

Mark Aaron Fisher

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EDUCATION

Ph.D.

2007-2013

UNIVERSITY OF GEORGIA

Athens, GA

- Department of Genetics
- Doctoral Adviser: Kenneth Ross (Entomology and Genetics)

Undergraduate (B.S.)

2003-2007

YALE UNIVERSITY

New Haven, CT

- Major: Ecology and Evolutionary Biology (E&EB)
 - Undergraduate Adviser: Suzanne Alonzo (E&EB), Antonia Monteiro (E&EB)
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RESEARCH INTERESTS

- Conservational cloning
 - Conservation genomics
 - Population genomics of social insects
 - Behavioral genetics of social insects
 - Ex-situ* conservation
 - De-Extinction
 - Population genomics of invasive species
 - Self-organization and emergent behaviors of social insects
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ACADEMIC AWARDS

2007-2012

University of Georgia Presidential Graduate Fellowship: "The University of Georgia's Presidential Graduate Fellows Program was established to recruit exceptionally qualified students to our doctoral graduate programs. The awards are for an annual 12-month stipend of \$24,000. Students entering UGA with a bachelor's degree will be guaranteed up to 5 years of funding."

PUBLICATIONS

Accepted

Fisher, M.A. *HeFPipe*: An analytical pipeline for heterozygosity-fitness correlations.

Software and documentation available at GitHub:

https://github.com/Atticus29/HefPipe_repos

In Preparation

Fisher, M.A., Shoemaker, D., Ross, K. Heterozygosity-fitness associations in an invasive population of the fire ant, *Solenopsis invicta*.

In Preparation

Fisher, M.A., Ross, K., Shoemaker, D. Fitness effects of infection by three RNA viruses on foundress queens and incipient colonies of the invasive fire ant, *Solenopsis invicta*.

PRESENTATIONS AND POSTERS

2013

Fisher, M.A., Ross, K., Shoemaker, D. Fitness costs of SINV-1 and SINV-2 viral infections on incipient queens and colonies of the invasive fire ant, *Solenopsis invicta*. Evolution 2013, Snowbird, UT. June, 2013. **TALK**

2012

Fisher, M.A., D. Promislow. Applying WIP [Writing Intensive Program] principles to oral presentations. The University of Georgia Graduate Student Association 2012 Interdisciplinary Conference. Athens, GA. March, 2012. **POSTER**

2010

Fisher, M.A., K. Ross. Heterozygosity-fitness associations in the invasive fire ant, *Solenopsis invicta*: early hints of cryptic inbreeding? Southeastern Population Ecology and Evolutionary Genetics (SEPEEG) 2010, Madison, FL. September 2010. **TALK**

2010

Fisher, M.A., K. Ross. Heterozygosity-fitness associations in the invasive fire ant, *Solenopsis invicta*. International Union for Study of Social Insects (IUSSI) 2010, Copenhagen, Denmark. August, 2010. **POSTER**

SKILLS AND TECHNIQUES

[★ denotes a skill that has been particularly strongly cultivated ; (#) denotes number of years experience]

Molecular Techniques

- ★High-throughput Microsatellite marker design and genotyping (4)
- ★Restriction-site-Associated DNA (RAD)-tag library preparation (2)
- PCR (5)
- RT-PCR (Reverse Transcription) (2)
- DNA Extraction (5)

Genetics Software

- ★GeneMarker—Genotyping Microsatellites (4)
- GenePop—Population Genetics Analyses (e.g. HWE) (1)
- RMES—Detecting identity disequilibrium (1)
- GEPHAST—Identify Genotype x Phenotype Associations (2)

Programming

- ★Python—Module-writing, regular expressions, file manipulation, and comfort with object-oriented programming; basic familiarity with the objects in BioPython (4)
- ★R (3)
- Command Line (3)
- Web Design (1)

Languages

- English—Native speaker (28)
- German—Conversational (3)
- Spanish—Conversational (7)
- Italian—Elementary (1)

SYNERGISTIC ACTIVITIES

2012

- Served as an anonymous reviewer for the journal, *Evolution*

2011, 2010

- Organized a group of UGA genetics graduate students to judge the science fair projects of students from Hilsman Middle School in Athens, GA. Also served as a judge at the fair.

2010, 2009

- Served as a graduate reviewer for the CURO [Center for Undergraduate Research Opportunities] undergraduate research symposium at the University of Georgia

2008-2009

- Served as Student Representative of the UGA Genetics department, where my responsibilities included: organizing the annual departmental retreat, organizing graduate student recruiting, obtaining funding for the purpose of and inviting student-elected speakers to UGA and coordinating their visits, and acting as the liaison between students and faculty by arranging student meetings with members of the Graduate Affairs Committee, participating in faculty meetings, and voting on behalf of the student body at these meetings on issues as they arose.
- Spearheaded a restructuring of the Genetics Graduate Student Association (GGSa) officership (by dividing the responsibilities of the student representatives into

several different offices and adding new responsibilities), as well as a reorganization of the GGSA constitution.

TEACHING

Teaching Portfolio

- Link: http://dl.dropbox.com/u/15818688/Fisher_Mark_teachingPortfolio.pdf
 - The teaching portfolio provides a more in-depth perspective of my teaching practice and philosophy, as well as a teaching recommendation, relevant coursework, teaching awards, certifications, and student feedback. Example teaching material, including links to talks I have delivered, is also provided.
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Teaching Experience

Genetics (GENE 3200):

Semesters taught:

Summer, 2013

Teaching Responsibilities:

Each teaching assistant was responsible for leading 2 one-hour discussion sections for a particular unit of the course. During the sections—which averaged in about 15 students—I reviewed difficult topics that were introduced during the lectures, provided students with the opportunity to practice these concepts, and answered questions about topics introduced during the lectures. TAs were also responsible for covering all of the material from problem sets selected from the book and generated by the instructor, as well as for grading the five exams.

Evolutionary Biology (GENE/BIOL 3000):

Semesters taught:

Spring 2010, Spring 2011, Spring 2012

Teaching Responsibilities:

Each teaching assistant was responsible for leading 3 (2010) or 2 (2011/2012) one-hour discussion sections each week, during which I reviewed difficult topics from the lecture material, provided students with the opportunity to practice these concepts and ask questions about them. TAs were also responsible for covering all of the material from a supplementary text, Jonathan Weiner's The Beak of the Finch; grading weekly quizzes or problem sets; generating questions that appeared on the quizzes, problem sets, and exams; and grading the three exams.

Evolutionary Medicine (GENE 4070):

Semesters taught:

Fall 2011

Teaching Responsibilities:

I helped design the course syllabus and schedule, delivered two 20-minute lectures during class time, led a 45-minute discussion during class time, selected papers and supplementary materials for two classes, devised one of the course's weekly writing assignments and edited several others, designed rubrics for one middle-stakes assignment and the final paper, and organized a guest lecture that covered how to use the library's database resources. I was also actively involved with the oral presentation component of the course, for which I delivered a brief "how to give a talk" lecture, recorded and posted student presentations electronically, and discussed students' presentations with them during individual conferences. Finally, as a WIP, TA I graded and/or provided comments for a majority of the written assignments, including the final paper.

Mentoring

2011

- Autonomously mentored undergraduate ecology/entomology student, Victoria (Tori) Staples. Training included RNA extraction, RT-PCR, gel electrophoresis, fire ant collection and husbandry, retrieval and comprehension of journal articles, and experimental design.

2008-2010

- Trained an undergraduate student, Stephanie Tiv, at the University of Georgia in ant collecting and culturing techniques, PCR, and microsatellite genotyping methods

Guest Lectures

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| 2012 | <ul style="list-style-type: none">• “Genetic Variation” Guest lecture for GENE 4070 (Evolutionary Medicine). Refer to teaching portfolio for more information.• “Genomic Imprinting” Guest lecture for GENE 4070 (Evolutionary Medicine). Refer to teaching portfolio for more information. |
| 2010 | <ul style="list-style-type: none">• “Self-Organization and Emergent Properties in Biological Systems” Guest lecture for GENE 3000 (Evolutionary Biology). |

Teaching Certifications

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| 2012 | <ul style="list-style-type: none">• University of Georgia Interdisciplinary Certificate in University Teaching |
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Teaching Awards

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| 2012 | <ul style="list-style-type: none">• University of Georgia Outstanding Teaching Assistant Award• Nominee for the University of Georgia Excellence in Teaching Award (only one nominee is permitted per department) |
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RECOMMENDERS

Dr. Kenneth Ross (dissertation advisor)
Professor of Entomology
Department of Entomology
413 Biological Sciences Building
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1.706.542.7699
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Dr. Daniel Promislow (committee member, teaching mentor)
Professor of Genetics
Department of Genetics
Davison Life Sciences Building
Athens, GA 30602-2603
1.706.542.1715
promislow@uga.edu
promislo@uw.edu (just left the faculty at UGA)

Dr. DeWayne Shoemaker (committee member, collaborator)
Research Entomologist
USDA Agricultural Research Service (ARS)
Medical, Agricultural, and Veterinary Entomology
1600 S.W. 23rd Drive
Gainesville, FL 32608
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