**Heath Blackmon**

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# Academic Positions

|  |  |
| --- | --- |
| Postdoctoral Researcher, University of Minnesota; Goldberg Lab | 2015 – present |
| Graduate Fellow, National Evolutionary Synthesis Center (NESCent) | 2013 |
| Graduate Teaching Assistant, University of Texas at Arlington, Biology Dept. | 2010 – 2015 |
| Graduate Teaching Assistant, University of Texas at Arlington, UTEACH | 2012, 2014 – 2015 |

# Education

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| --- | --- |
| Ph.D., Quantitative Biology, University of Texas at Arlington; Demuth Lab 4.0/4.0 | 2015 |
| B.S., Environmental Science – Fisheries and Wildlife Biology, Oregon State University, Summa Cum Laude 3.9/4.0 | 2010 |

# Additional Training

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| --- | --- |
| CIRTL Associate level certification in STEM teaching | 2015 |
| Bark Beetle Academy – University of Florida | 2014 |
| Bodega Phylogenetics Workshop – University of California Davis | 2012 |

**Peer Reviewed Publications**

**Published**

1. **Blackmon, H.**, and J. P. Demuth. 2015. The fragile Y hypothesis: Y chromosome aneuploidy as a selective pressure in sex chromosome and meiotic mechanism evolution. *Bioessays* 37(9):942-950.
2. **Blackmon, H.**, and J. P. Demuth. 2015. Coleoptera Karyotype Database. *The Coleopterists Bulletin* 69(1):174-175.
3. Ross, L., **H. Blackmon**, P. Lorite, V. Gokhman, and N. Hardy. 2015. Recombination, chromosome number and eusociality in the Hymenoptera. *Journal of Evolutionary Biology* 28(1):105-116.
4. **Blackmon, H.**, and J. P. Demuth. 2015. Genomic origins of insect sex chromosomes. *Current Opinion in Insect Science* 7:45-50.
5. **Blackmon, H.**, and J. P. Demuth. 2014. Estimating tempo and mode of Y chromosome turnover: explaining Y chromosome loss with the fragile Y hypothesis. *Genetics* 197(2):561-572.
6. Streicher, J. W., T. J. Devitt, C. S. Goldberg, J. H. Malone, **H. Blackmon**, and M. K. Fujita. 2014. Diversification and asymmetrical gene flow across time and space: lineage sorting and hybridization in polytypic barking frogs. *Molecular Ecology* 23(13):3273-3291.
7. Tree of Sex Consortium. 2014. Tree of Sex: A database of sexual systems. *Scientific Data* 1:140015.
8. **Blackmon, H.**, and J. P. Demuth. 2012. Ring Species and Speciation. *Encyclopedia of Life Science*. www.els.net

**Accepted**

1. **Blackmon, H.**, N. Hardy, L. Ross. 2015. The evolutionary dynamics of haplodiploidy: genome architecture and haploid viability. *Evolution* – accepted
2. Ross, L. **H. Blackmon.** 2015. Sex Determination in *Encyclopedia of Evolutionary Biology.* Elsevier – accepted

**Submitted**

1. Richard Adams; **H. Blackmon**; J. Reyes-Velasco; D. Schield; D. Card; A. Andrew; N. Waynewood; T. Castoe. 2015. Microsatellite landscape evolutionary dynamics across 450 million years of vertebrate genome evolution. *Genome*

**In Preparation**

1. **Blackmon, H.** and J.P. Demuth. 2015. Assessing the Impact of Key Ecological and Phenotypic Transitions on the Rate of Karyotype Evolution: Drift Drives the Evolution of Chromosome Number. – in revision for resubmission to *Evolution*
2. **Blackmon, H.** and J.P. Demuth. 2015. An information-theoretic approach to estimating genetic architectures: moving beyond the joint-scaling test for line cross analysis. – in revision for submission to *Journal of Heredity*
3. **Blackmon H.,** Ross L, Bachtrog D. 2015. Sex determination, sex chromosomes and karyotype evolution in insects.
4. Asian Longhorn Beetle Genome Consortium. 2015. The genome of an invasive wood-boring pest. *Responsible for analyses of genome structural evolution*

**Other Publications**

1. Blackmon, H. 2014. Coleoptera Karyotypes: The evolution of sex chromosomes and chromosome number. Newsletter of the Ontario Entomological Society 19(2) 19–21
2. Blog - Coleopterists Corner. 95 posts. Views ~ 1,000/month
3. Open Database - Coleoptera Karyotype Database. Users = 150+/year
4. ShinyApps – Interactive learning webpages. Hours = 100+/year

# Funding and Awards

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| --- | --- |
| University of Minnesota Postdoctoral Symposium outstanding poster | Fall 2015 |
| University of Texas at Arlington Learning Community Grant $500 | Spring 2014 |
| NESCent Graduate Student Fellowship $23,200 | Fall 2013 |
| University of Texas at Arlington Dissertation Writing Fellowship $6,726 | Summer 2013 |
| University of Texas at Arlington Excellence in Teaching Award $500 | 2013 |
| Eck Institute for Global Health Travel Grant $600 | Summer 2013 |
| NESCent Working Group Travel Funds $2,300 | 2012 |
| Department Travel Grant - Bodega Phylogenetics Workshop $1,125 | 2012 |
| Carrizo Oil and Gas Doctoral Student Fellowship $10,000 | 2010-2015 |
| The Utley Graduate Fellowship $2,000 | 2010 |

**Presentations**

1. The Future of Y chromosomes, American Genetics Association: President’s Symposium, Bainbridge Island. 2015
2. Y chromosome loss and the future of males, University of Minnesota Postdoctoral Symposium. 2015 – poster
3. Evolution of Genome Structure in Coleoptera, Arthropod Genomics Conference, Notre Dame, Indiana. 2014 – poster
4. Ecology and the Evolution of Genome Structure in Coleoptera, Department Seminar, University of Texas at Arlington. 2014
5. Tempo and Mode of Sex Chromosome Evolution in Coleoptera, Department Seminar, University of Texas at Austin. 2013
6. Rates of Y Chromosome Degeneration in Coleoptera, Evolution Conference joint meeting of SSE, SSB, and ASN. Ottawa, Canada. June 2012 – poster
7. Chromosome Evolution in Coleoptera, Evolution Conference joint meeting of SSE, SSB, and ASN. Norman, Oklahoma. June 2011 – poster

**Software and Databases**

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| --- | --- | --- |
| SAGA: Software for the Analysis of Genetic Architecture. | *github.com/coleoguy/SAGA* | 2015 |
| Wright-Fisher Simulator | *evobir.shinyapps.io/wf\_model/* | 2015 |
| Tree of Sex Database – responsible for invertebrate dataset | *treeofsex.org* | 2014 |
| EvobiR: R package for evolutionary analysis and teaching. | *github.com/coleoguy/evobiR/* | 2013 |
| Coleoptera Karyotype Database. | *uta.edu/karyodb/* | 2012 |

**Teaching Experience** (U – undergraduate G – graduate)

**Developed curricula and primary instructor**

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| --- | --- | --- |
| Introduction to R for Biologists | G 12 students | 2013 |
| Entomology Laboratory | U 60 students | 2011 |

**Teaching assistant**

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| --- | --- | --- |
| Bioinformatics | G 21 students | 2014 |

**Laboratory instructor**

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| --- | --- | --- |
| Anatomy and Physiology I | U 96 students | 2014-2015 |
| Anatomy and Physiology II | U 72 students | 2014 |
| Research Methods | U 76 students | 2012, 2014-2015 |
| Zoology | U 46 students | 2012 |
| Introductory Biology (science majors) | U 72 students | 2010 |

**Guest lectures**

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| --- | --- | --- |
| Graphing in R | G 21 students | 2012 |
| Ancestral State Reconstruction | G 14 students | 2011 |
| Phyloinfomatics | G 21 students | 2014 |
| Evolution and Ecology of Insects | U 191 students | 2011 |

**Average student evaluation 4.5/5**

**Professional Memberships**

Genetics Society of America; American Genetics Association; Coleopterists Society; American Society of Naturalists; Phi Sigma Graduate Biology Honor Society; American Association for the Advancement of Science

**Journal Review**

Evolution; Proceedings of the Royal Society B; Heredity; International Journal of Gynecology and Obstetrics Research; Axios; Genome Biology and Evolution

**University and Community Service**

2015 – present

Organize and facilitate the evoltwin group (evolution in the twin cities)

2010 – present

Elementary and Middle School Hands on Science Programs:

Scientific Inference - Fossils and Skeletons: 213 students

Insects Adaptation: 69 students

2015 Software Carpentry Class at University of Texas at Arlington; assistant

2015 Organized and led learning community – Primary literature in undergraduate biology

2014 Formed and moderated foundations of evolutionary biology graduate study group

2012 Session Moderator for ACES conference

2012 Faculty search committee — graduate student representative

2011 Judge for Undergraduate Research Posters at LSAM Conference