



JENNIFER M. COCCIARDI

Curriculum Vitae (updated Oct 2022)

✉ jenny.cocciardi@my.jcu.edu.au

🌐 jennifercocciardi.com

🐦 @JennyCocciardi

EDUCATION

- Doctor of Philosophy (PhD):** Ecology and Evolutionary Biology 2021
James Cook University, College of Science and Engineering, Townsville, QLD
Thesis Title: Adaptation under climate change.
Advisors: Dr Megan Higgie, Dr Conrad J. Hoskin
- Certification of Professional Achievement:** Ecology, Evolution, and Environmental Biology 2014
Columbia University, College of Continuing Education, New York, New York
- Bachelor of Arts (BA):** Environmental Studies, with University Honors 2012
New York University, College of Arts and Sciences, New York, New York
Minor: Environmental Biology

PROFESSIONAL APPOINTMENTS

- Postdoctoral Fellow:** Department of Earth and Planetary Sciences 2021–present
Johns Hopkins University
Advisor: Dr Meghan Avolio

FELLOWSHIPS

- 2016–2020 **Postgraduate Research Scholarship**, James Cook University: competitive scholarship recognizing academic excellence and research promise, \$52,000 USD/yr (\$208,000 total)
- 2019 **Graduate Education Scholarship**, American Australian Association: competitive fellowship recognizing innovative research and the next generation of young leaders, \$13,000 USD

RESEARCH GRANTS AND AWARDS

- 2018, 2019 **Competitive Funding Grant Scheme**, James Cook University, \$4000 USD
- 2018 **Competitive Travel Award**, James Cook University, \$800 USD
- 2018 **Cassowary Award**, Wet Tropics Management Authority, \$2000 USD
- 2017 **Wiley Blackwell Fundamental Ecology Award**, Ecological Society of Australia, \$4000 USD
- 2017 **Graduate Student Research Award**, American Society of Naturalists, \$2000 USD
- 2012 **Founders Day Award**, New York University
- 2012 **First Place** in Dean's Undergraduate Research Conference, New York University
- 2008–2012 **Honors Scholar**, New York University
- 2011 **Research Experience for Undergraduates**, National Science Foundation, \$4600 USD, with lodging and meals included
- 2009–2010 **Dean's Circle Award**, Sophomore Honors Society, New York University, Included all-expenses-paid *research* trip to Berlin, Germany

PUBLICATIONS

Cocciardi JM, Hoskin CJ, O'Brien E, and Higgie M. 2022. Surviving a heatwave does not future-proof populations for the next heatwave. *In review at Nature Ecology and Evolution*.

Cocciardi JM, Hoskin CJ, and Higgie M. 2022. Testing the thermal coadaptation hypothesis: linking oviposition temperature preference to fitness in a generalist and specialist *Drosophila* species. *In review at Ecology*.

Cocciardi JM, O'Brien E, Hoskin CJ, Stoetzel H, and Higgie M. 2021. The predictive potential of key adaptation parameters and proxy fitness traits between benign and stressful thermal environments. bioRxiv 2021.04.29.441345. *In review at Journal of Evolutionary Biology*.

Cocciardi JM, Hoskin CJ, Morris W, Warburton R, Edwards L, and Higgie M. 2019. Adjustable temperature array for characterizing ecological and evolutionary effects on thermal physiology. *Methods in Ecology and Evolution* **10**: 8, 1339–1346.

In preparation:

Cocciardi JM, Hoffman AM, Waananen A, Des Marais DL, Moeller D, Gamba D, Alvarado-Serrano D, Boehm E, Kottler E, Bradburd G, Branch H, Borokini I, Cavender-Bares J, Lau J, Anderson J, Jaros J, Toll K, Whitney K, Bolin L, Brudvig L, Ungerer M, Vahsen M, Blumstein M, Smith M, Howard M, Menon M, Hanan NP, Kooyers N, Shaw R, Sheth S, Wadgymar S, Mozdzer T, Juenger T, Chen Y, Avolio ML. 2023. The value of long-term ecological research for evolutionary insights. *Invitation to submit to Trends in Ecology and Evolution*.

Cocciardi JM, Hoskin CJ, and Higgin M. 2023. Can interspecific competition drive rapid evolution of the thermal niche? A test using experimental evolution. *In preparation* for submission to *Ecology Letters*.

RESEARCH MENTORING AND SUPERVISION

- 2019 Advisor for undergraduate Minor Project and Seminar
Project title: "Effect of environmental variance on heritability of fitness traits."
James Cook University, College of Science and Engineering, Townsville, QLD
- 2017 Teaching and grading assistant
Courses: Wildlife ecology and management; 2nd- and 3rd-year level
James Cook University, College of Science and Engineering, Townsville, QLD
- 2016 Advisor for undergraduate Minor Project and Seminar
Project title: "Intraspecific competition stabilizes niche in experimental *Drosophila* populations."
James Cook University, College of Science and Engineering, Townsville, QLD

Continuing education on teaching:

- 2022 Johns Hopkins Teaching Institute, The Teaching Academy

CONFERENCES AND WORKING GROUPS

Working Groups and Workshop Organization

- Sept 2022 Organized workshop at the 'Long-term Ecological Research Network's All-Scientist' meeting: 'Integrating evolutionary processes into the LTER framework'. Asilomar, CA.
- Aug 2022 Invited participant in week-long working group in Urban Ecological and Evolutionary Biology. Sevilleta Long-term Ecological Research Site, New Mexico.
- May 2022 Organized and lead NSF-funded, week-long working group focused on exploring the role of evolutionary processes at Long-Term Ecological Research Sites (LTERs). Sevilleta Long-term Ecological Research Site, New Mexico.

Invited talks

- Nov 2018 "Do heatwaves cause maladaptation? A case study using rainforest *Drosophila*." 2017 Wiley Blackwell Fundamental Ecology Award Speaker. Conference of the Ecological Society of Australia. Brisbane, QLD. November 2018.

Submitted talks and posters

- May 2022 "Novel competition causes rapid adaptation of the thermal niche". Evolution and Long-term Ecology Working Group. Sevilleta, New Mexico, USA.
- Jun 2019 "Does surviving heatwaves future-proof populations?" Evolution 2019. Providence, Rhode Island, USA.
- Aug 2018 "What are the fundamental and preference niches of a rainforest generalist versus specialist?" Second Joint Conference on Evolutionary Biology. Montpellier, France.
- April 2012 "The Effects of Non-native Species Introduction on Benthic Macroinvertebrate Communities." New Jersey Academy of Science Conference. South Orange, New Jersey, USA.
- April 2012 "The Effects of Salinity Variance on the Invasive Species, Eurasian Watermilfoil (*Myriophyllum spicatum*)". Deans Undergraduate Research Conference. New York University. New York, New York, USA.

RESEARCH EXPERIENCE

- 2021–present Postdoctoral Researcher, Johns Hopkins University
Urban genomics and evolution: Primary research focuses on the population genetics and parallel evolution of various weed species across five United States cities. Duties also include organizing and leading a week-long NSF-funded workshop focused on leveraging long-term ecological data for evolutionary research.
- 2016–2021 Graduate Student Researcher, James Cook University
Tropical ecology and evolution: Thesis research investigated the effects of gradual and sudden climate-change on adaptation of the thermal niche in two sister-species of tropical *Drosophila*. Research included examining how interspecific competition, temperature preference, and thermal tolerances affect adaptation under climate change.
- 2016–2018 *Drosophila* laboratory research technician, James Cook University
Tropical ecology and evolution: Assisted with collaborative research projects investigating how biotic interactions affect sexual character displacement and community structure in rainforest *Drosophila*.
- 2015 Vertebrate laboratory research technician, James Cook University
Wildlife disease ecology: Assisted with experiments that examined the effects of varying temperature regimes on the amphibian chytrid fungus (*Batrachochytrium dendrobatidis*).
- 2014 Student Researcher, Columbia University, *Academic Advisor:* Dr Marina Cords
Animal behavior: Examined hand preference in gap-crossing and feeding behaviors of captive Japanese macaques.
- 2014 Student Researcher, Columbia University, *Academic Advisor:* Dr Francine Kershaw
Molecular ecology: Researched the molecular genetics of multiple populations of fruit bat in the south Pacific. Mined data from *Genbank* and aligned and analyzed in *MEGA* and various population genetic packages in *R*.
- 2012–2014 Ecological Scientist II, Langan Engineering and Environmental Services, Inc.
Ecotoxicology: Performed species surveys, field data collection data analysis, and food chain transfer modeling of site-related contaminants in species of concern. Prepared Ecological Evaluation reports for governmental review.
- 2012 Student researcher for *The Welikia Project*, Wildlife Conservation Society
Academic Advisor: Dr Eric Sanderson
Landscape ecology: Researched the landscape ecology of Manhattan's outer boroughs and created historical geography datasets to expand on *The Manahatta Project*.
- 2011 REU Recipient, National Science Foundation, New Jersey School of Conservation
Forest Lake Ecology
- 2011 Research technician, WildMetro Environmental Organization Intern
Urban ecology: Completed small mammal population surveys in New York City Parks.
- 2009 Ecological Laboratory Technician, PA Department of Environmental Protection Laboratory
Wildlife disease ecology: Collected and identified mosquito and black fly specimens to the species level to identify vectors of West Nile Virus and subsequently test for the presence of the virus.

SERVICE

Manuscript reviewer for *Global Ecology and Biogeography*, *Austral Ecology*

Scholarship/grant reviewer for *American Australian Association*

Member of *American Society of Naturalists*, *Ecological Society of Australia*, *Society for the Study of Evolution*, *American Australian Association*

RELEVANT SKILLS

Coding programs and languages: C/C++ for use with Arduino and R/R Studio, command line interpreter (Unix shell) using Bash, Github for storage and reproducibility

Experimental analysis: ArcGIS, Arduino, ImageJ, R and R Studio, Stacks

Field and Laboratory skills: *Drosophila* husbandry, field lead experience in tropical and temperate ecosystems, morphology analysis, quantitative genetic experimental design/analysis

Scientific Illustration: Adobe Illustrator, Affinity Designer, Inkscape

Statistical methods: mixed modeling, multivariate statistics, non-linear least square modeling, quantitative genetic modeling

VOLUNTEER AFFILIATIONS

American Museum of Natural History
New York, New York. 2009–2011

New York Aquarium, Volunteer
Coney Island, New York. 2009–2011