

# IVAN V. MONAGAN, JR.

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## EDUCATION

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- PhD** **Columbia University**, New York, NY 2018 – Present  
Ecology, Evolution, and Environmental Biology  
**Richard Guilder Graduate Fellow**, American Museum of Natural History, NY  
Research Advisors: Dr. Shahid Naeem, Dr. Christopher Raxworthy
- MSc** **University of Michigan**, Ann Arbor, MI 2014 – 2016  
Ecology and Evolutionary Biology  
Research Advisors: Dr. John Vandermeer, Dr. Alison Davis-Rabosky
- BS** **Virginia State University** Honor's Program, Petersburg, VA 2010 – 2014  
Biology, Studio Art Minor – *Cum Laude*  
Research Advisor: Dr. Christian d'Orgeix
- Mahidol University International College**, Bangkok, Thailand 2013  
Study Abroad: Tropical Ecology & Conservation

## PUBLICATIONS

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- Vandermeer, J., Armbrrecht, I., de la Mora, A., Ennis, K. K., Fitch, G., Gonthier, D. J., **Monagan, Jr.**, I.V.... & Jha, S. (2019). The Community Ecology of Herbivore Regulation in an Agroecosystem: Lessons from Complex Systems. *BioScience*, 69(12), 974-996.
- Holmes, I. A., **Monagan Jr, I. V.**, Rabosky, D. L., & Davis Rabosky, A. R. (2019). Metabolically similar cohorts of bacteria exhibit strong cooccurrence patterns with diet items and eukaryotic microbes in lizard guts. *Ecology and Evolution*, 9(22), 12471-12481
- Monagan, Jr., I.V.**, Morris JR, Davis-Rabosky, AR, Perfecto, I., Vandermeer, J., "Anolis lizards as Biocontrol Agents in Mainland and Island Agroecosystems." *Journal of Ecology and Evolution*. 2017: 00:1–11
- Li, Kevin, Yifan He, Susanna K. Campbell, A. Shawn Colborn, Eliot L. Jackson, Austin Martin, **Ivan V. Monagan**, Theresa Wei Ying Ong, and Ivette Perfecto. "From endogenous to exogenous pattern formation: Invasive plant species changes the spatial distribution of a native ant." *Global Change Biology*: 23 (6). 2017: 2250-2261.
- d'Orgeix, Christian A, **Monagan, Jr., I.V.**, Robinson, K., Scott, P. "Male size and reproductive success in *Ameerega trivittata* (Three-striped Poison-dart Frog)." *Herpetological Review*: 46(1), 2015: 72-73.
- Curriculum Vitae – Ivan Monagan  
ivanvm@umich.edu

d'Orgeix, Christian A, Mathies, T., **Monagan, Jr. I.V.**, Johnson, K., Ellison, B. "Northern Mexican garter snakes, *Thamnophis eques megalops*, feeding on *Spea multiplicata* in an ephemeral pond." Herpetological Review 44(2). 2013: 213-215.

*In preparation:*

Holmes, I., **Monagan, Jr. I. V.**, Davis-Rabosky, A. Evolutionary history and phylogeographic structure of a habitat specialist lizard, *Xantusia vigilis*, from central California revealed through marker type comparison. Molecular Ecology

## PRESENTATIONS

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"*Anolis* lizards as biocontrol agents along gradients of land-use intensification in tropical coffee agroecosystems." 53<sup>rd</sup> Annual Meeting for the Association for Tropical Biology and Conservation. Montpellier, France. June 19<sup>th</sup> – 23<sup>rd</sup>, 2016

"The Biocontrol Potential of *Anolis* Lizards in Coffee Agroecosystems." Northwestern University Black Graduate Student Association 19<sup>th</sup> Annual Research Conference. Chicago, IL, April 23<sup>rd</sup>, 2016

"*Anolis* Lizard as Biocontrol Agents in Mainland and Island Agroecosystems." Public Thesis Defense. University of Michigan., Ann Arbor. April 6<sup>th</sup>, 2016.

"Structure and Diversity of Aquatic Macroinvertebrate Communities Along a Coastal Dune Chronosequence." Wisconsin Wetlands Association's 20th Anniversary Wetland Science Conference. Madison, Wisconsin. February 25<sup>th</sup>, 2015

"Patterns of Aquatic Macroinvertebrate Diversity along Successional Gradients in Three Interdunal Wetlands at Sturgeon Bay." University of Michigan Biological Station Seminar. Pellston, Michigan. July 2014

"Support for the Inverse of Bergmann's Rule in Slevin's Bunchgrass Lizard." National Science Foundation Emerging Researchers National Conference. Washington, DC. February 2014

"Human Impact on Parenting Behavior in the Three-Stripped Poison Dart Frog, *Ameerega trivittata*." Global Education Symposium at Virginia State University. Petersburg, Virginia. November 2013

"Slevin's Bunchgrass Lizard: *Sceloporus slevini*." 4th Annual "Science on the Sonoita Plain" Sonoita Valley Planning Partnership Meeting. Elgin, Arizona. June 2012

"The Converse of Bergmann's Rule Displayed by male Bunchgrass Lizards, *Sceloporus slevini*." Kansas Herpetological Society Conference. Hays, Kansas. November 2012

"Inverse of Bergmann's Rule supported in Slevin's Bunchgrass Lizard, *Sceloporus slevini*, from Southeastern Arizona." Undergraduate Research Conference. Virginia State University, Petersburg, VA. April 2012

*Invited Talks*

Guest Speaker: The Graduate Preparatory Program at VSU, March 2015

Guest Speaker: Virginia State University Honor's Convocation, April 2014

## AWARDS , FELLOWSHIPS & GRANTS

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### Awards

#### *Research/Academic*

1 <sup>st</sup> Place Oral Presentation, Northwestern University BSGA Conference	2016
1 <sup>st</sup> Place Oral Presentation Award, Emerging Researchers Nat'l Conference	2014
Virginia State University NAACP Image Award	2014
1 <sup>st</sup> Place Oral Presentation, Virginia State U. Undergraduate Research Conference	2012
VSU Dept. of Biology Award for Academic Excellence	2010 – 2014
Virginia State University Deans List	2010 – 2014

#### *Illustration*

Regional Winner – Virginia Museum of Fine Arts Charette Expo	2012, 2013
2 <sup>nd</sup> Place, Mahidol University Art Showcase, Bangkok, Thailand	2013

### Fellowships & Grants

Ford Foundation Predoctoral Fellowship	2019 - 2022
American Museum of Natural History RGGS Graduate Fellow	2019 – 2023
Columbia University Dean's Fellow	2018
University of Michigan Dpt. of Ecology & Evolutionary Biology Block Grant	2015
Rackham Graduate Research Grant, University of Michigan	2015
NSF Frontier's Fellowship in Ecology and Evolutionary Biology	2014
Presidential Honor's Scholarship: Virginia State University	2010 - 2014
Travel Grant: Emerging Researchers National Conference, Washington, DC	2014
STEM Scholarship Grant: Virginia State University	2012, 2013, 2014
Dr. George H. Bennet International Education Scholarship	2014
United Negro College Fund 1890' STEM Scholarship	2013
National Science Foundation HBCU-UP Research Grant	2011, 2012, 2013

## RESEARCH EXPERIENCE

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**2016-17**

### **Research Assistant**

*University of Michigan Museum of Zoology*

PI: Alison Davis Rabosky, Ph.D.

- Assisted analysis of genomic data to assess the role of historical biogeography in shaping the population structure of a habitat specialist species, *Xantusia vigilis*, from southern California

**2014-16**

### **Graduate Thesis Research**

*University of Michigan, Ann Arbor, MI*

PI: John Vandermeer, Ph.D.

- Conducted a comparative study using island and mainland arboreal lizard assemblages in the genus *Anolis* to assess 1) the biocontrol potential and efficacy of anoles, 2) the impact of land-use intensification on species and

functional diversity, and 3) how these factors vary across eco-geographic space. Results are published in the journal *Ecology and Evolution*

**2014 Post-Graduate Research Fellowship**

*University of Michigan Biological Station, Pellston, MI*

PI: Brian Scholtens, Ph.D. – *College of Charleston*

- Designed and led an independent research project using wetland swales within a coastal dune chronosequence to explore drivers of community assembly among aquatic macroinvertebrates through space and time

**2013-14 Undergraduate Honor's Thesis**

*Virginia State University, Petersburg, VA*

PI: Christian d'Orgeix, Ph.D.

- Used prior research findings comprised in an extensive three year data to examine the application of "Bergmann's Rule" to populations of a terrestrial grassland ectotherm (Slevin's Bunchgrass Lizard, *Sceloporus slevini*) along altitudinal gradients in southeastern Arizona. Results from our study support the converse of Bergmann's rule and provide insight for the potential impact of climate change for high elevation and highly philopatric ectotherms.

**2011-13 Undergraduate Research Assistant**

*Virginia State University, Petersburg, VA*

PI: Christian d'Orgeix, Ph.D.

- Assisted three projects addressing 1) Population bottlenecks and novel behavior among grassland species *Sceloporus slevini* and sympatric wetland species *Thamnophis eques*, 2) population dynamics among *Sceloporus* congeners along an altitudinal gradient 3) Patterns of male parental care in the poison dart frog species, *Ameerega trivittata*, in a fragmented tropical forest landscape. Results are published in the journal *Herpetological Review*.

## FIELD WORK EXPERIENCE

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**Field Inventory and Collections Assistant**

**Nicaragua**

*University of Michigan Museum of Zoology*

May – June 2018

- Assisted biodiversity inventory of reptiles and amphibians across Nicaragua's northern, central and southern eco-regions; collected tissue samples, museum voucher specimens, and ecological data per species

**Field Research Assistant**

**Greece**

*University of Michigan*

June 2016

- Assisted field data collection for two projects exploring a) patterns of behavior and disease transmission among Mediterranean wall lizards (genus *Podarcis*), and b) drivers of microhabitat choice among Kotschy's gecko, *Mediodactylus kotschy*, throughout the Cycladic islands

**Graduate Field Work****Mexico; Puerto Rico***University of Michigan*

June – July 2015

- Conducted field surveys of lizard communities in tropical coffee farms; Liaised with landowners and gathered data on land management and environmental characteristics
- Performed laboratory experiments to assess pest infestation reduction and functional response
- Collected morphometric and diet data for DNA analysis

**Post-Graduate Research Fellowship****Pellston, Michigan***University of Michigan Biological Station*

June – July 2014

- Surveyed aquatic macroinvertebrate diversity and performed qualitative wetland assessments along a coastal dune chronosequence

**Field Research Intern****Elgin & Portal, Arizona***Southwestern Research Station; Appelton-Whittell Research Station*

July 2013

- Conducted herpetological population surveys; Collected species-specific biological data, tissue samples, and GPS data

**Field Research Intern****Suriname***Brownsberg National Park; Voltzburg Nature Reserve*

June 2013

- Monitored tadpole-bearing frogs for deposition behavior and site selection; Collected measurements of tadpole abundance and frog morphometrics

**Field Assistant****Thailand***Mahidol University – ENACTUS*

July 2013

- Aided a collaborative community project with area rice farmers to explore novel methods of environmentally sustainable rice production and cultivation

**Field Research Intern****Elgin & Portal, Arizona***Southwestern Research Station; Appelton-Whittell Research Station*

June - July 2011 &amp; 2012

- Performed in-lab behavioral experiments; conducted herpetological population surveys; collected species-specific biological data, tissue samples, and GPS data
- Assisted Dr. Janet Ruth from the U.S. Geological Survey in her study of endemic grasshopper sparrows in southeastern Arizona; Used contemporary methods in ornithological research including; mist netting, bird handling, species identification, banding, and morphometric data collection

**TEACHING EXPERIENCE**

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**Teaching Assistant**

Columbia University, New York, NY

*Life Science/Environmental Biology II (BIOL 2300)*

Spring 2019

- Led individual lab sections; Graded weekly lab reports; Met individually with students during office hours and exam review sessions

### **Graduate Student Instructor**

University of Michigan, Ann Arbor, MI

*General Ecology (BIO 281)*

Fall 2015

*Environmental Physiology of Animals (BIO 256)*

Winter 2015

*Introductory Biology Lab (BIO 173)*

Fall 2014

- Designed and led individual discussion sections, field trips, and group activities; Assisted course lecture and exam development; Met individually with students during office hours and tutoring sessions

### **English Language Tutor**

Michigan Language Center, Ann Arbor, MI

Oct. 2014 – April 2016

- Tortured English conversation and grammar for native Arabic speaking students

### **Academic Tutor - Biology**

Tri-Beta Biological Honor's Society, VSU Chapter

Aug. 2013 – May 2014

Virginia State University Honors Program

August 2011- May 2012

## **SKILLS**

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### **Computer/Software Skills:**

- Thorough command of Microcomputer Concepts and Microsoft Office
- R programming: Data analysis, Graphics, Spatial Analysis, Mapping
- Design: Adobe Photoshop, Illustrator

### **Field & Lab Techniques:**

- Contemporary field methods for capturing, handling, and acquiring morphometric and biological data from herpetofauna, birds and insects
- Plant and Wildlife identification
- Proficient in molecular techniques and laboratory husbandry
- Skilled with GPS and DSLR digital equipment
- Meticulous attention to detail

### **Communication Skills:**

- Technical writing and public speaking skills gained through academic research and teaching
- Efficient in independent and group settings; Cross-cultural and interpersonal communication skills developed through extensive travel in 30 countries.
- Scientific illustration

### **Languages:**

English (Native); Spanish (Advanced W,S,R,L); French (B1 – Intermediate W,S,R,L); Thai & Arabic (Elementary S,L)

## SERVICE & OUTREACH

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**Volunteer:** My Brother's Keeper; Yonkers Public Schools, New York.  
February 2019 - Present

**Active Member:** "Science for the People"  
Science Communication and Activism:  
University of Michigan Nov. 2014 - 2016

**Volunteer Student Mentor:** Michigan Science Academy - December, 2015

**Volunteer Group Leader + Planning Committee:** Detroit "BIOBLITZ" field ecology expedition (ages 7-11). - May 10, 2015-2016

**Planning Committee & Volunteer:** SAVE THE FROGS! Amphibian conservation community outreach event. April 25-26, 2015-2016

**Planning Committee & Volunteer:**  
University of Michigan Teach-In on Climate Change - March 27 – 28, 2015

**Recruitment Committee:** Frontiers Master's Fellowship in Ecology and Evolutionary

Biology, University of Michigan - Winter 2015

**Youth Science Mentor,** 2012-2014  
Organization: Kid's Tech University 4-H Program (Ages 8-12), Petersburg, Virginia

**Student Mentor,** 2011 – 2014; **Recruitment Chair and Project leader** (40 members), 2011 – 2012. Organization: The Betterment of Brothers and Sisters, Incorporated

**Study Abroad Mentor & Ambassador:**  
Virginia State University, 2013-2014

**Secretary** – Tri-Beta Biological Honors Society, 2013

**President** (2013), **Volunteer** (2012- 2013);  
University Fitness Organization at Virginia State University

**Planning Committee & Volunteer:** FIN FREE THAILAND! Shark conservation community outreach program; Co-led animal Conservation rallies in Bangkok, TH – June 2013

## REFERENCES

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**John Vandermeer, Ph.D.** – University of Michigan - Ecology and Evolutionary Biology

Asa Gray Distinguished University Professor of Arthur F. Thurnau Professor  
Email: [jvander@umich.edu](mailto:jvander@umich.edu)  
Phone: 734.764.1446

**Alison Davis-Rabosky, Ph.D.** - University of Michigan - Museum of Zoology  
Assistant Professor; Assistant Curator

Email: [ardr@umich.edu](mailto:ardr@umich.edu)  
Phone: 734.763.8694

**Ivette Perfecto, Ph.D.** - University of Michigan  
George W. Pack Professor of Ecology, Natural Resources and Environment  
Email: [Perfecto@umich.edu](mailto:Perfecto@umich.edu)  
Phone: 734.764.8601

**Christian d'Orgeix, Ph.D.** – Virginia State University

Associate Professor  
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