

# LUCAS N. WEAVER

1919 Dexter Ave, Ann Arbor, MI 48103 | 303-304-4388 | lukeweav@umich.edu

## EDUCATION

---

- 2021 **Ph.D. Biology, University of Washington**, Seattle, WA  
Advisor: Gregory P. Wilson Mantilla  
Multituberculates as living animals: new insights into the ecomorphology, behavior, and life history of one of the most successful mammalian lineages
- 2015 **B.A. Anthropology (Geology minor), Colorado State University**, Fort Collins, CO  
Advisors: Thomas Bown, Kimberly Nichols

## PROFESSIONAL APPOINTMENTS

---

- 2021–23 **National Science Foundation (NSF) Postdoctoral Research Fellow in Earth Sciences**  
Department of Ecology and Evolutionary Biology, University of Michigan  
Mentor: Catherine Badgley

## PUBLICATIONS

---

- Submit. **Weaver, LN.**, Fulghum, HZ., Grossnickle, DM., Brightly, WH., Kulik, ZT., Wilson Mantilla, GP., & Whitney, MR. Multituberculate mammals show evidence of a life history strategy similar to that of placentals, not marsupials. *The American Naturalist*.
- In review. **Weaver, LN.**, Tobin, TS., Claytor, JR., Wilson, PK., Clemens, WA., & Wilson Mantilla, GP. Revised stratigraphic relationships within the lower Fort Union Formation (Tulloch Member; Garfield County, Montana, U.S.A.) provide a new framework for examining post K-Pg mammalian recovery dynamics. *PALAIOS*.
- 2021 **Weaver, LN.**, Varricchio, DJ., Sargis, EJ., Chen, M., Freimuth, WJ., & Wilson Mantilla, GP. Early mammalian social behavior revealed by multituberculates from a dinosaur nesting site. *Nature Ecology & Evolution* 5:32–37. (Published online November 2020).
- 2021 **Weaver, LN.**, and Wilson, GP. Shape disparity in the blade-like premolars of multituberculate mammals: functional constraints and the evolution of herbivory. *Journal of Mammalogy* 102:967–985. (Published online May 2020).
- 2021 Grossnickle, DM., **Weaver, LN.**, Jäger, KRK., & Schultz, JA. The evolution of anteriorly directed occlusion in therian mammals. *Zoological Journal of the Linnean Society*.  
<https://doi.org/10.1093/zoolinnean/zlab039>.
- 2021 Freimuth, WJ., Varricchio, DJ., Brannick, AL., **Weaver, LN.**, & Wilson Mantilla, GP. Mammal-bearing fossil gastric pellets potentially attributable to *Troodon formosus* at the Egg Mountain locality, Two Medicine Formation, Montana, U.S.A. *Palaeontology* 64:699–725.
- 2021 Tobin, TS., Honeck, JW., Fendley, IM., **Weaver, LN.**, Sprain, CJ., Tuite, ML., Flannery, DT., Mans, WW., & Wilson, GP. Analyzing sources of uncertainty in terrestrial organic carbon isotope

- data: a case study across the K-Pg boundary in Montana, USA. *Palaeogeography, Palaeoclimatology, Palaeoecology* 574:110451.
- 2020 **Weaver, LN.**, & Grossnickle, DM. Functional diversity of small-mammal postcrania is linked to both substrate preference and body size. *Current Zoology* 66:539–553. (invited submission)
- 2020 Grossnickle, DM., Chen, M., Wauer, JGA., Pevsner, SK., **Weaver, LN.**, Meng, Q-J., Liu, D., Zhang, Y-G., & Luo, Z-X. Incomplete convergence of gliding-mammal skeletons. *Evolution* 74:2662–2680.
- 2020 Rogers, RR., Regan, AK., **Weaver, LN.**, Thole, JT., & Fricke, HC. Tracking authigenic mineral cements in fossil bones from the upper Cretaceous (Campanian) Two Medicine and Judith River formations, Montana. *PALAIOS* 35:135–150.
- 2019 **Weaver, LN.**, Wilson, GP., Krumenacker, LJ., Moore, JR., & Varricchio, DJ. New multituberculate mammals from the mid-Cretaceous (lower Cenomanian) Wayan Formation of southeastern Idaho and implications for the evolution of Cimolodonta. *Journal of Vertebrate Paleontology* 39(2), e1604532.

## FUNDING

---

### Fellowships

- 2021 National Science Foundation, Postdoctoral Research Fellowship in Earth Sciences – \$174,000
- 2021 National Science Foundation, Postdoctoral Research Fellowship in Biology – \$138,000 (declined)
- 2021 Alexander von Humboldt Postdoctoral Research Fellowship – \$76,512 (declined)
- 2019 Society of Vertebrate Paleontology, Dawson Pre-Doctoral Fellowship – \$3,000
- 2017 National Science Foundation, Graduate Research Fellowship Program – Awarded, \$138,000
- 2016 Washington Research Foundation & Benjamin Hall Graduate Fellowship – \$10,000
- 2016 National Science Foundation, Graduate Research Fellowship Program – Honorable Mention

### Grants

- 2020 BLM National Conservation Lands Grant – \$25,000 (with G.P. Wilson & B.T. Hovatter)
- 2019 Paleontological Society Student Research Grant – \$1,200
- 2019 American Society of Mammalogists Grant-in-Aid – \$1,500
- 2019 UW Biology Department Wycoff Award – \$2,000
- 2018 Doris O. & Samuel P. Welles Fund Travel Grant – \$650

- 2017 David B. Jones Research Grant – \$126,458.21 (with G.P. Wilson & B. T. Hovatter)
- 2017 UW Biology Department Sargent Award – \$850
- 2017 UW Biology Department Iuvo Award – \$850
- 2016 Student Technology Fee Grant - \$26,609

## TEACHING EXPERIENCE

---

### Teaching Assistant (UW Biology)

- 2020 Human Anatomy (BIOL 310) Instructor: Dr. Casey Self
- 2020 Invertebrate Paleontology (BIOL 451) Instructor: Dr. Peter Ward
- 2020 Introductory Biology (BIOL 180) Instructor: Dr. Jacob Cooper
- 2019 Analytical Paleobiology (BIOL 438) Instructor: Dr. Gregory Wilson
- 2017 Invertebrate Zoology (BIOL 434) Instructor: Dr. Kenneth Sebens
- 2016 Introductory Biology (BIOL 180) (x3) Instructor: Drs. Scott Freeman, John Herron, and Jacob Cooper
- 2015 Introductory Biology (BIOL 180) Instructor: Drs. Scott Freeman and Frederick Dooley

### Guest Instructor

- 2019 Keck Gateway Project, Macalester College, St. Paul, MN
- 2019 Paleontology Field Methods and Research (BIOL 475), University of Washington, Seattle, WA
- 2018 Paleontology Field Methods and Research (BIOL 475), University of Washington, Seattle, WA

### Guest Lecturer

- 2019 Analytical Paleobiology (BIOL 438) University of Washington, Seattle, WA
- 2019 Evolution of Mammals and Their Ancestors (BIOL 443) University of Washington, Seattle, WA
- 2019 Vertebrate Paleobiology and Evolution (GEOL 416) Macalester College, St. Paul, MN
- 2018 Paleobiology (GEOL 300) Macalester College, St. Paul, MN
- 2018 Functional Morphology (BIOL 439) University of Washington, Seattle, WA
- 2017 Evolution of Mammals and Their Ancestors (BIOL 443) University of Washington, Seattle, WA
- 2017 Invertebrate Zoology (BIOL 434) University of Washington, Seattle, WA

2017 Stratigraphy (ESS 455) University of Washington, Seattle, WA

### Undergraduate Mentorship

2017–21 **Henry Fulghum** (Osteohistology of extant and extinct small-bodied mammals; Geologic mapping of the Hell Creek and Tullock Formations; currently a M.S. student, U. Indiana)

2019–21 **Xu Ziqi** (Diversity of Judith River and Black Butte Station mammals, Cretaceous, Montana; currently a M.S. student, E. Tennessee St. U.)

2019–20 **Michaela Leung** (Laboratory methods in osteohistology; currently a Ph.D. student, UC Riverside)

2018–19 **Taylor Manske** (Multituberculate postcranial anatomy; vertebrate paleontology curation)

### Public Outreach

2015–21 Instructor: **Discoveries in Geoscience (DIG) Field School**, a non-profit program training K–12 teachers in geology and paleontology field methods and developing in-class Earth Science curricula ([www.digfieldschool.org](http://www.digfieldschool.org))

2020 Guest speaker: Facebook live event, “Ask a Paleontologist”

2020 Volunteer: Burke Behind the Scenes Night—Burke Museum of Natural History and Culture, Seattle, WA

2020 Invited Speaker: Physics, biomechanics, and their importance for understanding mammal evolution—Islander Middle School, Mercer Island, WA

2018 Invited Speaker: Seattle Public Schools Middle School Science and Engineering Fair—Seattle Museum of Flight, Seattle, WA

2017 Guest Speaker: Fossilization and Where to Find Fossils—Hazelwood Elementary, Lynnwood, WA

2017 Volunteer: Dinos on the Rocks—Burke Museum of Natural History and Culture, Seattle, WA

2017–18 Volunteer: Dino Days—Burke Museum of Natural History and Culture, Seattle, WA

2016-17 Guest Speaker: Fossilpalooza—Rockwood School District, Eureka, MO

2016 Panelist: Burke Museum “You Build It” Event: Extinctions.

2015-16 Volunteer: Meet the Mammals—Burke Museum of Natural History and Culture, Seattle, WA

2015-16 Volunteer: Geology Rocks—Burke Museum of Natural History and Culture, Seattle, WA

2015 Guest Speaker: What is Paleontology? Using Clues to Understand the Past—St. Luke School, Shoreline, WA

2015 Guest Speaker: Understanding Deep Time—Rolling Hills Elementary, Aurora, CO

## PRESENTATIONS

---

### Invited Lectures

- 2021 **Universität Bonn**, Institut für Geowissenschaften (invited by Dr. Julia Schultz). *Remote due to coronavirus.*
- 2021 **East Carolina University**, Department of Biology (invited by Timothy Lee). *Remote due to coronavirus.*
- 2020 **University of Michigan**, Museum of Paleontology (invited by Dr. Matthew Friedman). *Remote due to coronavirus.*
- 2020 **Adelphi University**, Department of Biology (invited by Dr. Michael D’Emic). *Remote due to coronavirus.*
- 2020 **New York Institute of Technology**, Department of Anatomy (invited by Dr. Simone Hoffman). *Postponed due to coronavirus.*
- 2020 **Denver Museum of Nature and Science**, Department of Earth Sciences (invited by Dr. Tyler Lyson). *Postponed due to coronavirus.*

### Professional Conference Presentations

- 2021 Romer Prize Session, Society of Vertebrate Paleontology Annual Meeting, Virtual (Talk)  
American Society of Mammalogists Annual Meeting, Virtual (Talk)  
Geological Society of America Annual Meeting, Portland, OR (Talk)
- 2020 Society of Vertebrate Paleontology Annual Meeting, Virtual (Poster)
- 2019 Society of Vertebrate Paleontology Annual Meeting, Brisbane, Australia (Talk)  
Geological Society of America Annual Meeting, Phoenix, AZ (Talk)  
Western Association of Vertebrate Paleontology Annual Meeting, Eugene, OR (Talk)
- 2018 Society of Vertebrate Paleontology Annual Meeting, Albuquerque, NM (Talk)  
Society for Integrative and Comparative Biology Annual Meeting, San Francisco, CA (Talk)
- 2017 Geological Society of America Annual Meeting, Seattle, WA (Poster)  
Society of Vertebrate Paleontology Annual Meeting, Calgary, AB (Talk)
- 2016 Society of Vertebrate Paleontology Annual Meeting, Salt Lake City, UT (Poster)
- 2015 Geological Society of America, Rocky Mountain Section Meeting, Casper, WY (Poster)  
Western Association of Vertebrate Paleontology Annual Meeting, Turlock, CA (Poster)

## ADDITIONAL EXPERIENCE

---

### Diversity, Equity, Inclusivity, & Justice Training

- 2021 Evidence-Based Teaching in Biology—Teaching for Equity (BIOL 505), UW Biology
- 2020–21 Diversity & Equity/Graduate & Postdoc Committee Culture Hours, UW Biology
- 2020 Race & Equity Workshop: Words Matter, Burke Museum of Natural History and Culture

- 2020 Language Matters: Considering Racial Microaggressions in Science, Society for the Advancement of Biology Education Research—Striving for Racial Justice in Academic Biology Series
- 2020 Empowering Prevention & Inclusivity Community (EPIC) Training Program, UW Biology
- 2019 #MeTooSTEM Action Workshop, University of Washington
- 2018 Identifying Sexual Harassment and Bystander Training, UW Biology
- 2016 Sexual Harassment in the Workplace Training, University of Washington
- 2015 Teaching Assistant Training, University of Washington

## Fieldwork

- 2015–19 Hell Creek Formation & Fort Union Formation (Tullock, Lebo, and Tongue River members) (latest Cretaceous–Paleocene), Williston Basin, MT
- 2019 Judith River Formation (Late Cretaceous), Williston Basin, MT
- 2019 Cloverly Formation (Early Cretaceous), Bighorn Basin, MT/WY
- 2019 Lameta Formation (latest Cretaceous–earliest Paleocene), Central India
- 2016 Chinle Formation (Late Triassic), Petrified Forest National Park, AZ
- 2013–15 Willwood Formation (early Eocene), Bighorn Basin, WY
- 2014 Cambrian through Paleogene sedimentary rocks in the Bighorn Basin, WY, Iowa State University / University of Nebraska-Lincoln Geology Field Camp

## Museum Collections

- 2015–20 Burke Museum of Natural History & Culture, Seattle, WA
- 2019 Yale Peabody Museum of Natural History, New Haven, CT
- 2017 University of California Museum of Paleontology, Berkeley, CA
- 2017 Royal Tyrrell Museum, Drumheller, AB, Canada
- 2017 Geological Survey of India, Nagpur, India
- 2016 Denver Museum of Nature & Science, Denver, CO
- 2016 Utah Museum of Natural History, Salt Lake City, UT
- 2016 American Museum of Natural History, New York, NY

## PROFESSIONAL SERVICE

---

### University Service

2020–21 Search Committee, Dean of the College of Arts & Sciences, University of Washington

### Peer Review

- 2021 *Palaeontology*  
 2021 *Communications Biology*  
 2021 *Zoological Research*  
 2020–21 *Proceedings of the Royal Society B* (x2)  
 2020 *Evolution*  
 2020 *Geobios*  
 2019–20 *Journal of Vertebrate Paleontology*  
 2019 *Journal of Mammalogy*

### Professional Affiliations

- 2020– Association for Women Geoscientists (**Treasurer**, UW Student Sub-Group, Pacific NW Chapter)  
 2018– American Society of Mammalogists  
 2017– Geological Society of America  
 2017– Paleontological Society (**Development Committee**)  
 2017– Society of Integrative & Comparative Biologists  
 2016– Society of Vertebrate Paleontology

## DEPARTMENT SERVICE

---

- 2021 UW Biology Graduate & Postdoc Programming (Committee Member)  
 Subcommittee work focused on diversity, equity, and inclusion initiatives
- 2020–21 UW Biology Diversity & Equity (Committee Member)  
 Subcommittee work focused on faculty searches, graduate recruitment, and departmental culture
- 2020–21 UW Biology Equity in Fieldwork Task Force
- 2020–21 UW Biology Field Gear Co-Op (Co-founder/organizer)
- 2015–21 UW Biology Social Committee (Organized UW Biology Retreats, Happy Hours, and Trivia)
- 2016–20 UW Bio Buddy (Orienting new and prospective grad students to UW Biology)
- 2017–18 UW Paleontology Professional Development Program (Co-founder/lead-organizer)  
 Developed a series of graduate-student-led seminars (Sedimentology & Stratigraphy, Classic Papers Lunch, Paleo Grad Research Seminar, Paleo TED Talk Series)
- 2017–18 UW Biology Faculty Note-taker
- 2017 Organismal Biology Graduate Student Research Seminar (Founder/organizer)

REFERENCES

---

**Gregory Wilson Mantilla** (Ph.D. advisor), Ph.D., Professor, Department of Biology, University of Washington, Seattle, WA 98195; gpwilson@u.washington.edu

**Raymond Rogers** (Ph.D. committee member), Ph.D., Professor & Chair, Department of Geology, Macalester College, St. Paul, MN 55105; rogers@macalester.edu

**Caroline Strömberg** (Ph.D. committee member), Ph.D., Professor, Department of Biology, University of Washington, Seattle, WA 98195; caestrom@u.washington.edu

**Eric Sargis** (collaborator), Ph.D., Curator, Yale Peabody Museum, Yale University, New Haven, CT 06520; eric.sargis@yale.edu

**Kristina Curry Rogers** (colleague), Ph.D., Professor, Department of Biology, Macalester College, St. Paul, MN 55105; rogersk@macalester.edu