The Supratemporal Canals of the *Etheostoma simoterum*

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Outline

- Introduction
- Justification
- Objectives
- Materials and Methods

The Snubnose Darter *Etheostoma simoterum*

The range of the species is scatter:

- West side of Virginia
- Southeast Kentucky
- Upper Holston River
- East Tennessee
- Northeast Alabama

Page and Burr 2011

Life History

- Spawn in April and early May
- Sexual Maturity is reach at one year old
- The sex ratio of females to males is estimated at 1.8:1.
- Longevity of the species is about 18 months

Why study the supratemporal canals?

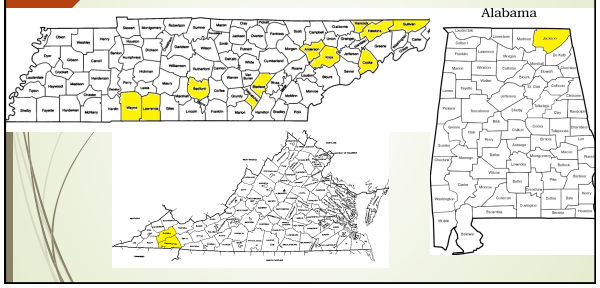
- Page and Mayden (1981)
- The taxonomic understanding of the species have improved by 2012.
- Bauer et al. hypothesized that environmental changes may impact the canal of the subgenus Ulocentra (1995).

Page and Mayden (1981), LM Page (1977), Hammington and Near (2012), Bauer et al. (1995)

Objectives:

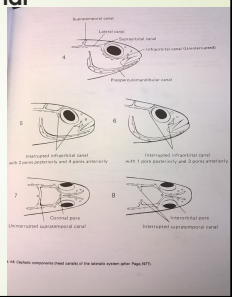
- Document the structural variations of the supratermporal canal in *Etheostoma simoterum* from samples collected in Southern Appalachian streams.
- Determine if the supratemporal canals are either interrupted or uninterrupted. In addition, document the frequency of the interrupted and/or uninterrupted supratemporal form in samples from sites draining different geographical locations (i.e., river basins).
- Assess trends in the frequency and appearance of the supratemporal canal due to land use impacts in Southern Appalachian streams.

Study Area



Supratemporal Canal

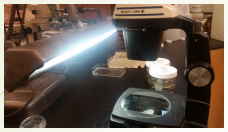
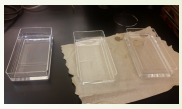
This Canal is located towards the back of the head of the specimens.



Materials and Methods

- Collect Specimens from rivers and creeks in East Tennessee, some in Alabama and Virginia.
- Expected individuals collected is ~ 600.
- Preparation of the individuals once they arrived.

Equipment


Documenting the Interruptions, if any?

- To document the interruptions a color coded system was developed.

Finding the Supratemporal Canal

Snubnose Darter (*Ethrostoma simoterum*)

Statistical Analysis

- Microsoft Excel datasheet with 22 categories
- Objective 1: Excel will be used to document frequencies and acquire locations for a GIS map
- Objective 2 and 3: SAS will be used to document the three categories of interrupted, uninterrupted and unknown. Then a K-S test and/or Chi-square test will be conducted for trends among the geographical locations and conditions data.

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References

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Questions