RYAN J. ECKERT

Coral reef ecology, mesophotic coral ecosystems, molecular ecology

EDUCATION Ph.D. Student in Integrative Biology 2019 Poca Raton, FL Florida Atlantic University expected Advisor: Dr. Joshua Voss 2024 M.Sc. in Biological Sciences 2017 Poca Raton, FL Florida Atlantic University 2019 Thesis: Population genetics and algal symbiont communities of the coral species Montastraea cavernosa on the Belize Barrier Reef Advisor: Dr. Joshua Voss **B.Sc. in Biological Sciences** 2005 • Tallahassee, FL Florida State University 2009 Thesis: Associational resistance and susceptibility in Solanum carolinense



Ph.D. student specializing in coral reef ecology, mesophotic coral ecosystems, molecular ecology, and multivariate data analysis.

RESEARCH EXPERIENCE

| 2017 present | FAU, Harbor Branch Oceanographic Institute Voss Laboratory | ♥ Ft. Pierce, FL |
|----------------------|---|--------------------------|
| 2009 2017 | Research Specialist NOAA's Flower Garden Banks NMS Science Division | ♀ Galveston, TX |
| 2007 2009 | Research Assistant Florida State University Underwood Laboratory | ♀ Tallahassee, FL |

CONTACT INFO

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Ryan J Eckert

RyanEckert

CnidaRyan

| | IMI TEACHING EXPERIENCE | |
|-------------------|--|-------------------------|
| 2017 | Graduate Teaching Assistant FAU Harbor Branch Oceanographic Institute Marine Biodiversity | ♥ Ft. Pierce, FL |
| 2013 2014 | Guest Lecturer Texas A&M University at Galveston Scientific Diving Field Survey Methods | ♀ Galveston, TX |
| 2010 | Instructor Galveston Independent School District 21st Century ACE | ♀ Galveston, TX |

SKILLS

Coral reef ecology Technical SCUBA diving 750+ Scientific Dives 350+ Days at Sea 90+ research expeditions Multivariate data analysis NGS Library prep Bioinformatic analysis Github, Bash, R, Python

STUDENTS MENTORED

2018 • Emily Chei

Link fellowship intern

Assessing population connectivity of the coral *Montastraea cavernosa* along the northern Florida Reef Tract
Currently a student at Cornell University

2017 • Ashley Reaume

Link fellowship intern

Optimized extraction and amplification of algal symbiont DNA from TRIzol preserved corals

Currently a graduate student at University of Central Florida

REFEREED PUBLICATIONS

8. Populations of the coral species *Montastraea cavernosa* on the Belize Barrier Reef lack vertical connectivity

Sci Rep (2019). doi:10.1038/s41598-019-43479-x **Eckert RJ**, Studivan MS, Voss JD

7. The Mesoamerican Reef

2018

In: Loya Y., Puglise K.A., Bridge T.C.L. (eds) Mesophotic Coral Ecosystems of the World. Springer International Publishing, Cham, pp 71–84. doi:10.1007/978-3-319-92735-0 5

Gress E, Voss JD, **Eckert RJ**, Rowlands G, Andradi-Brown DA

6. Coral bleaching and recovery from 2016 to 2017 at East and West Flower Garden Banks, Gulf of Mexico

Coral Reefs (2019). doi:10.1007/s00338-019-01788-7 Johnston MA, Hickerson EL, Nuttall MF, Blakeway RD, Sterne TK, **Eckert RJ**, Schmahl GP

5. Localized coral reef mortality event at East Flower Garden Bank, Gulf of Mexico

Bull Mar Sci (2019). doi:10.5343/bms.2018.0057

Johnston MA, Nuttall MF, **Eckert RJ**, Blakeway RD, Sterne TK, Hickerson EL, Schmahl GP, Lee MT, MacMillan J, Embesi JA

4. Seasonal variability of carbonate chemistry and decadal changes in waters of a marine sanctuary in the Northwestern Gulf of Mexico

Mar Chem (2018). doi:10.1016/j.marchem.2018.07.006

Hu X, Nuttall MF, Wang H, Yao H, Staryk CJ, McCutcheon MR, **Eckert RJ**, Embesi JA, Johnston MA, Hickerson EL, Schmahl GP, Manzello D, Enochs IC, DiMarco S, Barbero L

3. Persistence of coral assemblages at East and West Flower
 Garden Banks, Gulf of Mexico

Coral Reefs (2016). doi:10.1007/s00338-016-1452-x
Johnston MA, Embesi JA, **Eckert RJ**, Nuttall MF, Hickerson EL, Schmahl GP

Citations: 88

h-index: 5

i10-index: 2

2016

2. Rapid invasion of Indo-Pacific lionfishes *Pterois volitans* (Linnaeus, 1758) and *P. miles* (Bennett, 1828) in Flower Garden Banks National Marine Sanctuary, Gulf of Mexico, documented in multiple data sets

BioInvasions Rec (2016). doi:10.3391/bir.2016.5.2.09
Johnston MA, Nuttall MF, **Eckert RJ**, Embesi JA, Sterne TK, Hickerson EL, Schmahl GP

2014

1. Lionfish (*Pterois volitans* [Linnaeus, 1758] and *P. miles* [Bennett, 1828]) records within mesophotic depth ranges on natural banks in the Northwestern Gulf of Mexico

BioInvasions Rec (2014). doi:10.3391/bir.2014.3.2.09

Nuttall MF, Johnston MA, **Eckert RJ**, Embesi JA, Hickerson EL, Schmahl GP

MANUSCRIPTS IN PREPARATION

Population structure of the scleractinian coral, *Montastraea* cavernosa, in the Northern Florida Reef Tract

Bull Mar Sci (in review).

Dodge DL, Chei E, Beal J, **Eckert RJ**, Voss JD

 Depth influences Symbiodiniaceae community variation among *Montastraea cavernosa* corals on the Belize Barrier Reef *Front Microbiol* (in prep).

Eckert RJ, Reaume AM, Sturm AB, Studivan MS, Voss JD

PRESENTATIONS

2019

2018

Genetically distinct depth-stratified *Montastraea cavernosa* coral populations on the Belize Barrier Reef harbor relatively homogenous Symbiodiniaceae communities

Populations of the coral species *Montastraea cavernosa* lack vertical connectivity on the Belize Barrier Reef

ASLO Aquatic Sciences Meeting

Eckert RJ, Studivan MS, Voss JD

Poster presentation

San Juan, PR.

• Affordable and ecologically relevant graduate research on the world's second largest barrier reef? You better Belize it!

HBOI Science Seminar

Eckert RJ and Studivan MS

Oral presentation

| 2018 | • | Connected corals: population genetics of <i>Montastraea cavernosa</i> on the Belize Barrier Reef |
|-------------------|---|---|
| | | HBOI Ocean Discovery Center Marine Science Friday Ft. Pierce, FL. Eckert RJ Oral presentation |
| 2018 | | Breaking point: population genetics reveal a lack of vertical connectivity of <i>Montastraea cavernosa</i> on the Belize Barrier Reef 47th Annual Benthic Ecology Meeting Corpus Christi, TX. Eckert RJ, Studivan MS, Voss JD Oral presentation |
| 2013 | • | Ciguatera fish poisoning in the northwestern Gulf of Mexico. 66th Gulf and Caribbean Fisheries Institute Conference ♥ Corpus Christi, TX Eckert RJ, Loeffler C, Robertson A, Johnston MA, Hickerson EL, Schmahl GP Poster presentation |
| 2009 | • | Associational resistance and susceptibility in <i>Solanum</i> |
| | | carolinense Southeastern Ecology and Evolution Conference Eckert RJ, Kim T, Underwood N Poster presentation Gainesville, FL. |
| | | |
| | | FUNDING |
| 2019 2021 | | FAU Presidential Fellowship \$10,000 |
| 2018 2019 | • | FAU GPSA Travel Awards \$1,600 |
| 2018 | | FAU Thesis Award \$500 |
| 2018 | • | PADI Foundation Grant \$4,973 |
| 2009 | | Bess H. Ward Honors Thesis Award \$1,000 |
| 2005 2009 | | Florida Bright Futures Academic Scholarship \$14,850 |
| 2005 2009 | | Florida State University Freshman Academic Scholarship \$8,000 |
| 2005 | • | Florida State University Freshman Advanced Placement Scholarship \$500 |

| 🚨 AWARDS |
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2019 | 2021

Florida Atlantic University Presidential Fellow

2021

Florida State University Dean's List

20092005

2019

2019

Florida State University President's List

CERTIFICATIONS

AAUS Scientific Diver
 190', Trimix

TDI Technical SCUBA Diver

Advanced Nitrox, Decompression Procedures, Trimix 200'

- PADI Trimix Gas Blender
- DAN Oxygen delivery, First Aid, and CPR for scuba diving injuries
- USCG Licensed Merchant Mariner
 100 GRT
- USFWS Motorboat Operator Certification Course
- Sea-Bird Electronics technician
- NOAA Working SCUBA Diver

MEMBERSHIP AND SERVICE

International Coral Reef Society

HBOI Graduate Student Association

2018 • Association for the Studies of Limnology and Oceanography

♣ SKILLS

- Offshore field research cruise planning, logistics, and execution
- Coral sampling, benthic surveys, fish surveys, photography, navigation and mapping
- DNA and RNA extraction, PCR, qPCR, Gel electrophoresis, NGS library preparation
- Data visualization, CPCe, Primer7, Python, Bash, and R statistical software
- Bioinformatic and multivariate statistical analyses
- Technical SCUBA diving
- Operation, navigation, and handling of small boats
- Marlinspike, and mooring buoy construction/installation/maintenance
- Setup, operation, and maintenance of oceanographic equipment (Sea-Bird Electronics)
- Operation of Nitrox compressor systems and Trimix blending
- Adobe InDesign, Adobe Illustrator, and Adobe Photoshop

REFERENCES

Dr. Joshua Voss

Ph.D. Advisor +1 (772) 242–2538 jvoss2@fau.edu ♥ Florida Atlantic University

Dr. Adrienne Simoes-Correa

Assistant Professor +1 (713) 348-3054 ac53@rice.edu ♠ Rice University

G.P. Schmahl

Superintendent +1 (409) 621–5151 george.schmahl@noaa.gov Flower Garden Banks National Marine Sanctuary

This curriculum vitae was made with the R package **pagedown**.

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