**Kelly Weinersmith**
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## EDUCATION

**Ph.D. Ecology** **2007 - 2014**
*University of California, Davis, Graduate Group in Ecology*
Dissertation: Reciprocal interactions between host behaviors, steroid hormones, and parasites.
Major Advisor: Dr. Andrew Sih

**M.S. Ecology, Evolution, and Conservation Biology** **2005 - 2007**
*Bowling Green State University, Bowling Green, OH*
Thesis: Individual differences in activity and responses to a predator attack in juvenile smallmouth bass (*Micropterus dolomieui*)
Major Advisors: Dr. Daniel Wiegmann and Dr. Jeffrey Miner

**B.S. Honors in Biology** **2000 - 2004**
*Bowling Green State University, Bowling Green, OH*
Major: Biology
Minor: Chemistry
Honors Thesis: Modified synthesis of epigallocatechin-3-gallate for use as an anti-tumor compound

## EMPLOYMENT HISTORY

**2015 - 2016** Huxley Fellow, Department of BioSciences, Rice University

**2017** - Adjunct Faculty, Department of BioSciences, Rice University

## PUBLICATIONS

***In Prep***

**Weinersmith KL**, Brown CE, Clingen KB, Jacobsen M, Topper LB and Hechinger RF. *Euhaplorchis californiensis* exhibits positive phototaxis. Will be submitted to *Parasites & Vectors.*

**Weinersmith KL**, DeCarion DD, Bibian A, Young M, Sih A and Conrad JL. Does *Egeria densa* influence the diet and condition of largemouth bass in the Sacramento-San Joaquin Delta? Will be submitted to *San Francisco Bay and Watershed Science.*

***Published***

Egan SP, **Weinersmith KL**, Liu SM, Ridenbaugh RD, Zhang YM and Forbes AA. (2017). Description of a new species of *Euderus* Haliday from the southeastern United States (Hymenoptera, Chalcidoidea, Eulophidae): the crypt-keeper wasp. *Zookeys* 645: 37-49.

**Weinersmith KL**, Liu SM, Forbes AA and Egan SP. (2017). Tales from the crypt: a parasitoid manipulates the behavior of its parasite host. *Proceedings of the Royal Society B* 284: 20162365.

*Press for this article in National Geographic, Nature, Science, BBC World, CBS, Gizmodo, New Scientist, Live Science, Popular Science, and The Atlantic.

Barber I, Mora AB, Payne EM, **Weinersmith KL**, and Sih A. (2017). Parasitism, personality and cognition in fish. *Behavioural Processes*: in press.

**Weinersmith KL** and Earley RL. (2016). Better with your parasites? Incorporating lessons from evolved dependence and conditionally helpful parasites to behavioural ecology. *Animal Behaviour* 118: 123-133.

**Weinersmith KL,** Hanninen AF, Sih A, McElreath R and Earley RL (2016). The relationship between handling time and cortisol release rates changes as a function of brain parasite densities in California killifish. *Journal of Fish Biology* 88: 1125-1142.

Conrad JL, Bibian AJ, **Weinersmith KL**, DeCarion D, Young MJ, Crain P, Moyle PB and Sih A (2016). Invasion of Brazilian waterweed (*Egeria densa*) facilitates expansion of an estuarine population of largemouth bass (*Micropterus salmoides*). *Transactions of the American Fisheries Society* 145: 249-263.

Johnson EL, **Weinersmith KL** and Earley RL (2016). Changes in the reproductive physiology of mangrove rivulus *Kryptolebias marmoratus* following exposure to environmentally relevant concentrations of ethinyl estradiol. *Journal of Fish Biology* 88: 774-786.

**Weinersmith KL and Zen F** (2014). Parasitic manipulation of hosts' phenotype, or how to make a zombie-an introduction to the symposium. *Integrative and Comparative Biology* 54: 93-100.

**Weinersmith KL,** Warinner CB, Tan V, Harris DJ, Mora AM, Kuris AM, Lafferty KD and Hechinger RF (2014). A lack of crowding? Body size does not decrease with density for two behavior-manipulating parasites. *Integrative and Comparative Biology* 54: 184-192.

Ferrari MCO, Ranåker L, **Weinersmith KL,** Young MJ, Sih A and Conrad JL (2014). Effects of turbidity and an invasive waterweed on predation by introduced largemouth bass. *Environmental Biology of Fishes* 97: 79-90.

Conrad JL, **Weinersmith KL**, Brodin T, Saltz JB and Sih, A (2011). Behavioural syndromes in fish: a review with implications for ecology and fisheries management. *Journal of Fish Biology* 78: 395-435.

Cote J, Fogarty S, Brodin T, **Weinersmith KL** and Sih A (2011). Personality-dependent dispersal in the invasive mosquitofish: group composition matters. *Proceedings of the Royal Society, Series B* 278: 1670-1678.

Cote J, Fogarty S, **Weinersmith KL,** Brodin T and Sih A (2010). Personality traits and dispersal tendency in the invasive mosquitofish (*Gambusia affinis*). *Proceedings of the Royal Society, Series B* 277: 1571-1579.

*Article featured in Nature's *Research Highlights* and in Conservation Magazine.

Wiegmann DD, **Weinersmith KL** and Seubert SM (2010). Multi-attribute mate choice decisions and uncertainty in the decision process: a generalized sequential search strategy. *Journal of Mathematical Biology* 60 (4): 543-572.

**Smith KL**, Miner JG, Wiegmann DD and Newman SP (2009). Individual differences in exploratory and antipredator behaviour in juvenile smallmouth bass (*Micropterus dolomieu*). *Behaviour* (146): 283-294.

## GRANTS, FELLOWSHIPS, AND AWARDS

**2015** Huxley Faculty Fellowship in Ecology and Evolutionary Biology from Rice University

**2013** National Science Foundation symposium funding [IOS #1338574]
Awarded for "Meeting: SICB 2014 parasitic manipulation symposium, Austin, Texas 3-7 January 2014". Lead PI: Zen Faulkes ($12,238)

**2012** American Society of Parasitologists Outstanding Student Paper Award
Awarded for talk entitled "Two manipulative trematode parasites modify the physiology and behavior of California killifish (*Fundulus parvipinnis*)"

American Association of University Women Dissertation Fellowship
Parasites and personality: Interactions between the behavior and physiology of hosts and their parasites ($20,000)

UCD and Humanities Graduate Research Award in Ecology ($1,500)

UCD Graduate Group in Ecology Block Grant Fellowship (2 quarters)

**2011** National Science Foundation Doctoral Dissertation Improvement Grant [IOS #1110639]
Dissertation Research: Reciprocal interactions between host behaviors, steroid hormones, and parasites ($14,600)

Animal Behavior Society Student Research Grant
Parasites and personality: Behavioral and hormonal interactions between California killifish and their behaviorally manipulative trematode parasites ($1,500)

SciFund Challenge Round 1: An Experiment in Crowdfunding
Zombie Fish ($5,000): My proposal received popular press attention from LiveScience.com, prominent science bloggers and journalists Ed Yong and Carl Zimmer, and my video proposal received over 27,000 views from members of the general public.

University of California Davis Department of Environmental Science and Policy Travel Grant ($1,000)

**2010** UCD Graduate Group in Ecology Block Grant Fellowship (2 quarters)

**2009** Natural Reserve System Mildred E. Mathias Graduate Student Research Grant ($1,500)

UCD Peter J. Shields and Henry A. Jastro Research Fellowship ($1,500)

**2008** University of California Davis Department of Environmental Science and Policy Travel Grant ($1,000)

**2007** UCD Graduate Group in Ecology Block Grant Fellowship (4 quarters)

## SERVICE AND LEADERSHIP

### PUBLIC OUTREACH

**2011-present** Science…sort of podcast
Science podcast co-host.

The Weekly Weinersmith podcast
Science podcast co-host.

Science Blogging
I contribute or have contributed to the following science blogs: Weinersmith (www.weinersmith.com), Paleocave Blog (www.paleocave.sciencesortof.com), SciFund Challenge (www.scifundchallenge.org), Damn Right Science (www.damnrightscience.wordpress.com).

**2017** Tales from the Crypt
Press for "Tales from the Crypt: a parasitoid manipulates the behaviour of its host" generated press from The Atlantic, National Geographic, BBC World, CBC Quirks & Quarks, Science, Nature, New Scientist, Live Science, Future Proof (Ireland's NewsTalk FM radio), Popular Science, Gizmodo, San Francisco Chronicle, Phys.org, The Scientist, CBS News, and Yahoo News (among others).

BASIS San Antonio North Central presentation
Gave a presentation to and fielded questions from San Antonio middle school students about my research and careers in science research.

**2016-17** Board Member for Cards Against Humanities' Science Ambassador Scholarship
Helped determine the criteria by which this full tuition scholarship would be awarded, and reviewed applications.

**2016** Rice Science Café (Sept 6, 2016)
Talk entitled "Brain-Infecting Parasites: What can zombie-makers teach us about the brain, immune system, and behavior?" given to a general audience at the Black Labrador Pub.

Interviewed by Science News for Students
Interviewed by Kathryn Hulick Gargolinski for an article in *Science News* Media Group's *Science News for Students* about parasites that manipulate host behavior. The article "Real Zombies" will be released this Halloween.

Rice Civic Scientist Program
Visited Mr. Michael Tee's AP Environmental Science class at Davis High School, and gave a talk about my journey into science and parasitology.

**2015** Smithsonian Magazine and Nerd Nite's Future is Here Festival
I gave a talk entitled "Will the zombie-makers of today yield the neuroscience and drug discoveries of tomorrow?" The video from my talk is available on the Smithsonian Magazine, and is the most shared video from the 2-day event.

Synapse: The University of California San Francisco Student Paper
Interviewed for article on Synapse entitled, "Renaissance woman: Kelly Weinersmith on science, outreach and family"

Interviews for popular science articles:
Buzzfeed – "6 of Nature's Most Horrifying Mind-Controlling Parasites" by Tom Chivers

New Scientist – "Zoologger: Necrophiliac spider mite prefers its mate dead" by Agata Blaszczak-Boxe

**2014** Great Adaptations – A Children's Book About Evolution
Collaborated with a poet and an artist to share the story of how *Euhaplorchis californiensis* manipulates the behavior of California killifish. This book is aimed at getting children excited about the concepts of evolution and adaptation, and so far over 1,500 copies have been sold.

University of California San Francisco Women in the Life Sciences
I was invited to speak to the UCSF WiLS group about work-life balance, my graduate school experience, applying for postdoctoral positions, and my outreach activities.

Bay Area Science Festival
Co-hosted a live-recording of the science podcast Science…sort of, which was attended by an audience of ~40 people. I also hosted the Festival of Bad Ad Hoc Hypotheses, or BAHFest, which was attended by over 1,000 people. This festival brings people together to laugh about plausible-sounding evolutionary theories that are clearly false.

The Pseudoscientists Podcast – Parasites & Zombies: A Discussion With Kelly Weinersmith
I was a guest on The Pseudoscientists, a podcast run by the Young Australian Skeptics.

**2013** #SciFund Outreach Training Course
Co-organized and taught a free, online course to train scientists on techniques commonly used for outreach. I wrote a series of blog posts on the topic for the #SciFund blog, and my efforts were featured in Slate Magazine's Bad Astronomy blog.

K-12 Outreach
Spoke with National Honors Society students at Youngker High School about careers in science.

Australian Society of Parasitologists: Parasitologists in the Spotlight
I was an invited guest on this Google On Air Hangout, which run by the Australian Society of Parasitologists and covered the topic of parasite manipulation of host phenotype.

**2011** Women in Science Panel at Geek Girl Con (Seattle, WA)
I organized and moderated a panel on women in science at a conference aimed at getting young women excited about geek culture (including geek science culture).

Adventures in Animal Behavior: A Science Event at Wonderlab (Bloomington, IN)
I organized a station where visitors (largely elementary school students and their parents) could view trematode parasites emerging from their snail intermediate hosts while learning about parasites with complex life cycles.

**2008** Reviewer of the Science Framework for California Public Schools
I made general comments on the text, reviewed the information for accuracy, and made suggestions regarding recent scientific advances that may be pertinent to the curriculum.

## ACADEMIC SERVICE

**2015-2017** American Society of Parasitologists
Student Awards Committee (member)
Chair of the Ad Hoc Committee on Social and Digital Media.

**2008-2016** Manuscript review
Behavioral Ecology and Sociobiology (10/2008)
Journal of Ethology (11/2011)
Behaviour (12/2011)
The American Naturalist (2/13)
Behavioral Ecology (6/13)
International Journal of Parasitology (3/2015)
Journal of Experimental Zoology (5/2015)
Physiology & Behavior (8/2015)
Journal of Parasitology (9/2015 & 6/2016)
Evolution (3/2016)
Marine Biology (4/2016 & 7/2016)

**2013-2014** Symposium organization
Co-organizer of symposium entitled "Parasitic manipulation of host phenotype, or how to make a zombie" for the SICB 2014 conference (Austin, TX). Talks from this symposium were featured in an article in Science: Pennisi E (2014). Parasitic puppeteers begin to yield their secrets. *Science* 343: 239.

American Society of Parasitologists Communications Committee
I co-run the Twitter account for the American Society of Parasitologists.

**2008-2009** Ecology Graduate Student Association (EGSA)
Co-chair of the EGSA.

**2007-2008** Graduate Student Senate (GSA)
EGSA representative.

**2006-2007** Biology Graduate Student Association (BGSA):
President of the EGSA.

University Committee on Ogg Science Library
Committee member.

**2005-2006** Graduate Student Senate
BGSA representative.

## TEACHING AND MENTORING EXPERIENCE

### TEACHING

**Spring 2016** Co-instructor for Field Bird Biology Lab (EBIO 337 at Rice University)
Instructor for Lab Module in Ecology (EBIO 316 at Rice University)
Instructor for Parasitology Reading Group (EBIO 542 at Rice University)

**2015** Co-instructor for Field Bird Biology Lab (EBIO 337 at Rice University)
Lectured, led field trips, and supervised independent research projects for this one credit hour course. A subset of students were guided through the process of creating a bird habitat restoration plan, which will be implemented at the Hogg Bird Sanctuary.

Instructor for Lab Module in Ecology (EBIO 316 at Rice University)
I lectured and led field ecology lab experiments for this course. The students also conducted a large class project which is in review at *Parasites & Vectors*.

**2013** Guest lecturer for Behavioral Ecology (Bowling Green State University)
Created and presented lectures on behavioral syndromes and group social behavior for this graduate student course.

**2012** Guest lecturer for Anatomy and Physiology (University of Alabama)
Created and presented a lecture on interactions between parasites and host physiology.

**2011** Summer Session Research Mentorship Program (University of California Santa Barbara)
Mentored 3 high school students through an intensive 6 week research program. Two students earned co-authorship on the publication being prepared from the data they collected.

**2008** Teaching assistant for General Ecology (University of California Davis)
Moderated discussions and debates, led review sessions, and assisted in grading.

**2007** Teaching assistant for Animal Behavior (Bowling Green State University)
Oversaw in-class experiments and assisted the students in designing and executing individual animal behavior projects.

**2006** Guest lecturer and teaching assistant for Population and Community Ecology (Bowling Green State University)
Delivered three lectures and a series of presentations on mathematical and statistical techniques in ecology. Graded assignments associated with these presentations and course examinations.

**2005** Teaching assistant for The Environment of Life (Bowling Green State University)
Oversaw in-class experiments and graded lab reports.

**STUDENT MENTORING**

*Students are or will be co-authors on manuscripts arising from our collaborations.

**2017** Karina Cobain, Kaia Quigg, Jennifer Dusto, and Paige Mathias (Scripps Institute of Oceanography)
*Skills taught:* Video processing and quantification of fish behavior.

**2016-2017** Sean Liu* (Rice University)
*Skills taught:* Branch dissections for the Tales from the Crypt paper

Jasmine Akiko Garcia (Scripps Institute of Oceanography)
*Skills taught:* Quantification of fish behavior, manuscript preparation, poster presentation.

**2016** Marcella Pinnel, Alice Zhu, and Laura Nicholson* (Rice University)
*Skills taught:* Techniques for analyzing videos of animal behavior.

**2012-2014** Jelani Grace* and Walter Smith (University of Alabama)
*Skills taught:* Killifish hormone collection and measurement, killifish dissection and parasite quantification, and quantification of fish behavior.

**2013-2014** Cameron Calhoun*, Lee House*, Morgan Lancaster*, and Tyler King* (University of Alabama)
*Skills taught:* Killifish dissection and parasite quantification, and quantification

of fish behavior.

**2012-2013** Madeline Haddock* (University of Alabama)
*Skills taught:* Killifish hormone collection and measurement, killifish dissection and parasite quantification, and quantification of fish behavior.

**2011-2012** Zöe Zilz (University of California Santa Barbara)
*Skills taught:* Killifish dissection and parasite quantification.

**2011** Jessie Lei, Virginia Tan*, Chloe Warinner* (High school students mentored at the University of California Santa Barbara)
*Skills taught*: Parasite collection, killifish dissection and parasite quantification, and parasite volume measurements.

## INVITED TALKS

**2016** University of Texas at Austin Department of Integrative Biology (Population Biology Seminar Series) – September 22, 2016
Parasite manipulation of host phenotype: mechanisms, behavior, ecology, and evolution.

**2015** Bowling Green State University Biology Department Seminar
Parasite manipulation of host phenotype: mechanisms, behavior, ecology, and evolution.

University of Michigan Early Career Scientists Symposium
Parasite manipulation of host phenotype: mechanisms, behavior, ecology, and evolution.

**2014** University of California San Francisco Evolution Seminar Series
Parasite manipulation of host phenotype: mechanisms, behavior, ecology, and evolution.

Rice University Ecology and Evolutionary Biology Department Seminar
Parasite manipulation of host phenotype: mechanisms, behavior, ecology, and evolution.

**2011** University of Eastern Finland Host-Parasite Workshop
Trematode parasites manipulate the behavior and physiology of California killifish (*Fundulus parvipinnis*).

## PRESENTATIONS AT PROFESSIONAL MEETINGS

Presenter's name in bold. *Denotes presentation by student I mentored.

**Weinersmith KL**, Liu SM, Forbes AA, and Egan SP. Tales from the Crypt: A parasitoid changes emergence behavior in a crypt-forming gall wasp. (2016) Oral Presentation. American Society of Parasitologists conference.

**Weinersmith KL**, Renick VC, King T, Payne E, Sih A, and Earley RL. Does a brain-infecting parasite influence host behavioral type and behavioral correlations? (2015). Oral presentation. American Society of Parasitologists conference.

**Weinersmith KL**. Science outreach through blogging and podcasting (2015). Invited talk for the American Society of Parasitologists Students' Symposium.

Weinersmith KL, Warinner CB, Tan V, Harris DJ, Mora AB, Kuris AM, Lafferty KD and **Hechinger RF**. A lack of crowding? Density does not negatively affect parasite body size for two trophically transmitted trematodes of California killifish (*Fundulus parvipinnis*) (2014). Oral presentation. American Society of Parasitologists conference.

**Weinersmith KL**, Hanninen AF, Sih A and Earley RL. *Euhaplorchis californiensis*, a brain-infecting trematode parasite, is associated with changes in physiology and behavior in its killifish second intermediate host (2014). Oral presentation. Society for Integrative and Comparative Biology-Symposium: Parasitic manipulation of host phenotype or how to make a zombie.

**Grace J***, Haddock M, Weinersmith K & Earley RL. Parasite manipulation of host personality in California killifish (2013). Poster presentation. University of Alabama Undergraduate Research Conference.

**Haddock M*,** Grace J, Weinersmith K & Earley RL. Parasites and personality: do trematodes manipulate boldness in California killifish (2013)? Poster presentation. University of Alabama Undergraduate Research Conference.

**Weinersmith KL,** Earley RL, Hanninen AF, Hechinger RF, Kuris AM, Lafferty KD and Sih A. Two manipulative trematode parasites modify the physiology and behavior of California killifish (*Fundulus parvipinnis*) (2012). Oral presentation. American Society of Parasitologists conference. **Received the Outstanding Student Paper Award from the American Society of Parasitologists.*

**Weinersmith KL**, Cote J, Fogarty S, Brodin T, and Sih A. Personality matters: individual and population-level personality traits influence dispersal decisions in the invasive western mosquiotfish (*Gambusia affinis*) (2011). Oral presentation. American Fisheries Society Conference: Symposium on "Cognitive, Sensory, and Behavioural Frontiers Exploring Fish Movement and Habitat Use".

Conrad JL, **Weinersmith KL**, Young MJ, de Carion D, Bibian A, Moyle PB and Sih A. Invaders helping invaders: Expansion of largemouth bass in the Sacramento-San Joaquin Delta facilitated by Brazilian waterweed, *Egeria densa* (2011). Oral presentation. American Fisheries Society Conference: Symposium on "Cognitive, Sensory, and Behavioural Frontiers Exploring Fish Movement and Habitat Use".

**Weinersmith KL**, Hanninen A, Sih A and Earley RL. Trematode parasites are associated with steroid hormone profiles in California killifish (2011). Oral presentation. Animal Behavior Society Conference.

**Weinersmith KL**, Conrad JL, Young MJ, de Carion D, Bibian B and Sih A. Does submerged aquatic vegetation effect largemouth bass diet composition and growth rates in the Sacramento-San Joaquin Delta (2011)? Oral presentation. Cal-Neva American Fisheries Society Conference: Interagency Ecological Program Symposium.

**Conrad JL,** Weinersmith KL, Young MJ, de Carion D, Hestir EL, Santos MJ, Crain P, Ustin SL, Moyle PB and Sih A. More big bass: understanding the role of largemouth bass as top predators of the littoral zone (2010). Oral Presentation. Bay-Delta Science Conference.

**Smith KL**, Wiegmann DD and Seubert S. Multi-attribute mate choice decisions and uncertainty in the decision process: A generalized sequential search strategy (2008). Oral presentation. Animal Behavior Society Conference.

**Smith KL**, Wiegmann DD and Seubert S. Multi-attribute mate choice decisions and uncertainty in the decision process: A generalized sequential search strategy (2008). Oral presentation. Animal Behavior Conference at the University of California Davis.

**Smith KL**, Wiegmann DD and Seubert S. Multi-attribute mate choice decisions and uncertainty in the decision process: A generalized sequential search strategy (2008). Oral presentation. Trout Lake Research Station Limnology and Marine Science Seminar Series.

## PROFESSIONAL MEMBERSHIP

American Association of University Women
Animal Behavior Society
American Society of Parasitologists
Society for Integrative and Comparative Biology