

CATHANCE PRESERVE DRAGONFLY STUDY

By Kevin Bolduc and Ryan Glass

Purpose:

To observe the changes in populations of dragonflies at Cathance River Preserve in Topsham, Maine according to the air temperature during the months of September and October.

Hypothesis:

As the temperatures decrease throughout the fall, all dragonfly populations will steadily decrease.

Procedure:

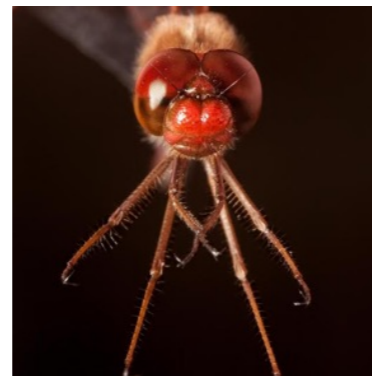
1. Gather nets and camera.
2. Visit four locations to look for dragonflies.
3. Using the nets, catch any dragonflies spotted, photograph them, and record their identity.
4. Record the air temperature.
5. Repeat weekly throughout September and October.

Background Information:

- Dragonflies are part of the Anisoptera suborder of the Odonata family
- Dragonflies have large eyes, a short thorax, a long and thin abdomen, and two sets of glassy membrane wings, the hind set being larger than the front.
- Dragonflies can live for many years. However, most of this time is spent as nymph (lowest picture), and in the water.
- Weather patterns have a considerable effect on dragonflies, as they are exothermic, meaning they can't produce their own heat.



The researchers at work



Autumn Meadowhawk
(Left and right)

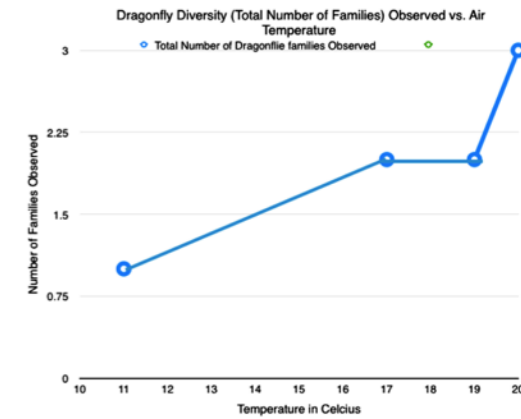
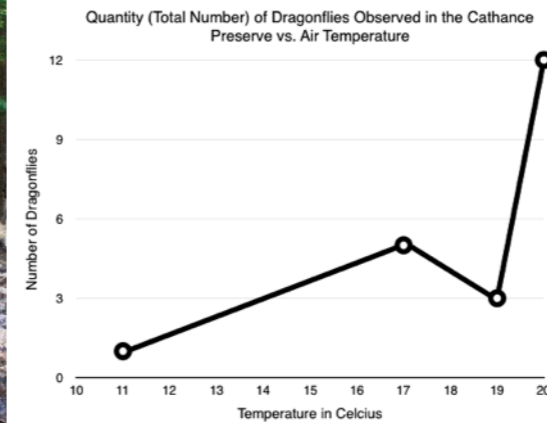


Darner Nymph

Dragonfly Species Identified:

- Ruby Meadowhawk (*Sympetrum rubicundulum*)
- White-faced Meadowhawk (*Sympetrum obtrusum*)
- Cherry-faced Meadowhawk (*Sympetrum internum*)
- Autumn Meadowhawk (*Sympetrum vicinum*)
- Salty Skimmer (*Libellula incesta*)
- Blue Darner (*Aeshna multicolor*)

Graphs (results):



Conclusions:

The hypothesis was supported. The diversity and amount of dragonflies observed at the Cathance Preserve had a correlation with the temperature on the days observed, as both decreased along with the decreasing temperatures.

There were some errors in this experiment. Data was only collected once a week, at the same time (midmorning), and the researchers limited their data collecting to areas near the trails.

- * These could be solved by having more people collect data, and to collect data at different times and more often than once a week.

Thanks:

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