

**Kelly Weinersmith**  
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## EDUCATION

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### **PhD Ecology**

**Summer 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**

**2007**

*Bowling Green State University, Bowling Green, OH*

Thesis: "Individual differences in activity and responses to a predator attack in juvenile smallmouth bass (*Micropterus dolomieu*)"

Major Advisors: Dr. Daniel Wiegmann and Dr. Jeffrey Miner

### **B.S. Honors in Biology**

**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"

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## PUBLICATIONS

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### ***In prep (completed first draft or later):***

Conrad JL, Bibian AJ, **Weinersmith KL**, DeCarion D, Young MJ, Crain P, Moyle PB and Sih A (*undergoing internal review prior to submission*). Invasion of Brazilian waterweed (*Egeria densa*) facilitates expansion of an estuarine population of largemouth bass (*Micropterus salmoides*)

**Weinersmith KL**, Hanninen AF, Sih A and Earley RL (*in prep for special issue of Integrative and Comparative Biology on phenotypic manipulation of host phenotype by parasites—will be submitted in January*). Manipulative trematode parasites are associated with steroid hormone profiles in California killifish (*Fundulus parvipinnis*).

**Weinersmith KL**, Warinner C, Tan V, Harris D, Hechinger R, Mora A, Lafferty K and Kuris A (*in prep*). A phenotypically manipulative trematode parasite achieves larger individual volume with increasing conspecific density in its intermediate host.

**Weinersmith KL** and Earley RL (*in prep*). Phenotypic alteration by parasites: when might parasitism result in more optimal host phenotypes?

### ***In review:***

**Weinersmith KL**, DeCarion D, Bibian AJ, Young MJ, Sih A and Conrad JL (*in review at Environmental Biology of Fishes*). An invasive waterweed, *Egeria densa*, influences the condition, growth, and diet of largemouth bass (*Micropterus salmoides*) in the Sacramento-San Joaquin Delta.

**Published:**

Ferrari MCO, Ranåker L, **Weinersmith KL**, Young MJ, Sih A and Conrad JL (2013). Effects of turbidity and an invasive waterweed on predation by introduced largemouth bass. *Environmental Biology of Fishes* (in press).

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.

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**PRESENTATIONS (PRESENTER'S NAME IN BOLD)**

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\*Denotes presentation by student I mentored

**2013**

University of Alabama Undergraduate Research Conference (Poster Presentations)

**Grace J\***, Haddock M, Weinersmith K & Earley RL. Parasite manipulation of host personality in California killifish.

**Haddock M\***, Grace J, Weinersmith K & Earley RL. Parasites and personality: do trematodes manipulate boldness in California killifish?

**2012**

American Society of Parasitologists (Oral Presentation)

**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*).

\*This presentation received the Outstanding Student Paper Award from the American

Society of Parasitologists.

## 2011

Host-Parasite Workshop (University of Eastern Finland) (Oral Presentation)

**Weinersmith KL.** Trematode parasites manipulate the behavior and physiology of California killifish (*Fundulus parvipinnis*).

American Fisheries Society Conference: Symposium on "Cognitive, Sensory, and Behavioural Frontiers Exploring Fish Movement and Habitat Use" (Oral Presentation)

**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 mosquitofish (*Gambusia affinis*).

American Fisheries Society Conference (Oral Presentation)

**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*.

Animal Behavior Society Conference (Oral Presentation)

**Weinersmith KL, Hanninen A, Sih A and Earley RL.** Trematode parasites are associated with steroid hormone profiles in California killifish.

Cal-Neva American Fisheries Society Conference (IEP Symposium) (Oral Presentation)

**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?

## 2010

Bay-Delta Science Conference (Oral Presentation)

**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.

## 2008

Animal Behavior Society Conference (Oral Presentation)

**Smith KL, Wiegmann DD and Seubert S.** Multi-attribute mate choice decisions and uncertainty in the decision process: A generalized sequential search strategy.

Animal Behavior Conference at UC Davis (Oral Presentation)

**Smith KL, Wiegmann DD and Seubert S.** Multi-attribute mate choice decisions and uncertainty in the decision process: A generalized sequential search strategy.

Trout Lake Research Station Limnology and Marine Science Seminar Series (Oral Presentation)

**Smith KL**, Wiegmann DD and Seubert S. Multi-attribute mate choice decisions and uncertainty in the decision process: A generalized sequential search strategy.

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**GRANTS, FELLOWSHIPS, AND AWARDS**

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**2013**

National Science Foundation

Symposium proposal ("Meeting: SICB 2014 Parasitic manipulation symposium, Austin, Texas, 3-7 January 2014) recommended for funding. 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 (with A. Sih)

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)

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## **PROFESSIONAL MEMBERSHIP**

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American Association of University Women

Animal Behavior Society

American Fisheries Society

American Society of Parasitologists

Society for Integrative and Comparative Biology

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## **SERVICE AND LEADERSHIP**

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### **PUBLIC OUTREACH**

#### Science podcasting

The Weekly Weinersmith (September 2011 – present): Co-host, producer, and editor.

Science...sort of (2011 – present): Co-host.

Wild Ideas...the Podcast: Guest to talk about parasites on episodes 162 and 222.

#### Science blogs to which I contribute

Weinersmith ([www.weinersmith.com](http://www.weinersmith.com)): My science blog

Paleocave Blog ([www.paleocave.sciencesort.com](http://www.paleocave.sciencesort.com)): Blog for the Science...sort of podcast

SciFund Challenge ([www.scifundchallenge.org](http://www.scifundchallenge.org)): Blog for the SciFund Challenge, an organization devoted to science outreach and science crowdfunding.

Damn Right Science ([www.damnrightscience.wordpress.com](http://www.damnrightscience.wordpress.com)): A blog celebrating the diversity of scientists.

#### Community outreach

#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:  
[www.slate.com/blogs/bad\\_astronomy/2013/05/20/scifund\\_challenge\\_why\\_do\\_outreach.html](http://www.slate.com/blogs/bad_astronomy/2013/05/20/scifund_challenge_why_do_outreach.html)

Women in Science Panel at Geek Girl Con (October 2011 in 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 (July 2011 in 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.

Reviewer of the Science Framework for California Public Schools (2008): 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**

### 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)

### Scientific society service

American Society of Parasitologists Communications Committee member (2013-2014)

### Journal reviewer

The American Naturalist (2/13)  
Behaviour (12/11)  
Behavioral Ecology (6/13)  
Behavioral Ecology and Sociobiology (10/08)  
Journal of Ethology (11/11)

### University and Departmental Service

*University of California, Davis* (2007-2010)  
Ecology Graduate Student Association (EGSA): Co-chair  
Graduate Student Senate (GSA): EGSA representative

*Bowling Green State University* (2005-2006)  
Biology Graduate Student Association (BGSA): President  
University Committee on Ogg Science Library: Committee member  
Graduate Student Senate: BGSA representative

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## **TEACHING AND MENTORING EXPERIENCE**

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

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

*University of California Santa Barbara* (Summer 2011)  
Summer Session Research Mentorship Program: 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.

*University of California Davis* (Winter 2008)

Teaching assistant for General Ecology: Moderated discussions and debates, led review sessions, and assisted in grading.

*Bowling Green State University (Spring 2007)*

Teaching assistant for Animal Behavior: Oversaw in-class experiments and assisted the students in designing and executing individual animal behavior projects.

*Bowling Green State University (Fall 2006)*

Guest lecturer and teaching assistant for Population and Community Ecology: Delivered three lectures and a series of presentations on mathematical and statistical techniques in ecology. Graded assignments associated with these presentations and course examinations.

*Bowling Green State University (Fall 2005):*

Teaching assistant for The Environment of Life: Oversaw in-class experiments and graded lab reports.

**Students I have mentored (undergraduates and high school students\*):**

Tyler King (University of Alabama, Summer 2013 – present)

*Skills taught:* Tyler will be trained on techniques for measuring fish behavior and hormone levels, as well as techniques for controlled infections.

Jelani Grace (University of Alabama, Fall 2012- present):

*Skills taught:* how to collect and measure California killifish hormones, as well as how to dissect killifish and quantify the number of parasites with which they are infected.

*Publications:* Jelani has earned co-authorship on an upcoming paper on correlations between behavior and parasite intensity in wild-caught California killifish.

Walter Smith (University of Alabama, Fall 2012 - present):

*Skills taught:* how to collect and measure California killifish hormones, as well as how to dissect killifish and quantify the number of parasites with which they are infected.

Madeline Haddock (University of Alabama, Spring 2012 – Spring 2013):

*Skills taught:* how to collect and measure California killifish hormones, as well as how to dissect killifish and quantify the number of parasites with which they are infected. Madeline also aided in the analysis of behavioral videos.

*Publications:* Madeline has earned co-authorship on an upcoming paper on correlations between behavior and parasite intensity in wild-caught California killifish.

Zöe Zilz (University of California Santa Barbara)

*Skills taught:* how to dissect killifish and quantify the number of parasites with which they are infected.

Chloe Warinner\*, Jesse Lei\*, & Virginia Tan\* (University of California Santa Barbara, Summer 2011):

*Skills taught:* techniques for shedding trematode parasites from snails, dissecting California killifish, counting trematode parasites in their intermediate hosts, and quantifying the volume of trematode metacercariae.

*Publications:* Virginia and Chloe earned co-authorship on an in-prep manuscript resulting from this work.

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## REFERENCES

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Dr. Ryan Earley

University of Alabama  
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(205) 348-1827

Dr. Ryan Hechinger

University of California Santa Barbara  
Hechinger@lifesci.ucsb.edu  
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Dr. Andrew Sih (PhD advisor)

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Dr. Daniel Wiegmann (Master's advisor)

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