Sam Crickenberger, PhD

University of South Carolina, Department of Biological Sciences, 715 Sumter Street, Columbia, SC 29208
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Education

Clemson University, Clemson, SC August 2007 – May 2014
PhD in Biological Sciences, GPA: 4.0
Course work: evolution, conservation genetics, biogeography, statistical methods, molecular ecology, design and analysis of field experiments, introduction to GIS

University of Washington, FHL, WA Summer 2009
Larval Ecology Course

College of Charleston, Charleston, SC August 2003 – May 2007
BS in Marine Biology, GPA: 3.6
Course work: elementary statistics, botany, coastal and marine geology, invertebrate zoology, general ecology, oceanographic research, biology of fishes, oceanography, genetics, biochemistry, introductory chemistry I and II, organic chemistry I and II, molecular biology, general and comparative physiology

Skills

Computer programs: ArcGIS 10, Marine Ecology Geospatial Tools, SigmaPlot 11.0, JMP statistical software, Microsoft Word, Excel, Powerpoint, SAS, R, MaxEnt, ImageJ, GIMP, Photoshop

Field Equipment/Sampling methods: PADI Open Water SCUBA certified, GPS, transect/quadrat surveys (intertidal and SCUBA surveys), percent cover (intertidal and SCUBA surveys), otter trawl, grab sampler, beam trawl, plankton tows, seine nets, CTD, secchi disk, YSI meters, HOBO data loggers, iButton data loggers, calipers

Lab Equipment/Methods: Clark style oxygen electrodes and metabolic rate measurements, algal and larval culturing, protein quantification, lipid quantification, DNA extraction, PCR, DNA sequencing, microscopy, LT_{50} assays, water testing (dissolved oxygen, salinity, pH, nitrate, nitrite, ammonia), biological tissue preservation, grain size analysis, heart beat rate measurements

Experience

Postdoctoral Fellow 07/01/17-present
University of Hong Kong
-Designed, conducted, and analyzed lab and field experiments on marine organisms
-Collaborated on international presentations and publications
-Mentored undergraduate and graduate students in research

Postdoctoral Fellow 07/01/14 – 06/20/17
University of South Carolina, Columbia, SC

-Designed, conducted, and analyzed lab and field experiments on intertidal marine organisms to better understand range shifts due to climate change and extreme events
-Presented findings at scientific meetings and peer-reviewed publications
-Taught non-majors environmental biology and guest lectured in other courses

Graduate Research and Teaching Assistant 08/01/07 – 05/01/14
Clemson University, Clemson, SC
-Designed, conducted and analyzed a variety of field and lab based experiments examining the biogeography and physiology of marine invertebrates to understand how climate change and extreme events may alter their distributions
-Field and laboratory work on sea urchins on the Pacific and Atlantic coasts of Panama
-Presented findings at scientific meetings and in peer-reviewed publications
-Supervised 8 different undergraduates

NOAA NERRS Fellow 07/01/08 – 11/1/12
ACE Basin National Estuarine Research Reserve, SC
-Drafted two separate project proposals ($62,945 total) that funded my PhD dissertation
-Managed grant funds, worked with grants coordinators, and submitted semi-annual, annual, and cumulative reports to NOAA through grants.gov
-Created profiles of invasive aquatic marine animals in South Carolina
-Worked with state biologists from FL, GA and SC; some affiliated with NOAA
-Surveyed ACE Basin NERR for introduced species and sorted plankton samples

NOAA Ernest F. Hollings Undergraduate Scholar 05/15/06 – 07/31/06
NOAA Internship**,** Shellfish Program, North Cape, RI
-Seeded Ninigret Pond with the oyster *Crassostrea virginica* and the bay scallop *Argopecten irradians*
-Surveyed the distribution and surrounding environment of the bay scallop (*A. irradians*) to characterize appropriate habitat for shellfish restoration using SCUBA transect surveys and percent cover of macroalgae
-Worked with NOAA and EPA scientists
-Presented my findings at a NOAA scientific meeting with other scholars

Transects Program Student/Assistant 05/15/05 - 06/15/05,
College of Charleston, Charleston, SC 11/01/06 - 11/08/06
-Participated in data collection aboard *R/V Savannah*
-Completed independent project on benthic foraminifera and presented findings at scientific conference
-Assisted Transects students with data collection aboard *R/V Nancy Foster*

Grants, Awards and Accomplishments

-Reviewer for the *American Malacological Bulletin, Journal of Crustacean Biology, Marine Ecology Progress Series, Biochemical Systematics and Ecology, Marine Biology, Pacific Science, Helgoland Marine Research, Journal of Thermal Biology, PLOS ONE*
-Best Graduate Student Poster at Benthic Ecology Meeting
-NOAA NERRS Graduate Fellowship Program (two awards for $62,945 total)

-Clemson University Graduate Dean's Fellowship ($10,000)
-NOAA Ernest F. Hollings Undergraduate Scholarship Program ($24,000.00)
-Four internal university travel awards ($2,200 total)
-Presented at over 10 scientific meetings

Publications

*Undergraduate co-author

Peer-reviewed Publications

Wares J, **Crickenberger S**, *Skoczen K, Trapnell D, Hamrick J, Wethey DS, Govindarajan AF. The cryptic biology of *Chthamalus fragilis* (Darwin 1854) on the Atlantic coast of North America. Submitted to *Journal of Crustacean Biology*.

Crickenberger S, Wethey DS. 2018. Annual temperature variations as a time machine to understand the effects of long-term climate change on a poleward range shift. *Global Change Biology*. 24(8).

Crickenberger S, Wethey DS. 2017. Reproductive physiology, temperature, and biogeography: the role of fertilization in determining the distribution of the barnacle *Semibalanus balanoides*. *Journal of the Marine Biological Association of the United Kingdom*. DOI: https://doi.org/10.1017/S0025315417000364.

Crickenberger S, Walther K, and Moran A. 2017. Lower thermal limits to larval development do not predict poleward range limits of the introduced tropical barnacle *Megabalanus coccopoma*. *Invertebrate Biology*. 136(1): 37-49.

Crickenberger S. 2016. Predicting a range shift and range limits in an introduced tropical marine invertebrate using species distribution models. *Hydrobiologia*. 763(1): 193-205.

Crickenberger S, Walther K, Marchant S, Marko P, and Moran A. 2015. Acclimatization of thermal tolerance in larvae of the rocky-shore barnacle *Pollicipes elegans*. *Invertebrate Biology*. 134(4): 291-302.

Crickenberger S, Moran A. 2013. Rapid range shift in a tropical marine invertebrate. *PLoS ONE* 8(10): e78008. DOI:10.1371/journal.pone.0078008.

Walther K, **Crickenberger S**, Marchant S, Marko P, and Moran A. 2013. Thermal tolerance of larvae of *Pollicipes elegans*, a marine species with an antitropical distribution. *Marine Biology*. 160(10): 2723-2732.

Crickenberger S, Sotka, E. 2009. Temporal shifts of fouling communities in Charleston Harbor with a report of *Perna viridis* (Mytilidae). *Journal of the North Carolina Academy of Sciences*. 125(2): 78-84.