

## Rita Grunberg (she/her), Ph.D.

Postdoctoral researcher, UNC- Chapel Hill  
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### EDUCATION

**Rutgers University**, New Brunswick, NJ 2019  
Ph.D. Ecology and Evolution  
Dissertation: The effects of space and energy on parasite communities  
Advisor: Dr. Peter J. Morin

**Rutgers University**, New Brunswick, NJ 2013  
B.S. Ecology, Evolution and Natural Resources

### SKILLS

- Statistical Analyses: skilled at univariate, multivariate statistics, mixed models, generalized linear models, survival analyses, non-parametric tests
- Programming: Proficient in SAS, Familiar with SQL, and expert in R programming languages, with the ability to learn new programming languages and tools as needed.
- Scientific communication: manuscripts, presentations, and research grants
- Office Software: Excel, PowerPoint, Slack, Teams, Zoom

### EXPERIENCE

**Postdoctoral Researcher**, University of North Carolina 2019-current

- Conducted statistical analysis and programming using R, following project goals.
- Responsible for project management including experimental design, formal analysis, software programming, visualization, data management/cleaning, and writing of manuscripts for peer review.
- Collaborated with cross-functional project teams, including principal investigators and graduate students, to provide statistical support for research projects.

**Visiting Lecturer**, University of North Carolina Aug-Dec 2022

- Self-developed, planned, and delivered course lecture materials, and assignments.
- Taught basic R programming, statistical analyses, experimental design, and hypothesis testing to students.

**Education Committee**, American Society of Parasitologists 2018-2020

- Developed plans to collect and disseminate teaching materials across universities.

**Graduate Fellow**, Rutgers Academy of Scholarship for Teaching and Learning 2015-2019

- Participated in group meetings to discuss solutions and problems in higher education.

**Graduate Student Researcher**, Rutgers University 2015-2018

- Programming and data analysis in SAS and R.
- Conducted and designed independent research projects from conceptualization of study design, data management, to publication of manuscripts.
- Wrote grants and developed budgets for research projects.
- Mentored and provided support to junior researchers.

## **PUBLICATIONS**

1. **Grunberg, R. L.** M. Bratt, and D. I. Bolnick (accepted) *Invited submission*. Elemental content of a host-parasite relationship in the threespine stickleback. *Oecologia*.
2. **Grunberg, R. L.**, B. N. Joyner, and C. E. Mitchell. (2023) Historical contingency in parasite community assembly: Community divergence results from early host exposure to symbionts and ecological drift. *PLoS ONE* 18(5): e0285129. <https://doi.org/10.1371/journal.pone.0285129>
3. Faillace, C., **R. L. Grunberg**, and P. J. Morin (2022) Historical contingency and the role of post-invasion evolution in alternative community states. *Ecology* 103: e3711 <https://doi.org/10.1002/ecy.3711>
4. **Grunberg, R. L.** and D. M. Anderson (2022). Host energetics explain variation in parasite productivity across hosts and ecosystems. *The American Naturalist* 199: 266-276. <https://doi.org/10.1086/717430>
5. **Grunberg, R. L.** (2021). Spatial and seasonal variation in host community structure is weakly concordant with patterns of parasite community composition. *Freshwater Biology* 66: 303– 316. <https://doi.org/10.1111/fwb.13639>
6. **Grunberg, R. L.**, C.J. Brianik, J. Lovy and M.V.K. Sukhdeo (2019). Divergence in Alewife *Alosa pseudoharengus* (Actinopterygii, Clupeidae) life history alters parasite communities. *Hydrobiologia* 826: 307-318. <https://doi.org/10.1007/s10750-018-3743-4>
7. Paseka, R. E. and **R. L. Grunberg** (2019). Allometric and trait-based patterns in parasite stoichiometry. *Oikos* 128: 102-112. <https://doi.org/10.1111/oik.05339>
8. **Grunberg, R. L.** and M. V. K. Sukhdeo (2017). Temporal community structure in two gregarines (*Rotundula gammari* and *Heliospora longissima*) co-infecting the amphipod *Gammarus fasciatus*. *The Journal of Parasitology* 103: 6–13. <https://doi.org/10.1645/16-47>

Manuscripts in review (pre-prints below, advanced copies available upon request)

- **Grunberg, R. L.**, F. W. Halliday, R. W. Heckman, B. N. Joyner, K. R. O’Keeffe and C. E. Mitchell (in review, PLOS ONE) Disease decreases variation in community structure in an old field grassland. <https://doi.org/10.1101/2022.08.15.503989>

## **FELLOWSHIPS AND AWARDS**

### **Fellowships and Grants**

- National Science Foundation Graduate Research Fellowship, 2015-2018
- Charlie Kontos Memorial Graduate Student Grant, Spring 2016 (\$1,500)
- Rutgers Professional Development Grant, Summer 2015 (\$3,567)

### **Awards**

- Category winner poster presentation ‘Ecology and Evolution of Infectious Disease meeting.’ June 13th, 2019
- Best ecology presentation ‘Columbia-Rutgers-Princeton-Penn-Yale Symposium’ April 4, 2019
- Stirewalt-Lincicome Award for Outstanding Student Presentation Helminthological Society (1<sup>st</sup> place), Spring 2016

- Marc Dresden American Society of Parasitologists Travel Award, 2014, 2015, 2016, 2017, 2018, 2019
- Rutgers Graduate School Conference Travel Award, 2015
- Ecology and Evolution Graduate Program Travel Award, 2014
- James Applegate Outstand Student in Wildlife Conservation, 2013
- School of Environmental and Biological Sciences Leadership Award, 2013

## **TEACHING**

### **Courses taught as instructor on record**

- ‘Parasitology’ Lecture instructor, University of North Carolina, Fall 2022
  - 48 students enrolled
- ‘Parasitology’ Lab instructor, University of North Carolina, Fall 2022
  - 24 students enrolled per section | 2 lab sections

### **Courses taught as a teaching assistant**

- “Principles of Ecology” Lab TA, Rutgers University, Spring 2019
- “Invertebrate Zoology” Lab TA, Rutgers University, Fall 2018
- “Pets and Parasites” First year seminar, Rutgers University, Fall 2013-2018
- “Introduction to Ecology and Evolution” Immersive synchronous TA, Rutgers University, Spring 2017
- “Limnology” Lab Tab TA, Rutgers University, Spring 2015
- “Parasite Ecology” Lab TA, Rutgers University, Fall 2014
- “General Biology II” Workshop Instructor, Rutgers University, Spring 2014
- “Principles of Biology” Lab TA, Rutgers University, Fall 2013

### **Guest Lectures**

- Disease Ecology and Evolution, University of North Carolina  
2023, 2022, 2020: Macroparasite models  
2023, 2022, 2020: Macroparasite diversity and life history
- Parasite Ecology, Rutgers University  
2014: Quantifying parasite infections within host populations  
2016: Parasite communities: patterns and processes  
2017: Macroecology of parasitic diseases
- Limnology, Rutgers University  
2015: Diseases in freshwater ecosystems

## **MENTORING**

### **WinSPIRE Program: UNC Summer 2022**

- Co-mentored a high school student during a 6-week program to help guide them through an independent research project.
- Participated in mentorship workshops and developed a summer lesson plan

### ***Undergraduate Independent Research***

- Natalie Harper: UNC, Spring 2023

- Evan Morgan: UNC, Spring 2023
- Natalie Yehle: UNC, Fall 2021 – Spring 2022
- Elise McKean: Rutgers University, Fall 2017 – Spring 2019
- Maxwell Nausbaum: Rutgers University, Spring 2017 – Spring 2018
- Lauren Petrone: Rutgers University, Summer 2016 – Spring 2017
- Samantha Fagundez: Rutgers University, Spring 2016 – Summer 2018
- Jaclyn Bird: Rutgers University, Summer 2015 – Spring 2017
- Chris Brianik: Rutgers University, Summer 2014 – Summer 2017

#### *Field and Lab assistants*

- Michael Batkiw: Rutgers University, Spring 2017 – Spring 2018
- Jordan Gyurcsak: Rutgers University, Fall 2016 – Spring 2018
- Mason Hermann: Rutgers University, Fall 2016
- Daria Kaminskyj: Rutgers University, Fall 2015

### **OUTREACH**

- American Society of Parasitologists, Parasite Week Skype a Scientist. Mar 4-5th, 2020
- Fish and insect team leader, Aquatic walk at Ernie Oros Preserve. June 22<sup>nd</sup>, 2019
- Scientific illustration demonstration, Bear Tavern STEAM Fair. April 12<sup>th</sup>, 2019
- Parasites in food webs, EcoGSA outreach table: Rutgers Day. Apr. 28, 2018.
- Aquatic biodiversity team leader, Woodbridge township bioblitz. June 2-3, 2017
- Parasitology Workshop, 4H Junior Breeder Symposium. March 2015
- Samsung STEM Discoverer Session, Rutgers University. July 2014
- Rutgers Science 4-H Day, Rutgers University. February 2014

### **SERVICE**

- Panelist: UNC Biology Graduate Student Association Writing Workshop, Feb. 2023
- Judge: UNC Biology Undergraduate Research Symposium, Oct 2022.
- Judge: Rutgers ARESTY Undergraduate Research Symposium, May 2016 - 2018
- Panelist: Exploring graduate school, March 2017
- Instructor: Preparing and grading practical exams, November 2016
- Panelist: Graduate and Medical School Ready Program, October 2015
- Assistant: Rutgers Graduate School TA Orientation, August 2014-2018
- Assistant: Rutgers Graduate School New Student Orientation, August 2014-2019
- Assistant: Rutgers Graduate School Convocation, May 2014-2019
- Reviewer: Evolution, Proceedings B, Current Biology, The American Naturalist, Journal of Ecology, Methods in Ecology and Evolution, Journal of Natural History, Biological Invasions, Comparative Parasitology, Diseases of Aquatic Organisms, Ecology and Evolution, Journal of Parasitology, Revista Chilena de Historia Natural

### **PRESENTATIONS** (\* denotes mentees)

## INVITED SEMINARS

1. **Grunberg, R. L.** From host to coast: parasite ecology across scales. Duke Ecology Seminar Series. Dec 13<sup>th</sup>, 2022.

## CONTRIBUTED PRESENTATIONS

2. Morgan, E.\*, N. Harper\*, **R. L. Grunberg**, E. Green, and C. E. Mitchell. Is the grass always greener on the other side: interactions between disease spread and nutrient supply in tall fescue. Helminthological Society of Washington. Edgewater, MD. April 29<sup>th</sup> 2023.
  - Winner best undergraduate presentation
3. **Grunberg, R. L.**, F. W. Halliday, K. R. O’Keeffe, B. N. Joyner, and C. E. Mitchell. Between year variation in parasite community assembly within a host population is driven by climate. Evolutionary Ecology of Infectious Disease. Atlanta Georgia. June 8<sup>th</sup>, 2022. (*poster*)
4. **Grunberg, R. L.**, B. N. Joyner, and C. E. Mitchell. Infection history alters the trajectory of parasite community assembly. American Society of Naturalists Virtual Asilomar Meeting. Jan 10<sup>th</sup>, 2021.
5. **Grunberg, R. L.** and D. Anderson. The scaling of the energetic cost of parasitism from hosts to ecosystems. Evolutionary Ecology of Infectious Disease. Princeton, NJ. June 13<sup>th</sup> 2019.
  - Winner best poster presentation
6. **Grunberg, R. L.** The scaling of the energetic cost of parasitism from hosts to ecosystems. Columbia-Rutgers-Princeton-Penn-Yale Symposium. Princeton, NJ. April 4, 2019.
  - Winner best ecology presentation
7. **Grunberg, R. L.** Allometric patterns in parasite ecology: Are they repeatable across scales? Ecological Society of America. New Orleans, LA. August 7, 2018.
8. **Grunberg, R. L.** and R. E. Paseka. A unified approach to size-density relationships in parasite ecology. Gordon Research Conference: Unifying Ecology Across Scales. Biddleford, Maine July 25, 2018. (*poster*)
9. **Grunberg, R. L.** Allometric patterns in parasite ecology: Are they repeatable across scales? American Society of Parasitologists. Cancun, Mexico. June 24, 2018.
10. \*Fagundez, S., **R. L. Grunberg**, and M. V. K. Sukhdeo. Cercarial productivity in the North Branch of the Raritan River. Mid-Atlantic Ecological Society of America. Rutgers University: Newark, NJ. April 7, 2018. (*poster*, [winner best undergraduate presentation](#))
  - Winner best undergraduate presentation
11. \*McKean, E., **R. L. Grunberg**, and M. V. K. Sukhdeo. Parasite Communities of *Fundulus diaphanus* in River and Lake Ecosystems in New Jersey. Mid-Atlantic Ecological Society of America. Rutgers University: Newark, NJ. April 7, 2018. (*poster*)
12. \*Nausbaum, M., **R. L. Grunberg**, and M. V. K. Sukhdeo. Seasonal Prevalence of *Plagiorhynchus cylindraceus* in Three Isopod Hosts. Mid-Atlantic Ecological Society of America. Rutgers University: Newark, NJ. April 7, 2018. (*poster*)
13. Paseka, R. E. and **R. L. Grunberg**. Parasite stoichiometry follows functional and phylogenetic patterns. Ecological Society of America. Portland, OR. August 8, 2017.

14. **Grunberg, R. L.** Size scaling in macroparasites. British Ecological Society, Macroecology Meeting. London, U.K. July 6, 2017.
15. \*Brianik, C. J., **R. L. Grunberg**, and M. V. K. Sukhdeo. Parasite and host community structure along two riverine ecosystems. American Society of Parasitologists. San Antonio, TX. June 31, 2017. (*poster*)
16. **Grunberg, R. L.** and M. V. K. Sukhdeo. Parasitic strategies influence host-parasite scaling relationships. American Society of Parasitologists. San Antonio, TX. June 30, 2017.
17. \*Brianik, C. J., **R. L. Grunberg**, and M. V. K. Sukhdeo. Parasite and host community structure along two riverine ecosystems. Helminthological Society of Washington. Salisbury University: Salisbury, MD. April 9, 2017.
18. \*Fagundez, S., **R. L. Grunberg**, and M. V. K. Sukhdeo. Cercariae productivity in the North Branch of the Raritan River. Helminthological Society of Washington. Salisbury University: Salisbury, MD. April 9, 2017. (*poster*)
19. \*Brianik, C. J., **R. L. Grunberg**, and J. Lovy. Macroparasite communities in anadromous and landlocked River Herring (*Alosa pseudoharengus*) in New Jersey. American Society of Parasitologists. Alberta, Canada. July 14, 2016 (*poster*)
20. **Grunberg, R. L.** and M. V. K. Sukhdeo. Patterns in Parasite Infrapopulation Energy Usage. American Society of Parasitologists. Edmonton, Alberta, Canada. July 13, 2016.
21. **Grunberg, R. L.** and M. V. K. Sukhdeo. Parasites Deviate from the Energetic Equivalence Rule. Helminthological Society of Washington. George Washington University: Washington, D.C. Apr. 23, 2016
  - Winner best presentation
22. **Grunberg, R. L.** and M. V. K. Sukhdeo. Temporal host partitioning in gregarines (*Heliospora* sp. and *Rotundula* sp.) infecting amphipods (*Gammarus fasciatus*) in the Raritan River. American Society of Parasitologists. Omaha, NE. June 27, 2015
23. **Grunberg, R. L.** and M. V. K. Sukhdeo. Starved Amphipods live longer when infected with larval Acanthocephalans. American Society of Parasitologists. New Orleans, LA. July 26, 2014
24. **Grunberg, R. L.** and M. V. K. Sukhdeo. Seasonality of Gregarine (Eurgregarionorida) Infections of Amphipods (*Gammarus*) in the North Branch of the Raritan River. American Society of Parasitologists. Quebec, Canada. June 29, 2013