COLLEGE OF SCIENCE
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Research Horizons Day
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Monogenoidean Gill Parasite Infection in Darters of Estill Fork

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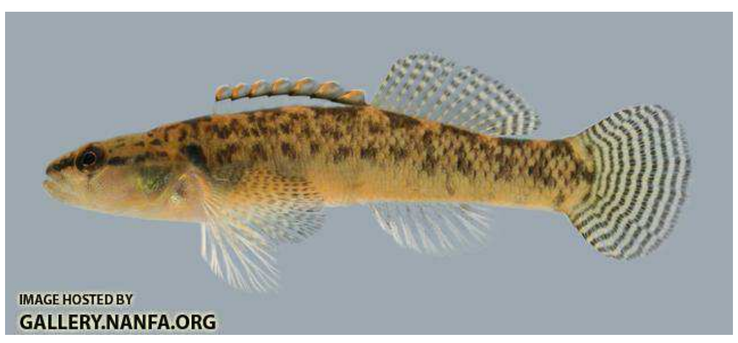
Overview

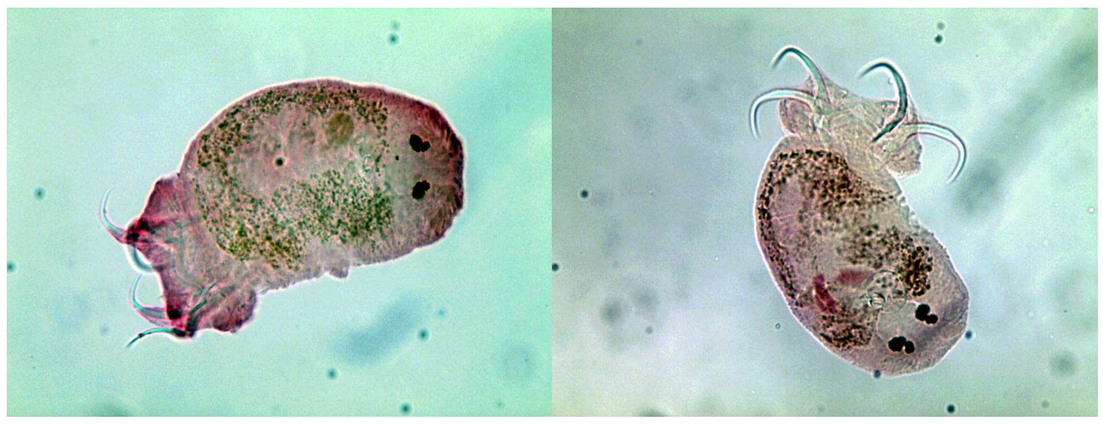
This study was performed as a follow-up to Hanson and Stallsmith's (2013) previous study of the prevalence and abundance of monogenoidean gill parasite (*Aethycteron*) infection in darter (*Etheostoma*) species from Estill Fork of the Paint Rock River. Specimens were collected from a single site in Jackson County, AL bimonthly over the course of a year (2013-2014). Parasite counts were conducted on the gills of three darter species: *E. simoterum* (Tennessee Snubnose Darter), *E. kennicotti* (Stripetail Darter), and *E. caeruleum* (Rainbow Darter).

Left to Right: Tennessee Snubnose Darter (NANFA 2015), Stripetail Darter (NANFA 2015), Rainbow Darter (Outdoor Alabama 2015)

Explanation

The prevalence (fraction of each host sample infected) and mean abundance (average number of parasites per host sample) of parasite infection were calculated for each sample and were used to determine if monogenoidean gill parasite loads differed significantly between darter species.

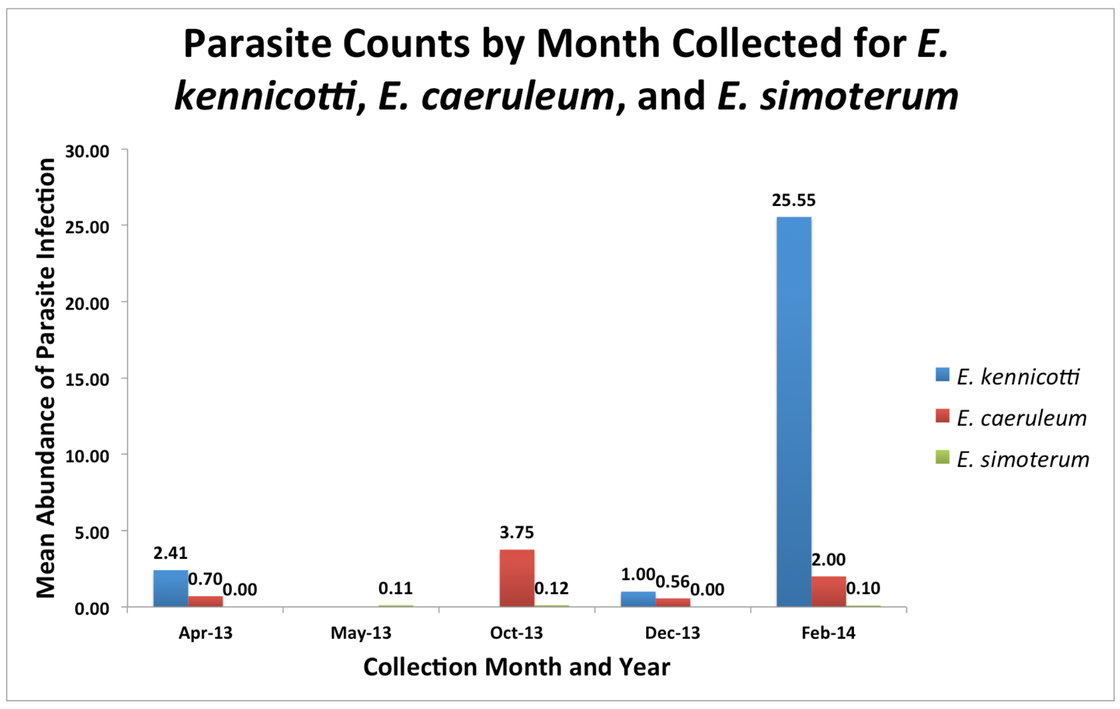


Two *Aethycteron* parasites from a single Stripetail Darter from Estill Fork (Stallsmith 2013).

Estill Fork site of the Paint Rock River where the darters were collected (Stallsmith 2012).

Key Findings

As in the previous study, it was determined that *E. simoterum* had low prevalence and mean abundance of parasite infection throughout the year compared to *E. kennicotti*. Some overlap was observed between *E. simoterum* and *E. caeruleum* parasite loads.



Impact

This research provides insight into the host-parasite interactions present in this system. Further research is needed to determine any seasonal variation in parasite loads within any of the host species. Molecular markers from both the hosts and the parasites are currently being analyzed to search for indicators of host-parasite coevolution.

Acknowledgements

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