

# Dylan K. Highland | Curriculum Vitae

(707) 347-6551 | [dylan.highland@virginia.edu](mailto:dylan.highland@virginia.edu)

[LinkedIn](#) | [Google Scholar](#) | [Website](#)

## Education

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### University of Virginia

*Ph.D. in Biology – in progress*

Advisor: Dr. Drew R. Schield

Charlottesville, VA

May 2029

### Cal Poly Humboldt

*B.Sc. in Wildlife Biology - Honors*

Advisor: Dr. Daniel C. Barton

Arcata, CA

December 2023

### Santa Rosa Junior College

*A.S. in Natural Sciences – High Honors*

*A.A. in Social and Behavioral Sciences – High Honors*

Santa Rosa, CA

May 2021

## Research Experience

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### University of Virginia

*Department of Biology, Graduate Researcher*

Advisor: Dr. Drew R. Schield

Current Research Project: Population genomics of venom genes in speckled rattlesnakes

Charlottesville, VA

August 2024 – Present

### University of Virginia

*Department of Biology, Graduate Researcher*

Advisor: Dr. Alan O. Bergland

Research Project: Trans-species polymorphisms in *Drosophila*

Charlottesville, VA

January 2025 – May 2025

### California Polytechnic State University, Humboldt

*Department of Wildlife, Honors Thesis*

Advisor: Dr. Daniel C. Barton

Research Project: Objective species delimitation for a consistent taxonomy in saw-scaled vipers (Viperidae, *Echis*)

Arcata, CA

August 2023 – December 2023

### California Academy of Sciences

*Department of Herpetology, Research Associate*

Advisor: Dr. Edward A. Myers

Research Project: Phylogenetics and morphometrics of saw-scaled vipers (Viperidae, *Echis*) using museum collections

San Francisco, CA

May 2023 – July 2023

## Teaching Experience

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### University of Virginia

*Department of Biology, Graduate Teaching Assistant*

Lecturer: Dr. Dave Kittelsen

Course: BIOL 2100 – Introduction to Cell Biology and Genetics

Charlottesville, VA

August 2025 – December 2025

## **Publications - 4**

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\* Authors contributed equally to this work

### **Published Manuscripts - 2**

2. **Highland, D.K.** and E.A. Myers. 2025. Mitochondrial phylogeny and molecular-based species delimitation illuminate cryptic diversity in saw-scaled vipers (Viperidae; *Echis*). *The Herpetological Journal* 35(4), 333-340. <https://doi.org/10.33256/35.4.333340>
1. Schield, D.R., J.K. Carter, M.G. Alderman, K. Farleigh, **D.K. Highland**, and R.J. Safran. 2025. Selection shapes repeated genomic landscapes of divergence across the speciation continuum in swallows (*Hirundo*). *Molecular Ecology*, 34(22), e70074. <https://doi.org/10.1111/mec.70074>  
*Research highlight*: Population genetics – Speciating swallows. *Nature Ecology and Evolution*. September 2025. <https://www.nature.com/articles/s41559-025-02875-5>

### **Manuscripts Submitted or in Review – 2**

2. **Highland, D.K.\***, M.G. Alderman\*, V. Talla, W.C. Funk, S.M. Villa, J.C. de Roode, D.R. Schield. Monarch trans-Atlantic dispersal and colonization. *In prep.*
1. Farleigh, K., **D.K. Highland**, M.G. Alderman, Y. Francioli, S.R. Hirst, E.M. Faber, B.W. Perry, M.L. Holding, P.E. Bolton, G. Castañeda-Gaytan, M. Borja, H. Fanz-Chávez, C.L. Parkinson, J.L. Strickland, M.J. Margres, S.P. MacKessy, J.M. Meik, T.A. Castoe, and D.R. Schield. The genomic landscape of introgression during rattlesnake speciation. *In prep.*

## **Posters and Presentations – 14**

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- 2025 **Highland, D.K.**, and D.R. Schield. Population genomics of venom and resistance in rattlesnakes and their prey. Oral presentation. UVA Ecology and Evolutionary Biology Seminar Series. Charlottesville, VA.
- 2025 **Highland, D.K.**, K. Farleigh, M.G. Alderman, and D.R. Schield. Population genomics of venom genes in Speckled Rattlesnakes. Poster presentation. Expand Fellowship Poster Event. Charlottesville, VA
- 2025 Farleigh, K., **D.K. Highland**, M.G. Alderman, Y.Z. Francioli, S.R. Hirst, B.W. Perry, M. L. Holding, M.J. Margres, S.P. Mackessy, J.M. Meik, T.A. Castoe, and D.R. Schield. Genome-wide signatures of selection and introgression during rattlesnake speciation. Oral presentation. Biology of Pit Vipers 5. Rodeo, NM.

- 2025 **Highland, D.K.**, K. Farleigh, M.G. Alderman, and D.R. Schield. Population genomics of venom genes in Speckled Rattlesnakes. Poster presentation. Biology of Pit Vipers 5. Rodeo, NM
- 2025 Alderman, M.G., K. Farleigh, **D.K. Highland**, and D.R. Schield. Repeat element proliferation on the caenophidian W chromosome. Poster presentation. Biology of Pit Vipers 5. Rodeo, NM.
- 2025 **Highland, D.K.**, K. Farleigh, M.G. Alderman, and D.R. Schield. Population genomics of venom genes in Speckled Rattlesnakes. Poster presentation. Joint Evolution Meetings 2025. Athens, GA.
- 2025 Farleigh, K., **D.K. Highland**, M.G. Alderman, Y.Z. Francioli, S.R. Hirst, B.W. Perry, M.L. Holding, M.J. Margres, S.P. Mackessy, J.M. Meik, T.A. Castoe, and D.R. Schield. Genome-wide signatures of selection and introgression during rattlesnake speciation. Oral Presentation. Joint Evolution Meetings 2025. Athens, GA.
- 2025 Alderman, M.G., K. Farleigh, **D.K. Highland**, and D.R. Schield. Repeat element proliferation on the caenophidian W chromosome. Poster presentation. Athens, GA.
- 2025 **Highland, D.K.** and A.O. Bergland. Trans-species polymorphisms between two divergent species of *Drosophila*. Poster presentation. Annual Biological Symposium. Charlottesville, VA
- 2024 **Highland, D.K.** and E.A. Myers. Single-locus delimitation methods suggest undescribed diversity in saw-scaled vipers. Poster presentation. SACNAS NDiSTEM. Phoenix, AZ.
- 2023 **Highland, D.K.** and E.A. Myers. Objective species delimitation for a consistent taxonomy in saw-scaled vipers. Poster presentation. IdeaFest. Arcata, CA.
- 2023 **Highland, D.K.** and E.A. Myers. Objective species delimitation for a consistent taxonomy in saw-scaled vipers. Poster presentation. SACNAS NDiSTEM. Portland, OR.
- 2023 **Highland, D.K.**, E.A. Myers, and L. Scheinberg. Phylogenetics and Morphometrics of Saw-scaled Vipers. Oral presentation. California Academy of Sciences. San Francisco, CA.
- 2019 **Highland, D.K.** and D. Bonn  . Impacts of *Mytilus californianus* presence on intertidal zone macro- and microdiversity. Poster presentation. SRJC Student Research Conference. Petaluma, CA.

## Mentorship Experience

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**University of Virginia**

*Department of Biology, Graduate Researcher*

Role: Mentor of an undergraduate's Honors Thesis

Project: Structural variation of PRDM9 across rattlesnake speciation

**Charlottesville, VA**

August 2025 – Present

## Honors and Awards

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## Academic Awards and Honors

Most Outstanding Research Presentation, Life Sciences, SACNAS NDiSTEM, 2024

Presidential Scholar, Cal Poly Humboldt, 2022 – 2023

Dean's List, Cal Poly Humboldt, 2021

Best Student Research in Biology, Santa Rosa Junior College, 2019

## Financial Awards and Grants

Britt Travel Grant, University of Virginia, 2024 – \$300

SACNAS NDiSTEM Travel Grant, 2024 – \$2,000

SACNAS NDiSTEM Travel Grant, 2023 – \$1,494

Rocky Mountain Biological Laboratory REU Travel Grant, 2023 – \$1,200

## Outreach and Engagement

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- 2023 Interview. “Live with the SSI Interns” with the California Academy of Sciences, covering my scientific journey and research. Youtube.
- 2022 Organizer. Lead multiple excursions to engage with and educate members of the Arcata CA community about their local wildlife species.
- 2021 Moderator. Co-creator of Cal Poly Humboldt's Wildlife community forum designed to encourage and promote department-wide communication and outreach between students.

## Professional Memberships

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British Herpetological Society 2025 - *Present*

American Society of Naturalists 2023 – *Present*

Society for Advancement or Chicanos/Hispanics & Native Americans in Science 2023 – *Present*

Society for the Preservation of Natural History Collections 2023 – *Present*

Society for the Study of Evolution 2023 – *Present*

The Society of Systematic Biologists 2023 – *Present*

The Wildlife Society 2021 – *Present*

## Volunteer and Community Service

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### SPNHC Conference

*Society for the preservation of Natural History Collections, Volunteer*

**San Francisco, CA**

Summer 2023

### Friends of the Dunes

*Humboldt County non-profit, Volunteer*

**Arcata, CA**

2022 – 2023

### Sonoma County Library

*Special collections and inventory management, Volunteer*

**Arcata, CA**

2022 – 2023

### All Hands Ecology

*Bouverie Nature Preserve, Junior Docent*

**Glen Ellen, CA**

2008 – 2016

### All Hands Ecology

*Martin Griffin Nature Preserve, Junior Docent*

**Stinson Beach, CA**

2008 – 2016

## Field Expeditions

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### **Specimen and Tissue Collection Trip**

San Bernadino, Inyo, and Riverside counties. 3 weeks.

**California, USA**

May – June 2025

### **Specimen and Tissue Collection Trip**

Maricopa, Yuma, and La Paz counties. 2 weeks.

**Arizona, USA**

August 2024

## References

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### **Dr. Drew R. Schield, PhD**

Assistant Professor, Department of Biology

University of Virginia

Email: [drew.schild@virginia.edu](mailto:drew.schild@virginia.edu)

Phone: (434) 924-6873

### **Dr. Alan O. Bergland, PhD**

Associate Professor and Director of Graduate Studies, Department of Biology

University of Virginia

Email: [alan.bergland@virginia.edu](mailto:alan.bergland@virginia.edu)

Phone: (434) 924-1930

### **Dr. Edward A. Myers, PhD**

Research Scientist, Department of Herpetology

California Academy of Sciences

Email: [emyers@calacademy.org](mailto:emyers@calacademy.org)

Phone: (509) 438-0460

### **Dr. Keaka Farleigh, PhD**

NSF Postdoctoral Research Fellow in Biology, Department of Biology

University of Virginia

Email: [keakafarleigh@virginia.edu](mailto:keakafarleigh@virginia.edu)

Phone: