

**GARETH R. HOPKINS, PhD**  
*Curriculum Vitae (CV)*

Postdoctoral Fellow  
Behaviour and Evolution Group  
School of BioSciences  
University of Melbourne  
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Citizenship: Canadian

**EDUCATION**

**PhD (Ecology), 2015**

Ecology Center and Department of Biology, Utah State University, USA

Major Advisors: Prof. Edmund D. Brodie, Jr., Assoc. Prof. Susannah S. French

*Dissertation title: Salt and the rough-skinned newt: Evolutionary investigations of local adaptation to an anthropogenic and natural stressor*

**BSc. (Biology, Natural Resources Management: Wildlife & Fisheries), 2010**

Ecosystem Science and Management, University of Northern British Columbia, Canada

**POSITIONS HELD**

2015-18	Research Fellow – Behaviour & Evolution Group	University of Melbourne, Melbourne, VIC, Australia
2015	Instructor	Utah State University, Logan, UT, USA
2010-15	Graduate Teaching Assistant	Utah State University, Logan, UT, USA
2007, 2009-10	Federal Entomology Research Assistant	Natural Resources Canada – Canadian Forest Service/ University of Northern British Columbia, Prince George, Canada
2008	Amphibian Ecology Research Assistant	Northern Amphibian Monitoring Outpost Society BC/ University of Northern British Columbia, Prince George, Canada
2006	Marine Environmental Education Co-Op Student (Public Interpreter)	Johnstone Strait Killer Whale Interpretive Centre, Telegraph Cove, BC, Canada
2004	Volunteer Research Field Assistant	University of British Columbia, Vancouver, Canada (Dr. Dolph Schluter's lab)

**PROFESSIONAL INTERESTS**

I am an organismal biologist and ecologist interested in how organisms are affected by, and respond to environmental change. This research spans multiple layers of biological organization, from the behavioral and physiological responses of individuals to the evolutionary responses of populations and the ecological responses of communities. My work, mainly focused on amphibians, reptiles, and insects, integrates lab and field studies, and is tailored for undergraduate researchers. I am passionate about the integration of teaching and research and actively incorporate research into my classes. I am a proponent of multimodal active learning and the benefits of outside of the classroom teaching. Mentoring students, and introducing them to the scientific process, is the most rewarding part of my career.

**TEACHING EXPERIENCE**

<b>Semester</b>	<b>Role</b>	<b>Course</b>	<b>University</b>
Sem. 1. 2018	Co-Instructor	ZOOL3007: Experimental Animal Behaviour	Univ. of Melbourne
Sept 2017	Guest Lecturer	BIOL 2046: Life on Earth-B	Univ. of South Australia
Sem.1 2016	Project Supervisor	ZOOL3007: Experimental Animal Behaviour	Univ. of Melbourne
Summer 2015	Instructor	BIOL1010: Biology & the Citizen	Utah State Univ.
Spring 2015	Head Laboratory Instructor and Guest Lecturer	BIOL 2420: Human Physiology	Utah State Univ.
Fall 2014	Laboratory Instructor and Guest Lecturer	BIOL 2420: Human Physiology	Utah State Univ.
Fall 2013	Laboratory Instructor	BIOL 1610: Intro. Biology	Utah State Univ.
Fall 2011	Laboratory Instructor	BIOL 1610: Intro. Biology	Utah State Univ.
2009-2010	Peer-Led Team Learning Leader	BIOL 101/2: Intro. Biology	Univ. Northern British Columbia

**ADDITIONAL PEDAGOGICAL TRAINING / SERVICE**

2017	Assistant for Animal Behaviour Pedagogical Research	Univ. Melbourne/ Univ. Newcastle
2016	Supervising Student Researchers Training Course for new Supervisors	Univ. Melbourne
2014	Effective University Teaching Course for Graduate Student Teaching Assistants	Utah State Univ.
2009	Presenter/Workshop Leader at 7 <sup>th</sup> Annual Teaching and Learning Conference: <i>"Peer-Led Team Learning and the Benefits of Outside of the Classroom Learning"</i>	Univ. Northern British Columbia
2009	Panelist: Provost's Panel on Integrating Teaching and Research	Univ. Northern British Columbia

**MENTORING / STUDENT SUPERVISORY EXPERIENCE**

Graduate Students (Primary or Co-supervisor):

- Martin Lockett (PhD, 2017-, UniMelb): Effects of artificial light at night on the behavioural and community ecology of insects (co-supervised by Dr. Therésa Jones, Uni Melbourne)
- Martin Lockett (M.Env., 2016, UniMelb): Effects of different spectra of artificial light at night on invertebrate communities (co-supervised by Dr. Therésa Jones, Uni Melbourne)

## Graduate Students (Committee Member):

- Sarah Nielsen (MSc., 2018, UniMelb): Using rapid acoustic surveys to measure diversity and complexity of birds in Sulawesi, Indonesia.
- Oakley Germech (MSc., 2019, UniMelb): The significance of “soft song” in fairy wrens

## Undergraduate Students (\*thesis co-supervision;):

- \*Georgia Kosmala (BS, 2012-13, USU): Effects of salinity on corticosterone levels of larval newts
- \*Austin Spence (BS, 2014-15, USU): Effects of ZnO nano-particles across life-history stages in an amphibian
- \*L. Michael Botha (BSs, 2015, UniMelb): Effects of artificial light at night on cricket mating & courtship behaviour
- \*Jasmine Maftei-Muirson (BSc, 2016-, UniSA): Salinity tolerance of *Crinia signifera* tadpoles in South Australia
- Christine Taylor (BSc, 2017, UniSA): Investigating the invasion biology of the spotted-thighed treefrog *Litoria cyclorhyncha* in South Australia
- Eliza Thompson (BSc, 2017-, UniMelb): Effects of artificial light at night on cricket activity and phonotactic mating behaviour
- Naomi Cullinan (BSc, 2017-, UniMelb): Effects of artificial light at night on cricket activity and phonotactic mating behaviour
- Arrabella Eyre (BSc, 2016-, UniMelb): Effects of artificial light at night on urban and rural cricket activity patterns
- Brittany Chamberlain (BS, 2013, USU), Jory Pett (BS, 2012-2014, USU), Britain Parrish (BS, 2011, USU) (summer research assistants)

**PUBLICATIONS** (Total Citations: 167, h-index: 7, i10: 6)

(<https://scholar.google.com.au/citations?user=HoP-PuQAAAAJ&hl=en>).

\* denotes undergraduate author

Submitted or in prep.:

Durso, A.M., Neuman-Lee, L.A., Hopkins, G.R., and E.D. Brodie, Jr. Stable isotope analysis suggests that tetrodotoxin-resistant Common Gartersnakes (*Thamnophis sirtalis*) rarely feed on newts in the wild. *In prep.*

Hopkins, G.R., Thompson, E.\*, Cullinan, N.\*, Elgar, M.A., Gaston, K.J., Visser, M., and T.M. Jones. Artificial light at night does not disrupt female phonotactic behaviour in the Australian field cricket, *Teleogryllus commodus*. *In prep.*

Published:

24. Hopkins, G.R., Gaston, K.J., Visser, M.E., Elgar, M.A., and T.M. Jones. 2018. Artificial light at night as a driver of evolutionary change across the urban-rural landscape. **Frontiers in Ecology and the Environment** *in press*.

23. Taylor, C.M.\*, Keppel, G., Peters, S., Hopkins, G.R., and G. Kerr. 2018. Establishment and potential spread of the invasive spotted-thighed tree frog, *Litoria cyclorhyncha* in South Australia. **Transactions of the Royal Society of South Australia** doi: 10.1080/03721426.2018.1444911.
22. Botha, L.M\*., Jones, T.M., and G.R. Hopkins. 2017. Effects of life-time exposure to artificial light at night on cricket (*Teleogryllus commodus*) mating and courtship behaviour. **Animal Behaviour** 129: 181-188 (IF=2.869, citations=0)
21. Hopkins, G.R., French, S.S., and E.D. Brodie, Jr. 2017. Interacting stressors and the potential for adaptation in a changing world: Responses of populations and individuals. **Royal Society Open Science** 4: 161057 (IF=n/a, citations=0)
20. Neuman-Lee, L., Grieves, T., Hopkins, G.R., and S.S. French. 2017. The role of the kisspeptin system in regulation of the reproductive endocrine axis and territorial behavior in male side-blotched lizards (*Uta stansburiana*). **Hormones and Behavior** 89: 48-54 (IF=3.378, citations=1)
19. Spence, A.R.\*., Hopkins, G.R., Neuman-Lee, L.A., Smith, G.D., Brodie, Jr., E.D., and S.S. French. 2016. Detrimental effects of zinc oxide nanoparticles on amphibian life stages. **Journal of Experimental Zoology A** 325A: 415-424 (IF=1.28, citations=1).
18. Hopkins, G.R., Brodie, Jr., E.D., Neuman-Lee, L.A., Mohammadi, S., Bruschi IV, G.A., Hopkins, Z.M.\*., and S.S. French. 2016. Physiological responses to salinity vary with proximity to the ocean in a coastal amphibian. **Physiological and Biochemical Zoology** 89 (4): 322-330 (IF=2.104, citations=7)
17. Hopkins, G.R. and Hopkins, Z.M.\* 2015. Salty salamander: Occurrence of a *Dicamptodon tenebrosus* in a tidal stream. **Northwestern Naturalist** 96 (2): 147-149 (IF=0.24, citations=2)
16. Hopkins, G.R. and E.D. Brodie, Jr. 2015. Occurrence of amphibians in saline habitats: A review and evolutionary perspective. **Herpetological Monographs**† 29: 1-27 (IF=2.5, citations=22)  
†cover photo
15. Smith, G.D.\*\*., Hopkins, G.R.\*\*., Mohammadi, S., Skinner, H.M., Hansen, T.\*., Brodie, Jr., E.D., and S.S. French. 2015. Effects of temperature on embryonic and early larval growth and development in the rough-skinned newt (*Taricha granulosa*). **Journal of Thermal Biology** 51: 89-95 (IF=2.157, citations=8)  
\*\* Both authors contributed equally (joint first author).
14. Neuman-Lee, L.A., Stokes, A.N., Greenfield, S.\*, Hopkins, G.R., Brodie, Jr., E.D. and S.S French. 2015. The role of corticosterone and toxicity in the antipredator behavior of the rough-skinned newt (*Taricha granulosa*). **General and Comparative Endocrinology** 213: 59-64 (IF=2.585, citations=14)
13. Wilson, N.J., Stokes, A.N., Hopkins, G.R., Brodie, Jr., E.D., and C.R. Williams. 2014. Functional and physiological resistance of crayfish to amphibian toxins: tetrodotoxin resistance in the

white river crayfish *Procambarus acutus*. **Canadian Journal of Zoology** 92: 939-945 (IF=1.347, citations=3)

12. Hopkins, G.R., Brodie, Jr., E.D., and S.S. French. 2014. Developmental and evolutionary history affect survival in stressful environments. **PLoS ONE** 9: e95174. doi:10.1371/journal.pone.0095174 (IF=2.806, citations=12)
11. Hopkins, G.R., French, S.S. and E.D. Brodie, Jr. 2013. Potential for local adaptation in response to an anthropogenic agent of selection: effects of road deicing salts on amphibian embryonic survival and development. **Evolutionary Applications** 6: 384-392 (IF=5.671, citations=23)
10. Hopkins, G.R., French, S.S., and E.D. Brodie, Jr. 2013. Increased frequency and severity of developmental deformities in rough-skinned newt (*Taricha granulosa*) embryos exposed to road deicing salts (NaCl & MgCl<sub>2</sub>). **Environmental Pollution** 173: 264-269 (IF=5.099, citations=22)
9. Neuman-Lee, L.A., Hopkins, G.R., Brodie, Jr., E.D., and S.S. French. 2013. Sublethal contaminant exposure alters behavior in a common insect: Important implications for trophic transfer. **Journal of Environmental Science and Health Part B** 48: 442-448 (IF=1.362, citations=4)
8. Ferry, E.E. \*, Hopkins, G.R., Stokes, A.N., Mohammadi, S., Brodie Jr, E.D. and B.G. Gall. 2013. Do all portable cases constructed by caddisfly larvae function in defense? **Journal of Insect Science** 13: 1-9 (IF=0.843, citations=6)
7. Hopkins, G.R., Gall, B.G., French, S.S. and E.D. Brodie, Jr. 2012. Interfamily variation in amphibian early life-history traits: raw material for natural selection? **Ecology and Evolution**† 2(7): 1637-1643 (IF=2.44, citations=7)  
 †Featured article on AmphibiaWeb July 10-15, 2012. [www.amphibiaweb.org](http://www.amphibiaweb.org)
6. Hopkins, G.R., Gall, B.G. and E.D. Brodie, Jr. 2011. Ontogenetic shift in efficacy of antipredator mechanisms in a top aquatic predator, *Anax junius* (Odonata: Aeshnidae). **Ethology** 117: 1093-1100 (IF=1.398, citations=12)
5. Gall, B.G., Hopkins, G.R. and E.D. Brodie, Jr. 2011. Mechanics and ecological role of swimming behavior in the caddisfly larvae *Triaenodes tardus*. **Journal of Insect Behavior** 24: 317-328 (IF=0.97, citations=6)
4. Hopkins, G.R.\* and P.N. Lahanas. 2011. Aggregation behaviour in a neotropical dendrobatid frog (*Allobates talamancae*) in western Panama. **Behaviour** 148: 359-372 (IF=1.394, citations=0)
3. Hopkins, G.R.\* and S.W. Migabo. 2010. Antipredator skin secretions of the Long-toed Salamander (*Ambystoma macrodactylum*) in its northern range. **Journal of Herpetology** 44: 627-633 (IF=0.911, citations=6)
2. Hopkins, G.R.\*, Klingenberg, M.D., and B.H. Aukema. 2009. Temptations of weevil: feeding and ovipositional behaviour of *Hylobius warreni* Wood (Coleoptera: Curculionidae) on bark in laboratory bioassays. **Agricultural and Forest Entomology** 11: 397-403 (IF=1.726, citations=3)

1. Öhrn, P., Klingenberg, M., Hopkins, G.\* and N. Björklund. 2008. Two non-destructive techniques for sex determination of live adult *Hylobius warreni*. **The Canadian Entomologist** 140: 617-620 (IF=1.264, citations=7)

### **JOURNAL INVOLVEMENT**

*Editorial Board Member:* Transactions of the Royal Society of South Australia  
*Reviewer for:* Proceedings of the Royal Society B: Biological Sciences; Ecology; Evolutionary Applications (3); Oecologia; Frontiers in Ecology and the Environment; Animal Behaviour; PLoS One; Journal of Zoology; Journal of Experimental Zoology A: Integrative and Ecological Physiology (3); Journal of Thermal Biology (2); Toxicon; Forest Ecology and Management; Aquaculture Research; Herpetological Journal; Herpetological Review; Biological Conservation; Transactions of the Royal Society of South Australia; Diversity; Comparative Biochemistry and Physiology; Marine and Freshwater Research; Frontiers in Zoology; Global Change Biology; Biological Journal of the Linnean Society; Annals of Applied Biology; Conservation Biology

### **MEMBERSHIPS IN PROFESSIONAL SOCIETIES**

International Society for Behavioral Ecology; Australasian Society for the Study of Animal Behaviour; Society for Northwestern Vertebrate Biology; Society for the Study of Amphibians and Reptiles; Canadian Society for Ecology & Evolution; American Society of Naturalists

### **CONFERENCE AND INVITED PRESENTATIONS**

<b>Year</b>	<b>Event</b>	<b>Location</b>	<b>Type</b>
<i>International</i>			
2016	International Society for Behavioral Ecology	Exeter, UK	Oral
2015	Soc. Integrative and Comparative Biology	Palm Beach, USA	Oral */ Poster*
2014	Soc. for Integrative and Comparative Biology	Austin, USA	Oral
2014	Genomes to Biomes Conference	Montréal, Canada	Poster
2013	Evolution Meetings	Snowbird, USA	Poster
2012	7 <sup>th</sup> World Congress of Herpetology	Vancouver, Canada	Oral
2011	Entomological Society of America	Reno, USA	Oral
2009	Entomological Society of America	Indianapolis, USA	Oral
2009	Joint Meeting of Ichthyologists and Herpetologists	Portland, USA	Oral
<i>National/Regional</i>			
2017	Aus. Soc. for the Study of Animal Behaviour	Mooroolbark, Australia	Oral
2013	Ecology and Evolution Seminar Series	McGill University, Canada	Invited Speaker

2011	Intermountain Graduate Research Symposium	Utah State University, USA	Oral
2010	Western Forest Insect Work Conference	Flagstaff, USA	Oral *
2009	7 <sup>th</sup> Annual Teaching and Learning Conference	UNBC, Canada	Oral
2009	Provost's Panel on Integrating Teaching and Research	UNBC, Canada	Invited Panelist
2008	Rising Stars of Research National Undergraduate Science Research Competition	Vancouver, Canada	Poster

\*Coauthor on presentation

### **GRANTS (11 TOTALING US\$16,168)**

2016	Robert Johanson and Anne Swann Award for Australian Faunal Research	AU\$3765
2016	Ian Potter Foundation Research Travel Grant	AU\$2100
2016	International Society for Behavioral Ecology Travel Award	US\$700
2014	MacMahon Endowed Ecology Graduate Student Research Award	US\$1000
2013	Society for Northwestern Vertebrate Biology Student Research Grant	US\$1000
2013	USU Ecology Center Graduate Research Support Award	US\$3000
2012	USU Ecology Center Graduate Research Support Award	US\$4000
2012	USU Ecology Center Conference Travel Award to attend WCH7	US\$700
2009	Soc. Study Amphibians Reptiles Student Travel Award to attend JMIH'09	US\$400
2009	UNBC Ecosystem Science and Management Research Travel Award	CD\$200
2007	UNBC van Adrichem Family Undergraduate Research Award	CD\$500

### **FELLOWSHIPS & AWARDS (13 TOTALING US\$93,820)**

2015	USU School of Graduate Studies Dissertation Fellowship ( <i>declined</i> )	US\$5000
2015	USU College of Science Graduate Researcher of the Year Award	US\$300
2011- 2014	Natural Sciences and Engineering Research Council of Canada (NSERC) Postgraduate Doctoral Fellowship	US\$63,000
2014	Canadian Society for Ecology and Evolution Poster Award	CD\$200
2012	Soc. Study Amphibians Reptiles Seibert Award (for paper given at World Congress of Herpetology 7)	Honourable Mention
2011	1 <sup>st</sup> Prize (Biology), Intermountain Graduate Research Symposium	US\$100
2010- 2011	Natural Sciences and Engineering Research Council of Canada (NSERC) Alexander Graham Bell Canada Graduate Fellowship ( <i>declined in favour of:</i> ) NSERC Postgraduate Fellowship ( <i>accepted</i> )	CD\$17,300
2009	Undergraduate Student Achievement in Entomology Award, Entomological Society of America	US\$2000
2008	1 <sup>st</sup> Prize (Discovery Division), Rising Stars of Research National Undergraduate Research Competition	CD\$500
2008	Association of Professional Biologists of BC Scholarship	CD\$1000

2008	Petro-Canada Undergraduate Environmental Science Award	CD\$2000
2005	Univ. Nor. British Columbia Leadership Undergraduate Entrance Award	CD\$2000
2001-3	Medals in Greater Vancouver Regional Science Fairs ( <i>Secondary School</i> )	

### **ACADEMIC SERVICE**

2017	Conference Organizing Committee, Australasian Society for the Study of Animal Behaviour (ASSAB) Conference	ASSAB
2016-17	BioSciences Early Career Researchers Group Founding Committee Member	Univ. Melbourne
2016	Behaviour & Evolution Research Group Meeting Coordinator	Univ. Melbourne
2015-17	Marker/Assessor, Masters theses (4), Undergraduate / Honours Research Projects (2), MSc. Presentations (2)	Univ. Melbourne
2014-15	Student Representative, Ecology Position Search Committee	Utah State University
2014-15	Chair, Academic Committee & Member, Fundraising Committee, USU Biology Graduate Student Association	Utah State University
2014	Co-Chair, Evolutionary Physiology Session	SICB Annual Meeting
2013-14	Member, Academic and Fundraising Committees, USU Biology Graduate Student Association	Utah State University
2011-12	President, USU Biology Graduate Student Association	Utah State University
2011-12	Ecology Center Seminar Series Committee Member	Utah State University
2010-11	Vice-President, USU Biology Graduate Student Association	Utah State University
2007	UNBC Senator (Student Representative)	UNBC Senate

### **PUBLIC ENGAGEMENT**

I have led or participated in 25 different science public outreach events since 2006, presenting about the natural history and conservation of insects, amphibians, and reptiles to diverse audiences ranging from daycare children to adults. I have volunteered as a school science fair judge, and animal carer for various educational and conservation organizations. My research has also been featured in several media outlets (e.g., CBC Radio Daybreak North and <http://www.hakaimagazine.com/article-short/secret-lives-coastal-frogs>).



## **REFERENCES**

**Prof. Edmund D. Brodie, Jr., PhD** (PhD Dissertation Supervisor)

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**Dr. Therésa Jones, PhD.** (Postdoctoral Research Supervisor)

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### **Teaching Reference:**

**Assoc. Prof. Brett A. Adams, Ph.D.** (Professor, Human Physiology)

Associate Professor

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