

Dylan K. Highland | Curriculum Vitae

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

Education

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

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

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

* 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

- 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

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

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

- 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

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

SPNHC Conference

Society for the preservation of Natural History Collections, Volunteer

San Francisco, CA

Summer 2023

All Hands Ecology

Bouvierie Nature Preserve, Junior Docent

Glen Ellen, CA

2008 – 2016

All Hands Ecology

Martin Griffin Nature Preserve, Junior Docent

Stinson Beach, CA

2008 – 2016

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

Field Expeditions

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

Dr. Drew R. Schield, PhD

Assistant Professor, Department of Biology
University of Virginia
Email: drew.schild@virginia.edu
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Dr. Alan O. Bergland, PhD

Associate Professor and Director of Graduate Studies, Department of Biology
University of Virginia
Email: 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
Phone: (509) 438-0460

Dr. Keaka Farleigh, PhD

NSF Postdoctoral Research Fellow in Biology, Department of Biology
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