

# KAIA JUULIA TOMBAK

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## EDUCATION & TRAINING

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- 2024-Present **Postdoctoral Research Associate, Ross Lynn Fellow**  
Dept. of Anthropology, Purdue University
- Supervisor: Dr. Stacy Lindshield
- 2019-2023 **Postdoctoral Researcher, Simons Society of Fellows Junior Fellow**  
Dept. of Anthropology, Hunter College of the City University of New York
- Supervisor: Dr. Jessica Rothman
- 2014-2019 **Doctor of Philosophy (Ph.D.)**  
Dept. of Ecology & Evolutionary Biology, Princeton University, Princeton, NJ, USA
- Dissertation: *The Behavioral Ecology and Host-Parasite Dynamics of the Zebras of East Africa*  
Supervisor: Dr. Daniel Rubenstein
- 2009-2011 **Master of Science (M.Sc.)**  
Dept. of Biology, McGill University, Montreal, Canada
- Thesis: *The effects of low food competition on foraging and dominance in folivorous primates*. Supervisor: Dr. Colin Chapman
- 2005-2009 **Bachelor of Science (B.Sc. Honours, major: Biology, minor: Anthropology)**  
Dept. of Biology, McGill University, Montreal, Canada
- Thesis: *Evaluating behavioural responses to human disturbance using the eastern chipmunk (*Tamias striatus*) as a model organism*. Supervisor: Dr. Donald Kramer

## RESEARCH INTERESTS

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Sexual selection; social evolution & behavioural ecology; parasitology & immunology; nutritional ecology; DNA metabarcoding & genetics; conservation biology; primatology; mammalogy

PUBLICATIONS (h-index 7, 404 citations, [Google Scholar page](#)) \*Co-first authors

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### *Manuscripts in Review – available upon request*

14. Rubenstein DI, Parham J, Crall J, Stewart C, Berger-Wolf T, Holmberg J, Low Mackey B, Funnel S, Cockerill K, Davidson Z, Mate L, Nzomo C, Warungu R, Martins D, Ontita V, Omulupi J, Weston J, Anyona G, Chege G, Kimiti D, **Tombak KJ**, Gersick AS, Rubenstein N (In Review) The State of Kenya's Grevy's Zebras: Public Pictures, Results and Consequences of the Great Grevy's Rallies of 2016 & 2018.
13. **Tombak KJ**, Bak-Coleman JB, Nonnamaker E, Parham J, Stewart CS, Warungu R, Rubenstein DI (In Revision) Darwin's hostile forces shape social scaling in equid societies.

### *Book Chapters*

12. **Tombak KJ**, Rubenstein DI (2023) How equids cope with macroparasites. In: *The Equids: A Suite of Splendid Species*. Prins HHT and Gordon IJ (Eds.) Springer Nature.

### Peer-reviewed Publications

11. **Tombak KJ**, Hex SBSW, Rubenstein DI (2024) New estimates indicate that males are not larger than females in most mammal species. *Nature Communications*.  
DOI: [10.1101/2023.02.23.529628](https://doi.org/10.1101/2023.02.23.529628)
10. **Tombak KJ\***, Gersick AS\*, Reisinger LV, Larison B, Rubenstein DI (2022) Zebras of all stripes repel biting flies at close range. *Scientific Reports* 12: 18617.  
DOI: [10.1038/s41598-022-22333-7](https://doi.org/10.1038/s41598-022-22333-7)
9. Titcomb GC, Pansu J, Hutchinson MC, **Tombak KJ**, Hansen T, Baker CCM, Kartzinel TR, Young HS, Pringle RM (2022) Large-herbivore nemabiomes: patterns of parasite diversity and sharing. *Proceedings of the Royal Society B* 289: 20212702.  
DOI: <https://doi.org/10.1098/rspb.2021.2702/>
8. **Tombak KJ**, Easterling LA, Martinez L, Seng MS, Wait LF, Rubenstein DI (2022) Divergent water requirements partition exposure risk to parasites in wild equids. *Ecology and Evolution* 12: e8693.  
DOI: <https://doi.org/10.1002/ece3.8693>
7. Hex SBSW, **Tombak KJ**, Rubenstein DI (2021) A new classification of uni-male multi-female groups based on interrelationships and fundamental principles. *Behavioral Ecology and Sociobiology* 75:  
DOI: [10.1007/s00265-021-03046-9](https://doi.org/10.1007/s00265-021-03046-9)
6. **Tombak KJ**, Kinsella JM, Pansu J, Pringle RM, Rubenstein DI (2021) The gastrointestinal nematodes of zebras: phylogenetic relationships and host specificity. *International Journal for Parasitology* 16: 228-235.  
DOI: [doi.org/10.1016/j.ijppaw.2021.10.007](https://doi.org/10.1016/j.ijppaw.2021.10.007)
5. Bak-Coleman JB, Alfano M, Barfuss W, Bergstrom CT, Centeno MA, Couzin ID, Donges JF, Galesic M, Gersick AS, Jacquet J, Kao AB, Moran R, Romanczuk P, Rubenstein DI, **Tombak KJ**, Van Bavel JJ, Weber EU (2021) Stewardship of global collective behavior. *Proceedings of the National Academy of Sciences* 118: e2025764118.  
DOI: [10.1073/pnas.2025764118](https://doi.org/10.1073/pnas.2025764118)
4. **Tombak KJ**, Budischak S, Hauck S, Martinez L, Rubenstein DI (2020) The non-invasive measurement of faecal immunoglobulin in African equids. *International Journal for Parasitology: Parasites and Wildlife* 12:105-112.  
DOI: [10.1016/j.ijppaw.2020.05.005](https://doi.org/10.1016/j.ijppaw.2020.05.005)
3. **Tombak KJ**, Wikberg EC, Rubenstein DI, Chapman CA (2019) Reciprocity and rotating social advantage among females in egalitarian primate societies. *Animal Behaviour* 157: 189-200.  
DOI: [10.1016/j.anbehav.2019.09.010](https://doi.org/10.1016/j.anbehav.2019.09.010)
2. Johnson CA, Raubenheimer D, Chapman CA, **Tombak KJ**, Reid AJ, Rothman JM (2015) Macronutrient balancing affects patch departure by guerezas (*Colobus guereza*). *American Journal of Primatology* 79:1-9.  
DOI: [10.1002/ajp.22495](https://doi.org/10.1002/ajp.22495)
1. **Tombak KJ\***, Reid AJ\*, Chapman CA, Rothman JM, Johnson CA, Reyna-Hurtado R (2012) Patch depletion behavior differs between sympatric folivorous primates. *Primates* 53:57-64.  
DOI: [10.1007/s10329-011-0274-2](https://doi.org/10.1007/s10329-011-0274-2)

### GRANTS, AWARDS, & FELLOWSHIPS (total to date: \$1,054,678 USD)

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- 2021: The Leakey Foundation Research Grant (\$25,000)
- 2021: Wenner-Gren Foundation Post PhD Research Grant (\$20,000)
- 2021: Transglobe Expedition Trust research grant (\$3,500)
- 2019-2023: The Simons Society of Fellows Junior Fellowship (Simons Foundation) (\$575,377)

- 2017: Walbridge Graduate Award (Princeton Environmental Institute) (\$5,000)
- 2017: Mary & Randall Hack Award (Princeton Environmental Institute) (\$7,000)
- 2017: PIIRS Program in African Studies Graduate Research Funding and summer research funds from African Studies Dept. (Princeton Institute for International and Regional Studies) (\$2,000)
- 2015: Women in Conservation Grant (Dept. of Ecology and Evolutionary Biology at Princeton University) (\$2,000)
- 2014-2017: NSERC Postgraduate Scholarships – Doctoral Award (\$63,000 CAD)
- 2014: Delta Upsilon Scholarship from McGill University (\$5,000 CAD)
- 2014-2019: Princeton University Centennial Fellowship (\$20,000)
- 2014-2019: Princeton University Graduate Fellowship (\$298,600)
- 2013: IDEA WILD grant (\$1,500)
- 2012: National Geographic Young Explorers Grant (\$5,000)
- 2010: NSERC Canadian Graduate Scholarships- Master's Award (\$17,500 CAD)
- 2010: Margot Marsh Biodiversity Foundation grant (\$5,000)
- 2009: NSERC Undergraduate Student Research Award (\$5,625 CAD)
- 2008: Artur and Salme Ekbaum fund scholarship (\$1,000 CAD)

## TEACHING & PEDAGOGICAL TRAINING

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### *Academic Teaching*

Mar-Apr 2023, Feb-Mar 2022, and Sept 2021: Designed and taught multi-session mini-course for **Math for America** (professional development organization for New York City public school teachers)

*Race & Evolutionary Biology: The Legacy of Misuse & Misinterpretation*

Feb. 2021: Guest lecturer, **Columbia University** Dept. of Biological Sciences

*Introductory Biology, Ecology and Evolution Module, Virtual* (designed and taught)

Nov. 2020: Guest lecturer, **Columbia University** Dept. of Biological Sciences

*Introductory Biology, Ecology and Evolution Module, Virtual*

Mar.-Apr. 2018: Assistant in Instruction, **Princeton University** Dept. of Ecol. and Evol. Biology

*African Mammals* Field Course, Laikipia, Kenya

Fall 2017: **Prison Teaching Initiative** co-instructor for Introductory Biology at a maximum security women's prison in New Jersey to inmates working towards a degree

Fall 2015: **Prison Teaching Initiative** co-instructor for Environmental Science course at maximum security men's prison in New Jersey to inmates working towards a degree.

Nov. 2015: Guest lecturer, **University of New Hampshire** *Animal Behaviour and Conservation*, Virtual

Sept. 2014: Guest lecturer, **University of New Hampshire** *Animal Behaviour and Conservation*, Virtual

Sept. 2014-Jan. 2015: Assistant in Instruction, **Princeton University** Dept. of Ecol. and Evol. Biology

*Life on Earth: Chaos and Clockwork* Introductory Biology Lab Course

Jan.- Apr. 2011: Teaching assistant, **McGill University** Department of Biology

*Behavioural Ecology and Sociobiology*

Jan.-Apr. 2010: Teaching assistant, **McGill University** Department of Biology

*Animal Diversity* Lab Course

Jan.-Apr. 2010: Teaching assistant, **McGill University** School of Environment

*Environmental Research Design*

Sept.-Dec. 2009: Teaching assistant, **McGill University** Department of Biology

*Principles of Organismal Biology* Lab Course

### Public Lectures

Spring 2019, 2020, & 2022: Guest teacher on why zebras have stripes for grade 4 class at Westmount Park Elementary School, Montreal  
Sept. 2013: Invited talk on shark project at the Ontario Ministry of Environment

### Mentoring

2022: mentored an undergraduate student through the graduate application process with the *Cientifico Latino* mentorship program, New York City  
2019-present: mentored two graduate and four undergraduate students in the Rothman lab, including one-on-one meetings and regular guidance on research proposals and conference presentations, as well as training in the lab.  
2015-2019: mentored four undergraduate thesis students, including logistics and mentorship throughout summer field seasons and in the lab, working with them on analyses, and integrating their work into manuscripts as coauthors.  
2015: mentored undergraduate student on data processing and analysis for shark project, including co-presenting the results at the 2015 Student's Conference for Conservation Science in NYC.

### PRESS

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Mar. 2024: Press on our *Nature Communications* paper on sexual size dimorphism in mammals: [New York Times](#), [Scientific American](#), [Science News](#), [BBC Science Focus](#), [Popular Science](#), [ZME Science](#), [Natural History Museum of London news](#), [La Vanguardia](#), [SINC](#), [New Scientist](#)  
The Scientific American piece was also the most upvoted post on Reddit Science and on the Reddit homepage, with >2 million views, >7,000 upvotes, and >500 comments on the day of publication.  
Dec. 2022: Article in [HorseTalk](#) on our 2022 *Scientific Reports* paper on zebra stripes:  
Nov. 2022: Article in [WIRED](#) magazine on the same study:  
Oct. 2021: [CTV News](#) 'Search for missing zebras'  
Oct. 2017: Interviewed for featured story on [mpalalive.org](#) and [explore.org](#) on zebra research.  
Nov. 2016: Radio interview with WPRB These Vibes are Too Cosmic on zebra research  
August 2016: Radio interview with [Eco Tones Podcast](#)  
Oct. 2013: Radio interview with [National Geographic Weekend](#) about experiences studying sharks.

### OTHER WORK EXPERIENCE

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Oct. 2012-Sept. 2014: Conservation Program Assistant at **Wildlife Conservation Society Canada**.

- Literature-based research, communications with social and public media, managing fellowships, and writing reports. Managing logistics for conferences and workshops (e.g., a workshop on business and biodiversity at world's largest mining convention, PDAC 2013).

Oct. 2012-2013: Principal Investigator for **National Geographic Young Explorers Grant** project.

- Investigated population dynamics of oceanic blacktip sharks in South Africa (including the effects of diving tourism in a marine protected area on shark migration).

May-Jun. 2012: Intern at **World Wildlife Fund Peru** (WWF Peru, a WWF USA branch), Lima, Peru.  
Sept. 2011-Jan. 2012: Intern at **UNEP Convention on Biological Diversity** (UNEP CBD), Montreal.  
Summer 2010: Intern at **Oceans Research Institute**, Scottburgh, South Africa.

- Conducted research on the ecology (population dynamics) of sharks in Scottburgh, South Africa. Collected group counts, sex ratios and behavioural data of groups of sharks.

Summer 2008: Research Assistant for Dr. Donald Kramer, **McGill University** Department of Biology.

- Field research on chipmunk ecology and behaviour (trapping, tagging, inserting subcutaneous PIT trackers, conducting open-field personality tests).

#### CONTRIBUTED TALKS (as presenting author)

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- ESA 2023 (Ecological Society of America), Portland OR, USA
- ABS 2023 (Animal Behavior Society), Portland OR, USA
- CSEE 2023 (Canadian Society for Ecology and Evolution), Winnipeg, Canada
- ESA/CSEE 2022, Montreal, Canada
- ABS 2022, Virtual
- ABS 2020, Virtual
- Runner-up/honorable mention in the Allee Competition for graduate student thesis presentations
- ATBC 2019 (Association for Tropical Biology and Conservation), Antananarivo, Madagascar
- QCBS 2018 (Quebec Center for Biodiversity Science), Montreal, Canada
- SCCS 2018 (Student Conference for Conservation Science), New York City, USA
- ABS 2018, Milwaukee USA
- SCCS 2017, New York City, USA
- ABS 2017, Toronto, Canada
- SCCS 2016, New York City, USA
- SCCS 2015, New York City, USA
- SCCS 2014, New York City, USA
- ABS 2014, Princeton, USA
- CSEE-CSZ-SCL 2014, Montreal, Canada
- CSZ 2011 (Canadian Society of Zoologists), Ottawa, Canada
- CSEE 2010, Québec, Canada
- SQÉBC 2010 (Société Québécoise pour l'Étude Biologique du Comportement, provincial conference), Ste.-Anne-de-Bellevue, Canada
- SQÉBC 2009, Trois-Rivières, Canada

#### SERVICE

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##### *Grant Review*

- Leakey Foundation (2 grant applications reviewed)
- National Geographic Society (12 grant applications reviewed)

##### *Conference Submission Review*

- Student Conference for Conservation Science (9 abstract submissions reviewed)

##### *Peer Review*

- Manuscripts reviewed for *Philosophical Transactions of the Royal Society B*, *African Journal of Ecology*, *Journal of Environmental Management*, *Biotropica*, *Behavioural Ecology and Sociobiology*, *Behaviour*, *BioScience*, *Tropical Ecology*, *Pathogens*, *International Journal of Ecology*, *Animal Behaviour*, *PeerJ*, and *Proceedings of the Royal Society B*

#### PROFESSIONAL AFFILIATIONS

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- Animal Behavior Society
- Canadian Society for Ecology and Evolution
- Ecological Society of America