

# ALYSSA A. VANERELLI

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Pronouns: She/Her/Hers | Email: [alyssa.vanerelli@rutgers.edu](mailto:alyssa.vanerelli@rutgers.edu)

## EDUCATION

- 2018–2021 **University of North Carolina Asheville** | B.S. in Biology, Minor in Mathematics  
Valedictorian of the Class of 2021 | GPA: 3.967  
Senior thesis: Complete Protein-Coding Mitochondrial Genomes of 13 West Indian Boas  
Advisor: Dr. R. Graham Reynolds
- 2016–2018 **Asheville-Buncombe Technical Community College** | coursework, non-degree seeking  
GPA: 3.824

## RESEARCH TRAINING AND EXPERIENCE

- 2021 – Present **Post-Baccalaureate Research | Geneva Lab at Rutgers-Camden.**  
Analyzing next-generation sequence data to study the evolutionary genomics of *Anolis* lizards from the Caribbean.  
*Skills: DNA extraction and purification, computing cluster, next-generation sequence data prep and analysis, genome assembly and annotation.*
- 2020–2021 **Senior Thesis Research | Reynolds Lab at UNC Asheville.**  
Characterized Complete Mitogenomes of the Critically Endangered Silver Boa and other Neotropical Boids using sequence data from UCE enrichment.  
*Skills: Geneious, MITOS Web Server, R, next-generation sequence data analysis.*
- March 2020 **Field Research: Biology and Conservation of Turks Island Boas | Reynolds Lab at UNC Asheville.**  
Radio tracked, captured, and collected morphological and spatial data from boas to inform conservation efforts of boa home ranges on Ambergris Cay, TCI.  
*Skills: remote island fieldwork, radio telemetry, animal handling and data collection.*
- 2019 – 2021 **Undergraduate Research | Reynolds Lab at UNC Asheville**  
Researched the ecology, evolution, and conservation of Caribbean boas and anoles using laboratory genetic methods.  
*Skills: Geneious, R, DNA extraction and purification, PCR, gel electrophoresis.*
- Summer 2019 **NSF REU | Hoekstra Lab at Harvard University.**  
Investigated the extent of arboreal adaptation in rodents through a computational analysis of museum records.  
*Skills: R (multivariate statistical analysis, phylogenetic comparative methods), Excel.*

## HONORS AND AWARDS

- Manly E. Wright Valedictory Award | 2021  
Harry Johnston Biology Award | 2021  
University Research Scholar | 2021  
Distinction in Biology | 2021  
UNC Asheville Chancellor's List (GPA 4.0) | Spring 2021, Fall 2020, Spring 2020, Fall 2018  
UNC Asheville Dean's List (GPA >3.5) | Fall 2019, Spring 2019  
AB Tech President's List (GPA 4.0) | Spring 2018, Fall 2017  
AB Tech Dean's List (GPA >3.75) | Spring 2017

**PUBLICATIONS**

- Reynolds RG, Gerber GP, Raphael B, Colosimo G, Reger ME, Peek KJ, **Vanerelli A**. *In preparation*. Spatial ecology of the Turks and Caicos Boa, *Chilabothrus c. chrysogaster* (Cope 1871) (Serpentes: Boidae) on Ambergris Cay, Turks and Caicos.
- Vanerelli A**, Miller AH, Reynolds RG. *Submitted*. Mitochondrial genome of the critically endangered Silver Boa (*Chilabothrus argentum*; Squamata: Boidae).
- Reynolds RG, Colosimo G, Peek K, **Vanerelli A**, Bradley K, Gerber GP. 2020. *Chilabothrus chrysogaster chrysogaster* (Turks Island Boa). Diet. *Herpetological Review* 51(3): 610–611.

**PRESENTATIONS**

- Vanerelli AA** and Reynolds RG. Mitochondrial Genomes of 13 West Indian Boas. Presented at University of North Carolina at Asheville Spring Research Symposium, 2021 [**Oral Presentation**].
- Vanerelli AA**, Wooldridge TB, and Hoekstra HH. Finding Evidence for Arboreal Adaptation in Rodents Through an Unbiased Computational Analysis of Museum Records.  
Presented at:
- » 4<sup>th</sup> Standalone Meeting of the Society of Systematic Biologists, Gainesville, FL, 2020 [**Poster**].
  - » University of North Carolina Asheville Fall Undergraduate Research Symposium, 2019 [**Poster**].
  - » Hoekstra Lab Wondergrad Symposium, Harvard University, 2019 [**Oral Presentation**].
  - » Summer Undergraduate Research Programs at Harvard University, 2019 [**Poster**].
  - » Leadership Alliance National Symposium, Hartford, CT, 2019 [**Poster**].

**TEACHING EXPERIENCE**

**Student Instructor (TA)** | BIOL 210: Principles of Zoology. Attended lectures and led weekly tutoring/review sessions to help students grasp challenging material and answer questions.

**COMMUNITY OUTREACH AND MEMBERSHIPS**

- 2019 **Full Moon Farm, Black Mountain NC**. Animal care and husbandry. Non-profit organization committed to the rescue and care of wolfdogs.
- 2017 **National Society of Leadership and Success**. Attended seminars and met monthly with other students to improve my leadership communication skills.
- 2015 **Swannanoa Valley Animal Hospital, Asheville NC**. Assisted with animal intake, diagnostic tests, and working with dogs.
- 2015 **Brother Wolf, Asheville NC**. Volunteered in the veterinary department, helping deworm and microchip puppies. Non-profit animal rescue organization.

**REFERENCES**

- R. Graham Reynolds, PhD** | Academic and Research Advisor  
Associate Professor of Biology, Department of Biology, University of North Carolina at Asheville  
Associate of Herpetology, Museum of Comparative Zoology, Harvard University [greynold@unca.edu](mailto:greynold@unca.edu)
- Anthony Geneva, PhD** | Post-Baccalaureate Research Advisor  
Assistant Professor of Biology, Center for Computational & Integrative Biology, Rutgers Univ.-Camden  
[anthony.geneva@rutgers.edu](mailto:anthony.geneva@rutgers.edu)
- Hopi Hoekstra, PhD** | NSF REU Research Advisor  
Professor of Molecular and Cellular Biology, Professor of Organismic & Evolutionary Biology,  
Howard Hughes Medical Institute Investigator, Harvard University [hoekstra@oeb.harvard.edu](mailto:hoekstra@oeb.harvard.edu)
- Jennifer Ward, PhD** | Academic Professor  
Professor of Biology, Department of Biology, University of North Carolina at Asheville [jrward@unca.edu](mailto:jrward@unca.edu)