Brian P. Tanis

Oregon State University-Cascades, Integrative Biology Department
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Education:

Ph.D. Zoology, Oregon State University — June 2019
Dissertation: *Dogs, death, and dietary breadth: insight into the macroecology and macroevolution of the Canidae* Advisor: Dr. Rebecca Terry

Graduate Certificate in College and University Teaching, Oregon State University — June 2015

M.S. Biology, Fort Hays State University — May 2013
Thesis: *Influence of wind turbines on mammalian occupancy patterns* Advisor: Dr. Elmer Finck

B.S. Biology, Susquehanna University (Academic & Research Honors) — May 2010
Thesis: *Paleoecology of a Quaternary cave system in central Pennsylvania* Advisor: Dr. Carlos Iudica

B.S. Ecology, Susquehanna University (Departmental Honors) — May 2010

Employment and Experience:

Teaching:

2020-present Instructor – Oregon State University-Cascades
Full-time instructor of record at a small, undergraduate only satellite campus of OSU serving a high percentage of non-traditional students. Designed and taught introductory biology lectures and labs for majors and non-majors and upper-level courses on vertebrate biology and physiology.

2019-2020 Instructor – Oregon State University
Hired as an instructor of record to teach large-enrollment upper-level biology, lecture and laboratory courses in the Integrative Biology Department. This included developing courses for the onset of remote teaching during the COVID-19 pandemic.

2013-2019 Graduate Teaching Assistantship – Oregon State University
Served as the equivalent of a half-time instructor in a variety of undergraduate and graduate level courses. Responsibilities generally involve course design, teaching, grading, creation of assessments, and guiding student performance.

2016-2017 CIRTL Teaching Internship Seminar Developer & Facilitator – Oregon State University
Established a not-for-credit seminar for graduate students, postdocs, and faculty on implementing experiential learning projects into STEM courses as completion of the Practitioner level of the Center for the Integration of Research, Teaching, and Learning program at Oregon State University.

2012-2013 Graduate Wetlands Assistantship - Fort Hays State University
Assisted the Kansas Wetlands Education Center staff in developing and leading educational programs designed to teach elementary schoolers about aspects of Kansas natural history, providing tours of Cheyenne Bottoms for adult tourists, and other functions held at the education center.

2011-2012 Graduate Teaching Assistantship - Fort Hays State University
Part of a teaching team training Mammalogy students in field trapping, creation of study skins, and identification of local species from skulls and skins.

List of Courses Taught:

‡ - Courses taught as an Instructor of Record

Oregon State University-Cascades

- ‡ Introductory Biology for Non-majors (BI101, 102) - lecture/lab
- ‡ Principles of Biology (BI221, 222, 223) - lecture/lab
- ‡ Introduction to Human Anatomy & Physiology (BI231, 232, 233, 241, 242, 243) - lecture/lab
- ‡ Environmental Physiology (Z423) - lecture
- ‡ Vertebrate Biology (Z371, 372) – lecture/lab

Oregon State University

Principles of Biology (BI211, 212) - lab

Paleobiology (Z427/527) - lab/guest lecture

‡ Comparative Anatomy (Z443/534) - lab

‡ Vertebrate Physiology (Z422) - lab

‡ Human Anatomy & Physiology (Z432, 433, BI241, 242) - lecture/lab

Geometric Morphometrics (Z401) - seminar

Fort Hays State University

Mammalogy (BIOL651) – lab

Curatorial:

2015, 2016 Curatorial Assistant – Braly Vertebrate Collection, Oregon State University

Organized and updated the mammalogy collection. Major work was done to identify, inventory, and establish a database of specimens.

2016 Pleistocene Fossil Preservation Assistantship - Oregon State University

Lead the identification and preservation of Pleistocene megafaunal fossils found below Reser Stadium at Oregon State University. Additional work was done teaching these practices to university students enrolled in Paleobiology (BI427/527).

2010-2012 Graduate Curatorial Assistantship – Sternberg Museum of Natural History, Fort Hays State University

Accountable for the mammalogy and ornithology dry collections, particularly continuing the growth of the collection via creating >200 study skins and skeletons, accessioning and cataloging new specimens, managing loans, assisting visiting researchers, and supervising volunteers. Additional activities included assisting educational programs, developing exhibits, and leading tours.

Research:

2015-2018 Graduate Research Assistantship – Oregon State University

Research efforts were focused on traveling to museum collections to sample specimens for Dental Microwear Texture Analysis. Additional work was performed on preparing bone and hair samples of mammals for stable isotope analysis

2013 Graduate Research Assistantship – Fort Hays State University

Project examined impacts of wind farm related infrastructure on mammalian scavengers using remote trail cameras to collect presence-absence data analyzed through the PRESENCE occupancy modeling program.

2008 Summer Research Partner Program - Susquehanna University

Chosen to conduct research projects including the creating harp traps for Chiropteran studies, initiating a study site and materials for paleoecological research, and participating in the Susquehanna River Symposium Fellowship Program.

Volunteer Field Assistant:

2019-2022 Historical resurvey of Steen Mountains, OR small mammal elevational biodiversity

2014 Wild Black-footed Ferret population recovery monitoring

2011-2012 *Spilogale* and *Mephitis* museum specimen sampling and preparation

2011 Urban free-roaming domestic cat mark-recapture population growth analysis

2010-2011 Long-term bird banding and monitoring of resident and migratory passerines

2007-2010 Long-term monitoring of small mammal diversity in central PA in successional habitats

2007-2009 *Myotis lucifugus* physiology and emergence patterns in relation to environmental variables

2007-2008 *Canis latrans* stomach contents sampling for quantifying foraging behaviors

Publications:

SICILIANO-MARTINA, L., M. MICHAUD, **B. P. TANIS**, E. L. SCICLUNA, & A. M. LAWING. 2022. Endocranial volume increases across captive generations in the endangered Mexican wolf. Scientific Reports 12:8147. https://doi.org/10.1038/s41598-022-12371-6

CHEESEMAN, A. E., **B. P. TANIS**, & E. J. FINCK. 2021. Multi-scale assessment of Eastern Spotted Skunk occurrence. Southeastern Naturalist Eastern Spotted Skunk Special Issue 20:24-38.

HINDE, K., …**B. P. TANIS**, & 36 other authors. 2021. March Mammal Madness and the power of narrative in science outreach. eLife 10:e65066. https://doi.org/10.7554/eLife.65066

CHEESEMAN, A. E., **B. P. TANIS,** & E. J. FINCK. 2021. Quantifying temporal variation in dietary niche reveals drivers of past population declines. Functional Ecology https://doi.org/10.1111/1365-2435.13765

TANIS, B. P., L. R. G. DESANTIS, & R. C. TERRY. 2018. Dental microwear textures across the dental arcade in canids: implications for dietary studies in extant and extinct caniforms. Palaeogeography, Palaeoclimatology, Palaeoecology 508:129-138. https://doi.org/10.1016/j.palaeo.2018.07.028

TANIS, B. P., B.A. BOTT, & B. J. GASTON. 2018. Sex-based differences in antipredator response of crickets to chemical cues of a mammalian predator. PeerJ 6:e4923. https://doi.org/10.7717/peerj.4923

Additional manuscripts currently in progress:

* - Undergraduate advisee

JOYCE, A.* & **B.P. TANIS.** Eusocial Hymenoptera colony sizes conform to Bergmann's rule

TANIS, B. P., L. R. G. DESANTIS, & R. C. TERRY. Loosening the macroevolutionary ratchet: Does dietary plasticity attenuate morphological insights into canid evolution?

TANIS, B. P., L. R. G. DESANTIS, & R. C. TERRY. Dietary breadth contraction in coyotes: an unexpected legacy of mesopredator release at a continental scale.

TANIS, B. P., A. E. CHEESEMAN, & E. J. FINCK. Skunk-o-scapes: range-wide isotopic patterns of spotted and stripped skunks reveal regional changes in resource use.

Students Mentored:

† - Undergraduate researcher

†ALLISON JOYCE. 2021-present. Evaluating if eusocial insect colony sizes conform to Bergmann's rule.

†BRAD ALEXANDER. 2021-2022. Influence of soil texture on Camas pocket gopher (*Thomomys bulbivorus)* burrowing biomechanical variation.

†LENA NGUYEN. 2021-2022. Alteration to daily activity patterns of mammalian herbivores at wind energy facilities.

†BRIDGET REAGAN. 2016-2018. Isotopic and biomechanical dietary reconstructions of historical Oregon canids.

Research Grants Received:

2019-20	NSF Postdoctoral Fellowship in Biology: Collection-based Research	*Unfunded: 'Meritorious fund if possible' category*
2018	Society of Vertebrate Paleontology Albert E. Wood Award for outstanding research that involves vertebrate fossil or natural history collections.	$1,500
2018	Society for the Study of Evolution Graduate Research Excellence Grant - Rosemary Grant Advanced Award	$3,500
2018	Society for Northwestern Vertebrate Biology Student Scholarship Award	$1,000
2018	Oregon State University Zoology Research Funds	$500
2017	Paul and Mary Roberts Evolutionary Biology Fellowship	$2,500
2017	Oregon State University Zoology Research Funds	$500
2016	Oregon State University Zoology Research Funds	$500
2015	American Society of Mammalogists Grants-In-Aid of Research	$1,023
2015	Oregon State University Zoology Research Funds	$400
2011	Chickadee Checkoff Small Grants Program	$4,800
2011	American Society of Mammalogists Grants-In-Aid of Research	$680

Honors/Awards:

Awards:

2019	American Society of Mammalogists Elmer C. Birney Graduate Honoraria
2018	OSU Integrative Biology Department *Castor canadensis* award for outstanding departmental service
2018	Les Eberhardt Award: Best Student Presentation at OR Chapter of the Wildlife Society Meeting
2016, 2018	American Society of Mammalogists Travel Award
2013	American Society of Mammalogists President's Special Award
2013	Oregon State University Provost's Distinguished Graduate Scholarship
2012, 2013	Kansas Natural Resources Conference Student Scholarship
2012	Central Plains Society of Mammalogists Outstanding Master's Presentation Award
2010	Departmental Honors: Susquehanna Ecology Department
2010	Departmental, Academic, and Research Honors: Susquehanna Biological Sciences Department
2008	Susquehanna Building Block Award for Community Development
2006	Earned rank of Eagle Scout, Boy Scouts of America

Symposium and Society Invitations:

2022	Associated Colleges of the Chicago Area Current Topics in Biology Spring Seminar
2019	Romer Prize Session Participant: Society for Vertebrate Paleontology
2019	Future Leaders in Paleontology Symposium Presentation: Geological Society of America
2010	Sigma Gamma Epsilon: Earth and Environmental Science Honor Society
2010	Beta Beta Beta: Biology Honor Society
2009	Sigma Gamma Pi: Leadership Society, Presidential Member
2008	Susquehanna River Group Symposium: Fellowship Graduate
2007	ATHGO International: UN Summit on Countering Climate Change

Broader Impacts and Outreach:

2015-present March Mammal Madness online outreach and education contributor
Organizer and narrator for annual science communication event combining gamification, social media, and creative works to introduce scientific literacy and independent discovery of animals to a wide audience of students and adults. In 2021 event materials engaged with ~1% of US high school students in classrooms and generated twitter content observed by 13.3 million followers.
Featured in public press: The Washington Post, Scientific American, WTTW PBS

2022 Elementary school science classroom cold opener
Generated video content to introduce and excite students in Virginia for a variety of lesson topics. Materials were aligned to lesson plans yet visualized exciting examples and cases for sparking student discovery and enthusiasm.

2018-2020 Online citizen Science project expert/facilitator: Zooniverse, Canid Camera
Responsible for interacting with public identification of remote trail camera photos. Over 7,000 individuals assisted in the identification of >700,000 images of New York fauna creating a dataset used for analyzing predator occupancy surrounding endangered New England Cottontail habitat.

2018-2020 Skype-A-Scientist K-12 STEM engagement
Interacted with school children globally to answer questions about mammalogy and paleontology. Emphasis was placed on highlighting misconceptions about who can do science.

2019 John Day National Fossil Beds Museum Exhibit
Created a public display board for the museum and gallery showcasing my research findings on fossil species inside the park.

2019 Lifelong Learning series contributor
Interactive seminars for senior citizens and their families around Corvallis, OR.

2017-2019 Oregon State University Integrative Biology Public Open House
Annual event geared towards local families to bridge connections and establish ties for University support. Hands-on activities showcased research being done within our lab group and how vertebrate ecology and evolution impacts lives.

2016-2018 Science Mathematics Integrative Learning Experience youth education contributor
Led programs designed for local underrepresented school districts to highlight to 4th graders what biology is and how scientists investigate questions about the world around them.

2017 Kidspirit Summer Camp contributor: "Mammal Skeletons & You"
Initiated program teaching first graders about the skeletal system and how it relates to animal and human health.

2014 Kansas Day Wetland Education Center Facilitator
Ran stations with ecological themed activities designed to teach second graders about aspects of Kansas natural history

2013 Initiated citizen science online biodiversity projects via iNaturalist
Developed a hub for public engagement with local flora and fauna while promoting the importance of biodiversity and land-stewardship.

Presentations at Scientific Meetings:

§-Award winning presentations [details following]; ***** - Undergraduate advisee

Within the last 5 years:

NGUYEN, L. *****, & **B. P. TANIS**. Alteration to daily activity patterns of mammalian herbivores at wind energy facilities. Annual Meeting of the American Society of Mammalogists. Tucson, AZ 17-21 June 2022.

TANIS, B. P., A. E. CHEESEMAN, & E. J. FINCK. Skunkoscapes: range-wide dietary patterns of skunks reveal regional changes in resource use. Annual Meeting of the American Society of Mammalogists. Tuscon, AZ 17-21 June 2022.

JOYCE, A. *****, & **B. P. TANIS**. Bergmann's rule in relation to eusocial insects. Oregon State University Celebrating Undergraduate Excellence. Corvallis, OR 19 May 2022.

ALEXANDER, B. C.*****, & **B. P**. **TANIS.** Variation of *Thomomys bulbivorus* burrowing adaptations to differences in habitat soil texture. Cascades Research & Scholarship Symposium. Bend, OR 18 May 2022.

TANIS, B. P.. Loosening the Macroevolutionary Ratchet: Does dietary plasticity alter morphological insights into canid evolution? Annual Meeting of the Society for Vertebrate Palaeontology. Brisbane, AUS 9-12 Oct 2019.

§ TANIS, B. P., L. R. G. DESANTIS, & R. C. TERRY. Dogs, death, and dietary breadth: The link between species duration and dietary specialization in canids. Annual Meeting of the Geological Society of America. Phoenix, AZ 22-25 Sept 2019. **§**[Future Leaders in Paleontology Award]

§ TANIS, B. P., L. R. G. DESANTIS, & R. C. TERRY. Loosening the Macroevolutionary Ratchet: Does dietary plasticity alter morphological insights into canid evolution? Annual Meeting of the American Society of Mammalogists. Washington, DC 28 June-3 July 2019. **§**[Elmer C. Birney Award, Graduate Honoraria]

TANIS, B. P., L. R. G. DESANTIS, & R. C. TERRY. Dogs, death, and dietary variability: testing patterns of Canidae macroevolution using dental microwear textures. Western Association of Vertebrate Paleontologists. Eugene, OR 16 March 2019.

KURNATH-CONNORS, P., J.E. LIGHT, **B.P. TANIS**, J. A. DREW, C. N. ANDERSON, & K. HINDE. March Mammal Madness: a story about science & social media. Annual Meeting of the Society for Integrative and Comparative Biology. Tampa, FL 3-7 January 2019.

TANIS, B. P., L. R. G. DESANTIS, & R. C. TERRY. Categorizing the diets of two borophagine canids: *Cynarctoides lemur* and *Phlaocyon latidens*. Annual Meeting of the Society of Vertebrate Paleontology. Albuquerque, NM 17-21 October 2018.

TANIS, B. P., L. R. G. DESANTIS, & R. C. TERRY. Hungry like the wolf: have coyotes experienced dietary release following apex predator extirpation? Annual Meeting of the American Society of Mammalogists. Manhattan, KS 25-29 June 2018.

KURNATH-CONNORS, P., J.E. LIGHT, **B.P. TANIS**, S. P. MAHER, J. A. DREW, C. N. ANDERSON, & K. HINDE. March Mammal Madness: a successful story about science & social media. Annual Meeting of the American Society of Mammalogists. Manhattan, KS 25-29 June 2018

TANIS, B.P. Diet shifts in canids following historical mesopredator release in the Pacific Northwest. Research Advances in Fisheries, Wildlife, and Ecology Symposium. Corvallis, OR 27 April 2018.

§ TANIS, B.P. & R. C. TERRY. The changing landscape of predator interactions: diet shifts and mesopredator release at a continental scale. Joint annual meeting of the Oregon Chapter of the Wildlife Society. Portland, OR 14-15 February 2018. **§**[Les Eberhardt Award: Best Student Presentation]

TANIS, B. P., L. R. G. DESANTIS, & R. C. TERRY. Linking microwear across the dental arcade: are canid dietary signals from the m1talonid comparable to the m2? Annual Meeting of the Society of Vertebrate Paleontology. Calgary, AB 23-26 August 2017.

LIGHT, J. E., S. P. MAHER, C. N. ANDERSON, V. APKENAS, J. A. DREW, C. HENNING, K. L. LEWTON, **B. P. TANIS**, & K. HINDE. March Mammal Madness: Communicating science and art across social media. Annual Meeting of the American Society of Mammalogists. Moscow, ID 20-24 June 2017.

TANIS, B. P., L. R. G. DESANTIS, & R. C. TERRY. Linking microwear across the dental arcade: do canid m1 and m2s record comparable signals? Annual Meeting of the American Society of Mammalogists. Moscow, ID 20-24 June 2017.

Presentations older than 5 years:

16 additional first author presentations, one award winning **§**[Central Plains Society of Mammalogists Outstanding Master's Presentation]

Invited Talks:

TANIS, B.P.. Linking broad-scale variation to dynamic eco-evolutionary patterns. Pacific University, Biology Department seminar. 7 Dec 2022.

TANIS, B.P.. Introduction to Ecological Modeling: Demographics and quantitative analyses. Paul Smith's University, Department of Natural Sciences seminar. 18 Mar 2022.

TANIS, B.P.. Leveraging broad-scale variation to inform dynamic ecological patterns. Southeast Missouri State University, Department of Biology seminar. 11 Mar 2022.

TANIS, B. P.. Foraging through space and time: Reconstructing dietary niches to understand macroecology and evolution. Associated Colleges of the Chicago Area, Current Topics in Biology Spring Seminar. Virtual Seminar. 8 Feb 2022.

CHEESEMAN, A. E.., **B. P. TANIS**, & E. J. FINCK. Temporal assessment of Eastern Spotted Skunk geographic distribution. Eastern Spotted Skunk Cooperative Study Group. Virtual meeting. 16 Sept 2021.

Professional Service:

University and Departmental Service:

Sustainability Committee	2022-present
Mutual Mentors Lite program	2023
Peer Review of Teaching committee	2022-2023
Teaching Triad peer teaching reviews	2021
Braly Scientific Teaching Collection manager	2016-2019
Integrative Biology Graduate Student Association	2015-2019
President (2015-2016); Secretary (2016-2017); Chair of Constitution Task Force (2015)	
OSU Mammoth & Pleistocene fossils preservation and identification	2016-2019
Oregon State University Graduate Promotion and Tenure Committee	2014

Professional Societies and Service:

American Society of Mammalogists:
- Biodiversity Committee (2017-present); Honoraria & Awards Committee (2019-2021); Informatics Committee (2013-present); Mammal Images Library Committee (2007-present); Student Representative Member of Board (2016-2019); Membership Committee (2013-2020); Meeting Mentor/Ally (2013-2015,2019,2021)

Conservation Paleobiology Research Coordination Network
- Webinar panel member (2020-2022)

The Society for Vertebrate Paleontology:
- Postdoc and Grad Student Liaison Committee (2018-2020)

The Society for the Preservation of Natural History Collections

The Paleontological Society

The Geological Society of America

The Society for Northwest Vertebrate Biology

Reviewer for the following journals:
- Mammalia, Paleobiology

Ad-hoc reviewer for NSF

References:

Dr. Rebecca C. Terry

Associate Professor, Department of Integrative Biology, Oregon State University, 3029 Cordley Hall, Corvallis, OR 97331. (541) 737-3723. rebecca.terry@science.oregonstate.edu

Dr. Elmer Finck

Professor Emeritus, Department of Biological Sciences and Sternberg Museum of Natural History, Fort Hays State University, 600 Park Street, Hays, KS (785) 625-9727. efinck@fhsu.edu

Dr. Doug Warrick

Professor, Department of Integrative Biology, Oregon State University, 3029 Cordley Hall, Corvallis, OR (541) 737-3723. warrickd@science.oregonstate.edu