

Curriculum Vitae

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1. ACADEMIC DEGREES

- 2014 PhD (Biology) Simon Fraser University
- 2006 MSc (Medical Entomology) University of Florida
- 2004 BSc (Hons. Biology) University of Victoria

2. PUBLICATIONS

- 13. **McCann, S.**, Moeri, O., Ibarra Jimenez, S., Scott, C., & Gries, G. (2015). Developing a paired-target apparatus for quantitative testing of nest defense behavior by vespine wasps in response to con- or heterospecific nest defense pheromones, *Journal of Hymenoptera Research* 46: 151-163
doi: [10.3897/JHR.46.6585](https://doi.org/10.3897/JHR.46.6585)
- 12. Jackson, M., Belton, P., McMahon, S., Hart, M., **McCann, S.**, Azevedo, D., and Hurteau, L. (2015). The first record of *Aedes (Hulecoeteomyia) japonicus* (Diptera: Culicidae) and its establishment in Western Canada. *Journal of Medical Entomology* 53(1): 241-244. doi: <http://dx.doi.org/10.1093/jme/tjv164>
- 11. Scott, C., Kirk, D., **McCann, S.**, & Gries, G. (2015). Web reduction by courting male black widows renders pheromone-emitting females' webs less attractive to rival males. *Animal Behaviour* 107: 71-78.
doi: <http://dx.doi.org/10.1016/j.anbehav.2015.06.009>
- 10. Scott, C., **McCann, S.**, Gries, R., Khaskin, G. & Gries, G. (2015). N-3-methylbutanoyl-O-methylpropanoyl-L-serine methyl ester – pheromone component of western black widow females. *Journal of Chemical Ecology* 41(5): 461-472
doi: [10.1007/s10886-015-0582-x](https://doi.org/10.1007/s10886-015-0582-x)
- 9. **McCann, S.**, Moeri, O. Jones, T. Scott, C., O'Donnell, S. & Gries, G. (2015). Red-throated Caracara, a falconid raptor, rivals predatory impact of army ants on social wasps. *Insectes Sociaux* 62(1): 101-108.
doi: [10.1007/s00040-014-0384-0](https://doi.org/10.1007/s00040-014-0384-0)

8. Ray, A.M., Arnold, R.A., Swift, I., Schapker, P.A., **McCann, S.**, Marshall, C.J., McElfresh, J.S. & Millar, J.G. (2014). (R)-Desmolactone is a sex pheromone or sex attractant for the endangered valley elderberry longhorn beetle *Desmocerus californicus dimorphus* and several congeners (Cerambycidae: Lepturinae). *PLOS ONE*.
doi: [10.1371/journal.pone.0115498](https://doi.org/10.1371/journal.pone.0115498).
7. **McCann, S.** and Belton, P. (2014). A new record of *Culex restuans* Theobald (Diptera: Culicidae) in British Columbia. *Journal of the Entomological Society of British Columbia* 111:13-14.
Stable URL: <http://journal.entsocbc.ca/index.php/journal/article/view/852>
6. **McCann, S.**, Moeri, O., Jones, T. & Gries, G. (2014). Black-throated Antshrike preys on nests of social paper wasps in central French Guiana. *Revista Brasileira de Ornithologia* 22(3): 300-302.
Stable URL: http://www4.museu-goeldi.br/revistabronito/revista/index.php/BJO/article/view/22_3_notas7/pdf_620
5. Bennett, R. E., Zuniga, I., Bonta, M., Anderson, D. L., **McCann, S.**, & Herrera, L. (2014). First Nest Record of Red-throated Caracara (*Ibycter americanus*) for Middle America. *The Wilson Journal of Ornithology* 126(2): 389-392. doi: <http://dx.doi.org/10.1676/13-183.1>
4. Hrabar, M. Danci, A. **McCann, S.**, Schafer, P. & Gries, G. (2013). New findings on life history traits of *Xenos peckii* (Strepsiptera: Xenidae). *The Canadian Entomologist* 146(5): 514-527.
doi: <http://dx.doi.org/10.4039/tce.2013.85>
3. **McCann, S.**, Moeri, O., Jones, T., Scott, C., Gries, R., Khaskin, G., O'Donnell, S. & Gries, G. (2013). Strike fast, strike hard: the Red-throated Caracara exploits absconding behavior of social wasps during nest predation. *PLOS ONE*.
doi: [10.1371/journal.pone.0084114](https://doi.org/10.1371/journal.pone.0084114)
2. **McCann, S.**, Moeri, O., Jones, T., O'Donnell, S. & Gries, G. (2010). Nesting and nest-provisioning of the Red-throated Caracara (*Ibycter americanus*) in Central French Guiana. *Journal of Raptor Research* 44:236-240.
doi: <http://dx.doi.org/10.3356/JRR-09-75.1>
1. **McCann, S.**, Day, J.F., Allan, S. & Lord, C. (2009). Age modifies effect of body size on fecundity in *Culex quinquefasciatus* Say (Diptera: Culicidae). *Journal of Vector Ecology* 34(2):174-181.
doi: [10.1111/j.1948-7134.2009.00024.x](https://doi.org/10.1111/j.1948-7134.2009.00024.x)

3. AWARDS AND GRANTS

- 2013 Selection for the competitive “Graduate Student Showcase” at the Joint Annual Meeting of the Entomological Society of Canada
- 2012 National Birds of Prey Trust (Great Britain) \$7,500 for research in French Guiana and Honduras
- 2012 Simon Fraser University President’s Research Stipend (\$6,250)
- 2008-2011 CNRS Projet Amazonie travel grants (3) totaling \$16,000 for travel and accommodation at the Nouragues Field Station in French Guiana
- 2009 SFU Department of Biological Sciences Excellence in Teaching Award (\$100, by student nomination and review)
- 2008 Simon Fraser University Graduate Fellowship (\$6,250)
- 2006 President’s Prize for best student presentation at the Joint Annual meeting of the Société d'entomologie du Québec and the Entomological Society of Canada, Montreal Canada

4. THESES

- 2014 **McCann, S.** The bird who kicked the wasp’s nest: Red-throated Caracara predation, nesting and territorial behaviour. PhD thesis, Simon Fraser University.
<http://summit.sfu.ca/item/14497#310>
- 2006 **McCann, S.** Senescence and other factors affect fecundity in two species of *Culex* mosquitoes (Diptera: Culicidae). Master’s Thesis, University of Florida.
http://etd.fcla.edu/UF/UFE0017781/mccann_s.pdf
- 2004 **McCann, S.** Overwintering mosquitoes in Greater Victoria: Distribution and habitat preferences: Honours Thesis, University of Victoria, Victoria BC.

5. WORK AND RESEARCH EXPERIENCE

- 2015-
PRESENT Nature Conservancy of Canada,
Contractor, expert insect identification for biodiversity monitoring
- 2014-2015 Thompson Rivers University
Field researcher, Monitoring and control of invasive *Myrmica rubra* (European Fire Ant) in the Lower Mainland and Okanagan Valley of BC.
I conducted behavioural observation, invasion mapping, ant identification and experimental exclusion and trapping of these ants.
Supervisor: Dr. Robert Higgins.
- 2015 B.C. Ministry of Forests, Lands & Natural Resource Operations, contract to deliver two invasive species assessments for ant species in BC.
Contact: Dominique Sigg
- 2013 Vancouver International Airport
Insect identification and consulting for a study on the bird-strike risks from Barn Swallows at Vancouver International Airport (YVR).
I supervised three undergraduates and helped them develop a database of insect prevalence through the summer and fall of 2013 at several field sites at YVR.
Supervisor: David Bradbeer.
- 2013 Simon Fraser University
Collections manager, Department of Biological Sciences Museum
I worked as an interim collections manager at the departmental museum, where my responsibilities included specimen care and preparation of teaching materials for classes in insect ecology, vertebrate biology and plant ecology.
Supervisor: Brian Medford
- 2007-
present Canadian Wildlife Service
Field assistant for a study of threats of rodenticide exposure to Barn Owls in the Lower Mainland of BC. I assist with capture and radio tracking of Barn Owls in rural and suburban/industrial habitats. Supervisor: Sofi Hindmarch
- 2007-2014 Simon Fraser University
Research assistant in animal communication ecology lab, conducting field and laboratory research on Red-throated Caracaras, wasps, spiders and other organisms. I also assist in field capture and radio tracking of threatened barn owl populations in the Lower Mainland of BC.
Supervisor: Dr. Gerhard Gries.

- 2006-2007 University of Florida
Laboratory assistant in arbovirus laboratory, responsible for mosquito identification and construction of a database for wild-collected virological samples. Supervisor: Dr. Jim Maruniak.
- 2006-2007 University of Florida Extension
Research assistant in honeybee ecology laboratory, responsible for bibliographic research and writing and preparing presentations for extension personnel of the University and 4-H.
Supervisor: Dr. Jamie Ellis.
- 2004-2006 Florida Medical Entomology Laboratory
Research assistant in mosquito ecology laboratory, designing and conducting physiological research experiments for studying mosquito population dynamics related to aging.
Supervisor: Dr. Cynthia Lord.
- 2003-2004 University of Victoria
Research assistant in entomology laboratory, designing and conducting field research on overwintering mosquito populations in Victoria BC.
Supervisor: Dr. Neville Winchester.

6. PRESENTATIONS

- 2014 **McCann, S.**, O. Moeri, Jones, T., Scott, C., Gries, R., Khaskin, G., O'Donnell, S. & G. Gries. Red throated Caracara predation, nesting and social behaviour. Invited talk for evolutionary biology students at Quest University, Squamish BC, Nov. 12.
- 2014 **McCann, S.**, O. Moeri, Jones, T., Scott, C., Gries, R., Khaskin, G., O'Donnell, S. & G. Gries. Red throated Caracaras versus army ants as predators of Neotropical social wasps. Annual Meeting of the Entomological Society of British Columbia, Burnaby BC, Oct. 24-25.
- 2014 **McCann, S.**, E. Adams, & R. Higgins. Invasive ants in British Columbia: a report from the front lines. Joint Annual Meeting of the Entomological Society of Canada and the Entomological Society of Saskatchewan, Saskatoon, SK, Sept. 28-Oct 1.
- 2013 **McCann, S.**, O. Moeri, Jones, T., Scott, C., Gries, R., Khaskin, G., O'Donnell, S. & G. Gries. A social raptor exploits the absconding response of Neotropical social wasps in order to prey on their nests. Annual Meeting of the Entomological Society of British Columbia. Victoria BC, Nov. 1.

- 2013 **McCann, S.**, O. Moeri, Jones, T., Scott, C., Gries, R., Khaskin, G., O'Donnell, S. & G. Gries. Death from the skies: Predation on social wasps by Red-throated Caracaras. Joint Annual Meeting of the Entomological Society of Canada and the Entomological Society of Ontario, Guelph, ON, Oct. 20-23.
- 2012 **McCann, S.**, O. Moeri, Jones, T., Scott, C., Gries, R., Khaskin, G., O'Donnell, S. & G. Gries. Do Red-throated Caracaras (*Ibycter americanus*) have a chemical wasp repellent? investigating a mystery in the jungle of French Guiana. Joint Annual Meeting of the Entomological Society of Canada and the Entomological Society of Alberta, Edmonton AB, Nov. 4-7.
- 2012 **McCann, S.**, O. Moeri, Jones, T., Gries, R., Khaskin, G., O'Donnell, S. & G. Gries. Do Red-throated Caracaras have a chemical wasp repellent? North American Ornithological Conference, Vancouver BC, Aug. 15-18.
- 2011 **McCann, S.**, Jones, T., Moeri, O., Gries, G., & O'Donnell, S. Is the Red-throated Caracara chemically defended from its stinging prey? Annual Meeting of the Raptor Research Foundation, Duluth MN, Oct. 5-9.
- 2011 **McCann, S.**, Jones, T., Moeri, O., & Gries, G. Magic force fields: is the Red-throated Caracara chemically defended from its stinging prey? Annual meeting of the International Society for Chemical Ecology, Burnaby BC, July 24-28.
- 2011 **McCann, S.** Research on the Red-throated Caracara at Nouragues. Invited talk at the Écologie des Forêts de Guyane Laboratory, Kourou, French Guiana. April 28.
- 2010 **McCann, S.**, Jones, T., Moeri, O., O'Donnell, S. & Gries, G. Nesting and Provisioning Behavior of Red-throated Caracaras (*Ibycter americanus*) in Central French Guiana. Annual meeting of the Raptor Research Foundation, Fort Collins, CO, Sept. 22-26.
- 2010 **McCann, S.**, Jones, T., Moeri, O., O'Donnell, S. & Gries, G. Rates of wasp nest predation by the Red-throated Caracara, *Ibycter americanus*, a falconid specialist predator of Neotropical social wasps. Joint Annual Meeting of the Entomological Society of Canada and the Entomological Society of British Columbia, Vancouver BC, Oct. 31-Nov.3
- 2006 **McCann, S.** and Lord, C. Senescence and physiological parameters influence fecundity of *Culex quinquefasciatus* Say. Winner of President's Prize, 15-minute presentation, Joint Annual Meeting of the Entomological Society of Canada and the Société d'entomologie du Québec, Montreal QC, Nov. 18-22.
- 2005 **McCann, S.** and Lord, C. Age-dependent changes in fecundity and fertility of *Culex nigripalpus* Theobald and *Culex quinquefasciatus* Say: 2005 Meeting of the Entomological Society of America, Fort Lauderdale, FL, Dec. 15-18.

- 2005 **McCann, S.** and Lord, C. Age-dependent changes in fecundity and fertility of *Culex nigripalpus* and *Culex quinquefasciatus*: 77th Annual Meeting Florida Mosquito Control Association. Duck Key, FL, Nov. 13-16.

7. OUTREACH

- 2013-present Maintain a blog featuring wildlife photography and natural history at <http://www.ibycter.com>
- 2014 Spiders Unravalled. Arachnological outreach at Iona Beach in Richmond, BC. I led spider walks for interested members of the public. Sept. 13.
- 2014 Bugs and More! Public demonstration and science outreach event at Richmond Nature House. Sept. 7.
- 2014 Photography of bees and wasps. A workshop held at the Moberly Arts and Cultural Centre, Vancouver BC. July 20.
- 2014 Entomological insights from studying a bird. Article in the Bulletin of the Entomological Society of Canada. March 2014. Pages 23-28.
- 2014 **McCann, S.** Red-throated Caracara predation on social wasps. Presentation for the Way Cool Science Series at the Beaty Biodiversity Museum. Vancouver BC. Jan. 5.
- 2013 Bugs Galore! Public demonstration and science outreach event at Richmond Nature House. Sept. 8.
- 2013 **McCann, S.** Social Raptors Versus Social Wasps: Studies on the Red-throated Caracara in French Guiana. Talk for public at National Science Rendezvous event at Simon Fraser University. May 11, 2013.
- 2013 **McCann, S.** Social raptors versus social wasps, studies on the Red-throated Caracara in French Guiana. Talk for the Victoria Natural History Society Birders Night, March 27, 2013.
- 2013 **McCann, S.** Research in the Rainforest. Outreach talk for English for Academic Success Program, Feb. 26, 2013.

8. TEACHING EXPERIENCE

- 2015 Teaching Assistant for BISC 102, Introduction to Ecology and Evolution
- 2013 Vancouver International Airport. I supervised three undergraduate students from BC Institute of Technology developing a research project to identify insects at Vancouver International Airport that may contribute to a bird-strike hazard involving Barn Swallows.
- 2010 Simon Fraser University. I taught the laboratory section of Insect Ecology (BISC 317), teaching insect physiology, anatomy and identification to undergraduate students.
- 2009 Simon Fraser University. I taught the laboratory section of Insect Ecology (BISC 317), winning a Departmental award for teaching excellence.

9. TRAINING AND SKILLS

- Photography/videography I am an enthusiastic amateur photographer, but I also incorporate photography and videography into my science. These techniques allow for innovative research, efficient data collection, and attractive material for use in presentations and publications.
- Bird capture/handling I have experience in capture of owls, caracaras as well as songbirds, and have completed a course in mist netting and banding of songbirds with the Vancouver Avian Research Centre. I have 1 year of experience with net extraction and banding.
- Radio tracking In French Guiana I have tracked Red-throated Caracaras in the rainforest, and have done tracking on Barn Owls in the Lower Mainland of BC.
- Insect identification 2 semesters of teaching experience in Introductory Entomology, extensive experience in mosquito ID in a virological lab, completion of a course in mosquito identification with Richard Darsie, and ID of sampled insects from YVR in an effort to identify food sources for Barn Swallows near the airport. I have also worked in ant identification for a study on invasive *Myrmica* in BC.
- Experimental design I especially enjoy coming up with innovative techniques for testing hypotheses about animal behaviour. I have a pragmatic and realistic approach to statistical analyses which helps me to gather the right types of data.

Logistics	I am comfortable with organizing equipment and personnel for extended fieldwork.
Statistical analysis	I am familiar with many different statistical packages including R, SPSS, SAS, and S-Plus. For acoustic data analysis, I have worked with SoundRuler and Raven and am familiar with the applications of signal theory as it applies to animal communication.
Graphics preparation	My familiarity with Illustrator, Photoshop and several video editing packages allows me to make effective and attractive illustrations for articles and presentations.
Software	I regularly use and am effective with Microsoft Word, Excel, Access and PowerPoint for organizing data, writing papers and reports, and communicating research to collaborators.
Popular and scientific writing	I maintain a blog and am active on social media. This has led to several collaborations as well as invitations for public outreach. I have written or helped write several popular articles on scientific topics.
Public speaking	I enjoy speaking to both scientific audiences and laypeople, and have won an award for a scientific talk. I have been invited to give guest lectures to classes, laboratories and natural history groups in Canada and other countries.

10. Media

2014	Featured on Global News Vancouver (TV) speaking about invasive ants
2013	Featured on a BC Almanac (radio) speaking about yellowjacket wasps. Sept 3
2009	Featured on a BC Almanac (radio) speaking about yellowjacket wasps Aug. 13
2008	Featured in a broadcast on TV5 in France talking about research at the Nouragues Station. February



This is the bird that has inspired much of my research into ants, wasps and tropical ecology: The Red-throated Caracara, *Ibycter americanus*. Photo taken at the Nouragues Reserve in French Guiana, December, 2012.