

7-26-2009

# Spatial Distributions of Bathypelagic Fishes along the Mid-Atlantic Ridge

C. I. H. Anderson

*University of Washington - Seattle Campus*

J. Horne

*University of Washington - Seattle Campus*

Tracey Sutton

*Virginia Institute of Marine Science, [tsutton1@nova.edu](mailto:tsutton1@nova.edu)*

Follow this and additional works at: [https://nsuworks.nova.edu/occ\\_facpresentations](https://nsuworks.nova.edu/occ_facpresentations)

 Part of the [Marine Biology Commons](#), and the [Oceanography and Atmospheric Sciences and Meteorology Commons](#)

---

## NSUWorks Citation

Anderson, C. I. H.; Horne, J.; and Sutton, Tracey, "Spatial Distributions of Bathypelagic Fishes along the Mid-Atlantic Ridge" (2009). *Marine & Environmental Sciences Faculty Proceedings, Presentations, Speeches, Lectures*. 256.  
[https://nsuworks.nova.edu/occ\\_facpresentations/256](https://nsuworks.nova.edu/occ_facpresentations/256)

This Conference Proceeding is brought to you for free and open access by the Department of Marine and Environmental Sciences at NSUWorks. It has been accepted for inclusion in Marine & Environmental Sciences Faculty Proceedings, Presentations, Speeches, Lectures by an authorized administrator of NSUWorks. For more information, please contact [nsuworks@nova.edu](mailto:nsuworks@nova.edu).

## 1027 Poster Session I, Exhibitor's Hall, Friday 24 July 2009

Ronald Altig<sup>1</sup>, Mary White<sup>2</sup>, James Austin<sup>3</sup>, Brian Crother<sup>2</sup>

<sup>1</sup>Mississippi State University, Starkville, MS, United States, <sup>2</sup>Southeastern Louisiana University, Hammond, LA, United States, <sup>3</sup>University of Florida IFAS, Gainesville, FL, United States

### Unusual Bullfrog (*Lithobates catesbeianus*) Tadpole Phenotypes

A series of tadpoles initially identified as specimens of *Lithobates catesbeianus* were collected from the general geographic vicinity of Alachua County, Florida. One of us (RA) noted that these tadpoles were phenotypically distinct from the expected bullfrog morphology in pattern, color, and general body form. Phylogenetic comparisons were made with mtDNA sequence data from these specimens and other bullfrogs from a broad sampling of localities. *Lithobates clamitans*, *L. grylio* and *L. heckscheri* were used for outgroup comparisons. The mtDNA did not suggest the tadpoles were from a distinct lineage separate from other bullfrogs. Although part of the sample from the unusual tadpoles formed a monophyletic group, all of these individuals were nested within the larger species tree. Nuclear DNA may indicate otherwise. The morphology and DNA results from these unusual tadpoles will be discussed.

---

-

## 204 Fish Ecology II, Pavillion East, Sunday 26 July 2009

Cairistiona Anderson<sup>1</sup>, John Horne<sup>1</sup>, Tracey Sutton<sup>2</sup>

<sup>1</sup>University of Washington, Seattle, WA, United States, <sup>2</sup>Virginia Institute of Marine Science, Gloucester Point, VA, United States

### Spatial Distributions of Bathypelagic Fishes along the Mid-Atlantic Ridge

The spatial distribution of organisms plays a key role in facilitating biological processes, such as trophic interactions, which influence pelagic ecosystem structure and function. This study combines discrete trawl net sampling with continuous, full water column, acoustic measurements to investigate the distribution of bathypelagic (1000- 3000 m depth) nekton biomass along the Mid-Atlantic Ridge from Iceland to the Azores in the North Atlantic. Two, previously unknown, distinct bathypelagic acoustic scattering layers (ASLs) were observed using 18 kHz echosounder data. One, extending down on average ~200 m from 2000 m depth, appears ubiquitous wherever bottom depth allows, while the second, found within the 1500-2000 m depth stratum, only occurred south of the Sub-Polar Front. Backscatter from the 2000 m ASL was attributed to fish based on net catches, with species drawn from the suite of bathypelagic species observed throughout the study area, rather than any specific group. No general increase in acoustic backscatter, as a proxy for pelagic nekton biomass (primarily fish), was observed in close proximity to the bottom ( $\leq 200$  m), but localized concentrations of backscatter were observed in areas of steep bottom topography at bathypelagic depths. Together these observations demonstrate a previously unreported degree of complexity in the spatial

structuring of bathypelagic ecosystems, which is likely to significantly effect the local functioning of those ecosystems.