

LUCAS N. WEAVER

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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– **University of Michigan**, NSF Postdoctoral Research Fellow in Earth Sciences
Department of Ecology and Evolutionary Biology, Mentor: Catherine Badgley
Museum of Paleontology
- 2021– **Denver Museum of Nature and Science**, Research Associate
Earth Sciences Department, Collaborators: David W. Krause, Tyler R. Lyson
- 2021– **Burke Museum of Natural History and Culture**, Paleontology Research Associate
Collaborator: Gregory P. Wilson Mantilla

PUBLICATIONS

- 2022 **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* 200:383–400.
- 2022 **Weaver, LN.**, Tobin, TS., Claytor, JR., Wilson, PK., Clemens, WA., & Wilson Mantilla, GP. Revised stratigraphic relationships within the lower Fort Union Formation (Tullock Member; Garfield County, Montana, U.S.A.) provide a new framework for examining post K-Pg mammalian recovery dynamics. *PALAIOS* 37:104–127. (Featured on the cover).
- 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 & Awards

- 2021 Alfred Sherwood Romer Prize, Society of Vertebrate Paleontology – \$750
- 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 Dawson Pre-Doctoral Fellowship, Society of Vertebrate Paleontology – \$3,000
- 2017 National Science Foundation, Graduate Research Fellowship Program – \$138,000
- 2016 Washington Research Foundation & Benjamin Hall Graduate Fellowship – \$10,000

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 & Iuvo Awards – \$1,700
- 2016 UW Student Technology Fee Grant - \$26,609

Total Funding Awarded – \$725,379.21

TEACHING EXPERIENCE

Teaching Assistant (UW Biology)

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

- 2021 Biology of Mammals (EEB 451) University of Michigan, Ann Arbor, MI
- 2021 Evolution of Vertebrates (EARTH 437) University of Michigan, Ann Arbor, MI
- 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

Student Mentorship

*Student co- or lead-authors in published peer-reviewed papers or conference abstracts

- 2022– **Kaori Chambers** (M.S. student, co-advised with Catherine Badgley, U. Michigan)
- 2022– **Richardson Pedigo** (M.S. student, committee member, SUNY ESF)
- 2022– **Sofia Belabbes** (undergrad, U. Michigan)
- 2022 **Fern Sexton** (undergrad, U. Michigan)
- 2021– **Grace Pizzini*** (U. Michigan, Undergraduate Research Opportunity Program)
- 2021– **Jake Downey*** (undergrad, U. Michigan, Undergraduate Research Opportunity Program)
- 2021–22 **Benny Cho** (undergrad, U. Michigan, Undergraduate Research Opportunity Program)
- 2017–21 **Henry Fulghum*** (undergrad, U. Washington; **current M.S. student**, U. Indiana)
- 2019–21 **Xu ‘Stokke’ Ziqi** (undergrad, U. Washington; **current M.S. student**, E. Tennessee St. U.)
- 2019–20 **Michaela Leung** (undergrad, U. Washington; **current Ph.D. student**, UC Riverside)

Public Outreach

- 2015–22 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)
- 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

PRESENTATIONS

Invited Lectures

- 2022 **Burpee Museum of Natural History**, PaleoFest (invited by Joshua Matthews).
- 2022 **University of Michigan**, Department of Ecology and Evolutionary Biology (invited by graduate students).
- 2021 **University of Michigan**, Friends of the Museum of Paleontology (invited by Dr. Matthew Friedman). *Remote due to coronavirus.*
- 2021 **University of Edinburgh**, School of Geosciences (invited by Dr. Stephen Brusatte). *Remote due to coronavirus.*
- 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

- 2022 Society of Vertebrate Paleontology Annual Meeting, Toronto, ON (Talk)
Geological Society of America Annual Meeting, Denver, CO (Poster)
- 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

- 2022 Rackham Professional Development DEI Certificate Awardee, U. Michigan
- 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

- 2021–22 Mesaverde, Meeteetse, and Lance formations (Late Cretaceous), Fort Union Formation (Paleocene), Bighorn Basin, WY
- 2021–22 Goler Formation (mid–late Paleocene), El Paso Mountains, Mojave Desert, CA
- 2021 Denver Formation (D1 sequence, early Paleocene), Corral Bluffs, CO
- 2015–22 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 and Clarks Fork Basins, MT/WY
- 2017 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

- 2022 University of Colorado Museum of Natural History
- 2021– University of Michigan Museum of Paleontology, Ann Arbor, MI
- 2021– Denver Museum of Nature & Science, Denver, CO
- 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

2022 Ohio University Baker Fund Proposal

2021–22 *Journal of Mammalian Evolution* (x3)

2021 *Acta Palaeontologica Polonica*

2021 *Palaeontology*

2021 *Communications Biology*

2021 *Zoological Research*

2020–21 *Proceedings of the Royal Society B* (x2)

2019–21 *Journal of Vertebrate Paleontology*

2020 *Evolution*

2020 *Geobios*

2019 *Journal of Mammalogy*

Professional Affiliations

2020–21 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 Member**, since 2020)

2017– Society of Integrative & Comparative Biologists

2016– Society of Vertebrate Paleontology (**Diversity Committee Member**, since 2022)

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@uw.edu

Catherine Badgley (Postdoc mentor), Ph.D., Professor, Department of Ecology and Evolutionary Biology, University of Michigan, Ann Arbor, MI 48109; cbadgley@umich.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@uw.edu

David Krause (Collaborator), Ph.D., Senior Curator, Department of Earth Sciences, Denver Museum of Nature and Science, Denver, CO 80205; david.krause@dmns.org

Eric Sargis (Collaborator), Ph.D., Professor, Department of Anthropology, Yale University, New Haven, CT 06520; eric.sargis@yale.edu