Benjamin Klementz

UNIVERSITY OF WISCONSIN-MADISON

DEPARTMENT OF INTEGRATIVE BIOLOGY

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# EDUCATION

Ph.D. University of Wisconsin-Madison, Integrative Biology Aug. 2022-Present

 Advisor: Dr. Prashant P.

B.S. University of Wisconsin- Madison, Wildlife Ecology May 2022

 Graduated with Distinction

 Environmental Studies Certificate

# RESEARCH EXPERIENCE

2022-present University of Wisconsin-Madison, Department of Integrative Biology Ph.D. Student, Advisor: Dr. Prashant P. Sharma

2022-present University of Wisconsin-Madison Zoological Museum Graduate Researcher, Advisor: Dr. Laura Monahan

2021-2022 University of Wisconsin-Madison, Department of Integrative Biology Undergraduate Researcher, Advisor: Dr. Prashant P. Sharma

* Investigated the role of anterior Hox genes in the patterning of harvestmen mouthparts
* Assisted in pioneering *in situ* hybridization and embryonic RNAi techniques in the first model species of Amblypygi
* Assisted in developing an embryonic staging system in the harvestman *Phalangium opilio*, and participated in the first functional analysis of their eye-patterning genes
* Begun initial efforts to create the first genomic resources for two arachnid orders, Uropygi and Amblypygi

2018-2019 University of Wisconsin-Madison, Department of Entomology Undergraduate Researcher, Advisor: Dr. Sean Schoville

* Modeled shifts in abundance and occupancy of Sierra Nevada butterfly species as a function of past and projected climate change impacts
* Gained proficiency in use of analysis programs PRESENCE and Distance

# TEACHING EXPERIENCE

## Graduate Teaching Assistantship

2022 Zoology 301: Invertebrate Biology and Evolution Lab

2022 Introductory Biology 152 Lab (UW-Madison)

* Designed and implemented two evolution labs centered on phylogenetic analysis using both parsimony and maximum likelihood

# HONORS AND AWARDS

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2023 UW-Madison Innovation in Teaching Award, nomination

2022 John Jefferson Davis Travel Award (UW-Madison)

2022 NSF Graduate Research Fellowship, honorable mention

2018-2022 University of Wisconsin-Madison Dean’s List

2020 Ruffed Grouse Society, John Michael Dew Memorial Scholarship

# PUBLICATIONS

2. Gainett, G., Klementz, B.C., Blaszczyk, P.O., Bruce, H., Patel, N.D., Sharma, P.P. (in revision) Dual functions of labial resolve the Hox logic of chelicerate head segments. (Biorxiv preprint: <https://www.biorxiv.org/content/10.1101/2022.11.29.518396v1>)

1. Gainett, G., Crawford, A.R., Klementz, B.C., So, C., Baker, C.M., Setton, E.V.W., Sharma, P.P. (2022) Eggs to longlegs: Embryonic development of the harvestman *Phalangium opilio* (Opiliones), an emerging model arachnid. *Frontiers in Zoology* 19, 11. <https://doi.org/10.1186/s12983-022-00454-z>

# PRESENTATIONS

2022 Poster Presentation, “Investigating the function of anterior Hox genes in the patterning of arachnid mouthparts,” Society for Integrative and Comparative Biology 2022 Annual Meeting (January 2022)

2019 Poster Presentation, “Using occupancy modeling to track shifting population dynamics of Yosemite butterflies,” UW-Madison Undergraduate Research Composium (April 2019)

# FIELDWORK

2022 Sde Boker, Golan Heights (Israel))

# PROFESSIONAL AFFILIATIONS

2021-present The Society for Integrative and Comparative Biology

2022-present International Society of Arachnology