

Ashley R. Reynolds

evolutionary ecologist | hello@ashleyreynolds.ca

ACADEMIC POSITIONS

POSTDOCTORAL FELLOW

Apr 2023 — Apr 2025

MITACS Accelerate

Canadian Museum of Nature & University of Ottawa

- Project: Growth differences in wolf (*Canis lupus*) populations from five ecozones in Canada
- Advisors: Dr. Danielle Fraser, Dr. Jeremy Kerr

EDUCATION

DOCTOR OF PHILOSOPHY

Sep 2015 — Apr 2023

Ecology and Evolutionary Biology

University of Toronto

- Title: Life History and Osteohistology in Feliformia (Mammalia: Carnivora), with Case Studies in *Panthera* and *Smilodon*
- Advisor: Dr. David C. Evans
- Supervisory Committee: Dr. Deborah McLennan, Dr. Mary T. Silcox

BACHELOR OF SCIENCE (HONOURS)

Sep 2010 — Jun 2015

Biodiversity and Conservation Biology (Major)

Biological Anthropology (Major)

Geoscience (Minor)

University of Toronto

- Graduated with High Distinction

OTHER WORK EXPERIENCE

Daily Planet Intern

Jan — Apr 2015

Discovery Channel Canada

Researched possible news stories, wrote short segments (including “Discoveries,” “Weird Planet,” and “Ziyology”), contacted news sources to obtain materials releases, ensured all written work and tasks were completed in a timely manner, collaborated with producers, hosts, and other interns to produce content.

PEER-REVIEWED PUBLICATIONS

1. **Reynolds, A.R.**, Lowi-Merri, T., Seymour, K.L., Brannick, A.L., and Evans, D.C. 2023. Dire wolf (*Canis dirus*) from the late Pleistocene of southern Canada. *Journal of Quaternary Science*, 38(6), 938–946. doi: 10.1002/jqs.3516.
2. **Reynolds, A.R.**, Seymour, K.L., and Evans, D.C. 2021. *Smilodon fatalis* siblings reveal life history in a sabre-toothed cat. *iScience* 24(1): 101916. doi: 10.1016/j.isci.2020.101916.
3. Whitney, M.R., LeBlanc, A.R.H., **Reynolds, A.R.**, and Brink, K.S. 2020. Convergent dental adaptations in the serrations of hypercarnivorous synapsids and dinosaurs. *Biology Letters* 16(12): 20200750. doi: 10.1098/rsbl.2020.0750.
4. **Reynolds, A.R.**, Seymour, K.L., and Evans, D.C. 2019. Late Pleistocene records of felids from Medicine Hat, Alberta, including the first Canadian record of the sabre-toothed cat *Smilodon fatalis*. *Canadian Journal of Earth Sciences* 56: 1052–1060. doi: 10.1139/cjes-2018-0272.
5. Seymour, K.L., **Reynolds, A.R.**, and Churcher, C.S. 2018. *Smilodon fatalis* from Talara, Peru: Sex, Age, Mass, and Histology. Book chapter in McDonald, H.G., C. Shaw, and L. Werdelin (eds.) *Smilodon: The Iconic Sabertooth*. Johns Hopkins University Press: Baltimore, MD.

CONFERENCE PRESENTATIONS

1. **Reynolds, A. R.** and Fraser, D. 2024. Body mass growth differences in Arctic and sub-Arctic wolves (*Canis lupus*). ArcticNet's Arctic Change 2024.
2. **Reynolds, A.R.** and Evans, D.C. 2024. Investigating the evolution of growth in Felidae using osteohistology. 3rd Joint Congress on Evolutionary Biology.
3. **Reynolds, A.R.** and Evans, D.C. 2024. Osteohistology accurately estimates growth in the lion (*Panthera leo*). Canadian Society of Zoologists 63rd Annual Meeting.
4. **Reynolds, A.R.** 2022. Osteohistology suggests *Smilodon fatalis* was sexually dimorphic and social. Society of Vertebrate Paleontology 82nd Annual Meeting. November 2-5, Toronto, ON, Canada. This oral presentation was selected to be part of the Romer Prize session, a competitive session in which participants are selected based on the scientific value and quality of a submitted abstract summarizing an original research project.
5. **Reynolds, A.R.** and Evans, D.C. 2022. Testing the use of bone histology for reconstructing growth in *Panthera leo*. 2022 Ecological Society of America & Canadian Society for Ecology and Evolution Joint Meeting. August 14-19, Montreal, QC, Canada. [accepted but I was unable to present due to contracting COVID-19]
6. **Reynolds, A.R.**, Lowi-Merri, T.M., Brannick, A.L., and Evans, D.C. 2020. Dire wolf identified from the late Pleistocene of Alberta using geometric morphometrics. Society of Vertebrate Paleontology 80th Annual Meeting. October 12-16, virtual.
7. **Reynolds, A.R.**, Lowi-Merri, T.M., Brannick, A.L., and Evans, D.C. 2020. Confirmation of dire wolf from Medicine Hat, Alberta using geometric morphometrics. Canadian Society of Vertebrate Palaeontology 8th Annual Conference. June 6-8, Victoria, BC, Canada.
8. **Reynolds, A.R.** and Evans, D.C. 2019. Osteohistological growth curve reconstruction in *Smilodon fatalis*. 11th North American Paleontological Convention. June 23-27, Riverside, CA, USA.

9. **Reynolds, A.R.** and Seymour, K.L. 2019. Faunal composition and turnover during the Late Pleistocene of Medicine Hat, Alberta. Canadian Society of Vertebrate Palaeontology 7th Annual Conference. May 10-13, Grande Prairie, AB, Canada.
10. **Reynolds, A.R.** 2019. Reconstructing life history in extinct mammals using osteohistology. 14th Annual Atwood Colloquium. April 12-13, Toronto, ON, Canada.
11. **Reynolds, A.R.**, Seymour, K.L., and Evans, D.C. 2018. Expanding the northern range of *Smilodon fatalis* (Carnivora, Felidae): description of the first specimen from Canada (Late Pleistocene; Medicine Hat, Alberta). Society of Vertebrate Paleontology 78th Annual Meeting. October 17-20, Albuquerque, NM, USA.
12. Lowi-Merri, T.M., Simon, D.J., **Reynolds, A.R.**, Seymour, K.L., and Evans, D.C. 2018. Taphonomic Analysis of Avifaunal Remains from the Pleistocene Tar Pits of Talara, Peru. Society of Vertebrate Paleontology 78th Annual Meeting. October 17-20, Albuquerque, NM, USA.
13. **Reynolds, A.R.**, Seymour, K.L., and Evans, D.C. 2018. Revisiting *Smilodon* (Carnivora, Felidae) material from Medicine Hat, Alberta. Canadian Society of Vertebrate Palaeontology 6th Annual Meeting. May 14-16, Ottawa, ON, Canada.
14. **Reynolds, A.R.** and Seymour, K.L. 2017. Sabre-toothed cat (*Smilodon fatalis*) subadults from Coralito, Ecuador interpreted as members of the same age cohort. Society of Vertebrate Paleontology 77th Annual Meeting. August 23-26, Calgary, AB, Canada.
15. Seymour, K.L., **Reynolds, A.R.**, and Churcher, C.S. 2017. The sabre cat *Smilodon fatalis* from Talara Peru: age, sex, mass and sociality. Society of Vertebrate Paleontology 77th Annual Meeting. August 23-26, Calgary, AB, Canada.
16. **Reynolds, A.R.** and Evans, D.C. 2016. A multi-element histological analysis of the sabre-toothed cat *Smilodon fatalis* (Carnivora: Felidae). Society of Vertebrate Paleontology 76th Annual Meeting. October 26-29, Salt Lake City, UT, USA.
17. **Reynolds, A.R.** and Evans, D.C. 2016. Long bone histology of *Smilodon fatalis* (Carnivora: Felidae) from Talara, Peru. Canadian Society of Vertebrate Palaeontology 4th Annual Meeting. May 18-21, University of Toronto Mississauga, Mississauga, ON, Canada.
18. **Reynolds, A.R.** 2016. Growth patterns of wild and captive lions (*Panthera leo*) and tigers (*Panthera tigris altaica*). Canadian Society of Zoologists 55th Annual Meeting. May 9-13, Western University, London, ON, Canada.

STUDENT SUPERVISION

Co-supervisor, Undergraduate Research Project
Department of Earth Sciences, Carleton University

Sep 2023 – Apr 2024

- Co-supervisor: Dr. Danielle Fraser
- Students: Mark Dolan (Fall 2023), Derek Wilson (Winter 2024, now an MSc student)

TEACHING EXPERIENCE

TEACHING ASSISTANT

Sep 2015 — Dec 2022

Department of Ecology and Evolutionary Biology, University of Toronto

- EEB263, Comparative Vertebrate Anatomy (Fall 2022)
- EEB322, Behavioural Ecology (Fall 2022)
- EEB390, Vertebrate Palaeontology (Winter 2018, 2019, 2020, 2021)
- BIO120, Adaptations and Biodiversity (Fall 2020)
- EEB388, Diversity of Mammals (Fall 2015, 2016, 2017, 2018)
- BIO220, From Genomes to Ecosystems (Winter 2016, 2017)

COURSE INSTRUCTOR

Fall 2020 & 2021

EEB388: Diversity of Mammals

Department of Ecology and Evolutionary Biology, University of Toronto

- Developed lecture and lab content and assessments; delivered hybrid lectures (in-classroom and via Zoom); supervised two course Teaching Assistants; led students in specimen-based labs; managed course content via Canvas; managed student questions online via Discord and in-person; graded quizzes, tests, blog assignments, and exams.
- In students' course evaluations, this course scored at or above the departmental and divisional means in all metrics and was described by one student as "the best organized and conducted course [they had] ever taken at [the University of Toronto] – the best out of 43 classes across several departments."

COURSE DEVELOPMENT TEACHING ASSISTANT

Summer 2018 & Winter 2021

**Department of Ecology and Evolutionary Biology,
University of Toronto**

- EEB390, Vertebrate Palaeontology: composed course manual to integrate lecture and lab material; developed new course content with primers on bone biology, skeletal morphology, and tree thinking; to be distributed to students in future years.
- EEB388, Diversity of Mammals: managed and reorganized teaching collection with specific focus on systematic organization.

AWARDS AND GRANTS

MITACS Accelerate Postdoctoral Fellowship

2023 — 2025

Value: \$90,000 CAD

Ontario Graduate Scholarship

2019 — 2020

Value: \$15,000 CAD

School of School of Graduate Studies Conference Grant, University of Toronto 2019
Value: \$780 CAD

North American Paleontological Convention Student Travel Grant, The Paleontological Society 2019
Value: \$350 USD

CSVP Student Travel Grant, Canadian Society of Vertebrate Palaeontology 2019
Value: \$500 CAD

Cretin-Falls Travel Grant, Dinosaur Research Institute 2018
Value: \$500 CAD

PROFESSIONAL SERVICE AND DEVELOPMENT

Science to Policy Accelerator Present
Evidence for Democracy

Member of the Commission on Education and Communication 2024 — Present
International Union for the Conservation of Nature

Member of the Small Carnivore Specialists Group, Species Survival Commission 2022 – Present
International Union for the Conservation of Nature

Peer Reviewer, Canadian Journal of Earth Sciences 2024 — 2025

Peer Reviewer, Journal of Morphology 2024

Member of the Equity, Diversity, and Inclusion Committee 2020 — 2023
Canadian Society of Vertebrate Palaeontology

Peer Reviewer, Proceedings of the Royal Society B: Biological Sciences 2023

Volunteer for the Local Organizing Committee 2022
Society of Vertebrate Paleontology 82nd Annual Meeting, November 2-5, Toronto, ON, Canada

Abstract Reviewer 2019 — 2020
Canadian Society of Vertebrate Palaeontology

Co-organizer 2018 — 2019
Palaeohistology Workshop, Royal Ontario Museum

Campus Representative for the Royal Ontario Museum 2017 — 2019
Graduate Student Association, Department of Ecology and Evolutionary Biology, University of Toronto

Organizing Committee 2016 — 2017
Palaeohistology Workshop, Royal Ontario Museum

Selection Committee, Atwood Lecturer 2015 — 2016
11th Annual Atwood Colloquium, Toronto, ON, Canada

FIELD EXPERIENCE

Field expeditions as team lead are indicated with an asterisk (*).

*** Survey of Pleistocene Faunas in Medicine Hat Area, Alberta**

Jul 2019

Leads: Ashley R. Reynolds, David C. Evans

- Survey of Pleistocene deposits in and near Medicine Hat, Alberta
- Relocation of historic quarry sites
- Prospecting for Pleistocene mammal sites

Southern Alberta Dinosaur Project

Summers 2015 — 2019

Leads: David C. Evans, Michael J. Ryan

Royal Ontario Museum Hell Creek Dinosaur Project

Jul 2018

Lead: David C. Evans

Rudabánya Field School

Jun — Jul 2012

Lead: David Begun

PUBLIC PRESENTATIONS

Dinosaurs and MOR, Museum of the Rockies	2025
Yukon Beringia Interpretive Centre	2021
Royal Tyrrell Museum	2021
Royal Ontario Museum	2019
Soapbox Science	2017
RockFest, Royal Ontario Museum	2017

POPULAR MEDIA

Opinion pieces

Why Toronto's cats belong safely indoors. Opinion, Toronto Star, July 18. 2022

Press coverage of my research

Reynolds et al. 2023 (dire wolf in AB): The Canadian Press, phys.org, blogTO	2023
Reynolds et al. 2021 (Smilodon siblings): CBC, CTV	2021
Reynolds et al. 2019 (Pleistocene cat fossils in AB): Global News, CBC, CTV, Canada's National Observer	2019

Interviewed expert

"Is this really a dire wolf? Here's how the 'de-extinct' pups compare to the real thing" by Riley Black, National Geographic 2025

"Did we really bring back the extinct dire wolves made popular in HBO's Game of Thrones? Not exactly, says Ontario expert" by Loraine Centeno, Metroland Media

"The world's first saber-toothed cat mummy has been found in Siberia" by Riley 2025

Black, National Geographic	2024
“A Mummified Saber-Toothed Kitten Emerges in Siberia” by Asher Elbein, The New York Times	2024
“The Softer Side of Sabercats” by Riley Black, Smithsonian Magazine	2021
Scientific consultant for board game Fossilis.	2020
Featured palaeontologist, Season 2, Dino Trails	2019
“Hyenas once stalked the Arctic, fossils reveal” by John Pickrell, National Geographic.	2019
“The Baddest Cat of All” by John Pickrell, Science News Magazine (titled “Saber-toothed cats were fierce and family-oriented” in the online version	2019
“Saber-Toothed Cats May Have Roared Like Lions” by John Pickrell, Scientific American	2018
“Prehistoric Cats ft. Ashley Reynolds,” Curiosity in Focus, a podcast by Daniel Kwan.	2018

SELECTED PUBLIC ENGAGEMENT

Fossil Cats of Canada, Open House	2024
Interactive table for the Canadian Museum of Nature’s annual research and collections open house, October 5, Natural Heritage Campus, Canadian Museum of Nature, Gatineau, QC, Canada.	
Purr-fect Predators: Lessons from the Feline Fossil Record	2024
Workshop coinciding with the special exhibition, Wild Cats. June 22, September 21-22, Royal Ontario Museum, Toronto, ON, Canada.	
ROMKids Virtual Family Workshops	2021
Guest expert at “Frozen in Time” workshop on Ice Age science. August 16, virtual via Royal Ontario Museum.	
Scientist Chat Virtual outreach presentation and Q&A for Let’s Talk Science.	2020
June 17, Zoom for Ryerson University’s SciXchange.	
ROM Experts present “Peep Show”	2020
Interactive table on animal reproduction. ROM After Dark: Desire. February 14, Royal Ontario Museum, Toronto, ON, Canada.	
Instructor. ROM U: Fossil Cat Workshop.	2020
February 9, Royal Ontario Museum, Toronto, ON, Canada.	
Workshop, Visions of Science Network for Learning	2019
March 23, Royal Ontario Museum, Toronto, ON, Canada. Spoke with children and volunteers from low socioeconomic communities about palaeontology.	
#HardFacts, interactive table on animal reproduction	2019
Friday Night Live: Love. February 15, Royal Ontario Museum, Toronto, ON, Canada.	
Invited scientist, Soapbox Science Toronto	2017
May 13 & September 24, Toronto, ON, Canada.	

AFFILIATIONS AND PROFESSIONAL SOCIETIES

American Society of Naturalists
Association of Zoos and Aquariums
Canadian Society of Ecology and Evolution
Canadian Society of Vertebrate Palaeontology
Canadian Society of Zoologists
International Association of Animal Behaviour Consultants
Society of Vertebrate Paleontology

LABORATORY TECHNIQUES

Osteological and dental thin section protocols
Microfossil sorting and identification
Fossil moulding and casting
Vertebrate dissection and de-fleshing
Identification of anatomical features of vertebrates

COMPUTATIONAL TECHNIQUES

Data analysis in R and bash
Microsoft Office Suite and Google Suite
Generation and management of large ecological datasets
Phylogenetic reconstruction using TNT, IQ-TREE, and MrBayes

FIELD TECHNIQUES

Management of camp and crew
Excavation of material with various tools
Specimen protection via plaster jacketing
Mapping and cataloguing of recovered material
Removal of large plaster jackets
Overburden removal with pickaxes and shovels
Bulk sampling and screen-washing
Prospecting for new fossil materials

REFERENCES

Dr. Danielle Fraser

Postdoctoral Advisor, 2023 – 2025

Head of Palaeobiology and Research Scientist, Canadian Museum of Nature
Adjunct Research Professor, Department of Biology and Department of Earth
Sciences, Carleton University

Associate, Smithsonian National Museum of Natural History

Email: dfraser@nature.ca

Dr. Jeremy T. Kerr

Postdoctoral Advisor, 2023 – 2025

Professor, Department of Biology, University of Ottawa

Email: jeremy.kerr@uottawa.ca

Dr. David C. Evans

Ph.D. Advisor, 2015 – 2023

Co-Chief Curator and Temerty Chair of Vertebrate Palaeontology, Department of Natural History, Royal Ontario Museum

Associate Professor, Department of Ecology and Evolutionary Biology, University of Toronto

Email: d.evans@utoronto.ca