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RESEARCH INTERESTS

I use marine species invasions as natural experiments in rapid adaptation, examining how – and how quickly – populations of known age and origin respond to novel conditions. By coupling next-generation sequencing with physiology and ecology, I examine adaptation at multiple levels. My main areas of research are thermal adaptation in green crabs (*Carcinus maenas*), and coevolution in the *Rhithropanopeus harrisi*-*Loxothylacus panopaei* host - parasite system.

EDUCATION

- PhD** **Stanford University**, Department of Biology 2014
Committee: Stephen Palumbi (advisor), George Somero, Elizabeth Hadly, Hunter Fraser
- MSc** **University of Otago**, Department of Zoology 2004
Advisors: Ian Jamieson, Jonathan Waters
Awarded with Distinction
- BS** **College of William & Mary**, Departments of Chemistry and Biology 2002
Advisor: Lizabeth Allison
Awarded with Honors in Biology

RESEARCH AND PROFESSIONAL EXPERIENCE

- Smithsonian Institution**, Washington, DC 2014 – present
Smithsonian Biodiversity Genomics Postdoctoral Fellow
Advisors: Gregory Ruiz & Lee Weigt
Project: Host-parasite coevolution across an invasion mosaic
- Stanford University**, Hopkins Marine Station, Pacific Grove, CA 2008 – 2014
PhD in Biology
Advisor: Stephen Palumbi
Thesis Research: Adaptation to temperature in a marine invasive species
- Hopkins Marine Station of Stanford University**, Pacific Grove, CA 2007 – 2008
Laboratory Technician, Molecular Ecology laboratory
Primary responsibility: Marine population genetics
- United States Environmental Protection Agency**, Cincinnati, OH 2005 – 2007
Contractor, Molecular Ecology Research Branch
Supervisor: Mark Bagley
Research: Invasion genetics of green crabs and other projects
- University of Otago**, Dunedin, New Zealand 2003 – 2004
MSc in Zoology
Advisors: Ian Jamieson, Jonathan Waters
Thesis Research: Conservation genetics of highly endangered bird species
- Charles River Laboratories**, Wilmington, MA 2002 – 2003
Technologist, Molecular Diagnostics Division
Primary responsibility: Genetic testing for infectious bacterial, viral, and fungal pathogens

College of William & Mary, Williamsburg, VA 1998 – 2002
BS in Chemistry & Biology
Advisor: Lizabeth Allison
Honors Research: Genetic basis of tuberculosis susceptibility in humans
(In collaboration with the **Dana-Farber Cancer Institute**)

FELLOWSHIPS AND SCHOLARSHIPS

Smithsonian Biodiversity Genomics Postdoctoral Fellow 2014 – present
Stanford Ctr. for Computational, Evolutionary, and Human Genomics Fellow 2013 – 2014
National Defense Science and Engineering Graduate Fellow 2010 – 2013
EPA Science To Achieve Results Fellowship declined to accept NDSEG
Stanford Graduate Fellow 2008 – 2013
Monroe Scholar 1998 – 2002

GRANTS

NSF Doctoral Dissertation Improvement Grant 2012
Myers Trust Grant 2011
The Explorers Club Exploration Fund Grant 2011
Lerner Gray Memorial Fund grant 2011
SCORE Grant 2010
Minor Research Grant 2001 – 2002
Howard Hughes Medical Institute Undergraduate Research Grant 2001 – 2002

AWARDS AND HONORS

Shortlist, Best Student Paper Prize, Division of Ecology and Evolution 2014
Society for Integrative and Comparative Biology Annual Meeting
Young Investigator Presentation Award 2013
International Conference on Marine Bioinvasions
Arthur C. Giese Award for Original Experimental Work in Marine Biology 2013
1st Place, Steel Prize (science writing for non-scientists) 2013
Eugene C. and Aileen E. Haderlie Memorial Award 2011
Wessells Award (outstanding course assistant, Stanford Biology Department) 2010
Excellence in Teaching Award 2009

PUBLICATIONS

Tepolt CK (in press) Adaptation in marine invasions: a genetic approach. *Biological Invasions* – special issue on molecular tools for managing invasions
Invited review

Tepolt CK, Somero GN (2014) Master of all trades: thermal acclimation and adaptation of cardiac function in a broadly-distributed marine invasive species, the European green crab, *Carcinus maenas*. *Journal of Experimental Biology* 217: 1129-1138
Featured in Nature Research Highlights and Inside JEB

Vanderhoeven S, Brown CS, **Tepolt CK**, Tsutsui ND, Vanparys V, Atkinson S, Mahy G, Monty A (2010) Linking concepts in the ecology and evolution of invasive plants: network analysis shows what has been most studied and identifies knowledge gaps. *Evolutionary Applications* 3: 193-202

Tepolt CK, Darling JA, Bagley MB, Geller JB, Blum MJ, Grosholz ED (2009) European green crabs (*Carcinus maenas*) in the northeastern Pacific: genetic evidence for high population connectivity and current-mediated expansion from a single introduced source population. *Diversity and Distributions* 15: 997–1009

Darling JA, Bagley MJ, Roman J, **Tepolt CK**, Geller JB (2008) Genetic patterns across multiple introductions of the globally invasive crab genus *Carcinus*. *Molecular Ecology* 17(23): 4992-5007

Darling JA, **Tepolt CK** (2008) Highly sensitive detection of invasive shore crab (*Carcinus maenas* and *Carcinus aestuarii*) larvae in mixed plankton samples using polymerase chain reaction and restriction fragment length polymorphisms (PCR-RFLP). *Aquatic Invasions* 3(2): 141-152

Tepolt CK, Blum MJ, Lee VA, Hanson ED (2007) Genetic analysis of the Chinese mitten crab (*Eriocheir sinensis*) introduced to the North American Great Lakes and St. Lawrence Seaway. *Journal of Great Lakes Research* 33: 658-667

Boessenkool S, Taylor S, **Tepolt C**, Komdeur J, Jamieson IG (2007) Large mainland populations of South Island robins retain greater genetic diversity than offshore island refuges. *Conservation Genetics* 8(3): 705-714

Tepolt CK, Bagley MJ, Geller JG, Blum MJ (2006) Characterization of microsatellite loci in the European green crab (*Carcinus maenas*). *Molecular Ecology Notes* 6: 343-345

PUBLICATIONS IN PREPARATION

Tepolt CK, Palumbi SR (In preparation for *Molecular Ecology*) Transcriptome sequencing reveals both neutral and adaptive divergence in a marine invader.

Tepolt CK, Palumbi SR (In preparation for *The Proceedings of the National Academy of Sciences*) Adaptation on short and long time scales in a high-dispersal species.

Tepolt CK, Palumbi SR (In preparation) Intraspecific variation in gene expression in response to thermal acclimation in a highly invasive species

TEACHING AND MENTORING

California State University at Monterey Bay, Seaside, CA 2013 – 2014

Mentor with the Undergraduate Research Opportunities Center

Advised T. Fuller on a research project for which he won first place at the 2013 Soc. for the Advancement of Chicanos and Native Americans conference

Hopkins Marine Station of Stanford University, Pacific Grove, CA 2010

Teaching Assistant: Molecular Ecology (lecture and labs)

Wessells Award for Outstanding Course Assistant in Biology

Hopkins Marine Station of Stanford University, Pacific Grove, CA 2010

Teaching Assistant: Experimental Design and Probability

Stanford University, Stanford, CA 2008

Teaching Assistant: Biology Core - Genetics, Biochemistry, and Molecular Biology

Excellent in Teaching Award

University of Otago, Dunedin, New Zealand 2004

Demonstrator: Eukaryotic Genetics (labs)

University of Otago, Dunedin, New Zealand 2004
Demonstrator: Introductory biology (labs)

INVITED SEMINARS AND PRESENTATIONS

Humboldt State University, Biological Sciences Seminar Series 2013
Physiological and transcriptomic adaptation in the globally invasive European green crab
Invited Seminar
Ecological Genomics Symposium 2013
Genetic correlates of local adaptation in the globally invasive European green crab,
Carcinus maenas
Poster Abstract Invited Speaker

CONTRIBUTED PRESENTATIONS

Society for Integrative and Comparative Biology Annual Meeting 2014
Shortlist, Division of Ecology and Evolution's Best Student Paper Prize
International Conference on Marine Bioinvasions 2013
Young Investigator Presentation Award
Evolution 2013
Society for Integrative and Comparative Biology Annual Meeting 2013
Western Society of Naturalists Annual Meeting 2012
Western Society of Naturalists Annual Meeting 2008
Western Society of Naturalists Annual Meeting 2007
International Conference on Aquatic Invasive Species (Poster) 2007
MolEcol03 (Molecular Ecology, University of Otago) 2003
Threatened Island Birds Workshop 2003

SELECTED OUTREACH AND SERVICE

Peer reviewer 2008 – present
Molecular Ecology, Heredity, Diversity and Distributions, Biological Invasions, PLOS ONE
Educational tour leader, Hopkins Marine Station 2009 – 2014
Gave tours of Hopkins research and history to high school and college students and interested outside groups; led approximately one tour per month
Co-founder and editor of sciencefare.org 2011 – 2013
Wrote, edited, and ran a blog dedicated to teaching the scientific method through cooking, sponsored by science education nonprofit Iridescent
Liaison to the Monterey Area Research Institutions' Network for Education 2012 – 2013
Planned and organized seminars and educational programs at the seven collaborating institutions
Volunteer scientist for Ocean Heroes 2009 – 2013
Assisted in planning and running educational field trips for underserved middle school students in the Seaside Boys and Girls Club
Co-organizer, Stanford Oceans Colloquium 2013
Lead organizer, Graduate student-run Fall Seminar Series, Stanford University 2011
Co-organizer, Graduate student-run Fall Seminar Series, Stanford University 2010
Organizer, 16th University of Otago Zoology Postgraduate Colloquium 2003

OTHER EXPERIENCE AND SKILLS

Long-distance backpacking: Pacific Crest Trail solo through-hike (2,500 miles) in 2014
Programming in python: scripting for transcriptomic data processing and formatting
Science writing for non-scientists: co-founding editor and writer for sciencefare.org
Basic electronics: building and repairing field equipment