

MATTEO RIZZUTO

Ecosystem Ecology Lab
Department of Biology
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EDUCATION

Ph.D. Candidate, *Biology*

MAY 2016-PRESENT

Memorial University of Newfoundland, St. John's, NL, Canada

- Thesis: Bottom-up or top-down? Intraspecific variability, resource quality, and space use in the Boreal Forest
- Supervisor: Dr. Shawn J. Leroux

Master of Research, *Ecology, Evolution, and Conservation*

SEPT. 2013-SEPT. 2014

Imperial College London-Silwood Park, Ascot, UK

- Graduated with Distinction
- Research Projects:
 - The Scaling of Activity Budgets in Carnivores
 - * Supervisors: Dr. Samraat Pawar and Dr. Chris Carbone
 - Comparison of two commonly used methods to estimate species diversity: dung counts and camera trapping
 - * Supervisors: Prof. Mick J. Crawley FRS and Prof. Joris P. Cromsigt

Master of Science, *Evolution of Animal and Human Behaviour*

MAR. 2009-DEC. 2012

University of Turin, Turin, Italy

- Thesis: Predator-prey interactions: feeding ecology of the Wolf (*Canis lupus*) and anti-predator behaviour of the Chamois (*Rupicapra rupicapra*) in the Western Alps
- Supervisor: Dr. Francesca Marucco

Bachelor of Science (Honours), *Biology*

OCT. 2004-MAR. 2009

University of Turin, Turin, Italy

- Thesis: Individual characteristics of vocalisations emitted during the song of *Indri indri*
- Supervisors: Prof. Cristina Giacoma and Dr. Marco Gamba

PUBLICATIONS

Note: for papers where I am first author, I led study design, data collection, analysis, and writing. For papers where I am fourth author or later, I contributed to ideas, data collection, and writing.

Peer Reviewed

- **Rizzuto, M.**, Leroux, S. J., Vander Wal, E., Wiersma, Y. F., Heckford, T. R., Balluffi-Fry, J. (2019). Patterns and potential drivers of intraspecific variability in the body C, N, and P composition of a terrestrial vertebrate, the snowshoe hare (*Lepus americanus*). *Ecology and Evolution* **9**, 14453–14464. doi: [10.1002/ece3.5880](https://doi.org/10.1002/ece3.5880)
- **Rizzuto, M.**, Carbone, C., and Pawar, S. (2018). Foraging constraints reverse the scaling of activity time in carnivores. *Nature Ecology and Evolution* **2**, 247–253. doi: [10.1038/s41559-017-0386-1](https://doi.org/10.1038/s41559-017-0386-1)

Cover story

In Progress

- Heckford, T. R., Leroux, S. J., Vander Wal, E., **Rizzuto, M.**, Balluffi-Fry, J., Richmond, I. C., Wiersma, Y. F. (2020). Foliar elemental niche responses of balsam fir (*Abies balsamea*) and white birch (*Betula papyrifera*) to differing community types across geographic scales. Submitted, *Functional Ecology*, manuscript id: FE-2020-00432.
- Balluffi-Fry, J., Leroux, S. J., Wiersma, Y. F., Heckford, T. R., **Rizzuto, M.**, Richmond, I. C., Vander Wal, E. (2020). Quantity-quality trade-offs revealed using a multiscale test of herbivore resource selection on elemental landscapes. In review, *Proceedings of the Royal Society B: Biological Sciences*, manuscript id: RSPB-2020-0527.
- Heckford, T. R., Leroux, S. J., Vander Wal, E., **Rizzuto, M.**, Balluffi-Fry, J., Richmond, I. C., Wiersma, Y. F. (2020). Does where you live influence what you're made of? Spatial correlates of chemical traits across commonly occurring boreal plants. In review, *Landscape Ecology*, manuscript id: LAND-D-20-00109.

Scientific Outreach

- Cagnacci, F., Rocca, M., Nicoloso, S., Ossi, F., Peters, W., Mancinelli, S., Valent, M., **Rizzuto, M.**, Hebblewhite, M. (2013). *Il progetto 2C2T*. Il Cacciatore Trentino, 93, 4–15.

CONFERENCE
PRESENTATIONS

- **Rizzuto, M.**, Leroux, S. J., Vander Wal, E., Wiersma, Y., Heckford, T. R., Balluffi-Fry, J. *Ontogeny and Ecological Stoichiometry of Snowshoe hares (*Lepus americanus*) in the Boreal Forests of Newfoundland*. Canadian Society for Ecology and Evolution Annual General Meeting, Guelph, ON, Canada. 18–21 JUL. 2018
- **Rizzuto, M.**, Carbone, C., and Pawar, S. *Bio-mechanical constraints on foraging reverse the scaling of activity rate among carnivores*. Canadian Society for Ecology and Evolution Annual General Meeting, St. John's, NL, Canada. 7–11 JUL. 2016

Posters

- **Rizzuto, M.**, Leroux, S. J., Vander Wal, E., Wiersma, Y., Heckford, T. R., Balluffi-Fry, J. *Beyond Diffusion: Animal-Mediated Nutrient Transport at Different Spatial Scales*. "Unifying Ecology Across Scales" Gordon Research Seminar and Conference, Biddeford, ME, USA. 21–27 JUL. 2018

HONORS &
AWARDS

- First Place, H5P Maker Session, Centre for Innovation in Teaching and Learning, Memorial University of Newfoundland 2019
Awarded to the best HTML5 interactive learning object created during the session
- Mitacs Globalink Research Award, Mitacs Canada 2018
Awarded to senior graduate students to conduct research abroad
- Dean's Doctoral Award, Memorial University of Newfoundland 2016–2018
Awarded to Ph.D. students based on academic excellence and research potential
- Graduated with Distinction, Imperial College London 2014
Awarded to the top 5% of all Master's students in the 2013-2014 cohort
- Erasmus-LLP Scholarship, University of Turin 2010

Awarded to participants in the European Union's Erasmus student exchange program

RESEARCH
EXPERIENCE

Visiting Assistant in Research, Schmitz Lab

FEB.-APR. 2019

School of Forestry and Environmental Sciences, Yale University, New Haven, CT

- Collaboration with Dr. Oswald Schmitz to develop a mathematical model describing animal-mediated nutrient transport across ecosystem boundaries
- Reviewed metaecosystem, metapopulation, and animal movement literature
- Performed simulations of ecosystem persistence over time under different animal movement and nutrient transport scenarios

Research Assistant, Pawar Lab

JAN.-MAR. 2016

Imperial College London-Silwood Park, Ascot, UK

- Digitized data from terrestrial plant thermal response from published studies
- Assisted with database management and data cleanup, as well as formation of new team members

Research Assistant, Tsaobis Baboon Project

JUN.-OCT. 2015

Zoological Society of London, London, UK

- Three months placement, part of a long term research project on the ecology of the Chacma baboon (*P. ursinus*), in the Tsaobis Leopard Nature Park (Namibia)
- Assisted with collection of behavioural data and faecal samples from two troops of habituated baboons, as well as with plant phenology surveys in the Tsaobis riverbed and nearby hills

Research Assistant, Roe & Red deer in Trentino & Technology Project

JUN.-SEPT. 2013

Trento, Italy

- Studied the migratory behaviour of roe deer (*C. capreolus*) using radio-tracking techniques (GPS, VHF), plant phenology surveys and pellet decay rate analyses
- Intensive fieldwork in a physically demanding environment, under harsh weather conditions

Graduate Intern, Piedmont Wolf Project

JUN.-DEC. 2011

Maritime Alps Nature Park, Entraque (CN), Italy

- Designed and performed a study of the predator-prey interactions of wolves (*C. lupus*) and chamois (*R. rupicapra*) in the Maritime Alps Natural Park
- Managed all aspects of the project, from behavioural sampling to prey identification by hair analysis to scat specimen preparation for genetic analyses

Undergraduate Intern, Ethology Lab

JUN. 2008-MAR. 2009

University of Turin, Turin, Italy

- Bioacoustics study of the Indri lemur, testing for potential identification of lemurs from individuals' contributions to the family group song

TEACHING
EXPERIENCE

Guest Lecturer, Department of Biology

Memorial University of Newfoundland, St. John's, NL, Canada

Models in Biology

WINTER 2020

- Lecture: Classical Models in Ecology
- Lecture: Models of Species Interactions
- Lecture: Meta-ecology Models

Graduate Teaching Assistant, *Department of Biology*

Memorial University of Newfoundland, St. John's, NL, Canada

Principles of Ecology

FALL 2018

- Organized and run supporting activities for the course
- Managed the online learning section of the course, developing weekly new content introducing students to preeminent ecologists
- Provided administrative and academic support to students
- Marked midterms and final exams

Principles of Biology

WINTER 2017

- Demonstrator during practical laboratories
- Invigilated midterm and final exams
- Marked weekly lab reports

Undergraduate Teaching Assistant, *Department of Life Sciences*

Imperial College London, London, UK

Ecology

SPRING 2015

- Demonstrator for the course's field trip to Silwood Park Campus
- Helped students collect data and plan analyses for their final project

Behavioral Ecology

WINTER 2015

- Demonstrator for the course's practical laboratories
- Assisted in laboratory setup for weekly practicals
- Helped student setup and run analyses on data collected during the practicals

Introduction to Biological Statistics

FALL 2014

- Demonstrator during the course's lectures
- Helped students learn basic and advanced R language
- Facilitated Q&A sessions ahead of final exams

Graduate Teaching Assistant, *Department of Life Sciences*

Imperial College London-Silwood Park, Ascot, UK

Statistics

FALL 2014

- Demonstrator during laboratory practicals
- Assisted students with R scripting and in developing statistical analyses

Macroecology and Climate Change

FALL 2014

- Demonstrator for practical lectures
- Assisted students in using the species distribution software Maxent

PROFESSIONAL
DEVELOPMENT

Courses

- **Becoming a More Equitable Educator: Mindsets and Practices,**
MIT Teaching Systems Lab, edX.org

PRESENT

- **Teaching Skills Enhancement Program,** PRESENT
Centre for Innovation in Teaching and Learning
Memorial University of Newfoundland, St. John's, NL, Canada

Workshops

- **H5P Maker Session,** 24 OCT. 2019
Centre for Innovation in Teaching and Learning
Memorial University of Newfoundland, St. John's, NL, Canada
- **Community of Inquiry Coffee Break: Open Access,** 23 OCT. 2019
Centre for Innovation in Teaching and Learning
Memorial University of Newfoundland, St. John's, NL, Canada
- **Open Access and Scholarly Publishing,** 22 OCT. 2019
Centre for Innovation in Teaching and Learning
Memorial University of Newfoundland, St. John's, NL, Canada
- **Four Things to Consider for Graduate Student Teaching,** 8 NOV. 2018
Enhanced Development of the Graduate Experience
Memorial University of Newfoundland, St. John's, NL, Canada
- **AARMS CRG Software Carpentry Workshop,** 27 MAY 2017
The Carpentries
Memorial University of Newfoundland, St. John's, NL, Canada

VOLUNTEER EXPERIENCE

Communications Officer, Biology Graduate Student Association MAY 2019-PRESENT
Memorial University of Newfoundland, St. John's, NL, Canada

- Managed the Association's weekly newsletter, website, and all of its social media presence

Chair, Biology Graduate Student Association MAY 2018-APR. 2019
Memorial University of Newfoundland, St. John's, NL, Canada

- Developed, funded, and run "The Balanced Student: stress and work management for graduate students", a workshop series dedicated to graduate students mental health and wellness
- Hosted a Student-Supervisor Relationship workshop during the Graduate Core Seminar course for new graduate students
- Coordinated the activities of the Executive Committee, focusing on fundraising and community outreach

Seminar Coordinator, Biology Graduate Student Association MAY 2017-APR. 2018
Memorial University of Newfoundland, St. John's, NL, Canada

- Organized and run the weekly Seminar series for the Department of Biology, in a team of three coordinators
- Helped in organizing the annual Symposium showcasing the research produced by the Department's graduate students
- Contributed to the Association's fundraising and outreach activities

Youth Educator, OASI-Operazione Mato Grosso MAY 2000-AUG. 2013
Turin, Italy

- Volunteer work with children and teenagers in primary, secondary and high school, in Turin, Italy, and at the Hospital São Julião in Campogrande, MS, Brazil

Team Leader, *XX Winter Olympic and IX Paralympic Games* NOV. 2005-MAR. 2006
Turin, Italy

- Organized and supervised daily activities of a team of 10 volunteers in the Protocol Crew, International Relations and Services
- Provided initial containment of emergencies, customer assistance and ensured my team's welfare

PROFESSIONAL AFFILIATIONS Canadian Society of Ecology and Evolution 2016–2019

CONFERENCES ATTENDED - “*Unifying Ecology Across Scales*” 21–27 JUL. 2018
Gordon Research Seminar and Conference

Biddeford, ME, USA

- *Canadian Society for Ecology and Evolution Annual General Meeting* 18–21 JUL. 2018
Guelph, ON, Canada

- *Canadian Society for Ecology and Evolution Annual General Meeting* 7–11 JUL. 2016
St. John's, NL, Canada

- *From Energetics to Macro Ecology: Carnivore Responses to Environmental Change* 14–15 NOV. 2013
Zoological Society of London, London, UK

- *Euroscience Open Forum* 2–7 JUL. 2010
Turin, Italy

- *XIX Congress of the Italian Primatological Society* 1–3 APR. 2009
Asti, Italy

SOFTWARE PROFICIENCY R, RStudio, Mathematica, L^AT_EX, Markdown, Git, Unix shell, Atom, Inkscape, Quantum GIS, ArcGIS, Python (basic knowledge)

CERTIFICATES - Wilderness and Remote First Aid MAY 2016–2019
Canadian Red Cross, St. John's, NL, Canada

- WHMIS and Lab Safety JAN. 2017
Memorial University of Newfoundland, St. John's, NL, Canada

- Basic Outdoor First Aid APR. 2014
Marlin Training Ltd., London, UK

- International English Language Testing System, grade 8.5 FEB. 2013
British Council, Turin, Italy

- International Computer Driving Licence MAY 2007
University of Turin, Turin, Italy

INTERESTS Backpacking, Hiking, Photography, Yoga, T'ai Chi Quan, Shaolin Kung Fu