

Friday Science Report



Volume 1, Issue 3

June 12-July 6, 2007

Produced by Great Smoky Mountains Institute at Tremont Summer Research Assistants



Andrew teaches young Tremont campers about snakes

Going After Poo

By: Andrew Wilson

There is an interesting twist to catching snakes at Tremont these days. When we catch a snake at Tremont, we hope it will defecate (poop) on us. A research project headed by Dr. Faulkner from the University of Tennessee is researching endoparasites that live in snake feces. An endoparasite is a parasite that lives within the body and gets its food from the host. Most of the snakes here at Tremont don't need any help in musking you, which basically means the snake defecates on you. Musking is a foul smelling defense against predators that snakes are not afraid to use. When a snake does musk we then grab a small vial of spoon from the lid of the collection vial is used to scrape the feces off of where it was deposited, usually your hands, and then sent to the University of Tennessee for analysis.

We have already collected some samples here at Tremont from a Northern Water Snake and a Dekay's Brown Snake. We hope that over the course of the summer we will collect many more samples that can be used for this research project.



Swing, Dragonfly Catcher, Swing!!

By: Jessica Mathis

As cars drive from Townsend towards the Y intersection on June 28, most people saw four Tremont research interns playing in the Little River. Actually, not playing, but hunting Odonates. Odonates are the order of insects that includes Damselflies and Dragonflies. They are known for their tiny antennae, large compound eyes, four veined wings of similar length, and a long ten-segmented abdomen. Since the larval stage is the longest part of the Odonate lifecycle and it spends this stage of its life in or near aquatic environments, some of the best places to catch adults are these same type environments.



*ATBI Teacher Intern
Bartley McMurray*

Andrew, Isaac, and Jessica, with the help of All Taxa Biodiversity Inventory (ATBI) Teacher Intern Bartley McMurray, set out in the Little River at the island close to the cable car in order to see how many Dragonflies and Damselflies we could outsmart and maneuver into our nets. We managed to catch eight, while more outsmarted us and didn't succumb to the nets. This isn't like sweeping for butterflies; you really have to swing the net like you would swing a baseball bat.

After catching what we could, we then turned to our identification guides, *Dragonflies through Binoculars* and *Damselflies of the Northeast*, to identify each species we caught. A female Common Whitetail Dragonfly, several Ebony Jewelwing damselflies, along with an Orange Bluet and a Familiar Bluet, are among the species that we were able to collect that day. The vibrant colors and patterns each species displays make them beautiful and trying to catch them makes the day fun. Stay on your toes if you try to catch them because they are faster than a pitcher in a baseball game!



Camouflaged Common Whitetail dragonfly



Ebony Jewelwing damselfly

O Where, Oh Where have the Salamanders gone? Oh Where, Oh Where could they be...

By Isaac Evans



What’s going on with the salamanders? The last three times we have gone out to the cover boards we have found absolutely nothing. Why would that happen? I am sure that part of it has to do with the dryness of summer time but still, where do they go? While the boards show fewer and fewer salamanders, the “Salamander Hiltons” (leaf litter bags where we sample stream salamanders) seem to be collecting more. The table below shows a decline of aquatic salamanders in the winter months and a rise in the summer, which is the direct opposite of the boards used to sample terrestrial salamanders. Maybe the reason is the drier weather in summer or maybe it’s something else, but I just found the data interesting.

	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug
Pigpen Branch	14	8	8	10	13	5	8	17	20	30	35	20
Loan Branch	6	3	6	12	N/A	N/A	2	11	17	19	26	20

Table 1. Stream salamanders are more abundant in summer compared to other seasons.

Over the past two weeks I have visited two terrestrial board sites and two aquatic salamander sites. As I already mentioned, the terrestrial salamander cover boards did not yield any salamanders. The aquatic salamanders were abundant, however. On June 29th, Andrew and I went out with



“Salamander Hilton”



Blue Ridge Two Lined Salamander

the St. Mary’s Catholic School in Oak Ridge, TN to Ashley Branch where we caught 16 salamanders. An interesting find was that in one of the bags we found seven Blue Ridge Two-lined larvae all between the sizes of 9-12 millimeters. It was a really neat find because we would find one, then begin to sift through the silt again and find another. It made for an interesting and fun filled research experience. This past Monday, July 2, the interns from Purchase Knob from our sister research site in North Carolina came over for the day and we

checked the Lagoon and the Friendship Circle terrestrial salamander sites and the Upper Dorsey aquatic site. Upper Dorsey brought out six salamanders. A surprisingly low amount I think, but nonetheless it was a fun time. It is amazing how much fun you can have with some pretty simple things such as hunting for salamanders.



Eastern Phoebe caught in a mistnet

M.A.P.S. Time Again at Tremont

By: Jessica Mathis

To most, the 4th of July, Independence Day, is a holiday away from work, but for Josh Davis, the Summer Research Interns, and a handful of volunteers, this wasn't a holiday. We were hard at work at the fifth session of the M.A.P.S. bird banding station at Tremont.

The birds caught in the 10 mist nets set up in various locations around Tremont assess and monitor the bird populations in the park. Banding the birds helps to keep a more accurate record of the population density and helps to increase awareness to the conservation and management of the habitats within the Great Smoky Mountains National Park.

A running total of 57 birds have been caught in the mist nets over the five banding sessions. While some have been recaptures, we have caught several awesome birds that were not yet banded. A female kingfisher was the big highlight of the second banding session on June 6th. While we mostly catch Louisiana Waterthrush, we also capture birds such as Red-eyed Vireos, Eastern Phoebes, or Northern Cardinals.

Tremont has three bird banding sessions left for this season; July 18th, 24th and August 1st. All sessions start with opening the nests at 6:30 a.m.; net runs are approximately every 40 minutes until 12:20 p.m. when the last net run and closing occurs. All are welcome to come and take part in the M.A.P.S bird banding sessions.



Northern Cardinal



Belted Kingfisher