

Anthony A. Snead

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Biological Sciences Department
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Education

Ph.D. Biology Fall 2018 - Present

University of Alabama, Tuscaloosa, AL

Dissertation: Integrative Approaches to Estimate Abundance and Illuminate Factors Governing Population Connectivity in the mangrove rivulus fish, *Kryptolebias marmoratus*

Committee Members: Ryan L. Earley, Julia Cherry, William Ellis, Paige Ferguson, Jeff Lozier

GPA: 4.0

B.S. Environmental Biology Fall 2016 - Summer 2018

University of South Florida

GPA: 3.75

Research Experience

Graduate Researcher Fall 2018 - Present

The Earley Lab, University of Alabama

- Explores population genetics of *Kryptolebias marmoratus* in order to model the effect of abiotic factors on gene flow and divergence.
- Investigates eDNA concentration's relation to density over time as a proxy for traditional measures of species abundance.
- Mentors undergraduate researchers through large integrative projects and oversees undergraduate lead projects.
- Manages animal husbandry aspects of over 3,000 individually housed fish with over 64 isogenic lineages maintained.

Undergraduate Researcher Spring 2017 - Summer 2018

Freshwater Ecology Lab, University of South Florida

- Collected core samples from various lakes in Tampa Bay area and processed samples to identify benthic invertebrates.
- Identified benthic invertebrates and ran standard ecological indices with the collected data.
- Sampled ponds in the Tampa Bay area for fish.
- Identified species and ran indices to determine the relationship between fish diversity and abundance of waterfowl.

Undergraduate Researcher 2012 - 2013

Saint Leo University, Saint Leo, FL

- Surveyed red mangrove trees using quartile plots on the shores of Tampa Bay.
- Identified and documented locations of galls on red mangroves.
- Investigated the correlation between salinity and gall formation in red mangroves.
- Aided in artificial reef experiments throughout the Tampa Bay area.

Undergraduate Research Volunteer 2012 - 2013

Mangrove Watch, Tampa FL

- Conducted general surveys of the mangrove forest on the shores of Tampa Bay.
- Conducted Boat observations of the health of mangrove forests in Tampa Bay.
- Tagged mangrove trees and recorded auxiliary data.
- Lead groups of volunteers in collecting data to serves as mangrove health indicators.

Teaching Experience

Instructor Biological Sciences Fall 2018 - Present

University of Alabama, Tuscaloosa, AL

- Teaches laboratory section corresponding to biology II lecture.
- Maintains gradebook and attendance for multiple sections of laboratory classes.
- Aids in designing new lab activities for undergraduate students.
- Maintains laboratory materials necessary for instruction.

Publications

1. Davidson J, Summerfelt S, Espmark AMO, Mota V, Marancik D, Earley RL, **Snead A**, Good C (2021). Effects of ozone on post-smolt Atlantic salmon (*Salmo salar*) performance, health, and maturation in freshwater recirculation aquaculture systems. *Aquaculture* 533: 736208.
- X. **Snead A** & Earley RL (202X). Dispersal in New World Mangrove Forests: Diverse Strategies and Limitations Imposed by History and the Matrix Between Patches. Manuscript draft available - anticipated submission date, January 2021.
- X. **Snead A** & Earley RL (202X). Predicting the In-Between: Estimating Habitat Suitability of a Coastal Euryhaline Fish (*Kryptolebias marmoratus*), Present and Future. Manuscript draft available – anticipated submission date, January 2021.

Presentations

Abiotic Drivers of Gall Distribution on Red Mangroves throughout Tampa Bay **2013**
Anthony Snead
 Presented research for Saint Leo University Academic Excellence Day

Workshops Attended

25th Summer Institute in Statistical Genetics **2020**
Module 9: Quantitative Genetics
Module 14: Association mapping: GWAS and Sequencing Data
Module 17: Computational Pipeline for WGS Data
University of Washington

5th edition Population Genomics **2020**
Physalia

Southeastern Computational School: eDNA and QIIME 2 Software Training **2018**
University of Chattanooga

Grants and Fellowships (\$19,743 total)

RCN for Evolution in Changing Seas **\$500**
2020 Virtual Lab Meeting Training Program

25th Summer Institute in Statistical Genetics Scholarship **\$900**
Module 9, 14, & 17

E.O. Wilson Biodiversity Fellowship Summer 2020 **\$5000**
Population Genetic and Environmental DNA Sampling in the Florida Keys

Bishop-Stackman Marine Science Endowed Fellowship **\$500**
Environmental DNA Sampling in the Florida Keys

Office of Research and Economic Development Small Grant Program **\$5844**
Validating a Non-Invasive Method for Estimating Abundance in Threatened or Cryptic Marine Fishes.

Sigma Xi Grants In Aid of Research **\$1000**
Escaping the Patch: The Role of Ocean Currents in Determining Population Connectivity in Kryptolebias marmoratus.

The College Academy of Research, Scholarship, and Creative Activity Grant **\$5999**
If You Can't See It, It Doesn't Exist. Or Does It? Validating a Technique to Estimate Abundance in a Vulnerable, Highly Enigmatic Marine Fish.

Anthony A. Snead
 Curriculum Vitae

Laboratory and Field Skills

Chemistry: Experience with visible spectroscopy (Hewlett Packard and Ocean Optics Diode Array Spectrometers), IR and NMR spectroscopy, GC-MS, TLC, titration, calorimetry, and synthesis: separation and purification (degradation, recrystallization, extraction, filtration, distillation).

Biology: Experience with dissection, chromatography, DNA extraction, PCR, qPCR, Nanodrop, Qubit, enzyme kinetics; EKG (ECG); light microscope experience; Agarose Gel Electrophoresis, Polyacrylamide Gel Electrophoresis, Western Blot, and primer design.

Ecology: Experience with quartile plots, tagging, core sampling, fish sampling, GPS, organism identification, and indices.

Additional Skills

- Mastery of Microsoft Office programs
- Familiar with Adobe Creative Cloud.
- Experience within Maya Software.
- Experience with Geomajic and Photoscan.
- Working knowledge of the R environment, Linux command line, Python and SAS.
- Experience in Arlequin, STRUCTURE, InStruct, BayesAss, Migrate and SPAGeDi.
- Experience in ArcPro, ArcMap, SAGA, QGIS, and Circuitscape.

Awards

Merit Scholarship, Saint Leo University	2012
Presidents List Saint Leo University	2013

Memberships

The Research Coordinate Network for Evolution in Changing Seas (RCN-ECS)	2020 - Present
The Society for the Study of Evolution (SSE)	2020 - Present
Sigma Xi	2020 - Present
The American Association for the Advancement of Science (AAAS)	2018 - Present
The Fisheries Society of the British Isles (FBSI)	2018 - Present
University of Alabama Biology Graduate Student Association	2018 - Present

Outreach

Letters to a Pre-Scientist Scientific Volunteer	2020 - Present
UA Safe Zone Ally/Trainer	2019 - Present
The University of Alabama's Night at the Museum Volunteer Biology Instructor	2019
Skype a Scientist Scientific Volunteer	2018 - Present

References

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