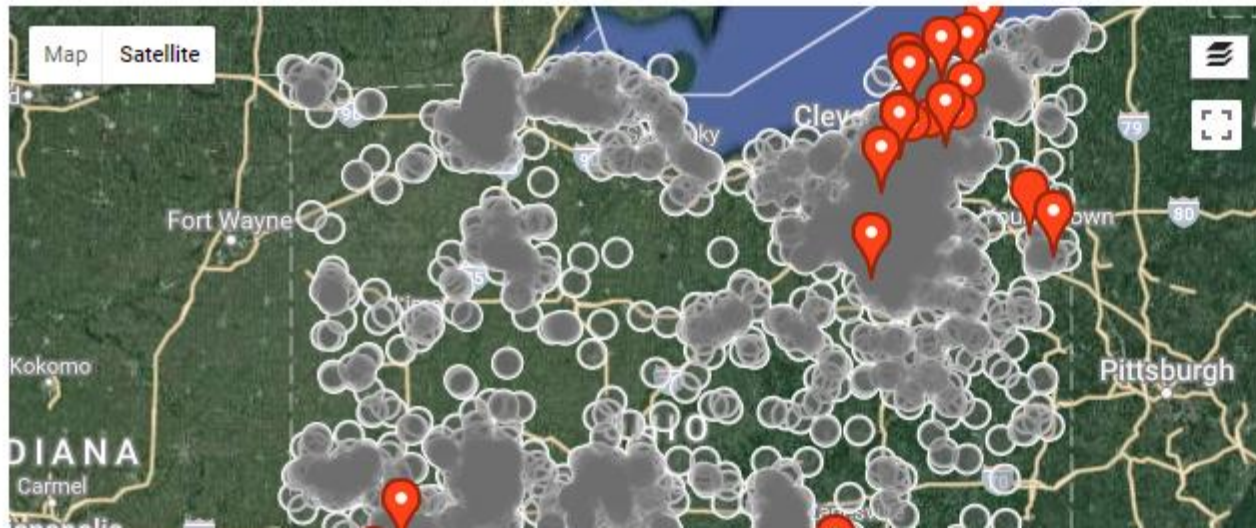
-  **jimlem**
1775 observations
-  **smpvolunteer-jcannon**
1166 observations
-  **srmymers**
979 observations
-  **coachwhipbooks**
712 observations
-  **dmcshaffrey**
577 observations

Most Species


-  **ricknirschl**
97 species
-  **jimlem**
89 species
-  **smwhite**
78 species
-  **lgilbert**
77 species
-  **christopherswan**
75 species

Most Observed Species

-  **Eastern Pondhawk**
866 observations
-  **Blue Dasher**
692 observations
-  **Eastern Forktail**
631 observations
-  **Widow Skimmer**
603 observations
-  **Eastern Amberwing**
516 observations



» **Members** 104 members



[View all members »](#)

» **Your membership** 313 observations

» **Add from your observations**
[Download template for use in the bulk uploader](#)

» **Export observations**
[Atom](#) / [KML](#) / [CSV](#)



Other

Receive updates from this project

Receive updates about this project on your dashboard and in the daily updates email.

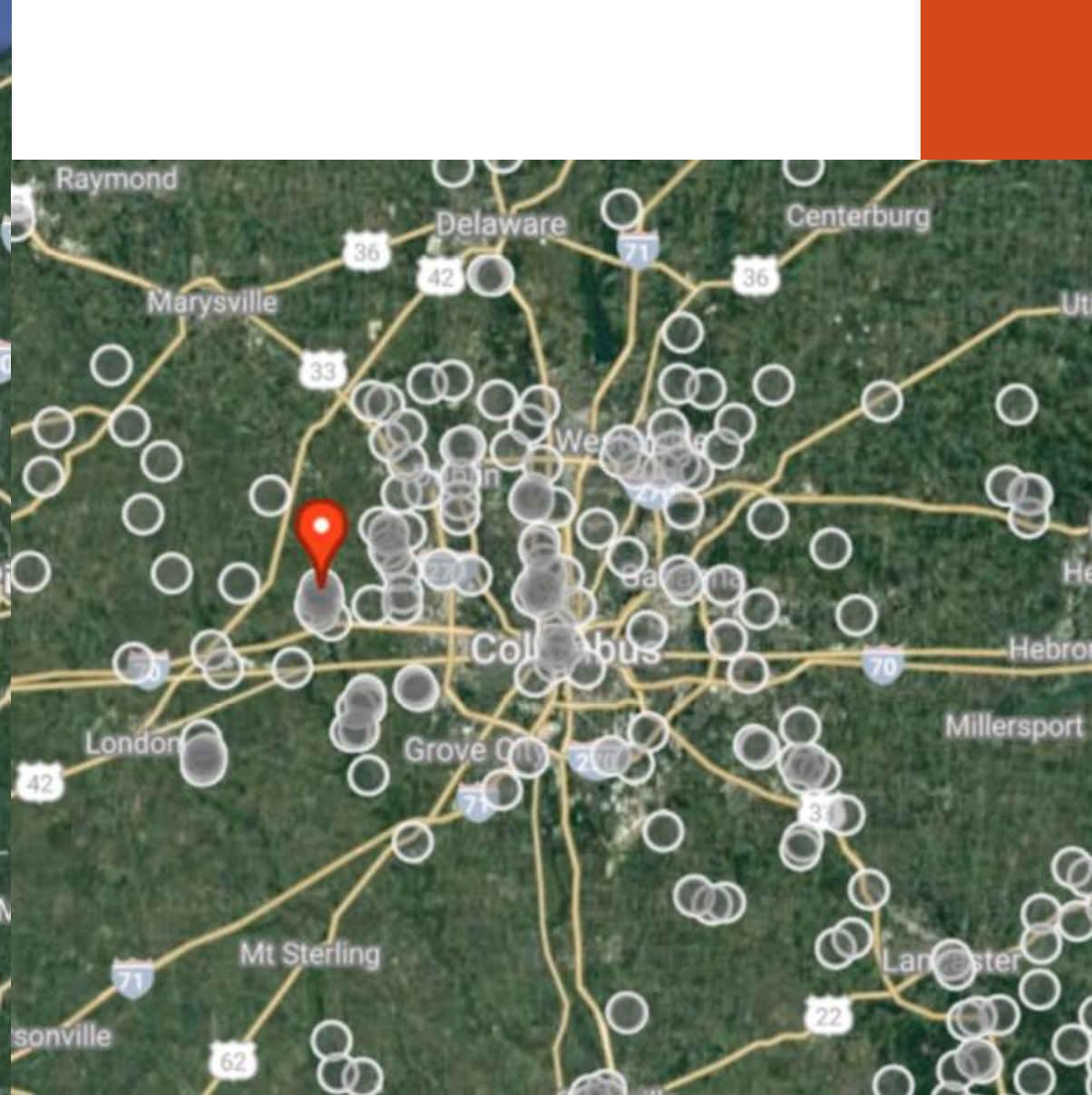
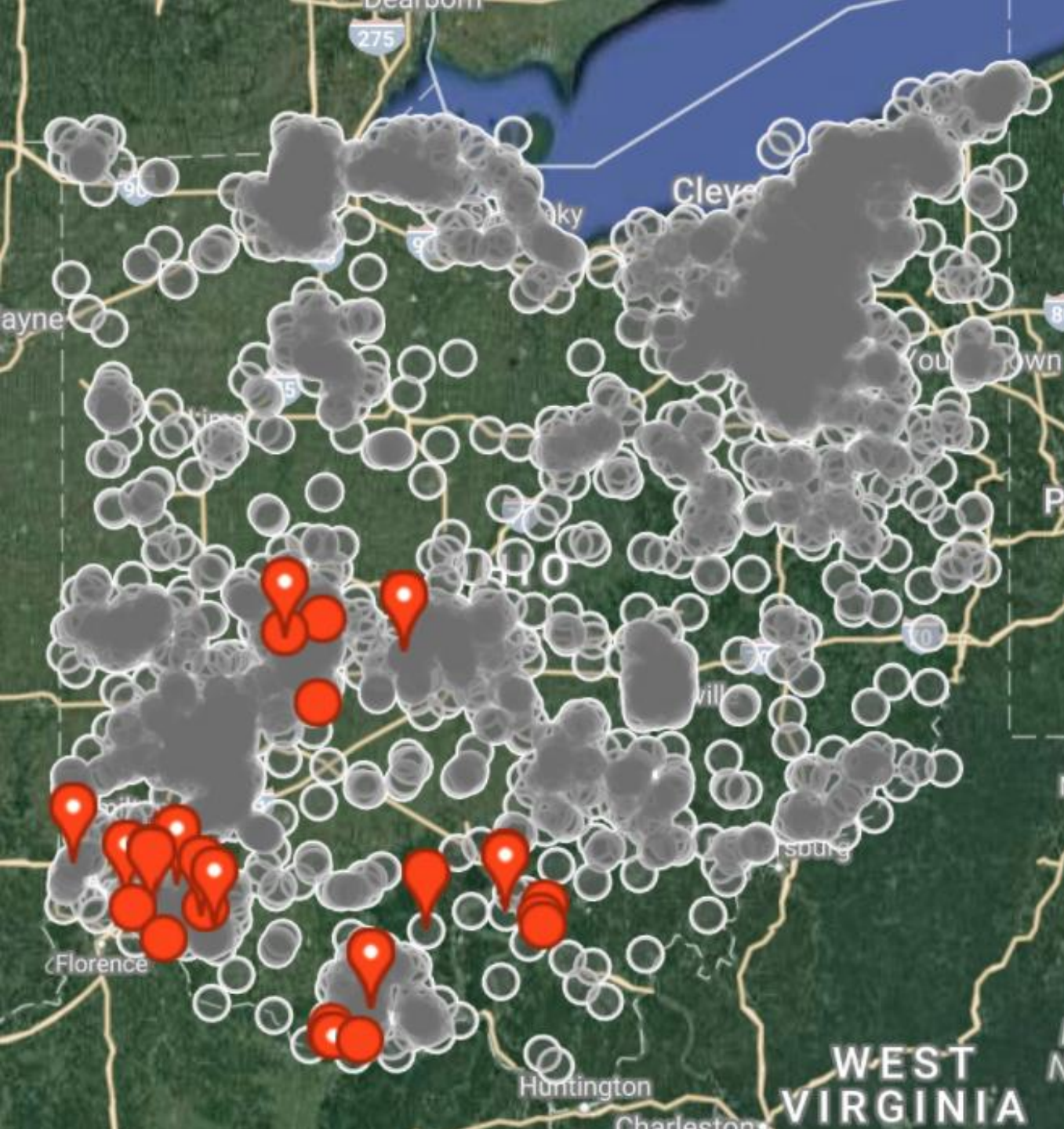
Do you want to make your private/obscured observation coordinates visible to the project curators?

- Yes, but only if I add the observation to the project myself.
- Yes, no matter who adds the observation to the project.
- No.

Note: You can also choose to share the private coordinates of observations in this project on a case-by-case basis. These are just the defaults for new observations added to the project.

Yes, I want to join

Cancel



April 2018

Photography methods

- Side profile
- Top profile
- Terminal appendages



When in doubt:
take a photo of the genitalia



Lestes rectangularis



Lestes vigilax

Finding Dragons

- Sometimes they find you!



Dragonhunter
© Dave McShaffrey



Grey Petaltail
© Jim McCormac

Finding Dragons

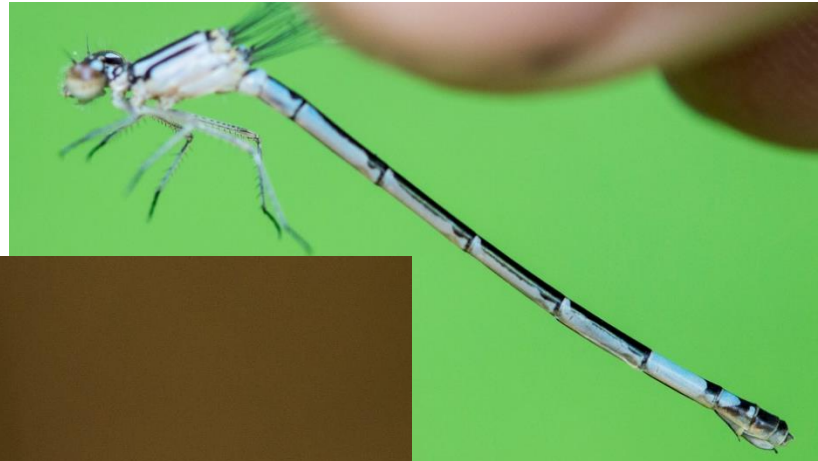
- Sometimes you really have to search to find them



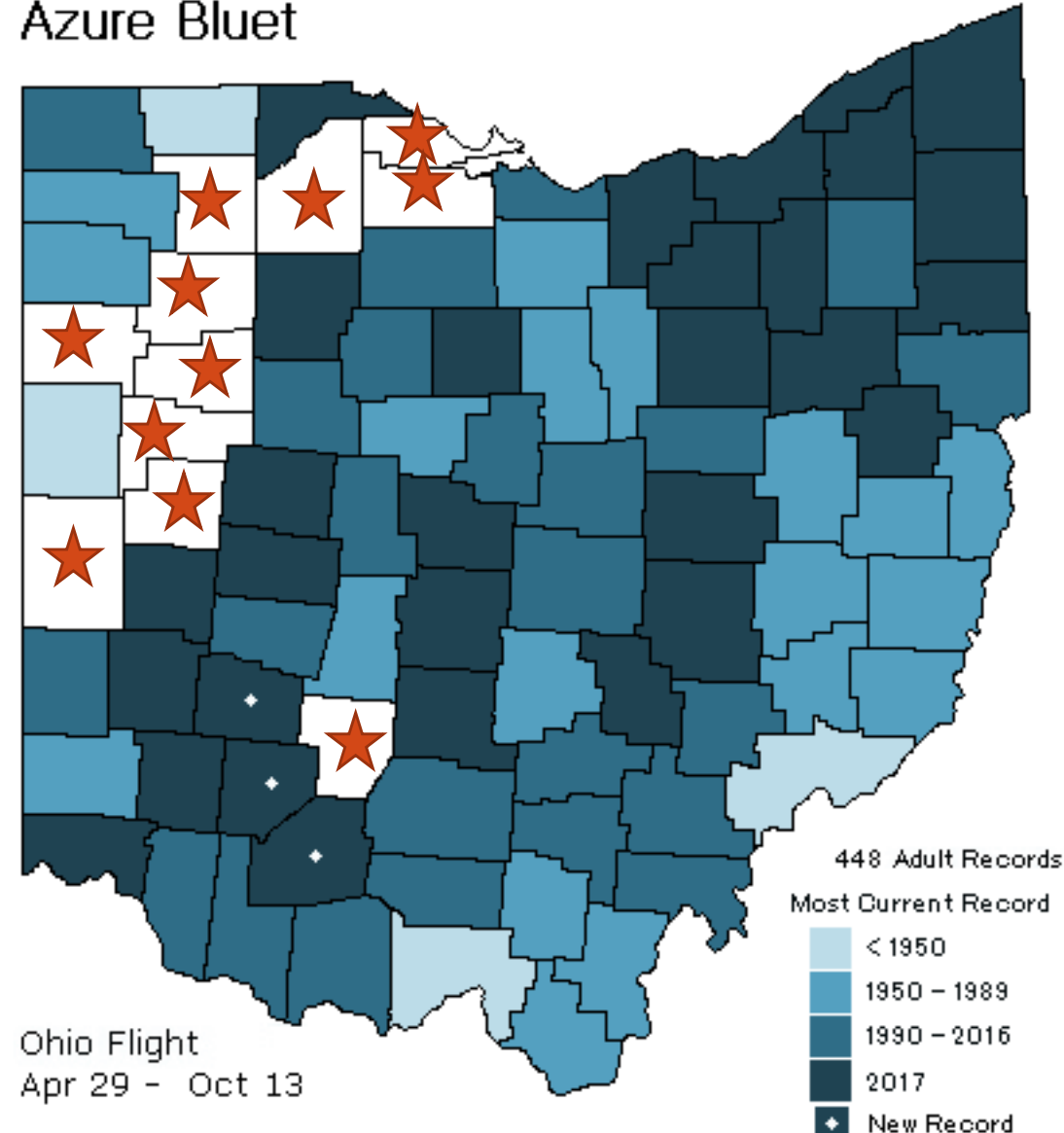
Smoky Shadowdragon
© Flower White

Finding Dragons

- Some are everywhere



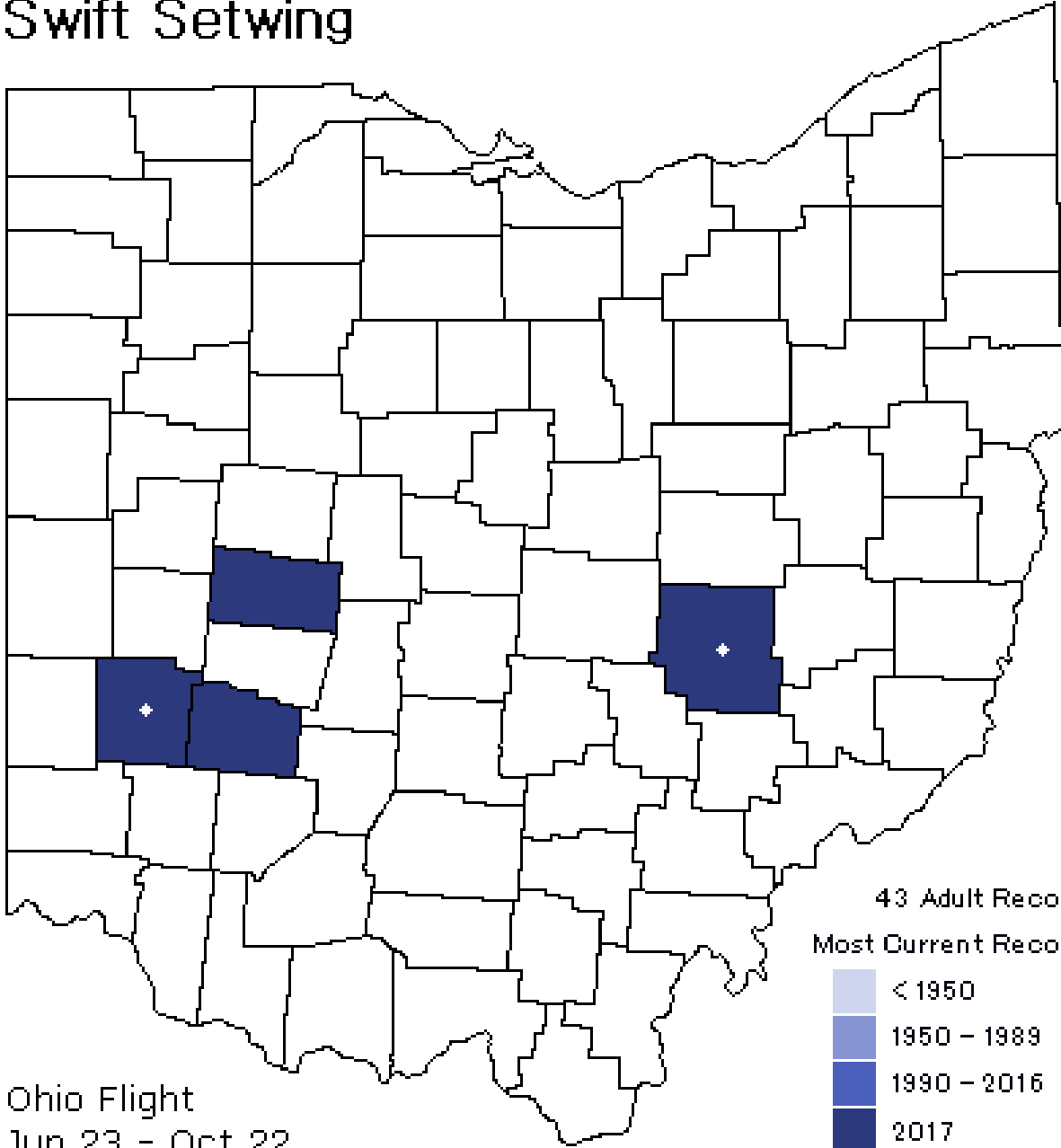
Enallagma aspersum
Azure Bluet



Dythemis velox
Swift Setwing

Swift Setwing

- Discovered in 2014

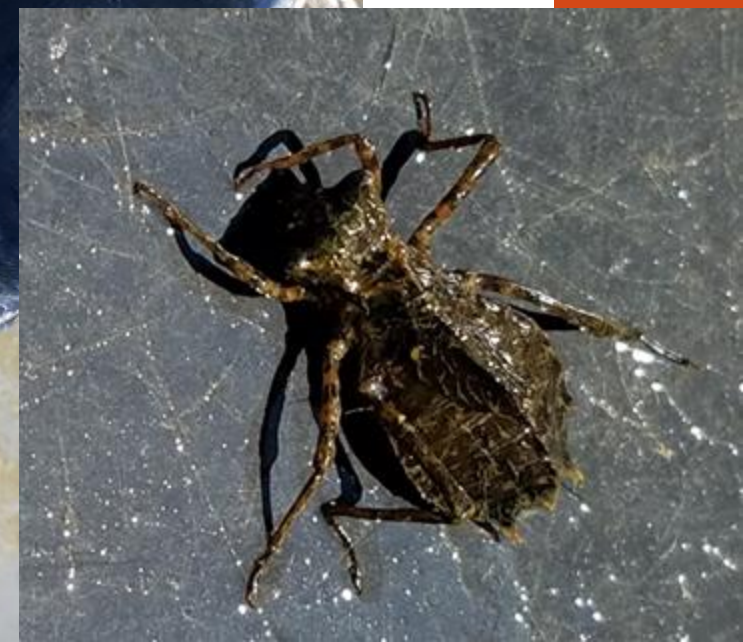


Ohio Flight
Jun 23 - Oct 22

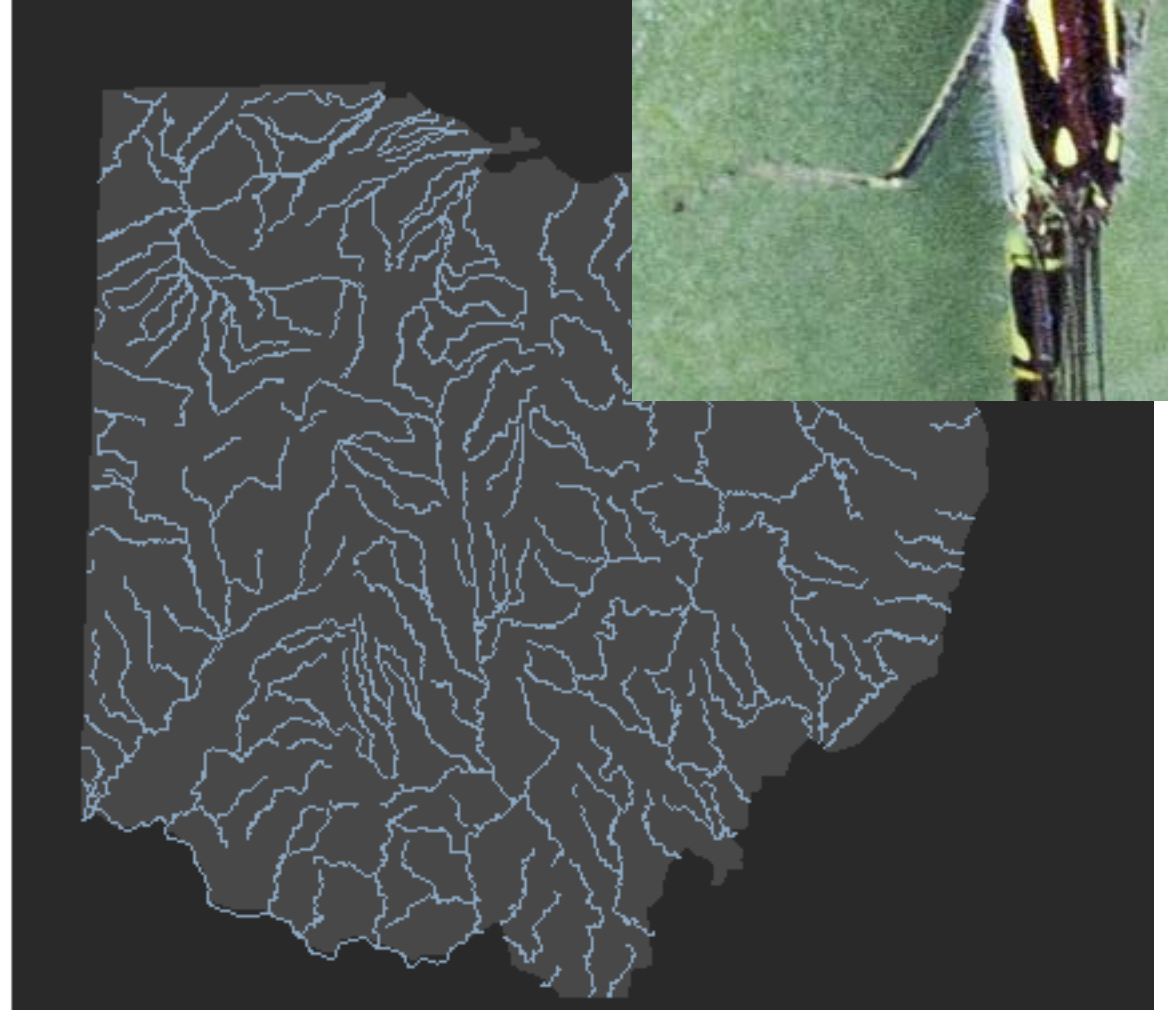


Swift Setwing Conundrum

• Photos courtesy of Chris Spring



Habitats



Created by Pavel N.
from Noun Project

Check everywhere!



River Bluet (*Enallagma anna*)



A



Photos copyright Shane Myers

OHIO DRAGONFLY SURVEY

Check here for updates from the Ohio Dragonfly Survey



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INATURALIST](#)

[PHYSICAL
COLLECTION
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RECORDS/SPECIES BY
COUNTY](#)

[RESOURCES](#)

[SPECIES](#)

Hello Ohio! *Sticky |

December 22, 2017 at 12:38pm by [MaLisa](#)

The New Survey:

The Ohio Odonata Society is working with the Ohio Division of Wildlife to update the original survey that ran from 1991 – 2001. In this updated survey we will be utilizing both traditional collections of specimens and photographic records through [iNaturalist](#). The new survey will run from 2017 through 2019 and will culminate in a lay-person book on Ohio Dragonflies and Damselflies similar to the Ohio Bird Atlas.

Goals for the second survey of Ohio dragonflies and damselflies include:

- to identify every species known for each county.
- to identify species introduced/established in Ohio since the original survey.
- to determine changes in distribution and abundance, especially rare species

To participate, you can either photograph or collect specimens. No identification skills are required for photo observations and we accept observations from any date. Just take a

u.osu.edu

[/ohiodonatasurvey/](http://u.osu.edu/ohiodonatasurvey/)



ADD
OBSERVATIONS



Ohio Tiger Beetles (Cicindelidae)

Other Projects:



Ohio Bee Atlas



ADD
OBSERVATIONS



THE OHIO STATE UNIVERSITY

Questions?

MaLisa Spring

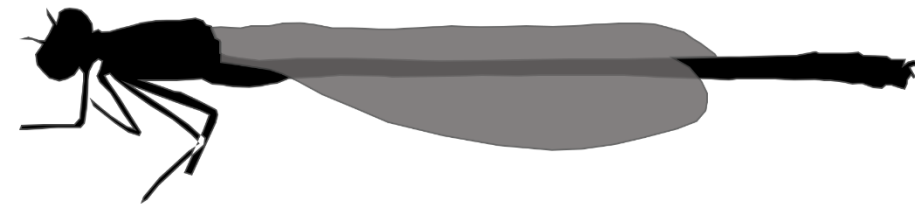
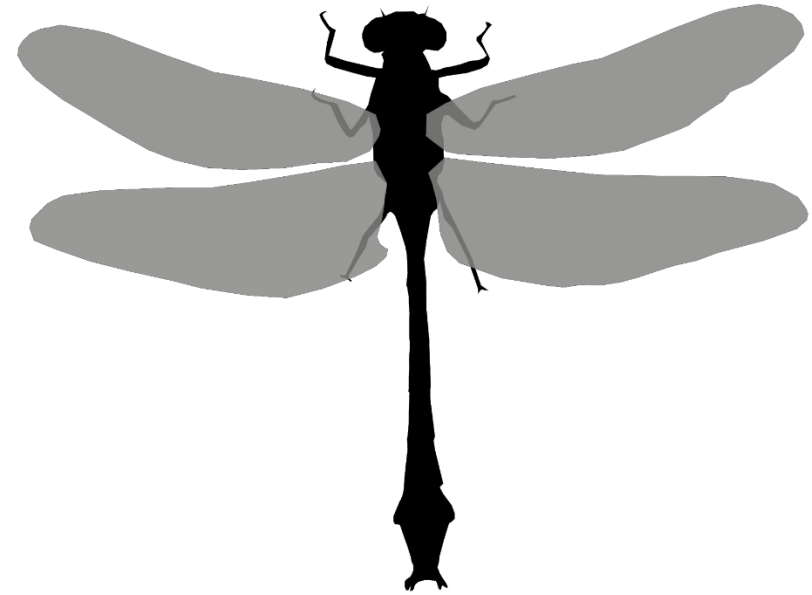
Spring.99@osu.edu

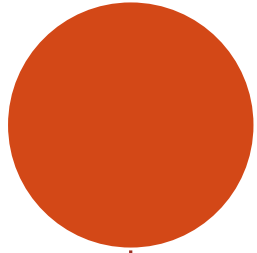


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Odonata Identification: Silhouettes

Beginners - Intermediate





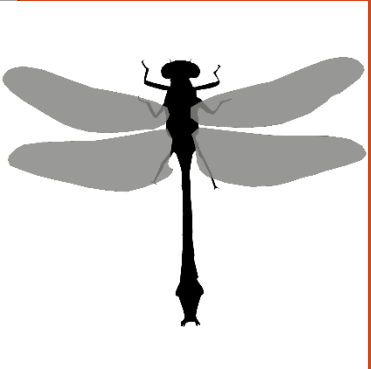
Odonata



Dragonflies
Anisoptera



Damselflies
Zygoptera



Ohio Damselfly Identification: Silhouettes

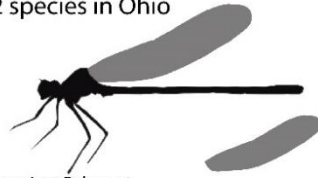
Damselfly = Suborder Zygoptera

For beginners, it helps to look at the wing positioning and shape. Ohio has 51 species of damselflies in 3 families and 11 genera. Below is a quick silhouette guide for the common genera. Illustrations and design by MaLisa Spring.

Broad-winged Damselflies: Family Calopterygidae

Note broad wing bases

Rubyspots (*Hetaerina* spp)
2 species in Ohio



American Rubyspot

Jewelwings (*Calopteryx* spp)
3 species in Ohio



Ebony Jewelwing

Pond Damselflies: Family Coenagrionidae

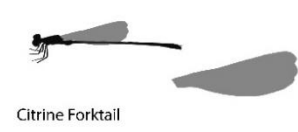
Note narrow wing bases & wing position

Dancers (*Argia* spp)
7 species in Ohio



Violet Dancer

Forktails (*Ischnura* spp)
6 species in Ohio



Citrine Forktail

Bluets (*Enallagma* spp)
17 species in Ohio



Azure Bluet

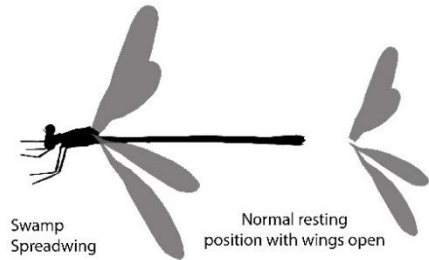
Other taxa in the Family Coenagrionidae include: *Amphiargiron saucium*, *Chromagrion conditum*, *Coenagrion resolutum*, *Nehalennia gracilis*, and *Nehalennia irene*.

We recommend photographing male terminal appendages to confirm identifications of Bluets and Spreadwings

Spreadwing Damselflies: Family Lestidae

Note narrow wing bases & wing position

Pond Spreadwings (*Lestes* spp) - 10 species in Ohio
Great Spreadwing (*Archilestes grandis*)



Swamp Spreadwing

Normal resting position with wings open

Find something cool?

- Submit photos to [iNaturalist.org](https://www.inaturalist.org)
- collect a specimen if you have landowner permission
- OR email spring.99@osu.edu




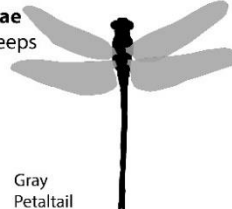

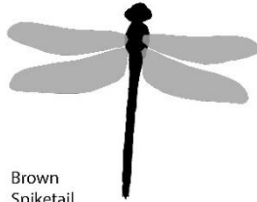


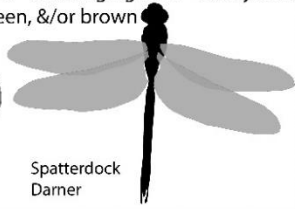
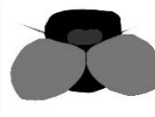
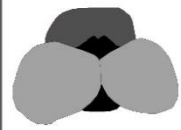
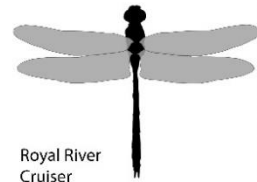
Learn more at:

u.osu.edu/ohiodonatasurvey/

Ohio Dragonfly Identification: Silhouettes

Dragonfly = Suborder Anisoptera

Ohio has 116 species of dragonflies in 7 families & 43 genera. Most dragonfly families are separated by their eye shape. Below are silhouettes representing each family found in Ohio. Illustrations & design by MaLisa Spring, 2018.

Eyes separated	Clubtails: Family Gomphidae 30 species in Ohio Challenging to ID  Clubtail Front of Head	 Pronghorn Clubtail	Petaltails: Family Petaluridae 1 species in Ohio; Forested seeps Large; black and gray  Petaltail Top of Head	 Gray Petaltail
	Eyes meet at a point	Spiketails: Family Cordulegastridae 5 species in Ohio Uncommon; Slender body Brown body with patches of yellow  Spiketail Front of Head	 Brown Spiketail	Skimmers: Family Libellulidae 38 species in Ohio Eyes can meet at a single point or along a seam Easy to ID based on coloration and wing patterns Most other families have clear, unpatterned wings  Pondhawk Front of Head
Eyes meet along a seam		Darners: Family Aeshnidae 17 species in Ohio - Challenging to ID - Rarely land Mottled blue, green, &/or brown  Springtime Darter Top of Head	 Spatterdock Darter	Emeralds and Baskettails: Family Corduliidae 17 species in Ohio - Challenging to ID - Rarely land Brown bodies with green or brown eyes  Common Baskettail Top of Head
	Cruisers: Family Macromiidae 7 species in Ohio - Challenging to ID - Rarely land Brown bodies with yellow patches and green eyes  Royal River Cruiser Top of Head	 Royal River Cruiser	Find something cool? - submit photos to iNaturalist.org - collect a specimen if you have landowner permission - or email spring.99@osu.edu For more information, see: u.osu.edu/ohiodonatasurvey/	



*Note: Silhouettes are NOT to scale and are not proportional on this guide

Broad-winged Damselflies: Family Calopterygidae

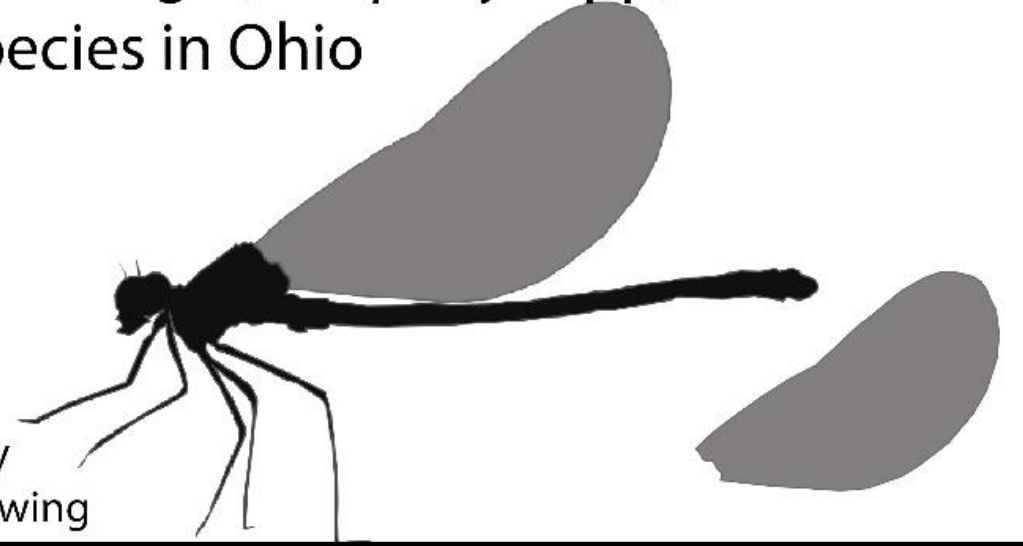
Note broad wing bases

Rubyspots (*Hetaerina* spp)
2 species in Ohio

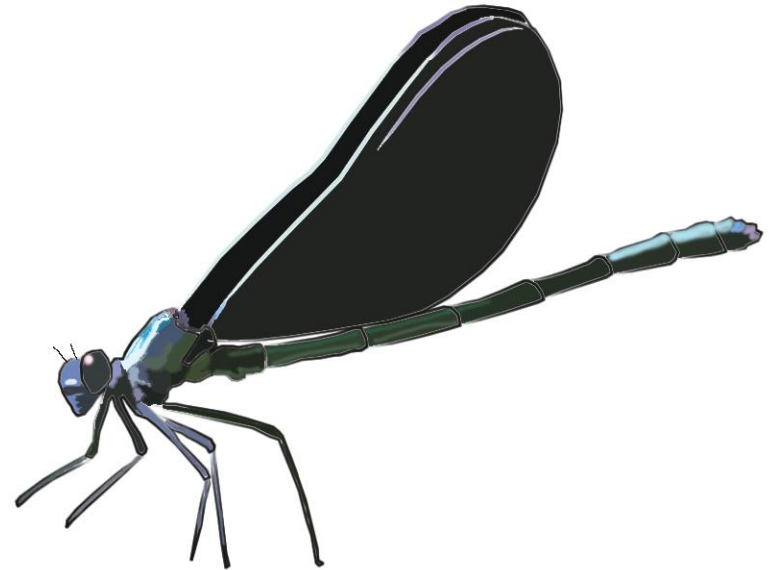


American Rubyspot

Jewelwings (*Calopteryx* spp)
3 species in Ohio

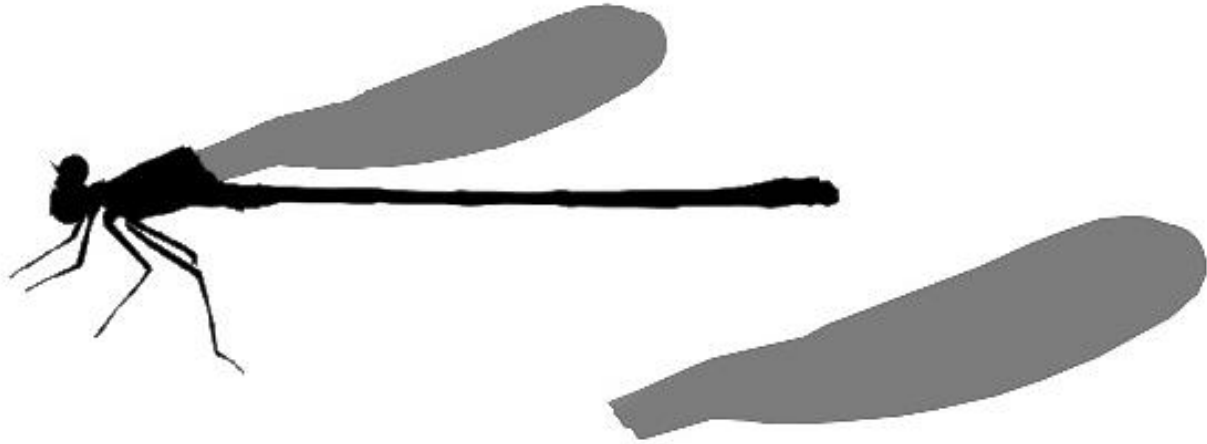


Ebony
Jewelwing



Pond Damselflies: Family Coenagrionidae

Dancers (*Argia* spp)
7 species in Ohio



Coenagrion resolutum, *Nehalennia gracilis*, and *Nehalennia irene*.

Violet Dancer
© MaLisa Spring



Blue Ringed Dancer
© MaLisa Spring



Paiute Dancer
© Jim Lemon



Family Coenagrionidae

Forktails (*Ischnura* spp)
6 species in Ohio



Fragile Forktail



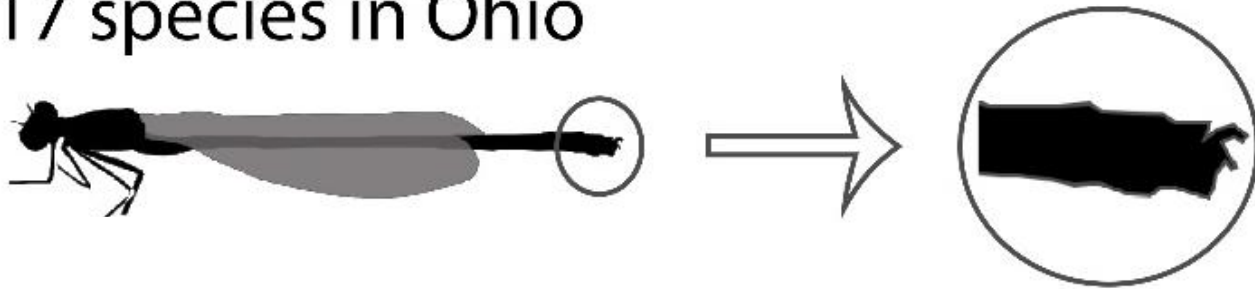
Eastern Forktail



Citrine Forktail

Family Coenagrionidae

Bluets (*Enallagma* spp)
17 species in Ohio



We recommend photographing
male terminal appendages
to confirm identifications of Bluets
and Spreadwings



Azure Bluet



Female Bluet

Family Coenagrionidae

- Aurora Damsel (*Chromagrion conditum*)



© MaLisa Spring



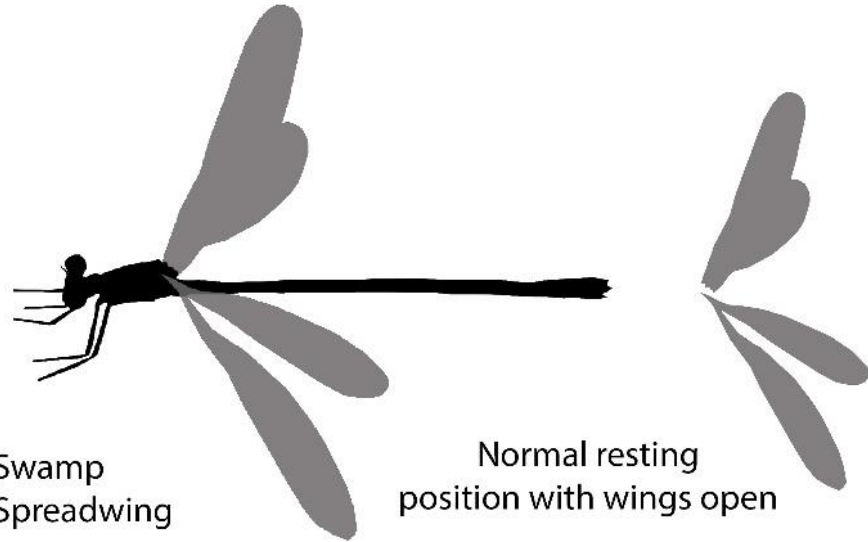
© MaLisa Spring

Spreadwing Damselflies: Family Lestidae

Pond Spreadwings (*Lestes* spp) - 10 species in Ohio

Great Spreadwing (*Archilestes grandis*)

Note narrow wing bases
& wing position



Swamp
Spreadwing

Normal resting
position with wings open



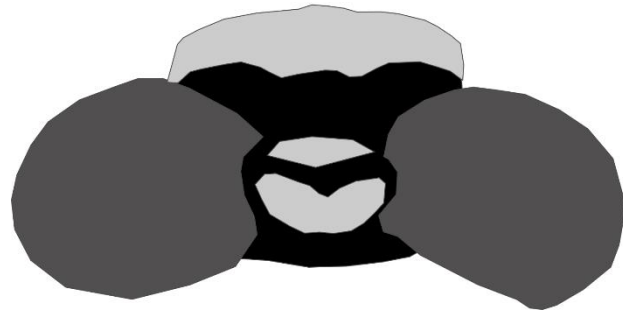
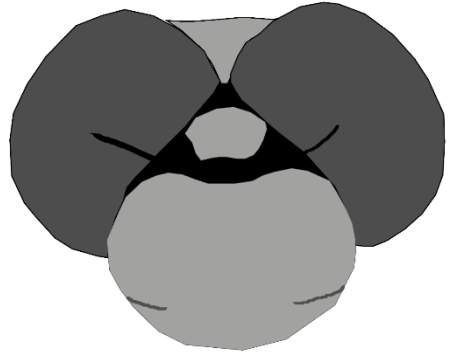
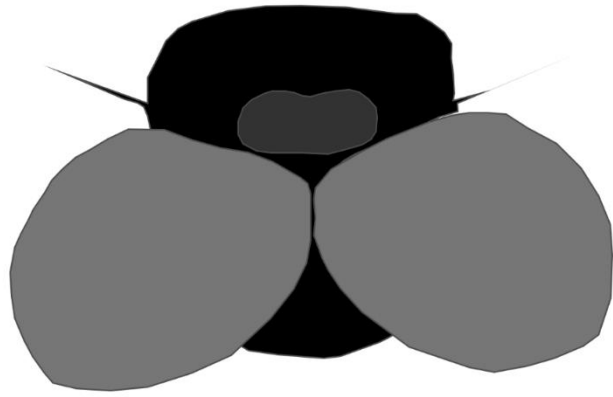
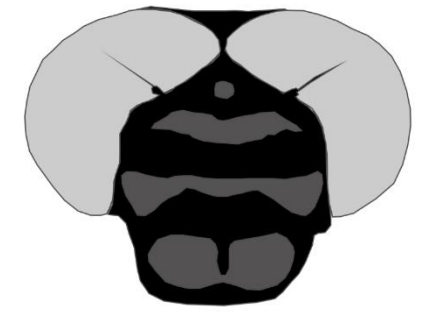
When in doubt:
take a photo of the genitalia



Lestes rectangularis

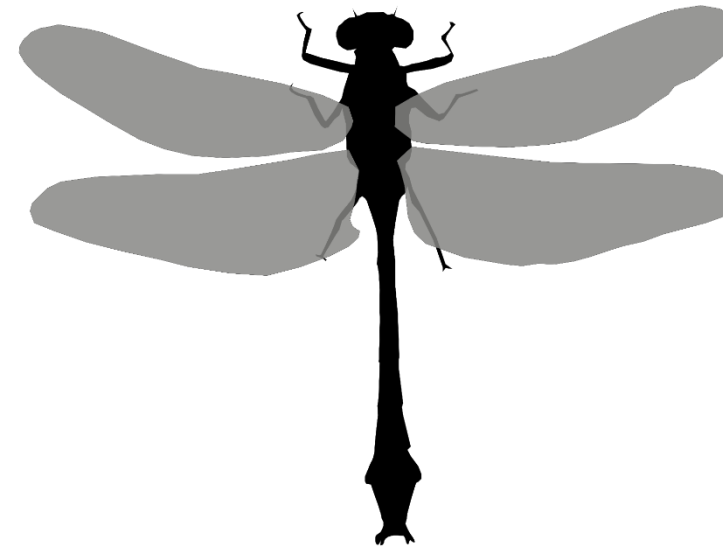


Lestes vigilax



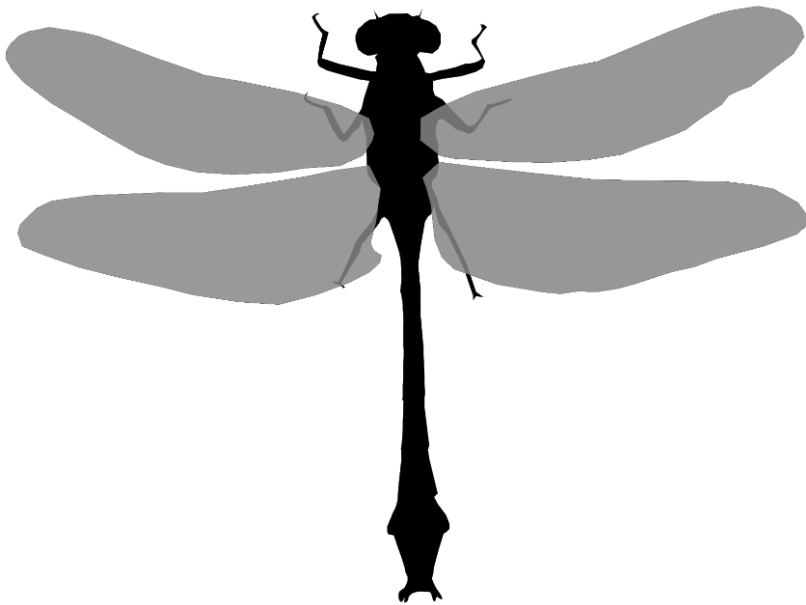
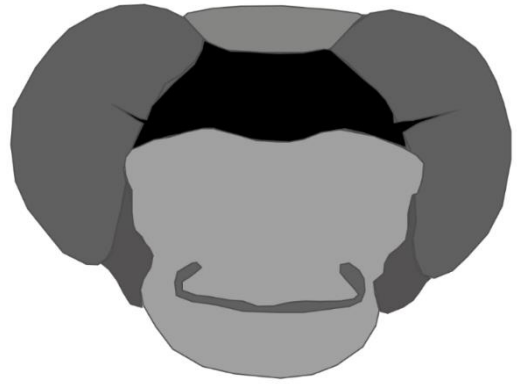
Anisoptera

Dragonflies



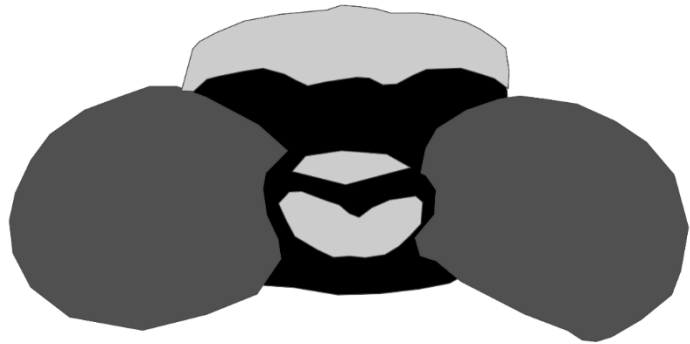
Gomphidae: Clubtails

30 species in Ohio



Petaluridae: Petaltails

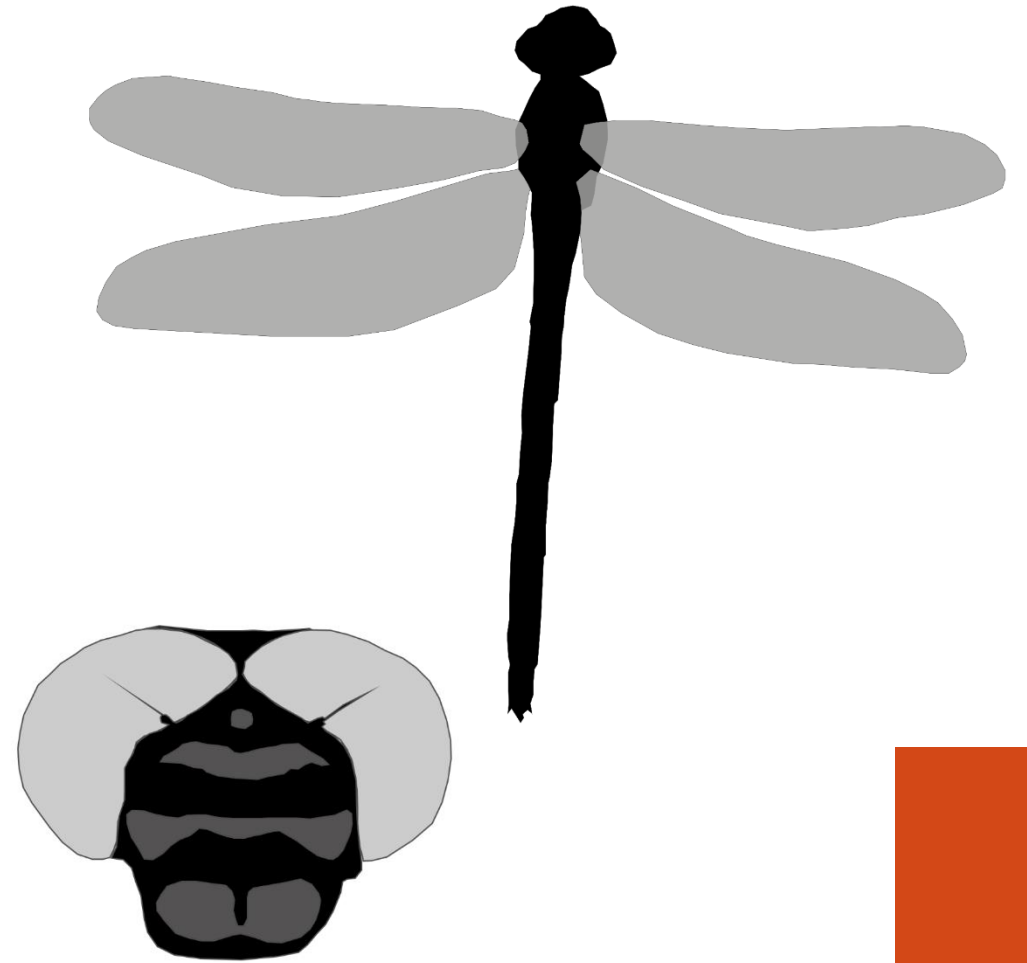
1 species in Ohio



Grey Petaltail
© Jim Lemon

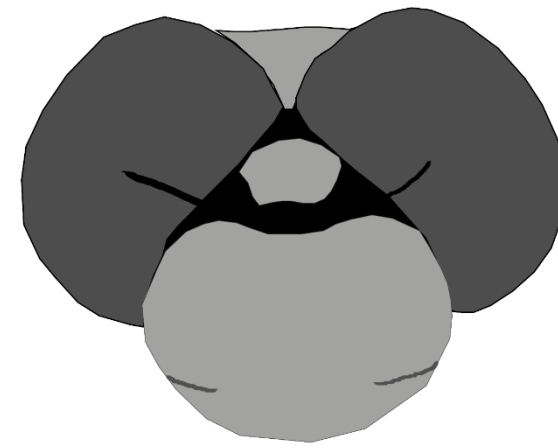
Cordulegastriidae: Spiketails

5 species in Ohio

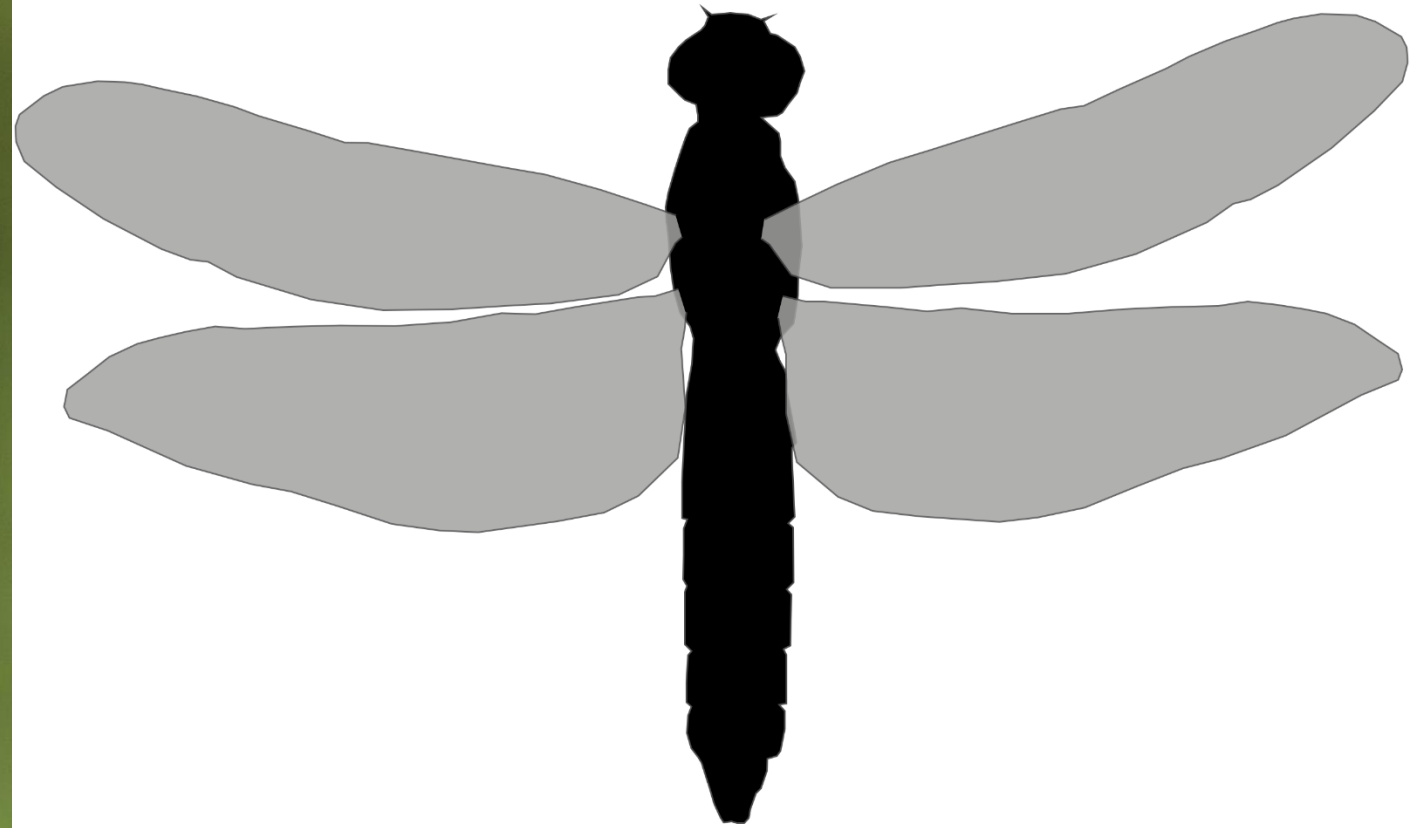


Libellulidae: Skimmers

38 species in Ohio



Common
Whitetail (female)





© MaLisa Spring



© MaLisa Spring



© Spring



© MaLisa Spring



© MaLisa Spring



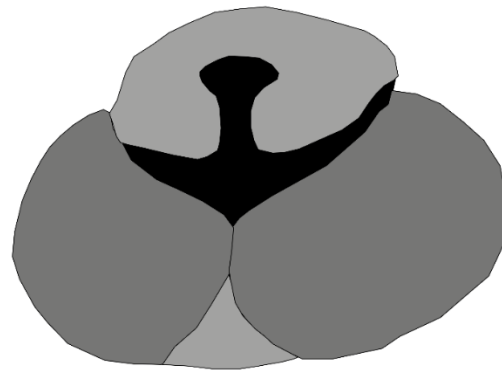
© MaLisa Spring



© MaLisa Spring

Aeshnidae: Darners

17 species in Ohio



Green Darner

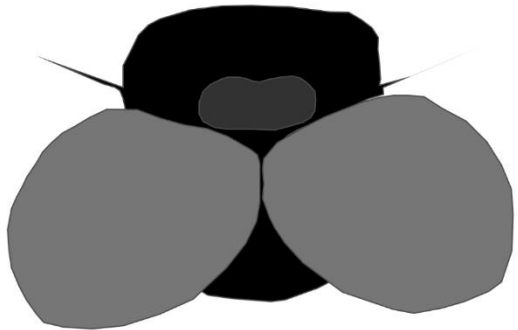
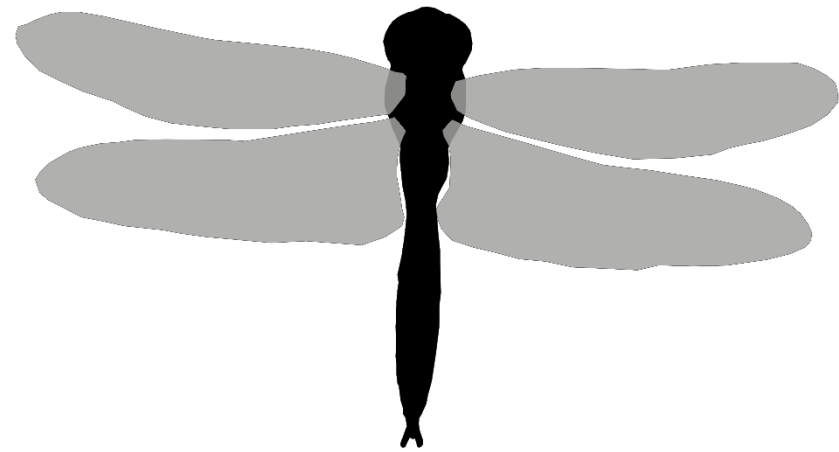


Springtime Darner



Corduliidae: Emeralds and Baskettails

17 species in Ohio



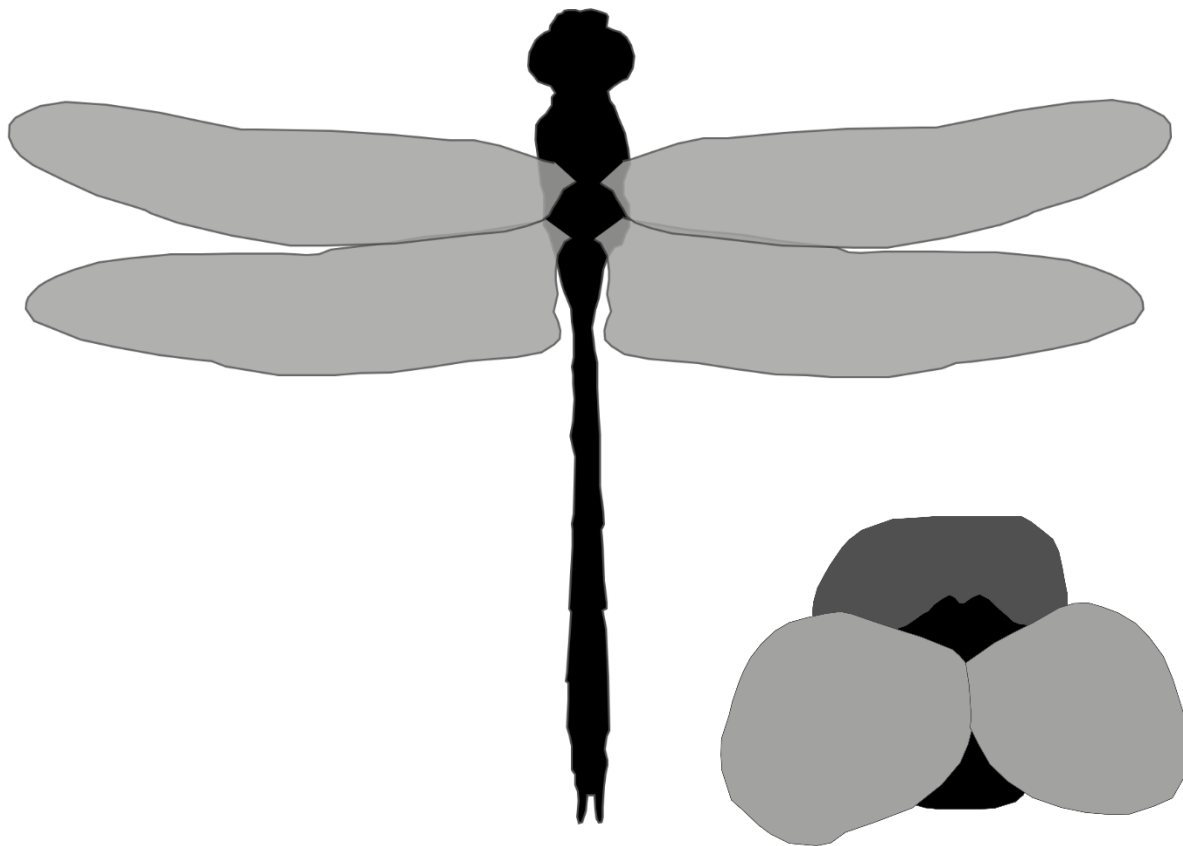
Prince Baskettail



Common Baskettail

Macromiidae: Cruisers

7 species in Ohio



Swift River Cruiser





THE OHIO STATE UNIVERSITY

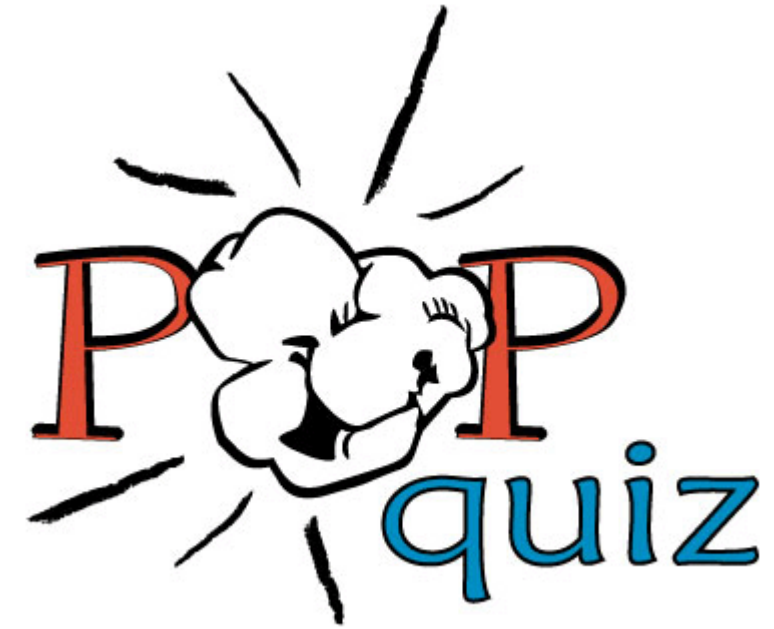
Questions?

MaLisa Spring

Spring.99@osu.edu



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Now for: ID Quiz!!!

Double Stripped Bluet
(Damselfly)



© MaLisa Spring



Twelve Spotted Skimmer
(Dragonfly)



© MaLisa Spring



© MaLisa Spring

Giant Robber Fly
(*Promachus sp*)

Robber Fly
(*Efferia sp*)

American Rubyspot
(Damselfly)



© MaLisa Spring



Hanging Thieves
Robber fly
(*Diogmites sp*)
with Crane Fly
(Tipulidae)

Ruby Meadowhawk (Dragonfly)



A close-up photograph of an Eastern Forktail damselfly perched on a thin green grass stem. The damselfly has a long, slender, blue body and two pairs of transparent, veined wings. Its long antennae are extended to the left. The background is a soft, out-of-focus green, suggesting a natural habitat. The image is framed by a white border on the left and right, and a solid orange vertical bar on the far right.

Eastern Forktail
(Damselfly)

© MaLisa Spring

Comet Darner

Anax longipes



© Jim Lemon

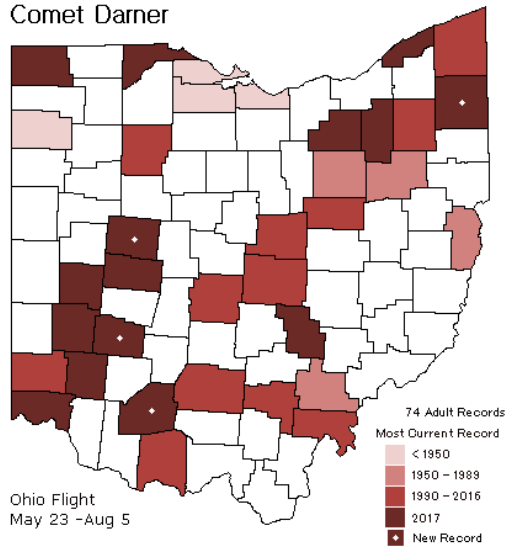
Common Green Darner

Anax junius



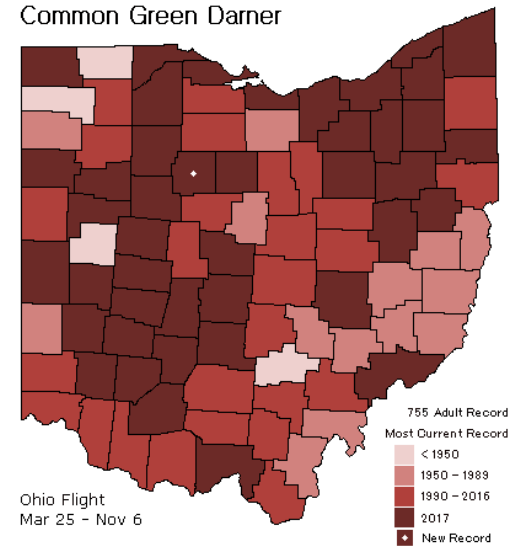
© Jim Lemon

Anax longipes
Comet Darner

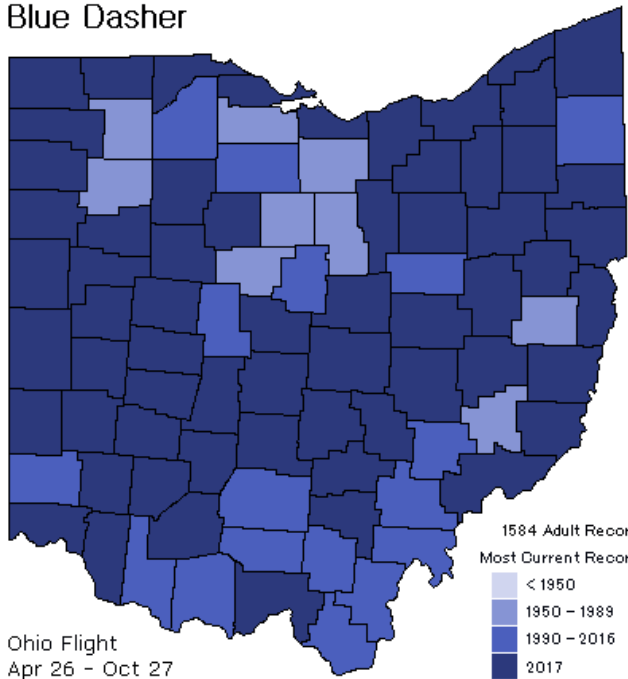


*Fly with legs up

Anax junius
Common Green Darner

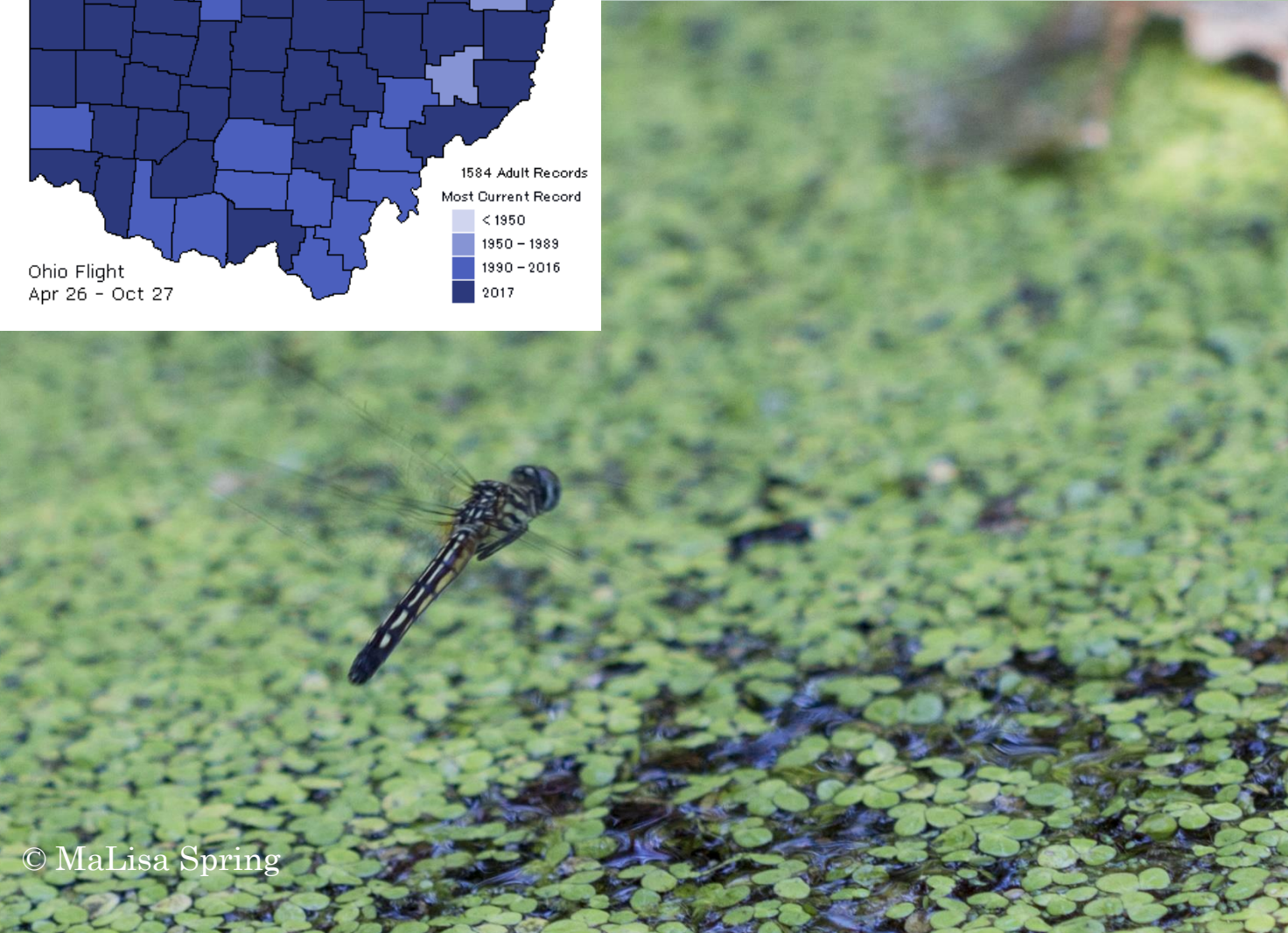


Pachydiplax longipennis
Blue Dasher

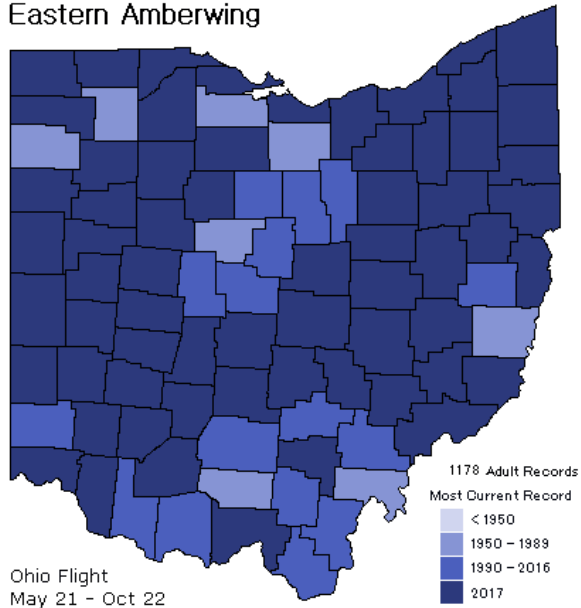


Blue Dasher

Pachydiplax longipennis



Perithemis tenera
Eastern Amberwing

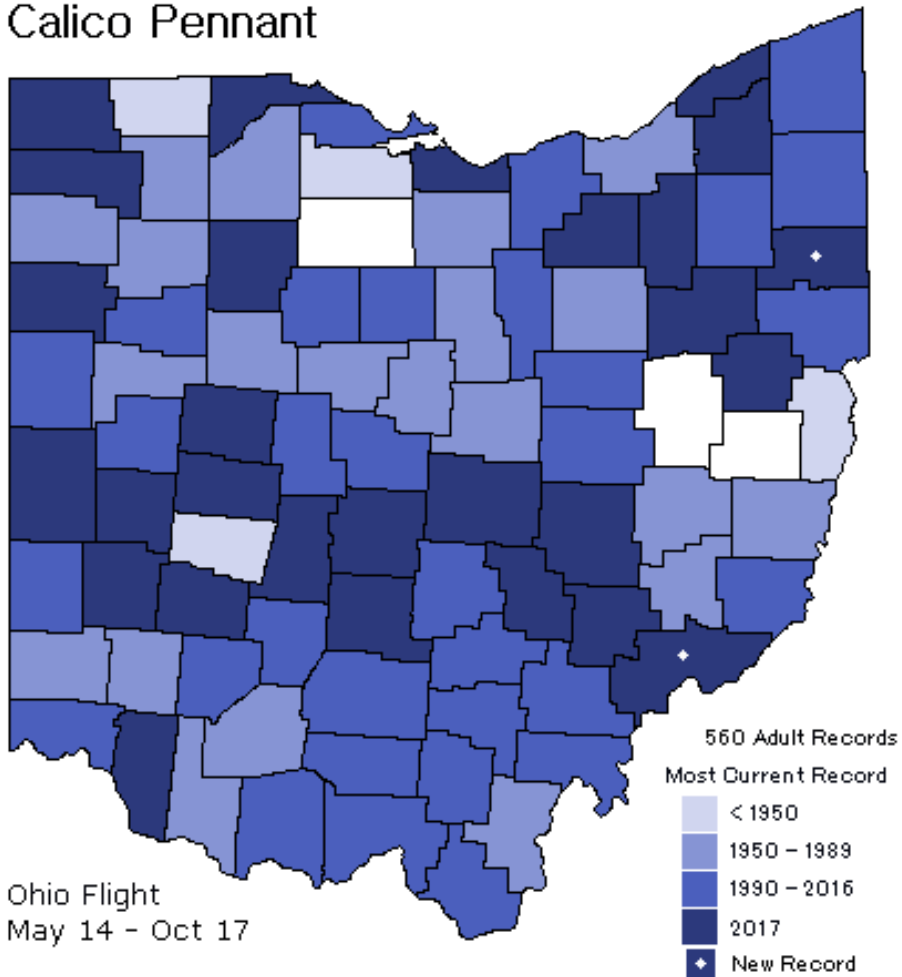


Eastern Amberwing

Perithemis tenera



Celithemis elisa
Calico Pennant



Calico Pennant

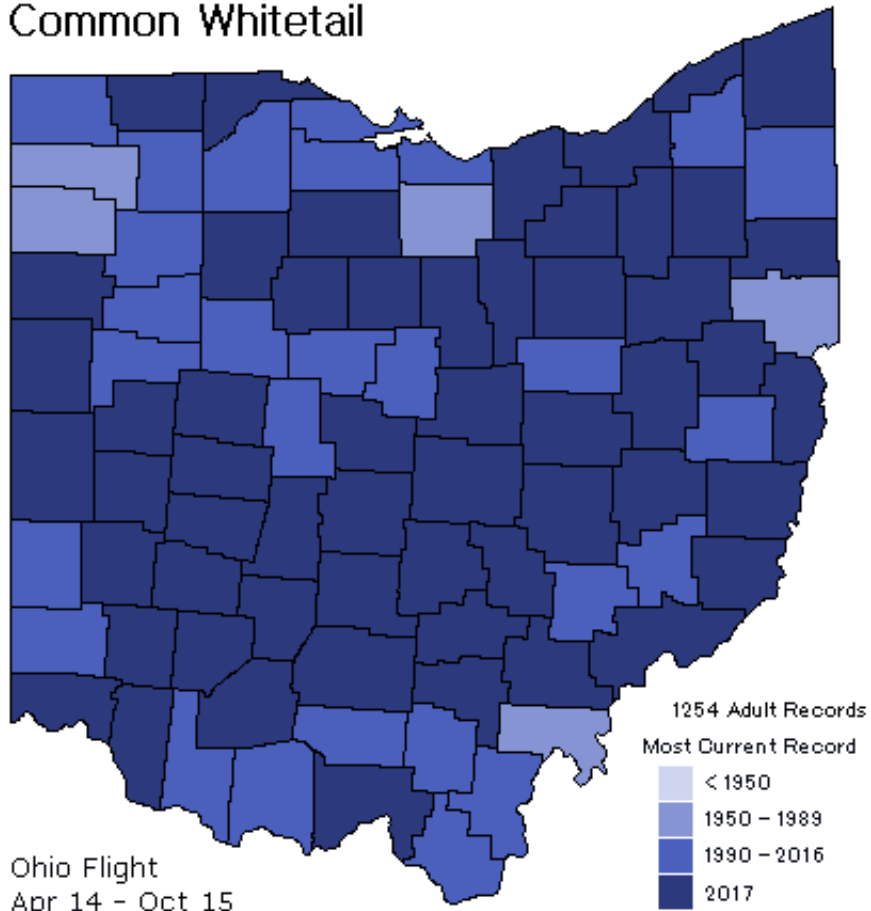
Celithemis elisa



Common Whitetail

Plathemis lydia

Plathemis lydia
Common Whitetail



© MaLisa Spring



Eastern Pondhawk

Erthemis simplicicollis

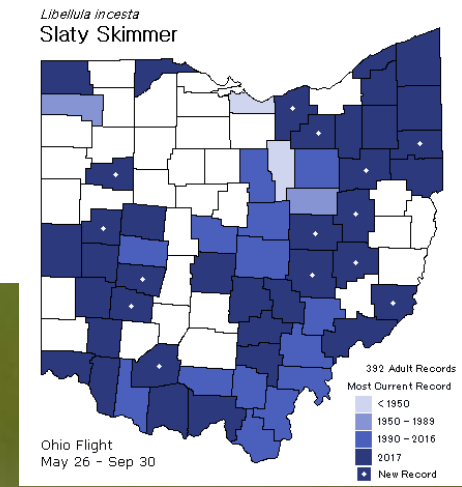
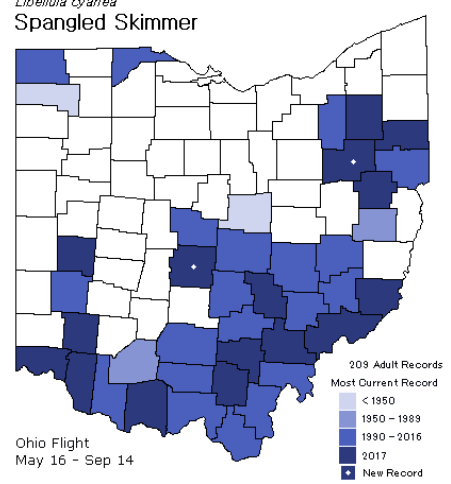
*Fly with legs down



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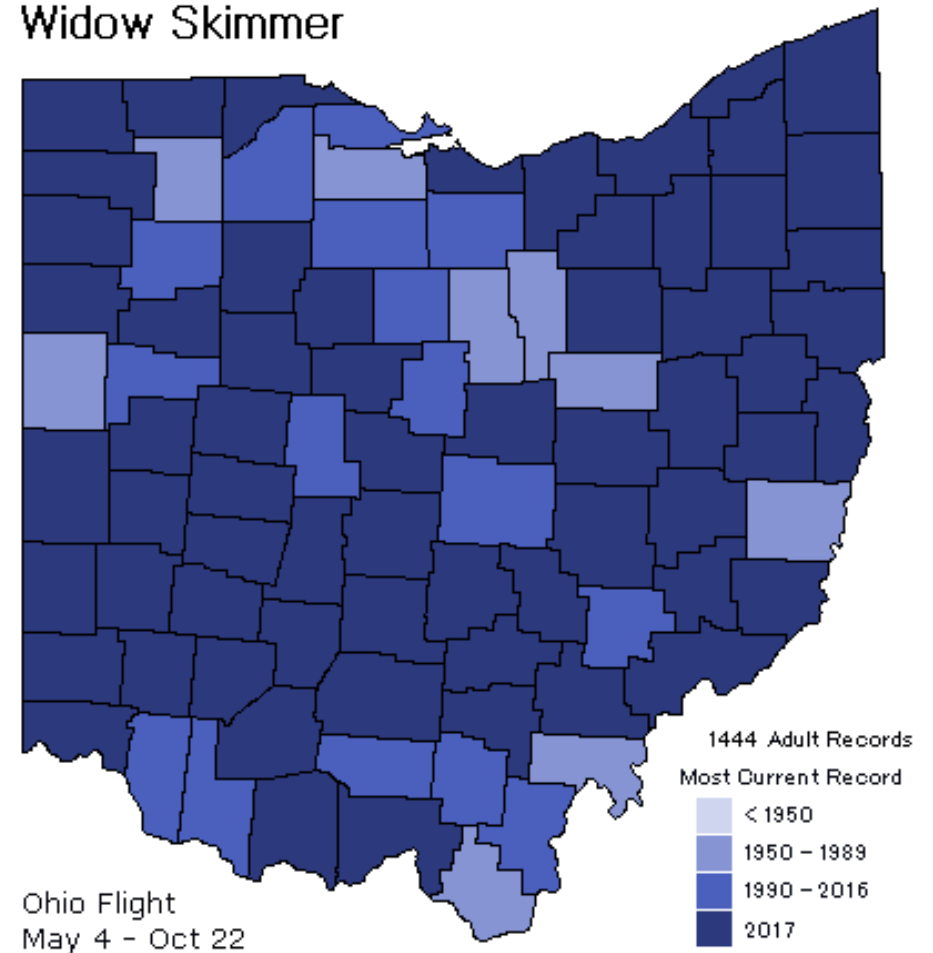


Widow Skimmer

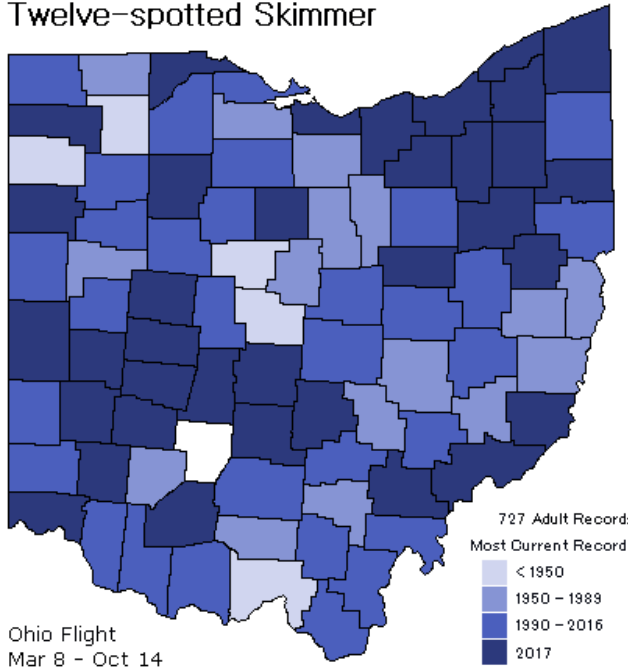
Libellula luctuosa



Libellula luctuosa
Widow Skimmer



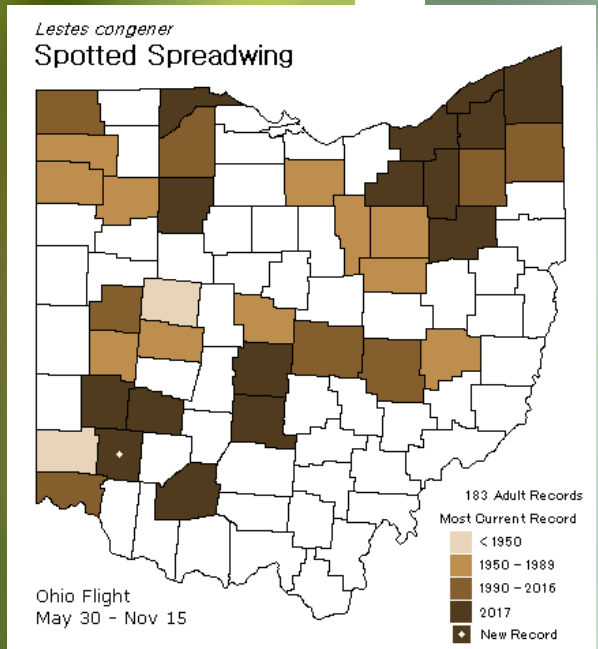
Libellula pulchella
Twelve-spotted Skimmer

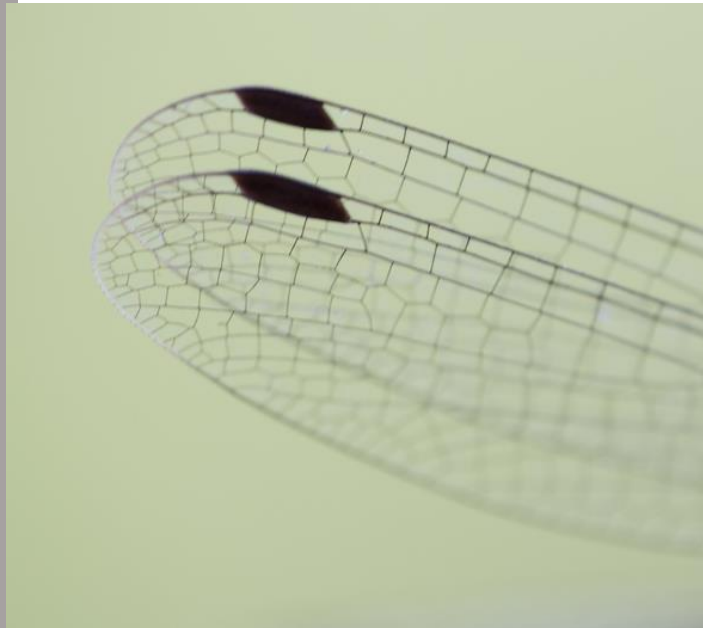


Twelve-spotted Skimmer
Libellula pulchella

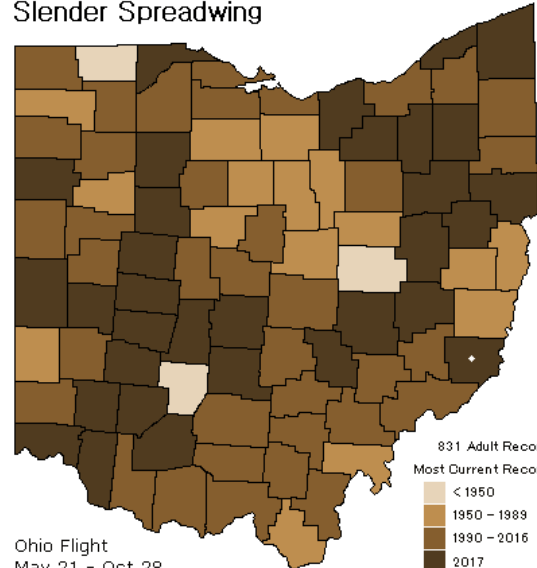


Spotted Spreadwing
Lestes congener





Lestes rectangularis
Slender Spreadwing



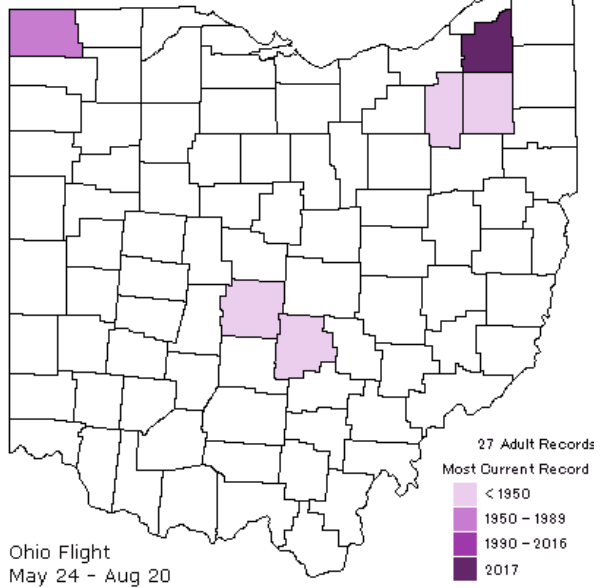
Ohio Flight
May 21 - Oct 28



Slender Spreadwing
Lestes rectangularis

Calopteryx aequabilis
River Jewelwing

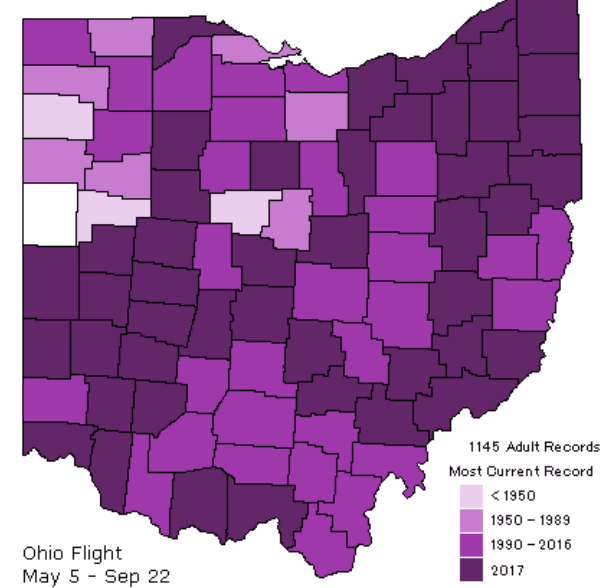
Endangered



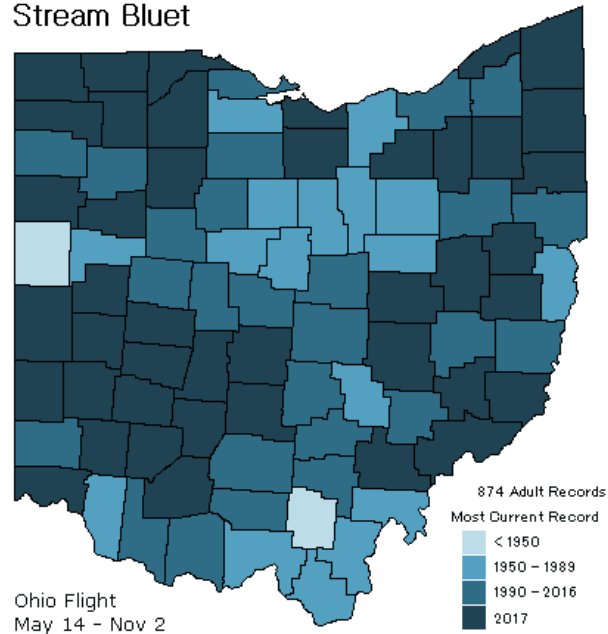
Calopteryx angustipennis
Appalachian Jewelwing



Calopteryx maculata
Ebony Jewelwing



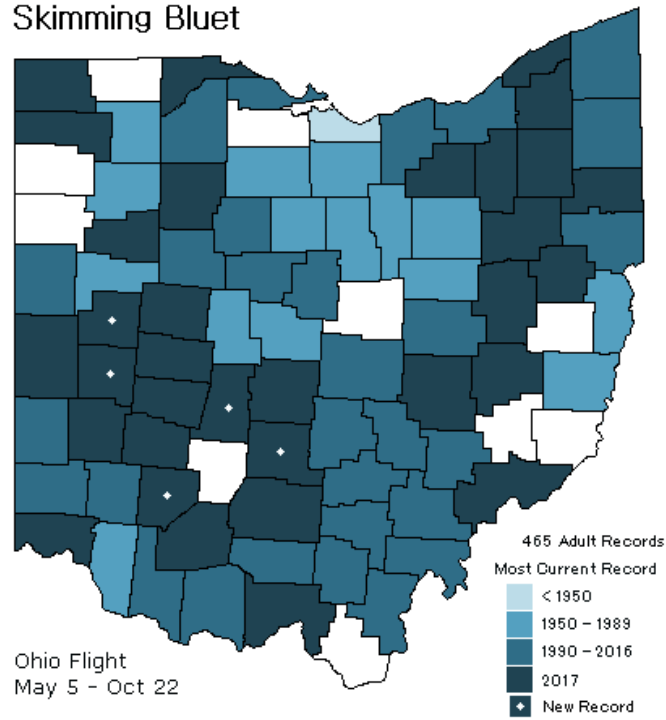
Enallagma exulans
Stream Bluet



Stream Bluet
Enallagma exulans

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Enallagma geminatum
Skimming Bluet



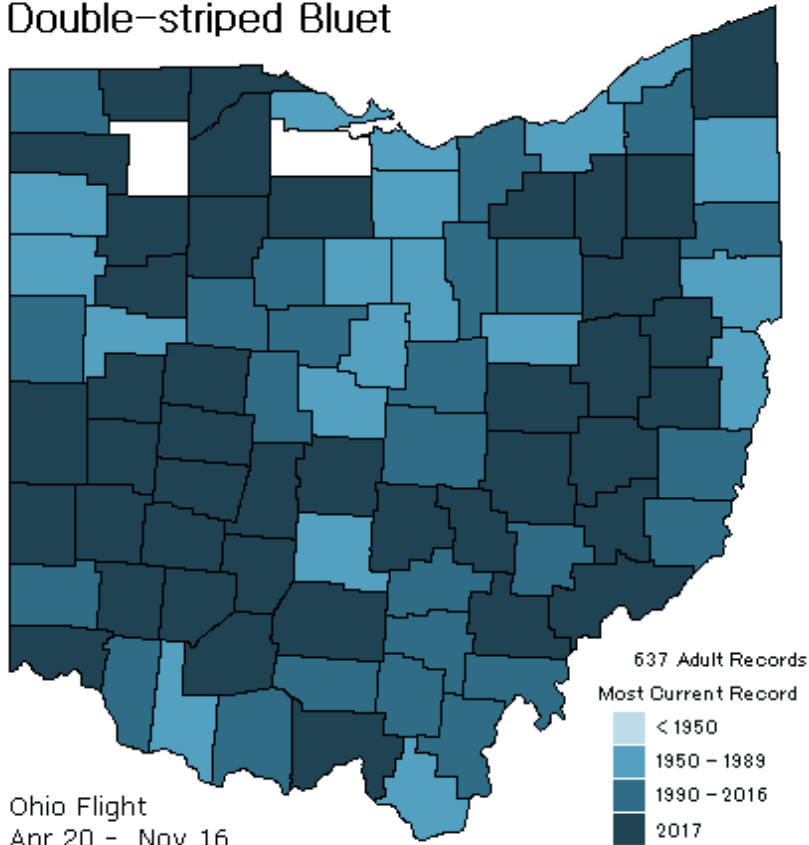
Skimming Bluet
Enallagma geminatum

© Jim Lemon

Double-striped Bluet

Enallagma basidens

Enallagma basidens
Double-striped Bluet

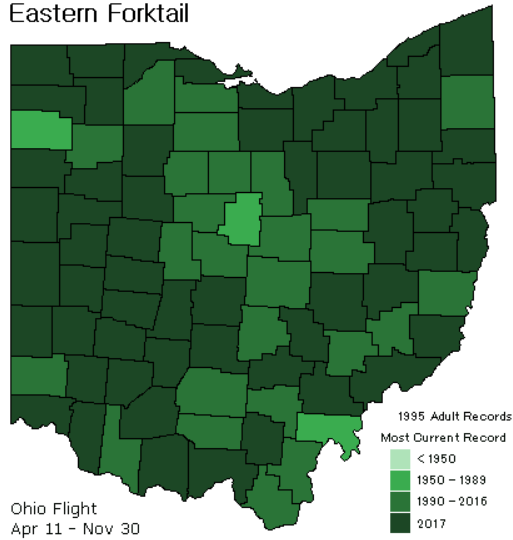


Eastern Forktail

Ischnura verticalis



Ischnura verticalis
Eastern Forktail

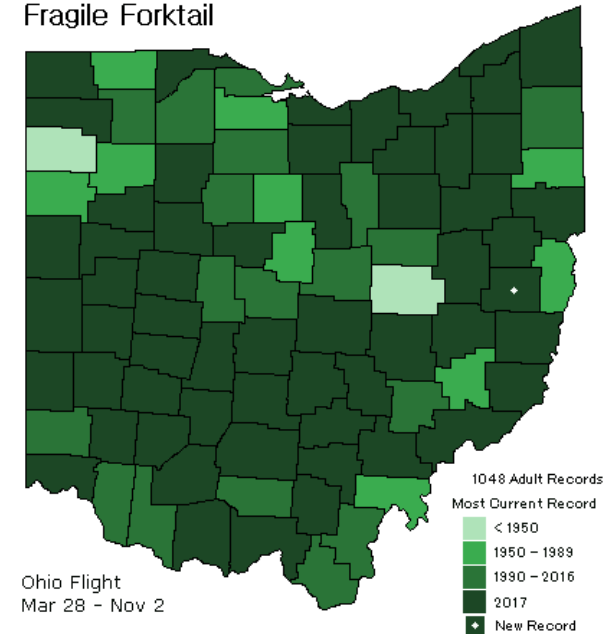


Fragile Forktail

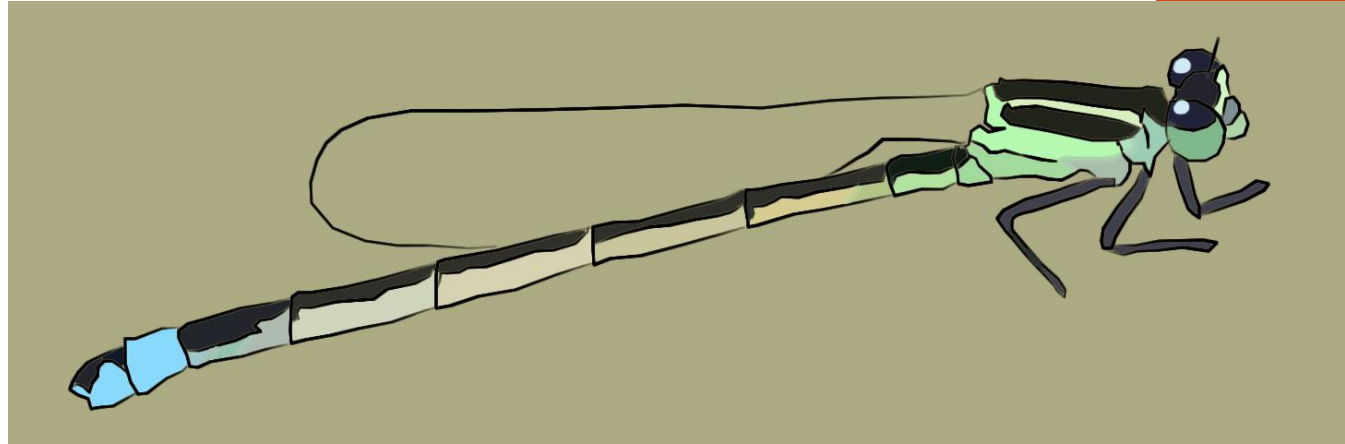
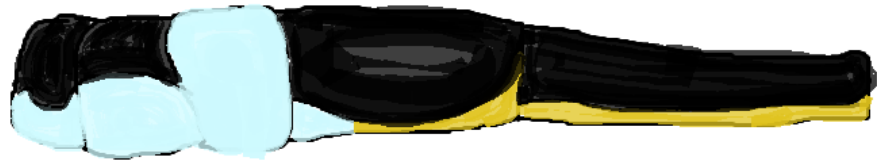
© Jim Lemon



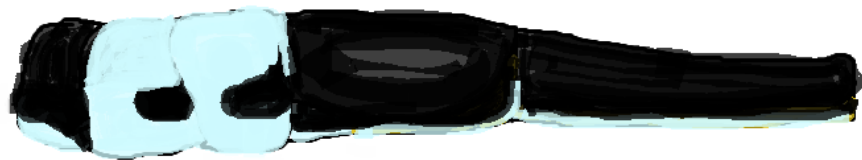
Ischnura posita
Fragile Forktail



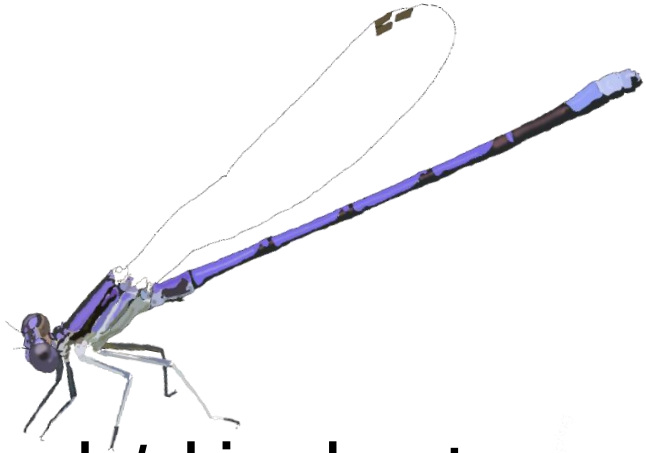
Rambur's Forktail



Eastern Forktail



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