Anet Mihaylova Filipova, M.S.

Ph.D. Candidate

amf0120@auburn.edu

Department of Biological Sciences
215 Rouse Life Sciences Building
Auburn University, AL 36849

Education

2022-present **Ph.D., Biological Sciences**, Auburn University, Alabama, United States
PI: Dr. Tonia Schwartz
Dissertation: Evaluating the effects of head-starting on the molecular stress resistance and life history traits in gopher tortoises (*Gopherus polyphemus*). GPA: 4.0/4.0

2020-2022 **M.S., Vertebrate Zoology**, Sofia University 'St. Kliment Ohridski', Bulgaria
PI: Dr. Atanas Grozdanov
Thesis: The use of citizen science for the improvement of the knowledge regarding the distribution of reptiles and amphibians in Bulgaria and their conservation status. Grade: 6.0/6.0

2015-2019 **B.S., Zoology**, University of Aberdeen, United Kingdom
PI: Dr. Tyler Stevenson
Honours: The role of photoperiod and triiodothyronine for the epigenetic regulation of reproduction and energy balance in female Siberian hamsters (*Phodopus sungorus*). First Class Honours

Grants Awarded

2025 Gopher Tortoise Council Meeting, Best Student Presentation, 2nd place ($200)
2025 COSAM Graduate Student Travel Award, Auburn University ($500)
2025 Graduate Student Council Travel Award, Auburn University ($400)
2025 Gopher Tortoise Council Meeting Travel Award, Gopher Tortoise Council ($250)
2024 J. Larry Landers Student Research Grant, Gopher Tortoise Council ($3000)
2024 The World Congress of Herpetology Travel Grant ($500)
2018 Travel Zoology Bursary, University of Aberdeen (£300)

Certificates

2025 Certificate of Participation, The European Society for Evolutionary Biology
2025 Certificate of Participation, Society for the Integrative and Comparative Biology
2024 Certificate of Attendance, 10th World Congress of Herpetology

2024	Open Water Diver, Scuba Schools International
2020	Herpetology Internship at National Museum of Natural History, Bulgarian Academy of Sciences
2019	Certificate of Skills, Royal Society of Biology (awarded to First Class Honours students at the University of Aberdeen)
2019	Professional Skills Award, University of Aberdeen
2019	Marine Mammal Observer Certificate, Joint Nature Conservation Committee
2017	Spanish Language Initial Level Diploma, University of Alicante, Spain
2014	Certificate in Advanced English (C1), University of Cambridge ESOL Examinations

Research Experience

2024-present **Overall Project:** How to get SMAL: Using insular dwarfism to understand Shared Molecular mechanisms Across Life history traits

Funding source NSF

Contribution: Conservation genetics, sequencing the nuclear and mitochondrial genome of the Western yellow-bellied racer (*Coluber constrictor mormon*).

Auburn University, U.S.

2022-present **Overall Project:** Monitoring of gopher tortoises in an experimental population consolidation at Geneva Wildlife Management Area

Funding source ADCNR GTC

Contribution: 1. Exploring maternal effects and first year cold-dormancy on body size, growth trajectory and telomere length in head-started gopher tortoises.

2. Exploring molecular memory: investigating the short-term impact of first-year cold dormancy on transcriptomic response and epigenetic regulation in head-started gopher tortoises.

3. Characterizing the epigenome of the gopher tortoise from a head-started cohort of a repatriated population. **Auburn University, U.S.**

2022-present **Overall Project:** A new vertebrate model to study the role of growth factors IGF1 and IGF2 in sex dimorphism of longevity and aging.

Funding source NIH

Contribution: Characterizing the sex-specific changes in telomere lengths and mitochondrial DNA copy number in known-age adult brown anole lizards, *Anolis sagrei.* **Auburn University U.S.**

2020-2022 Bulgarian herpetofauna species identification, tracking, distribution

Sofia University, Bulgaria

2020-2021 **Laboratory Assistant:** developing of methods and introduction of the first T-cell cytotoxic immunity test in response to COVID-19 on the Bulgarian market; investigating the presence of SARS-CoV-2 in the Bulgarian wastewater

Aquachim JSCo., Bulgaria

2019-2020 **Herpetology Intern:** organization and update of the herpetofauna museum collection; creating an up-to-date inventory book; maintenance and preservation of museum specimens

National Museum of Natural History
(Bulgarian Academy of Sciences)

2018-2019 Siberian hamster RNA isolation, cDNA synthesis, qPCR, DNA methylation

Funding source **University of Aberdeen, UK**

The Leverhulme Trust

2018 **Student Intern:** population and habitat monitoring of the Mediterranean chameleon (*Chamaeleo chamaeleon*)

Archipelagos Institute of Marine Conservation, Greece

Teaching Experience

2022-2025 Introduction to Biology GTA – Undergraduate Level (4 semesters)
2024, 2026 Herpetology GTA – Undergraduate/Graduate Level (2 semesters)

Mentorship and Educational Involvement

2025 Mentored high school teachers through a research partnership focused on teaching evolution in the classroom.
Provided training in fieldwork techniques, DNA isolations, qPCR as part of their curriculum development.
Facilitated lab-based learning to support integration of molecular biology into secondary science education.

2022- present Undergraduate Mentorship:

- Chelsea Cochran – DNA isolations, qPCR, gel electrophoresis, research posters/presentations

2020-2022 Outreach Coordinator - Bulgarian Biodiversity Foundation
2015-2019 Vice President – Aberdeen University Bulgarian Society

Professional Service

2025 Junior co-reviewer for Functional Ecology
2025 Junior co-reviewer for Immunogenetics

Products

Publications

Filipova, A. et al. (In preparation). Effects of first year cold-dormancy on the morphological, physiological and molecular responses in head-started gopher tortoises (*Gopherus polyphemus*). To be submitted to *Functional Ecology.*

Technical Contributions

Mladenova, Z. et al. 2021. Development of methods for processing and research of wastewater for SARS-CoV-2 as an indicator for the distribution of COVID-19 among the population and

its pilot application in 10 sewage treatment plants in the country. *Bulgarian Water and Sewerage Holding EAD.*

Presentations

***Undergraduate mentee**

Filipova, A., Amer, A., Cochran, C.*, Goessling, J., Schwartz, T. The effects of first year cold-dormancy on the phenotypic, molecular and metabolic responses in head-started gopher tortoises (*Gopherus polyphemus*). November 15, 2025. The Gopher tortoise Council Meeting, Tallahassee, Florida. Oral Presentation.

Filipova, A. The skipped winter chapter in a tortoise story. October 28, 2025. Auburn University Graduate School 3 Minute Thesis Competition. Oral Presentation.

Filipova, A., Amer, A., Cochran, C.*, Goessling, J., Schwartz, T. The effects of first year cold-dormancy on the phenotypic, molecular and metabolic responses in head-started gopher tortoises (*Gopherus polyphemus*). August 19, 2025. The European Society for Evolutionary Biology Congress, Barcelona, Spain. Poster Presentation.

Filipova, A., Glenn, K., Reedy, A., Cox, R., Schwartz, T. Evaluating aging markers in blood: stable telomeres and sex-specific changes in mtDNA copy number in the Brown anole (*Anolis sagrei*). August 25, 2025. Journal of Molecular Evolution, European Meeting, Madrid, Spain. Oral Presentation.

Filipova, A., Glenn, K., Reedy, A., Cox, R., Schwartz, T. Evaluating aging markers in blood: stable telomeres and sex-specific changes in mtDNA copy number in the Brown anole (*Anolis sagrei*). January 5, 2025. Society for Integrative and Comparative Biology Meeting, Atlanta, GA, USA. Oral Presentation.

Cochran, C.*, **Filipova, A.**, Amer, A., Goessling, J., Schwartz, T. Effect of simulated cold dormancy versus constant growth on mitochondria density and telomeric length in head-started gopher tortoises. January 5, 2025. Society for Integrative and Comparative Biology Meeting, Atlanta, GA, USA. Poster Presentation.

Amer, A., **Filipova A.**, Cochran, C., Shelton-Nix, E., Goessling J., Schwartz, T. The metabolic response of constant growth versus simulated cold dormancy in gopher tortoises. January 5, 2025. Society for Integrative and Comparative Biology Meeting, Atlanta, GA, USA. Poster Presentation.

Filipova, A., Glenn, K., Reedy, A., Cox, R., Schwartz, T. Evaluating aging markers in blood: stable telomeres and sex-specific changes in mtDNA copy number in the Brown anole (*Anolis sagrei*). August 5, 2024. 10th World Congress of Herpetology, Sarawak, Borneo. Oral Presentation.

Work Related Skills

Lab/Technical

- Pipetting, whole genome sequencing via MinION (Nanopore), DNA/RNA isolation, telomere and mtDNA quantification via qPCR, gel electrophoresis, ELISA, ELISpot

Fieldwork

- Blood sampling (turtles, snakes, lizards), mark/recapture, tracking, trapping, morphological measurements, egg collection, bioacoustics, conducting animal experiments including head-starting (gopher tortoises)

Bioinformatics

- Statistical software including R and SigmaPlot, scripting using Bash and Python languages, RNAseq analysis, genome assembly

Teamwork/Leadership

- Worked effectively in multicultural/cross-disciplinary teams to achieve project goals
- Facilitated team discussions and ensured everyone's input was considered
- Effectively delegated tasks and responsibilities, empowering team members to excel

Communication

- Deliver presentations in a scientific setting
- Developed written and oral skills through researching the scientific literature

Professional Organizations

2022-present Gopher Tortoise Council
2024-present Society for Integrative and Comparative Biology
2024-present Society for the Study of Evolution
2022-present Society for the Study of Amphibians and Reptiles

References

1. Dr. Tonia Schwartz, Associate Professor at Auburn University, Relationship: Doctoral Advisor, Email: tss0019@auburn.edu
2. Dr. Jeffrey Goessling, Associate Professor at Eckerd College, Relationship: Doctoral Committee Member, Email: goessljm@eckerd.edu