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# Michael M. Kasumovic

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Postdoctoral Research Fellow  
Evolution & Ecology Research Centre  
School of Biological, Earth & Environmental Science  
The University of New South Wales  
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ResearcherID: F-1331-2011

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## Postdoctoral Experience

2007-Present Australian Postdoctoral Fellow and Chief Investigator on an Australian Research Council Discovery Grant at the School of Biological, Earth & Environmental Sciences, University of New South Wales, Sydney, Australia.

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## Education

2002-2007 Doctor of Philosophy (ecology and evolution)  
Department of Ecology & Evolutionary Biology, University of Toronto, ON  
Thesis: Effects of developmental plasticity and antagonistic selection on phenotypic variation in spiders.  
*Advisor:* Maydianne C. B. Andrade

2000-2002 Master of Science (animal ecology)  
Department of Biological, Queen's University, Kingston, ON  
Thesis: Male and female reproductive tactics in Least Flycatcher (*Empidonax minimus*) clusters.  
*Advisors:* Laurene M. Ratcliffe & Peter T. Boag

1995-2000 Bachelor of Science (honours biology)  
Department of Biology, McMaster University, Hamilton, ON  
Thesis: Primary sex ratio variation in two brood parasitic birds: The Brown-headed Cowbird and the Common Cuckoo.  
*Advisor:* H. Lisle Gibbs

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## Grants

2012 UNSW Science Faculty Interdisciplinary Research Grant (\$25,000 AUD)  
*Title:* An evolutionary approach to understanding why men love violent and competitive video games: A test of the dominance-practice hypothesis.  
*Held in collaboration with* C.I. Tom Denson; School of Psychology

2012-2015 Hermon Slade Foundation (\$50,000 AUD)  
*Title:* Understanding the role of the ecological and social environment in the evolution of complex communication in peacock spiders

2012-2014 Australian Research Council Discovery Early Career Research Award (\$375,000 AUD)  
*Title:* Re-evaluating evolution by examining developmental plasticity in response to the social environment

2012-2014 Australian Research Council Discovery Project (\$270,000 AUD)  
*Title:* Adaptive plasticity and evolution: linking the genotype and the environment to understand phenotypic evolution and expression

2008-2011 Australian Research Council Postdoctoral Fellowship (\$268,648 AUD)  
*Title:* The importance of phenotypic plasticity in maintaining and introducing variation

2007-2009 NSERC Postdoctoral Fellowship (\$80,000 CAD)

*Title:* Understanding the relative importance of ecological and social factors in triggering phenotypic plasticity

## **Honours, Awards & Scholarships**

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- 2012 Recipient of the UNSW *Faculty of Science Early Career Researcher Award*
- 2012 Recipient of the *Life Science & Biological Sciences Scopus Young Research of the Year*
- 2012 Invited speaker for the Behavioural Plasticity Symposium at the 2012 *Animal Behaviour Society International Meeting*
- 2012 Selected for the UNSW Press compendium of *The Best Australian Science Writing 2012*
- 2011 Recipient of the *American Society of Naturalists Young Investigator Prize*
- 2010 NSW *Young Tall Poppy Science Award Winner* (State-wide Early Career Researcher Award across all science disciplines)
- 2007 Animal Behaviour Research Grant
- 2006 University of Toronto Ramsey Wright Award (Top graduate student in EEB)
- 2006 University of Toronto, Scarborough Graduate Student President's Prize (Top graduate student across all disciplines)
- 2006 Invited graduate student plenary speaker at the Joint meeting of Société d'entomologie du Québec and The Entomological Society of Canada
- 2005-2006 Ontario Graduate Scholarship (\$15,000 CAD)
- 2003-2005 NSERC PGS B Graduate Award (\$42,000 CAD)
- 2001 American Ornithologists Union Student Research Award
- 2001 Society of Canadian Ornithologists Taverner Award
- 2000-2001 Queen's University Graduate Award (\$11,900 CAD)

## **Research Contributions**

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### **Articles in review in refereed journals**

**37.** Jordan, L.A., H. Kokko and **M.M. Kasumovic**. 2012. Spider males choose mates by selecting among competitive environments. *American Naturalist*. In review.

### **Articles published or accepted in refereed journals** (Supervised students)

**36.** Kasumovic, M.M. and L.A. Jordan. 2012. The social factors driving settlement and relocation decisions in a solitary and aggregative spider. *American Naturalist*. Accepted.

**35.** Kasumovic, M.M. 2013. The multi-dimensional consequences of the juvenile social environment: towards an integrative view of the adult phenotype. *Animal Behaviour*. 85:1049-1059.

**34.** Kasumovic, M.M. and Seebacher, F. 2012. The active metabolic rate predicts a male spider's proximity to females and expected fitness. *Biology Letters*: 9: 2012.1164

**33.** Kasumovic, M.M., M. D. Hall., H. Try, and R. Brooks. 2012. Socially cued developmental plasticity affects condition-dependent trait expression. *Behavioral Ecology*. 24: 429-434.

**32.** Stoltz, J. A., M. C. B. Andrade, and **M. M. Kasumovic**. 2012. Plasticity in metabolic rates reinforces morphological plasticity in response to social cues of sexual selection. *Journal of Insect Physiology*. 58: 985-990.

- 31. Kasumovic, M.M.,** M. D. Hall, and R. Brooks. 2012. The juvenile social environment introduces variation in the preference and expression of sexually selected traits. *Ecology & Evolution*. 2:1036-1047.
- 30. Girard, M. B., M. M. Kasumovic,** and D. O. Elias. 2011. Multi-modal courtship in the peacock spider, *Maratus volans* (O.P.-Cambridge, 1874). *PLoS ONE*. 6(9): e25390.
- 29. Elias, D. O., M. C. B. Andrade,** and **M. M. Kasumovic.** 2011. Dynamic population structure and the evolution of mating systems, Pages 65-114 in J. Casas, ed., *Advances in Insect Physiology*. UK, Academic Press.
- 28. Kasumovic, M. M.,** and R. Brooks. 2011. It is all who you know: The evolution of socially-cued anticipatory plasticity as a mating strategy. *Quarterly Reviews in Biology*. 84:181-197.
- 27. Kasumovic, M. M.,** M. D. Hall, H. Try, and R. Brooks. 2011. The importance of listening: Developmental shifts in response to juvenile acoustic environment. *Journal of Evolutionary Biology* 24:1325-1334.
- 26. De Souza, L. R., M. M. Kasumovic,** K. A. Judge, and G. K. Morris. 2011. Communicating male size by tremulatory vibration in a Columbian rainforest katydid, *Gnathoclitia sodalis* (Orthoptera, Tettigoniidae). *Behaviour* 148:341-357.
- 25. Kasumovic, M. M.,** A. C. Mason, M. C. B. Andrade, and D. O. Elias. 2011. The relative importance of RHP and resource quality in contests with ownership asymmetries. *Behavioral Ecology* 22:39-45.
- 24. Lailvaux, S. P.,** and **M. M. Kasumovic.** 2011. Defining individual quality over lifetimes and selective contexts. *Proceedings of the Royal Society B: Biological Sciences* 278:321-328.
- 23. Kasumovic, M. M.** 2011. Stressing out about singing. *Behavioral Ecology* 22:10.
- 22. Brooks, R., I. M. Scott, A. A. Maklakov, M. M. Kasumovic,** A. P. Clark, and I. S. Penton-Voak. 2011. National income inequality predicts women's preferences for masculinised faces better than health does. *Proceedings of the Royal Society B: Biological Sciences* 278:810-812.
- 21. Elias, D. O., S. Sivalinghem,** A. C. Mason, M. C. B. Andrade, and **M. M. Kasumovic.** 2010. Vibratory communication in the jumping spider *Phidippus clarus*: Substrate-borne courtship signals are important for male mating success. *Ethology* 116:990-998.
- 20. Elias, D. O., C. A. Botero, M. C. B. Andrade, A. C. Mason,** and **M. M. Kasumovic.** 2010. High resource valuation fuels "desperado" fighting tactics in female jumping spiders. *Behavioral Ecology* 21:868-875.
- 19. Sivalinghem, S., M. M. Kasumovic,** A. C. Mason, M. C. B. Andrade, and D. O. Elias. 2010. Vibratory communication in the jumping spider *Phidippus clarus*: Polyandry, male courtship signals, and mating success. *Behavioral Ecology* 21:1308-1314.
- 18. Kasumovic, M. M.,** D. O. Elias, S. Sivalinghem, A. C. Mason, and M. C. B. Andrade. 2010. Examination of prior contest experience and the retention of winner and loser effects. *Behavioral Ecology* 21:404-409.
- 17. Brooks, R.,** and **M. M. Kasumovic.** 2009. Evolution: Exposing the buried costs of reproduction. *Current Biology* 19:R1117-R1119.
- 16. Kasumovic, M. M.,** R. C. Brooks, and M. C. B. Andrade. 2009. Body condition but not dietary restriction prolongs lifespan in a semelparous capital breeder. *Biology Letters* 5:636-638.
- 15. Kasumovic, M. M.,** D. O. Elias, D. Punzalan, A. C. Mason, and M. C. B. Andrade. 2009. Experience affects the outcome of agonistic contests without affecting the selective advantage of size. *Animal Behaviour* 77:1533-1538.
- 14. Kasumovic, M. M.,** M. J. Bruce, M. E. Herberstein, and M. C. B. Andrade. 2009. Evidence for developmental plasticity in response to demographic variation in nature. *Ecology* 90:2287-2296.
- 13. Kasumovic, M. M.,** L. M. Ratcliffe, and P. T. Boag. 2009. Habitat fragmentation and paternity in least flycatchers. *Wilson Journal of Ornithology* 121:306-313.

- 12. Kasumovic, M. M., and M. C. B. Andrade.** 2009. A change in competitive context reverses sexual selection on male size. *Journal of Evolutionary Biology* 22:324-333.
- 11. Schneider, J. M., M. E. Herberstein, M. J. Bruce, M. M. Kasumovic, M. L. Thomas, and M. A. Elgar.** 2008. Male copulation frequency, sperm competition and genital damage in the golden orb-web spider (*Nephila plumipes*). *Australian Journal of Zoology* 56:233-238.
- 10. Kasumovic, M. M., M. J. Bruce, M. C. B. Andrade, and M. E. Herberstein.** 2008. Spatial and temporal demographic variation drives within-season fluctuations in sexual selection. *Evolution* 62:2316-2325. **[Focus of a TREE review]**
- 9. Elias, D. O., M. M. Kasumovic, D. Punzalan, M. C. B. Andrade, and A. C. Mason.** 2008. Assessment during aggressive contests between male jumping spiders. *Animal Behaviour* 76:901-910.
- 8. Kasumovic, M. M., M. J. Bruce, M. E. Herberstein, and M. C. B. Andrade.** 2007. Risky mate search and mate preference in the golden orb-web spider (*Nephila plumipes*). *Behavioral Ecology* 18:189-195. **[Top 3 in the number of citations in BE for 2007 and 45 citations]**
- 7. Kasumovic, M. M., and M. C. B. Andrade.** 2006. Male development tracks rapidly shifting sexual versus natural selection pressures. *Current Biology* 16:R242-R243.
- 6. Andrade, M. C. B., and M. M. Kasumovic.** 2005. Terminal investment strategies and male mate choice: Extreme tests of Bateman. *Integrative and Comparative Biology* 45:838-847.
- 5. Tarof, S. A., L. M. Ratcliffe, M. M. Kasumovic, and P. T. Boag.** 2005. Are least flycatcher (*Empidonax minimus*) clusters hidden leks? *Behavioral Ecology* 16:207-217.
- 4. Kasumovic, M. M., and M. C. B. Andrade.** 2004. Discrimination of airborne pheromones by mate-searching male western black widow spiders (*Latrodectus hesperus*): Species- and population-specific responses. *Canadian Journal of Zoology* 82:1027-1034.
- 3. Kasumovic, M. M., L. M. Ratcliffe, and P. T. Boag.** 2003. Song structure may differ between male and female least flycatchers. *Wilson Bulletin* 115:241-245.
- 2. Kasumovic, M. M., L. M. Ratcliffe, and P. T. Boag.** 2003. A method to improve confidence in paternity assignment in an open mating system. *Canadian Journal of Zoology* 81:2073-2076.
- 1. Kasumovic, M. M., H. L. Gibbs, B. E. Woolfenden, S. G. Sealy, and H. Nakamura.** 2002. Primary sex-ratio variation in two brood parasitic birds: Brown-headed Cowbird (*Molothrus ater*) and Common Cuckoo (*Cuculus canorus*). *Auk* 119:561-566.

## Non-refereed contributions

Kasumovic, M. M. September 2011. How does the environment and condition affect quality and fitness. Spoken paper. The Australasian Evolution Society's 7<sup>th</sup> Biennial conference, Townsville, AUS.

Kasumovic, M. M. June 2011. Quality and fitness: Are we going about this the right way? Spoken paper. Evolution 2011, OK, USA. **[Invited seminar speaker]**

Kasumovic, M. M., Hall, M. D. and Brooks, R. September 2010. Developmental plasticity in response to acoustic signals of quality and density in the black field cricket. Spoken paper. 13th Biennial Congress of the International Society for Behavioral Ecology, Perth, AUS.

Kasumovic, M. M., Hall, M. D. and Brooks, R. September 2009. Developmental plasticity in response to acoustic signals of quality and density in the black field cricket. Spoken paper. The Australasian Evolution Society's 6<sup>th</sup> Biennial conference, Canberra, AUS.

Kasumovic, M.M., Bruce, M.J., Herberstein, M.E. and Andrade, M.C.B. August 2008. Spatial and temporal demographic variation drives within-season fluctuations in sexual selection. Spoken paper. 12th Biennial Congress of the International Society for Behavioral Ecology, Ithaca, USA.

Kasumovic M.M., Elias, D.O., Punzalan, D, Mason, A.C. and Andrade, M.C.B. April 2008. The role of previous experience on contest outcome and patterns of selection in a jumping spider. Spoken paper. Ontario Ethology and Ecology Colloquium, Brock University, ON.

Kasumovic M.M., Elias, D.O., Punzalan, D, Andrade, M.C.B. and Mason, A.C. May 2007. Intrasexual competition in spiders: the role of self assessment in male contests. Spoken Paper. 1st annual meeting of the Canadian Society for Ecology and Evolution. Toronto, Canada.

Kasumovic, M.M. and Andrade, M.C.B. Nov 2006. Scent of a woman: males track changes in selection pressures through cues of female and male density. Joint meeting of Société d'entomologie du Québec and The Entomological Society of Canada, QC, Canada. **[Invited Speaker]**

Kasumovic, M.M. and Andrade, M.C.B. Aug 2006. Scent of a woman: males track changes in selection pressures through cues of female density. Spoken Paper. 11th Biennial Congress of the International Society for Behavioral Ecology, Tours, France.

Kasumovic, M.M. and Andrade, M.C.B. May 2006. Male development tracks rapidly shifting sexual versus natural selection pressures. Spoken paper. Ontario Ethology and Ecology Colloquium, Brock University, ON.

Kasumovic, M.M. and Andrade, M.C.B. March 2006. Male development tracks rapidly shifting sexual versus natural selection pressures. Spoken paper. 1st Ecology, Evolution, and Behaviour Colloquium. University of Toronto, ON, Canada.

Kasumovic, M.M. and Andrade, M.C.B. November 2005. Is bigger better? Examining male competitions in context. Spoken paper. Joint meeting of Entomological Society of Alberta and The Entomological Society of Canada, AB, Canada. **[Winner of best talk in session]**

Kasumovic, M.M. and Andrade, M.C.B. July 2004. Fumbling for females: male life history shifts in response to female cues. Poster. 10th Biennial Congress of the International Society for Behavioral Ecology, Helsinki, Finland.

Kasumovic, M.M. and Andrade, M.C.B. March 2004. Fumbling for females: male life history shifts in response to female cues. Spoken paper. Zoology Colloquium, University of Toronto, ON. **[Honourable mention for best talk]**

Kasumovic, M.M. and Andrade, M.C.B. July 2003. Is staying power more important than size? Tests in the Australian redback spider. Spoken paper. Ontario Ethology and Ecology Colloquium, McMaster University, ON.

Kasumovic, M.M., Ratcliffe, L.M. and Boag, P.T. May 2002. Effects of habitat fragmentation on realised reproductive success in male least flycatchers. Spoken paper. Ontario Ethology and Ecology Colloquium, Queen's University, ON.

Kasumovic, M.M., Ratcliffe, L.M. and Boag, P.T. July 2002. Effects of habitat fragmentation and breeding synchrony on realised reproductive success in male least flycatchers. Poster. 9th Biennial Congress of the International Society for Behavioral Ecology, Montreal, QC.

Kasumovic, M.M., Ratcliffe, L.M. and Boag, P.T. February 2001. Using least flycatchers as a model to examine female choice. Spoken paper. Behavioural Ecology and Evolution Research Seminars, Queen's University, ON.

Kasumovic, M.M. and Gibbs, H.L. October 2000. Primary sex-ratio variation in two brood parasitic species: The Brown-headed Cowbird and the Common Cuckoo. Spoken paper. Behavioural Ecology and Evolution Research Seminars, Queen's University, ON.

Kasumovic, M.M. and Gibbs, H.L. March 2000. Primary sex-ratio variation by the female Brown-headed Cowbird. Spoken paper. Ontario Biology Day, Trent University.

2012 Member of the panel for the E&ERC Grant Writing Module

2012 On selection committee to select UNSW E&ERC Postgraduate Research Start-up Grants

2012 Invited to present research strategies and advice in the UNSW Research Strategy Office *Early Career Research* Module

2012 Helped lead the third module for the *E&ERC strategies for successful publishing* course

2007 1st Meeting of the Canadian Society of Ecology and Evolution (University of Toronto)

- Served on conference organisation committee (fundraising & poster organisation subcommittee)
- Chaired an ecology session

2002–2005 Department of Biological Sciences Seminar Series (University of Toronto at Scarborough)

- Gained funding for organising a departmental conference
- Organised and invited speakers from all over North America

2003–Present Journal reviewer

- Reviewer for: *Proceedings B: Biological Sciences*, *Evolution*, *American Naturalist*, *Journal of Evolutionary Biology*, *Biology Letters*, *Animal Behaviour*, *Behavioral Ecology*, *Behavioural Ecology and Sociobiology*, *The Auk*, *Ethology*, *Behavioural Processes*, *Oikos*, *Journal of Arachnology*.

2001–2002 Ontario Ecology & Ethology Colloquium 2002 (Queen's University)

- Served on conference organization committee (poster committee)
- Chaired an ecology session

1999–2000 Behaviour, Ecology & Evolution Research Seminar Series (Queen's University)

- Organised a weekly forum featuring graduate student research

## Media coverage

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I have conducted live media interviews for nationally syndicated radio programs in Canada (Quirks and Quarks; premiere radio talk show for the dissemination of science to the public, Canadian Broadcasting Corporation) and all across Australia (Australian Broadcasting Company), and also television programs (More 2 Life on TVOntario). In addition, my research has been featured on websites by Animal Planet, Natural Geographic, Canadian Wildlife Magazine, Toronto Star, ABC news and other media in several languages.

## Teaching and Supervisory Experience

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2009–Present

- Rachel Chiswell – 4<sup>th</sup> year Honours project (University of New South Wales)
- Rachel Chiswell – 3<sup>rd</sup> year Honours project (University of New South Wales)
- Phillipa Beale – 3<sup>rd</sup> year Honours project (University of New South Wales)
- Margo Adler – Ageing and sexual selection – Ph.D. thesis Committee member (University of New South Wales)
- Heather Try – Effects of nutrient concentration on the regulation of the intake target in field crickets – Honours thesis Committee member (University of New South Wales)
- Hawa Othman – Genetic basis of condition dependent sexual dimorphism – Honours thesis Committee member (University of New South Wales)
- Sai Prince – Sexual size dimorphism and fitness correlates in a jumping spider, *Phidippus clarus* – Co-supervisor of a 4th year Honours project (University of Toronto)

2007–2008

- Senthurran Sivalingham – Mate choice in the jumping spider *Phidippus clarus* – Co-supervisor of a 4th year Honours project (University of Toronto)

1999–2007 Teaching Assistant

- Animal Behaviour, University of Toronto
- Ecology and Evolution Labs Ecology, University of Toronto
- Evolution, University of Toronto
- Ecology, University of Toronto

- Conservation Biology, Queen's University
- Biology of Sex, Queen's University
- Animal Behaviour, Queen's University
- Community Ecology, Queen's University
- Vertebrate Diversity, Queen's University
- Introductory Biology, McMaster University

2001-2009 Invited Class Lectures

- Invertebrate reproduction. Invertebrate systematics. UNSW. [yearly invited lecturer]
- What is developmental plasticity and why is it interesting? Animal behaviour. UNSW. [yearly invited lecturer]
- Developmental and Behavioural Plasticity with a case study of the Australian Redback Spider. Animal behaviour class, University of Toronto, ON.
- Research at the Joker's Hill biological station. Ecology field course, University of Toronto, ON
- Aggregations of socially monogamous species: The costs and benefits. Queen's University, ON.
- The importance and hardships of research. Ecology class, Queen's University, ON.