

## CURRICULUM VITAE

**DAVID PUNZALAN**

**Royal Ontario Museum  
Department of Natural History  
&  
University of Toronto  
Department of Ecology and Evolutionary Biology**

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**CITZENSHIP:** Canadian

### ACADEMIC POSITIONS AND EDUCATION

- Postdoctoral Fellow & Lecturer** Jan 2011 – present  
Royal Ontario Museum & University of Toronto  
*Research topics:* macroevolutionary diversification, sexual dimorphism  
\*on unpaid parental leave from Jan 2011 – August 2011
- Associate Research Fellow** Feb 2010 – Dec 2010  
University of Exeter in Cornwall  
*Research topics:* evolution of genetic covariance structure, sexual selection and life history evolution
- Postdoctoral Fellow** Oct 2007 – Dec 2009  
Université D'Ottawa/University of Ottawa  
*Research topics:* the evolution of genetic covariances, intersex genetic correlations and evolutionary constraints.
- Ph.D. Ecology and Evolutionary Biology** 2007  
University of Toronto  
*Advisors:* Dr. Helen Rodd and Dr. Locke Rowe  
*Thesis:* The evolution of sexually dimorphic colour pattern in the ambush bug *Phymata americana*
- B.Sc. (Honours), Zoology, University of Toronto** 1999

## TEACHING APPOINTMENTS

**Lecturer/Coordinator** (January 2015 – Present)  
Seminar in Ecology and Evolution, University of Toronto  
(~ 38 students in 3 sessions)

**Lecturer/Coordinator** (September 2011 – Present)  
Behaviour and Behavioural Ecology, University of Toronto.  
(~ 250 students in 5 sessions)

## PUBLICATIONS

19. **Punzalan D** and Rowe L. 2017. Hybridization and lack of prezygotic barriers between *Phymata pennsylvanica* and *americana*. *Ecological Entomology* 42: 210-220.
18. **Punzalan D** and Rowe L. 2016. Concordance between stabilizing sexual selection, intraspecific variation and interspecific divergence in *Phymata*. *Ecology and Evolution* 12: 7797-8009.
17. **Punzalan D** and Rowe L. 2015. Evolution of sexual dimorphism in phenotypic covariance structure in *Phymata*. *Evolution* 69: 1597-1609.
16. Gwynne DT, **Punzalan D** and Hunt J. 2015. Viability selection on female finery in the wild. *Biological Journal of the Linnean Society* 116: 530-540.
15. **Punzalan D**, Delcourt M and Rundle HD. 2014. Comparing the intersex genetic correlation for fitness across novel environments in the fruit fly, *Drosophila serrata*. *Heredity* 112: 143-148.
14. **Punzalan D** and Rowe L. 2013. Ecological correlates of mating success in a wild population of ambush bug. *Ecological Entomology* 38: 429-432.
13. Schoustra SE\*, **Punzalan D\***, Dali R, Rundle HD and Kassen R. 2012. Multivariate phenotypic divergence due to the fixation of beneficial mutations in experimentally evolved lineages of a filamentous fungus. *PLoS ONE* 7(11): e50305.  
\*equally contributing co-authors
12. Schoustra SE and **Punzalan D**. 2012. Correlation of mycelial growth rate with other phenotypic characters in evolved genotypes of *Aspergillus nidulans*. *Fungal Biology* 116: 630-636.
11. **Punzalan D** and Hosken DJ. 2010. Sexual dimorphism: why the sexes are (and are not) different. *Current Biology* 20: R972-R973. (Dispatch).
10. **Punzalan D**, Rodd FH and Rowe L. 2010. Temporal variation in patterns of multivariate sexual selection in a wild insect population. *American Naturalist* 175: 401-414.
9. Kasumovic MM, Elias DO, **Punzalan D**, Mason AC and Andrade MCB. 2009. Experience affects the outcome of agonistic contests without affecting the selective advantage of size. *Animal Behaviour* 77: 1533-1538.
8. Auld H, **Punzalan D**, Godin J-G J and Rundle HD. 2009. Do female fruit flies (*Drosophila serrata*) copy the mate choice of others? *Behavioural Processes* 82: 78-80.

7. **Punzalan D**, Rodd FH and Rowe L. 2008. Sexual selection mediated by the thermoregulatory effects of male colour pattern in the ambush bug *Phymata americana*. Proceedings of the Royal Society of London B 275: 483-492.  
\*this paper was featured on CBC *Quirks & Quarks* (Jan 2008) and *LiveScience* (USA)
6. **Punzalan D**, Cooray M, Rodd FH and Rowe L. 2008. Condition dependence of sexually dimorphic colouration and longevity in the ambush bug *Phymata americana*. *Journal of Evolutionary Biology* 21: 1297-1306.
5. **Punzalan D**, Rodd FH and Rowe L. 2008. Sexual selection on sexually dimorphic traits in the ambush bug *Phymata americana*. *Behavioral Ecology* 19: 860-870.
4. Elias DO, Kasumovic MM, **Punzalan D**, Andrade MCB and Mason AC. 2008. Assessment during aggressive contests between male jumping spiders. *Animal Behaviour* 76: 901-910.
3. Olendorf R, Rodd FH, **Punzalan D**, Houde AE, Hurt C, Reznick DN and Hughes KA. 2006. Frequency-dependent survival in natural Guppy populations. *Nature* 441: 633-636.  
\*this paper was listed as one of 15 *Evolutionary gems* in *Nature*, received a *Faculty of 1000* citation and the subject of a *Current Biology* dispatch, also featured by *Biology News Net* (USA), *CNews* (Canada), *University of Illinois News Bureau* (USA), *The Independent* (UK).
2. **Punzalan D**, Rodd FH and Hughes KA. 2005. Perceptual processes and the maintenance of polymorphism through frequency-dependent predation. *Evolutionary Ecology* 19: 303-320.
1. **Punzalan D**, Guiasu RC, Belchior D, and Dunham DW. 2001. Discrimination of conspecific-built mud chimneys from human-built ones by the burrowing crayfish *Fallicambarus fodiens* (Cottle, 1863) (Decapoda: Cambaridae). *Invertebrate Biology* 120: 58-66.

## AWARDS & GRANTS

2010 American Museum of Natural History, Collection Study Grant (\$800)  
2005 University of Toronto Doctoral Grant (University of Toronto, \$4000)  
2005 Frederick P. Ide Graduate Fellowship (University of Toronto, \$2500)  
2004 University of Toronto Doctoral Grant (University of Toronto, \$4000)  
2004 W.D. John Eberlie Award (Toronto Entomologists Association, \$300)  
2004 Frederick P. Ide Graduate Fellowship (University of Toronto, \$2500)  
2003 Frederick P. Ide Graduate Fellowship (University of Toronto, \$2500)  
2000 University of Toronto Open Fellowship (\$7600)

## INVITED RESEARCH SEMINARS

- University of California Riverside, Entomology. November 2013.
- University of Guelph, Department of Integrative Biology. November 2012.

- University of Edinburgh, Institute for Evolutionary Biology. December 2010.
- Oxford University, Edward Grey Institute. December 2010.
- University of Exeter in Cornwall, Centre for Ecology and Conservation. March 2010.
- Heteropterist Symposium, Entomological Society of America (Indianapolis, IN). December 2009.
- University of Toronto at Mississauga, Department of Biology. March 2009
- Université D'Ottawa/University of Ottawa, Department of Biology. November 2007.

## SELECTED CONFERENCE PRESENTATIONS

- Punzalan D** and Rowe L. Stabilizing sexual selection shapes both micro- and macroevolution in *Phymata*. Annual Meeting of the Society for the Study of Evolution. Guarujá, Brazil, June 26-30, 2015.
- Punzalan D**. Are there ecological costs of secondary sex colouration in the ambush bug *Phymata americana*? Annual Meeting of the Entomological Society of America. Indianapolis, Indiana. December 11-16, 2009.
- Punzalan D**, Rowe L and Rodd FH. The adaptive significance of costly, sexually selected colour pattern in a dimorphic bug. Annual Meeting of the Entomological Society of Canada. Ottawa, October 19-22, 2008.
- Punzalan D**, Rodd FH and Rowe L. Temporal variation in patterns of multivariate sexual selection in the ambush bug. Canadian Society for the Study of Ecology and Evolution. University of Toronto, Toronto, Ontario. May 17-20, 2007.
- Punzalan D**, Cooray M, Rodd FH and Rowe L. Condition dependence of sexually selected colouration and longevity in a sexually dimorphic bug. Annual Meeting of the Society for the Study of Evolution. Stony Brook University, Stony Brook, New York. June 23-27, 2006.
- Punzalan D**, Rowe L and Rodd FH. The adaptive significance of costly, sexually selected colour pattern in a dimorphic bug. Annual Meeting of the Society for the Study of Evolution. University of Alaska Fairbanks, Fairbanks, Alaska. June 10-14, 2005.
- Punzalan D**, Rowe L and Rodd FH. Sexual selection on age- and condition-dependent colouration in the ambush bug. International Society for Behavioral Ecology. University of Jyväskylä, Jyväskylä, Finland. July 10-15, 2004.
- Punzalan D**, Rowe L and Rodd FH. Sexual selection on age- and condition-dependent traits in the ambush bug *Phymata americana* (Heteroptera: Phymatidae). Annual Meeting of the Society for the Study of Evolution. California State University, Chico, California. June 20-24, 2003.
- Punzalan D**, Rowe L and Rodd FH. Ontogeny of sexually dimorphic traits in the ambush bug *Phymata americana*. Ontario Ecology and Ethology Colloquium. McMaster University, Hamilton, Ontario. May 3-5, 2003.

**Punzalan D.** Body size, reproductive condition and mating success in the ambush bug *Phymata americana* Melin (Heteroptera: Phymatidae). International Society for Behavioural Ecology. Université du Québec à Montréal, Montreal, Quebec. July 7-12, 2002.

**Punzalan D.**, and Rodd FH. Does frequency-dependent selection contribute to colour pattern polymorphism in *Poecilia reticulata*? Annual Meeting of the Society for the Study of Evolution. University of Tennessee, Knoxville, TN. June 26 – July 1, 2001.

## **PUBLIC OUTREACH SEMINARS**

**Punzalan D.** Ontario Nature & Rare Charitable Research Reserve, Annual Gathering, May 2015. *Title:* Secret Lives of Ambush bugs.

**Punzalan D.** Rare Charitable Research Reserve, Public Research Forum. Cambridge, Ontario. April 2014. *Title:* Drawing the line: what maintains boundaries between the two species of ambush bug in Ontario?

**Punzalan D.** Rare Charitable Research Reserve, Public Research Forum. Cambridge, Ontario. April 2013. *Title:* Backyard bugs and the battle of the sexes.

**Punzalan D.** University of Toronto, Zoology Undergraduate Course Union. May 2006. *Title:* Evolution of colour pattern in the ambush bug: a case of the hotter sex?

## **ADDITIONAL TEACHING EXPERIENCE**

### **Instructor** (May, 2009)

Enrichment Mini-Course for high school students (topic: evolution, ecology and biodiversity), University of Ottawa. (22 students)

### **Teaching Assistant** (2000-2006, University of Toronto):

- Animal Communication & Sensory Ecology (4<sup>th</sup> year) (2x)
- Evolutionary Ecology (4<sup>th</sup> year) (1x)
- Behavioural Ecology (3<sup>rd</sup> year) (3x)
- Population Ecology (3<sup>rd</sup> year) (1x)
- Organisms and their Environment (1<sup>st</sup> year) (2x)

### **Guest Lectures**

- University of Toronto, Koffler Scientific Reserve at Joker's Hill. Field ecology course. June 2006.
- University of Toronto, Department of Ecology and Evolutionary Biology, Evolutionary Ecology undergraduate course. February 2006.

## PROFESSIONAL AND PUBLIC SERVICE

- **Peer reviewer** (since 2003) for: American Naturalist, Evolution, Proceedings of the Royal Society of London B, Trends in Ecology and Evolution, Biology Letters, Genetica, Biological Journal of the Linnean Society, PLoS One, Science Advances, Evolutionary Ecology, Behavioural Ecology and Sociobiology, BMC Ecology, BMC Evolution, Functional Ecology, Ecological Entomology, Ethology, Naturwissenschaften, Journal of the Entomological Society of Ontario, Journal of Insect Science, Journal of Orthoptera Research, Encyclopedia of Life Sciences.
- **Co-organizer**, Evolutionary Ecology journal discussion group, Centre for Ecology and Conservation, University of Exeter in Cornwall (2010)
- **Judge**, Canadian Society for Ecology and Evolution (May 14-16, 2009, Ottawa), poster competition.
- **Judge**, Annual Meeting of the Entomological Society of Canada, Ottawa (October 19-22, 2008); talk/poster competition.
- **Judge** (volunteer), Canada Wide Science Fair, University of Ottawa (May 10-18, 2008)
- **Field instructor** (volunteer), Enrichment Mini-Course for high school students (topic: evolution & ecology), University of Ottawa (May 5-9, 2008)
- **Judge** (volunteer), Let's Talk Science - All Science Challenge, Toronto, ON (May 22, 2007)
- **Coordinator**, Evolutionary Quantitative Genetics Reading Group, Department of Biology, University of Ottawa (2009)
- **Coordinator**, Ecology and Evolutionary Biology weekly journal discussion group, Department of Ecology and Evolutionary Biology, University of Toronto (2006)
- **Student advisor** to the search committee for the position of Director of the Koffler Scientific Reserve at Joker's Hill, University of Toronto (2006)
- **Organization committee member**, Ontario Ecology and Ethology Colloquium, University of Toronto (2004)
- **Guest lecturer** (volunteer), Insect diversity, Institute of Child Studies, Toronto, Ontario (2002, 2003, 2004)
- **Graduate affairs representative**, Department of Zoology, University of Toronto (2003)
- **Secretary**, Zoology Union for Graduate Studies, Department of Zoology, University of Toronto (2002)
- **Co-organizer**, Evolutionary Biology departmental seminar series, University of Toronto (2001)

## MEMBERSHIP IN PROFESSIONAL SOCIETIES

- Society for the Study of Evolution
- American Society of Naturalists

- International Society for Behavioural Ecology
- Canadian Society for the study of Ecology and Evolution
- Entomological Society of Canada
- Entomological Society of Ontario

## REFERENCES

F. Helen Rodd  
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Department of Ecology and Evolutionary Biology  
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