

MATTHEW J. BALLINGER

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Department of Biological Sciences
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EDUCATION

PhD: Biology, State University of New York at Buffalo, NY Jun 2010 – May 2015
Advisor: Derek Taylor
Thesis: Paleovirology and evolution of RNA viruses of arthropods

BA: Binghamton University, NY Aug 2008 – May 2010
Advisor: Steve Tammariello
Biology major
With Honors for Distinguished Independent Work
summa cum laude

EMPLOYMENT HISTORY

Assistant Professor, Department of Biological Sciences, Aug 2018 – Current
Mississippi State University, MS

Postdoctoral Research Associate, Department of Biology, Jun 2015 – May 2018
University of Victoria, Victoria, British Columbia
Supervisor: Steve Perlman

PROFESSIONAL RECOGNITION, AWARDS, AND HONORS

Member, International Committee on Taxonomy of Viruses, Phasmaviridae Study Group 2017-present
Center for Advanced Molecular Biology and Immunology, Research Fellowship 2010-2011
James Wilmoth Award for Excellence in Biology 2010

PRESS AND HIGHLIGHTS

Gifted Microbes and Defensive Symbiosis. This Week in Microbiology: Episode #156. Jul 2017
Podcast episode highlighting Ballinger and Perlman 2017

Scientists Rein In Fears of Ebola, a Virus Whose Mysteries Tend to Invite Speculation Oct 2014
NY Times article by Carl Zimmer highlighting Taylor et al. 2014

PUBLICATIONS

Ballinger MJ, Moore LD, and Perlman SJ. 2018. Evolution and diversity of inherited *Spiroplasma* in *Myrmica* ants. *Applied and Environmental Microbiology*. 84(4). DOI: 10.1128/AEM.02299-17

Gomez-Polo P, **Ballinger MJ**, Lalar M, Malik A, Ben-Dov Y, Mozes-Daube N, Perlman SJ, lasur-Kruh L, and Chiel E. 2017. An exceptional family: Ophiocordyceps-allied fungus dominates the microbiome of soft scale insects. Hemiptera: Sternorrhyncha: Coccidae. *Molecular Ecology*. 26(20):5855-5868. DOI: 101111/mec14332

Ballinger MJ, Medeiros AS, Qin J, and Taylor DJ. 2017. Unexpected differences in the population genetics of phasmavirids (Bunyavirales) from subarctic ponds. *Virus Evolution*. DOI: 101093/ve/vex015

Ballinger MJ and Perlman SJ. 2017. Generality of toxins in defensive symbiosis: Ribosome-inactivating proteins and defense against parasitic wasps in *Drosophila*. *PLOS Pathogens*. 13(7): e1006431 DOI: 101371/journalppat1006431

lasur-Kruh L, Naor V, Zahavi T, **Ballinger MJ**, Sharon R, Robinson WE, Perlman SJ, Zchori-Fein E. 2017. Bacterial associates of *Hyalesthes obsoletus*. Hemiptera: Cixiidae. the insect vector of *bois noir* disease with a focus on cultivable bacteria. *Research in Microbiology*. 168(1):94-101 DOI: 101016/j.resmic201608005

Taylor DJ, **Ballinger MJ**, Medeiros AS, and Kotov AA. 2014. Climate-associated tundra thaw pond formation and range expansion of boreal zooplankton predators. *Ecography*. DOI: 101111/ecog01514

Taylor DJ, **Ballinger MJ**, Zhan JJ, Hanzly LE, and Bruenn JA. 2014. Evidence that ebolaviruses and cuevaviruses have been diverging from marburgviruses since the Miocene. *PeerJ*. 2:e556 DOI: 107717/peerj556

Ballinger MJ, Bruenn JA, Hay J, Czechowski D, and Taylor DJ. 2014. Discovery and evolution of bunyavirids in arctic phantom midges and ancient bunyavirid-like sequences in insect genomes. *Journal of Virology*. 88(16): 8783-94 DOI: 101128/JVI00531-14

Ballinger MJ, Bruenn JA, Kotov AA, and Taylor DJ. 2013. Selectively maintained paleoviruses in Holarctic water fleas reveal an ancient origin for phleboviruses. *Virology*. 446(1-2):276-82 DOI: 101016/j.virol201307032

Taylor DJ, **Ballinger MJ**, Bowman SM, and Bruenn JA. 2013. Virus-host coevolution under a modified nuclear genetic code. *PeerJ*. 1:e50 DOI: 107717/peerj50

Ballinger MJ, Bruenn JA, and Taylor DJ. 2012. Phylogeny integration and expression of sigma virus-like genes in *Drosophila*. *Molecular Phylogenetics and Evolution*. 65(1):251-8 DOI: 101016/j.ympbev201206008

Taylor DJ, Dittmar K, **Ballinger MJ**, and Bruenn JA. 2011. Evolutionary maintenance of filovirus-like genes in bat genomes. *BMC Evolutionary Biology*. 11:336 DOI: 101186/1471-2148-11-336

TEACHING EXPERIENCE

Lab Teaching Assistant, University at Buffalo:

BIO 201: Cell Biology, Spring 2015

BIO 200: Evolutionary Biology, Fall 2014

BIO 215: Biochemistry, Spring 2012

BIO 329: Genetics Laboratory, Fall 2011

Lecture Teaching Assistant, University at Buffalo:

BIO 200: Evolutionary Biology, Spring 2010

Undergraduate Teaching Assistant, Binghamton University:
BIO 118: Introduction to Cell and Molecular Biology, Fall 2009

CONTRIBUTED PRESENTATIONS

Entomological Society of British Columbia (oral)	Oct 2017
Gordon Conference on Animal-Microbe Symbiosis (invited oral and poster)	Jun 2017
Canadian Institute for Advance Research, Integrated Microbial Biodiversity (oral)	Jun 2017
Canadian Society for Ecology and Evolution (oral)	May 2017
Sinergia Symposium (oral)	Jun 2015
Buffalo Biology Symposium (poster)	Mar 2014
Buffalo Biology Symposium (poster)	Mar 2013
Buffalo Biology Symposium (poster)	Mar 2011