

Dragonflies and Damselflies of Calvert County 2020 Final Report



Laura's Clubtail (*Stylurus laurae*)

Project Leader: Jason Avery, jeabecop@gmail.com (443-975-3067)

Andy Brown, Andrew.Brown@CalvertCountyMD.gov 410-535-5327

The Calvert County Natural Resources Division is sponsoring an ongoing research program to document what species of the order Odonata (*Dragonflies and Damselflies*) occur in the county. The Calvert Stewards volunteers will search county and state parks, public and private property, and any suitable habitat within the county to look for different types of Odonates and the abundance of those species. They will obtain photographs and identify locations and species of Odonates so that records can be submitted to the Odonata Central data base to be properly vetted and confirmed. Additionally, records will also be submitted to Richard Orr of Mid-Atlantic Invertebrate Field Studies and the Dragonflies and Damselflies of Calvert County project within iNaturalist. The Maryland Biodiversity Project data base now has synched observations with iNaturalist.

Skills Needed

- All skill levels are encouraged to participate
- The ability to work alone or with a group
- The ability or desire to learn and identify odonata
- The ability to walk in and on all types of landscapes to include (ponds, creeks, lakes, fields, forest and swamps)

Preferred Skills

- The ability to have basic computer skills in order to submit records via the internet.

Volunteer Duties

- Explore different types of landscapes to locate and identify odonata
- Map locations accurately on paper maps or online
- Photograph odonates well enough for proper identification
- Identify the habitat characteristics and abundance

Requirements and Expectations

- Walk and methodically search for odonates
- Be considerate of sensitive species and information regarding locations
- Be exposed to ticks, chiggers, mosquitoes, stinging insects, poison ivy, and getting wet.
- Follow all rules, regulations and guidelines while on county, state, and private properties

Training

- Orientation through a presentation of odonata
- An advanced class on odonata and records and submission
- On-going opportunities to join scheduled odonata research

Project Dates

Early Spring – can start as early as March 15

Summer – research will be at its peak

Fall – continue to check established locations for species of odonata still flying to establish late flight period dates and look for species that emerge late in the season.

Summary of 2020 field study

2020 was the third year of the field study in which the cumulative list was increased from 61 species to 83 different species known to occur throughout Calvert County. The season started out slow with reports from the Northeast showing very low numbers as the warmer weather took longer to arrive. However, one of the first species discovered in the county was a Variegated Meadowhawk at Flag Ponds Nature Park on April 11th. This was the first county record and the third state record for this species. A fourth record was discovered in Howard County approximately a week later.

The cumulative list was based on data from the Maryland Biodiversity Project website and the 2019 annual report "*The Dragonflies and Damselflies of Maryland and the District of Columbia*" by Richard Orr of the Mid-Atlantic Invertebrate Field Studies. In conjunction with Richard Orr's list, iNaturalist became a major source of record keeping due to its popularity and amount of observations being submitted. As a result of iNaturalist and the *Dragonflies and Damselflies of Calvert County project*, a few new species were discovered as late entries and were then added to the cumulative list. Those were: Russet-tipped Clubtail (2004 by Arlene Ripley), Arrowhead Spiketail (2020 by Mikey Lutmerding) and the Tiger Spiketail (2019 by Mary Hollinger.) Additionally found in iNaturalist were, Blue-fronted Dancer and Slender Bluet which were discovered by Rick Smith who is one of our newest volunteers.

NEW locations have been added as part of this research project : Battle Creek Cypress Swamp, **Bennett O. Hughes Memorial Tree Farm**, Briscoe Gray Heritage Park, Calvert Cliffs State Park, Calvert County Business Park, **Calvert High School pond**, Chesapeake Beach Wetlands park, Chesapeake Highlands Memorial Gardens, College of Southern Maryland Prince Frederick campus, Cove Point Park, Cove Point Community Lake, Cove Point Beach, **Dares Beach Road pond (Dares Beach @ Rt. 4)**, Dominion Energy Warehouse pond, Dunkirk District Park, Fastop Natural Area in St. Leonard, Flag Ponds, Gatewood Nature Preserve, Hutchins Pond, Jefferson Patterson Park and Museum, Kings Landing Park, **Lake Collusion**, Lyons Creek Road Community pond, Smoky Road/Huntingtown Wildlife Management Area, Ward Road Farm Nature Park, Wetlands Overlook Park.

Bennett O. Hughes Memorial Tree Farm

With the help of the three additional volunteers, I was able to concentrate on the "Tree Farm" with the objective of establishing a cumulative list for the park. This park has not been explored for odonata and it proved to be a big challenge. The park has a wide diversity of habitat to include a fishing pond, open fields and a pristine stream that runs along the southern boundary. It was exciting to find a Sable Clubtail sitting on a leaf overhanging the stream as it was only the second county record and a first for me. The Sable Clubtail is considered an S2 on the state endangered species list. A few weeks later while walking in the stream, a Laura's Clubtail was located and photographed. This was a first county record and is also ranked as an S2. Two days later I returned to relocate the Laura's Clubtail and was able to observe at least three males patrolling the stream and guarding territory.

On August 4th, Tropical Storm Isaias hit the state of Maryland and brought severe amounts of rain. The storm had devastating effects on the habitat at the tree farm and as a result, odonate activity dropped by nearly 90%. High waters in the stream flooded the banks and the open fields were completely under water. Drainage from the fishing pond overflowed into the run off creek that leads to the main stream in the back which could have added impurities to the water. Certain species of Clubtails (*Gomphidae*) are sensitive to water quality and this could have an impact on next year's emergence. By the end of the season, Fawn Darners were still present and cruising the stream searching for prey inside

overhanging root balls. It is interesting to note that this location has low numbers of Zygoptera (*Damselflies*) species and will need further research to determine why. The cumulative list topped out at 32 species.

[Battle Creek Cypress Swamp Sanctuary](#)

Battle Creek Cypress Swamp did not have a good year for odes. One species was added to the list (Arrowhead Spiketail) bringing the total to 27. Blue Dashers, Eastern Pondhawks and Needham's Skimmers which are the most abundant of all species had very low numbers this year. Kacy's Pond had low activity which could have been a result of runoff from the farm across the street. Further research will be needed next year to determine if this is cyclical or environmental.



Sable Clubtail (*Stenogomphus rogersi*)

[A few species that were previously discovered were also relocated during this season:](#)

- **Sable Clubtail** (First record, Cove Point 2011. New record 2020, Bennett O. Hughes Memorial Tree Farm)
- **Cyrano Darner** (First record, Cove Point in 2011. New record 2020, Calvert Cliffs State Park and Ward District Park)
- **Fine-lined Emerald** (First record, Cove Point in 2011. New record 2020, Calvert Cliffs State Park)
- **Dragonhunter** (First record, Cove Point in 2011. New record 2020, Bennett O. Hughes Memorial Tree Farm and Ward District Park)
- **Double-striped Bluet** (First record, Cove Point in 2011. New record 2020, Calvert High School ponds)

[Summary of new species for the county:](#)

- **Treetop Emerald** (Discovered at Calvert Cliffs State Park)
- **Laura's Clubtail** (Discovered at the Bennett O. Hughes Memorial Tree Farm)
- **Double-ringed Pennant** (Discovered at the Dominion Energy Warehouse pond)
- **Variiegated Meadowhawk** (Discovered at Flag Ponds Nature Park)
- **Slender Bluet** (Discovered at Calvert Cliffs State Park and College of Southern Maryland Prince Frederick campus ponds)
- **Lilypad Forktail** (Discovered at the Cove Point Lake)
- **Blue-fronted Dancer** (Discovered at Lake Collusion in Ranch Club Estates)

All updates have been submitted to Odonata Central and Richard Orr.

Additionally, the first annual list of odonata for Flag Ponds Nature Park and Ward Farm Recreation & Nature Park were completed this year and a cumulative list for Calvert Cliffs State Park was also compiled with a whopping 52 species.

Volunteers

Despite the COVID pandemic hitting in early 2020 which resulted in the cancelling of the planned lecture, we were still able to recruit three new volunteers for the project.

- Rick Smith logged in 80hrs
- Mary Hollinger logged in 5hrs
- Karen Anderson logged in 4.5hrs

Partnerships with Community Groups and other Organizations

Due to the exciting finds of some rare species like the Treetop Emerald and Laura's Clubtail, I was able to collaborate with Bill Hubick of the Maryland Biodiversity page to ensure all information on these species was handled in the correct manner. The submissions were also added to the MBP Sensitive species project which has limited permissions.

Also due to the pandemic, access to the College of Southern Maryland was initially denied to us. After speaking with the head of security, Steve Campbell, we were once again allowed onto the campus during the weekend hours. This access enabled us to add two new species to their list, Slender Spreadwing and Swamp Spreadwing.

Other partners were: Dominion Energy for continuing to allow us access to the pond. Richard Orr of the Mid-Atlantic Invertebrate study for maintaining the updated list of Dragonflies and Damselflies of Maryland and DC. The vetters who contribute their time and effort on Odonata Central. The Maryland Department of Natural Resources staff at Calvert Cliffs State Park for allowing us to have parking access on days they are at full capacity.

Future Plans

- To obtain more interest in this research project and to recruit more volunteers.
- To accomplish thorough searches throughout Calvert County
- To identify new habitats and locations worth monitoring
- To expand the current list of 83 species of odonata for Calvert County
- To continue to submit data to Odonata Central, Richard Orr of Mid-Atlantic Invertebrate Field Studies, iNaturalist and the Maryland Biodiversity Project.
- Work in conjunction with the Dragonfly Larva Mercury study
- To further research in the use and operation of the MOTUS tagging project

Treetop Emerald (Somatochlora provocans)

Male

Female



Supporting Calvert County's nature parks and natural spaces



CALVERT STEWARDS

VOLUNTEER PROGRAM

A partnership between Calvert Nature Society and Calvert County Natural Resources Division

2020 Annual Report

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CALVERT STEWARDS VOLUNTEER PROGRAM
c/o Natural Resources Division
2880 Grays Road
Prince Frederick, MD 20678
(410) 535-5327

Volunteer Portal: <https://calvertstewards.galaxydigital.com/>

Calvert Nature Society: www.calvertparks.org

Calvert County Natural Resources Division:
www.calvertcountymd.gov/NaturalResources

