

RYAN J. ECKERT

Coral reef ecology, mesophotic coral ecosystems, molecular ecology

EDUCATION

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

RESEARCH EXPERIENCE

- 2017
|
present • **Graduate Research Assistant**
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

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



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

CONTACT INFO

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[Ryan J Eckert](#)

[RyanEckert](#)

[CnidaRyan](#)

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

- **9. Population structure of the scleractinian coral, *Montastraea cavernosa*, in Southeast Florida**
Bull Mar Sci (in press).
 Dodge DL, Studivan MS, **Eckert RJ**, Chei E, Beal J, Voss JD
- 2019 ● **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
- 2019 ● **7. The Mesoamerican Reef**
 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
- 2019 ● **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
- 2019 ● **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
- 2018 ● **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

Citations: 92

h-index: 5

i10-index: 2

- 2016 ● **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](https://doi.org/10.1007/s00338-016-1452-x)
 Johnston MA, Embesi JA, **Eckert RJ**, Nuttall MF, Hickerson EL, Schmahl GP
- 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](https://doi.org/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](https://doi.org/10.3391/bir.2014.3.2.09)
 Nuttall MF, Johnston MA, **Eckert RJ**, Embesi JA, Hickerson EL, Schmahl GP



MANUSCRIPTS IN PREPARATION

- **Depth influences Symbiodiniaceae community variation among *Montastraea cavernosa* corals on the Belize Barrier Reef**
Front Microbiol (in review).
Eckert RJ, Reaume AM, Sturm AB, Studivan MS, Voss JD
- **Spawning of the giant barrel sponge *Xestospongia muta* at mesophotic depths in the northwest Gulf of Mexico**
Marine Biodiversity (in prep).
 Studivan MS, **Eckert RJ**, Voss JD
- **Benthic community composition of mesophotic coral ecosystems in the northwest Gulf of Mexico, with comparisons to Flower Garden Banks National Marine Sanctuary**
Front Mar Sci (in prep).
 Voss JD, Studivan MS, **Eckert RJ**



PRESENTATIONS

- 2019 ● **Genetically distinct depth-stratified *Montastraea cavernosa* coral populations on the Belize Barrier Reef harbor relatively homogeneous Symbiodiniaceae communities**
 48th Annual Benthic Ecology Meeting 📍 St. John's, NL, Canada
Eckert RJ, Reaume A, Voss JD
Oral presentation
- 2019 ● **Populations of the coral species *Montastraea cavernosa* lack vertical connectivity on the Belize Barrier Reef**
 ASLO Aquatic Sciences Meeting 📍 San Juan, PR.
Eckert RJ, Studivan MS, Voss JD
Poster presentation

- 2018

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

HBOI Science Seminar 📍 Ft. Pierce, FL.

Eckert RJ and Studivan MS

Oral presentation
- 2018

● **Connected corals: population genetics of *Montastraea cavernosa* 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 *Montastraea cavernosa* 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 *Solanum carolinense***

Southeastern Ecology and Evolution Conference 📍 Gainesville, FL.

Eckert RJ, Kim T, Underwood N

Poster presentation

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 AP Scholarship**
\$500



AWARDS

- 2019 ● **Florida Atlantic University Presidential Fellow**
|
2021
2006 ● **Florida State University Dean's List**
|
2009
2005 ● **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

- 2019 ● **International Coral Reef Society**
- 2019 ● **HBOI Graduate Student Association**
Secretary 📍 Ft. Pierce, FL
- 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 📍 Florida Atlantic University
• +1 (772) 242-2538 • jvoss2@fau.edu
- **Dr. Adrienne Simoes-Correa**
Assistant Professor 📍 Rice University
• +1 (713) 348-3054 • ac53@rice.edu
- **G.P. Schmahl**
Superintendent 📍 Flower Garden Banks National Marine Sanctuary
• +1 (409) 621-5151 • george.schmahl@noaa.gov

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

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