

# George A. Lozano

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Citizenship: Canadian

## **EMPLOYMENT**

Research Fellow*	Dept. of Zoology, Tartu Univ., Estonia	2008 – 2010*
Visiting Associate Professor	School of Vet. Med., St. Matthew's Univ.	2006 – 2007
Visiting Scientist	Dept. of Animal Ecology, Tartu Univ., Estonia	winter 2006
Sessional Lecturer	University of British Columbia, Okanagan	2005 – 2006
Research Assistant	College of Vet. Med., U. of Georgia, Athens	summer 2005
Term Lecturer	University of Northern British Columbia	winter 2005
Instructor	Ewha Academy, Gumi, South Korea	fall 2004
Professor, Part-time	Dept. of Biology, University of Ottawa	12/03 – 07/04
Post-doctoral Researcher	Patuxent Wildlife Research Center	2001 – 2002
Visiting Assistant Professor	Dept. of Biol., University of Memphis	2000 – 2001
Post-Doctoral Fellow	NSERC @ Dept. Biol. Sci., Simon Fraser U.	1998– 2000
Post-Doctoral Fellow	FCAR @ Dept. of Biol., U. of Calif., Riverside	1997
President	McGill Post-Graduate Students' Society	1994 – 1995
Teaching Assistant	Dept. of Biology, McGill University	1991 – 1995
Teaching Assistant	Dept. of Zoology, U. of Western Ontario	1988 – 1991
Research Assistant	Dept. of Botany, University of Guelph	summer 1988
Deer-research Technician	Ontario Ministry of Natural Resources	summer 1987

## **EDUCATION**

Ph.D., Biology, McGill University, 1996. Advisor: R. E. Lemon (Retired.)  
Thesis: "Parental care and female mate choice in yellow warblers (*Dendroica petechia*)"

M.Sc., Zoology, University of Western Ontario, 1991 - Supervisor: P. T. Handford  
Thesis: "Intrasexual competition and delayed plumage maturation in female tree swallows"

B.Sc., Wildlife Biology and Ecology, University of Guelph, 1988.

## **SCHOLARSHIPS, FELLOWSHIPS, GRANTS AND AWARDS**

NSERC Post-Doctoral Fellowship (taken to Simon Fraser U.)	\$64,000	1998-1999
FCAR Post-Doctoral Fellowship (taken to UC, Riverside)	\$44,000	1996-1997
FCAR Doctoral Scholarship (McGill)	\$26,000	1993-1994
NSERC Postgraduate Scholarship (taken to McGill)	\$34,000	1991-1993
John K. Cooper Foundation Research Award	\$1000	1993
Sigma Xi Grant-in-Aid of Research Award	\$500	1990
Canadian Wildlife Service Univ. Research Support Fund	\$2000	1990

\* Actually, 3 non-contiguous short-term contracts

NSERC: Natural Sciences and Engineering Research Council (Canada)

FCAR: Fonds pour la Formation de Chercheurs et l'Aide à la Recherche (Quebec).

**TEACHING****Lecturer**

- 1) Univ. of Turku – Evol. Psychol. Field Course (Graduate) Summer 2010. (team taught).
- 2) Tartu University - Public Speaking in Science LOOM 04.068. Fall 2009. 15 students.
- 3) St. Matthew's University – Physiology II VM321 - twice.
- 4) St. Matthew's University – Behaviour and Welfare VM381- thrice.
- 5) University of British Columbia – Animal Behaviour BIO359, fall 2005. 40 students.
- 6) U. of Northern British Columbia – Evolution BIO 323, winter 2005. 80 students.
- 7) U. of Northern B. C. – Parasite & Disease Ecology BIO 315, winter 2005. 40 students.
- 8) U. of Ottawa – Vertebrate Zoology BIO 3108, winter 2004, lectures and labs. 80 students.
- 9) U. of Memphis.- Intro. Biology II (for non-majors) – BIO 1081, winter 2001. 40 students.
- 10) U. of Memphis.- Intro. Biology I (for non-majors) – BIO 1071, fall 2000. 240 students.
- 11) Simon Fraser U. – Wildlife Biology BISC 419, winter 2000, lectures and labs. 20 students.

**Teaching assistant**

- University of British Columbia.- Anatomy and Physiology (nursing program)
- McGill University.- Statistics, Ornithology, Behavioural Ecology and Introductory Biology.
- University of Western Ontario.- Animal Behaviour and Introductory Biology.

**STUDENT RESEARCH SUPERVISION AND ADVISING****McGill University**

- Supervised an Independent Studies Research project (see LaFleur *et al.* 1997, below).
- Worked with several 4<sup>th</sup> year students affiliated with our lab: C. Daniel, C. Riley, R. Tittler, K. Mottley and others.

**Simon Fraser University**

- Helped to design and develop an M.Sc. research thesis project (Wardrop. 2003. *Ibis* 145: 439).

**PROFESSIONAL AFFILIATIONS**

American Ornithologists' Union, Animal Behavior Society, Behavioral and Brain Sciences, British Ecological Society, International Carotenoid Society

**PROFESSIONAL SERVICE****Reviewing contributions** (number of papers)

Acta Zoologica Fennica (1); American Journal of Primatology (1); American Naturalist (3); Animal Behaviour (7); Auk (3); Behavioral Ecology (6); Behavioral Ecology and Sociobiology (1); Behaviour (1); Biology Letters (4); Ecology Letters (2); Ecoscience (1); Ethology (2); Evolutionary Ecology (2); Folia Primatologica (1); Functional Ecology (1); Ibis (2); Integrative and Comparative Biology (1); International Journal for Parasitology (1); Journal of Avian Biology (8); Journal of Field Ornithology (3); Journal of Fish Biology (1); Naturwissenschaften (2); Oikos (3); Oecologia (2); Physiological and Biochemical Zoology (2); Proceedings of the Royal Society (of London), B (6); Psychology and Psychotherapy: theory research and practice (1); Solutions (1); Wilson Bulletin (4).

**Editorial Work**

- International Journal of Zoology – Editorial Board Member, 2010-now
- Encyclopedia of Earth: Topic Editor- Animal behaviour, 2006-2010.

**St. Matthew's University**

- Grade Appeals, Student Discipline, and Curriculum Committee. Member and parliamentarian of the Faculty Assembly (small faculty, all with a high committee load).

**McGill University**

- Member of Senate, Graduate Students' representative, 1995-1996.
- Member of the Senate Nominating Committee, 1995-1996.
- Member of Council, Faculty of Graduate Studies and Research (FGSR), 1994-1996.
- Member of the Executive Committee, FGSR, 1994-1996.
- President, Post-Graduate Students' Society (PGSS), 1994-1995 (*all posts linked to this one*).
- Member of the Committee on the Co-ordination of Student Services, 1994-1995.
- Dept. of Biology representative at PGSS Council, 1995-96.
- Member of the Research Policy Committee, FGSR, 1994-1995.
- Dept. of Biology General Assembly Graduate Students' representative, 1994-1995.

**External Reviewer/Other**

- Co-organizer with A. F. H. Ros of a symposium on “Effects of immunity and oxidative stress on behavioural ecology, conceptual and technical relationships”. 5<sup>th</sup> European Conference on Behavioural Biology, 16 to 18 July, 2010. Ferrara, Italy.
- National Science Foundation, Grant proposal reviewer – Ecological and Evolutionary Physiology. 2004, 2006.
- Cornell University, Dept. of Natural Resources, Tenure and Promotion reviewer (2001).
- Co-organiser, SFU/UBC/UVic Ecology Retreat. Simon Fraser University. Nov. 6-8, 1998.

**INVITED SEMINARS** (excluding “in-house”)

- University College Dublin, Dublin, Ireland, July 2010.
- Seoul National University, Seoul, South Korea, October 2004.
- Wilfrid Laurier University, Waterloo, Ont., Canada, July 2003.
- Okanagan University College, Kelowna, B.C., Canada, June 2003.
- Laurentian University, Sudbury, Ont., Canada, June 2003.
- Ferris State University, Big Rapids, MI, USA, April 2002.
- State University of New York, Fredonia, NY, USA, February 2002.
- University of Mississippi, University-Oxford, MS, USA, February 2001.
- University College of Cariboo, Kamloops, B.C., Canada, April 2000.

**PUBLICATIONS** (h = 12)

**Lozano, G. A.** 2010. A new criterion for allocating research funds: “impact per dollar”. Current Science 99(9): 1187-1188.

- Lozano, G. A.** 2010. Evolutionary explanations in medicine: how do they differ and how to benefit from them. Medical Hypotheses 74(4): 746-749.
- Lozano, G. A.** 2009. Multiple cues in mate selection: the sexual interference hypothesis. BioScience Hypotheses 2: 37-42.
- Lozano, G. A.** 2009. The other side of the coin: intersexual selection and the expression of emotions to signal youth or maturity. Behavioral and Brain Sciences 32(5): 398-399.
- Lozano, G. A.** 2008. Obesity and sexually selected anorexia nervosa. Medical Hypotheses 71: 933-940.
- Lozano, G. A.** and Lank, D. B. 2004. Immunocompetence and testosterone-induced condition traits in male ruffs (*Philomachus pugnax*). Animal Biology 54(4): 315-329.
- Lozano, G. A.** and Lank, D. B. 2003. Seasonal trade-offs in cell-mediated immunosenescence in ruffs (*Philomachus pugnax*). Proceedings of the Royal Society of London, Series B 270: 1203-1208.
- Lozano, G. A.** and Ydenberg, R. C. 2002. Transgenerational effects of maternal immune challenge in tree swallows (*Tachycineta bicolor*). Canadian Journal of Zoology 80: 918-925.
- Lozano, G. A.** 2001. Carotenoids, immunity and sexual selection: comparing apples and oranges? American Naturalist 158: 200-203.
- Lozano, G. A.** 2000. Affirmative action won't solve sex discrimination\*. Nature 403(6770): 825 (\*editors' misleading and sensationalist title, not mine).
- Lozano, G. A.** and Lemon, R. E. 1999. Effects of prior residence and age on breeding performance in yellow warblers. Wilson Bulletin 111: 381-388.
- Lozano, G. A.** 1998. Parasitic stress and self-medication in wild animals. In . Møller, A. P., Milinski, M., and Slater, P. J. B. (Eds.). Advances in the Study of Behavior Volume 27, Stress and Behavior. Chapter 6, pp. 291-317. Academic Press, London. (**Book chapter-invited contribution-see popular media coverage below**: “Expert Instinct” and “Pharmucopia”).
- Lozano, G. A.** and Lemon, R. E. 1998. Adoption of yellow warbler nestlings by song sparrows. Wilson Bulletin 110: 131-133.
- Lozano, G. A.** and Lemon, R. E. 1998. Parental care responses by yellow warblers (*Dendroica petechia*) to simultaneous manipulations of food abundance and brood size. Canadian Journal of Zoology 76: 916-924.
- LaFleur, D. L., **Lozano, G. A.** and Sclafani, M. 1997. Female mate choice copying in guppies, *Poecilia reticulata*: a re-evaluation. Animal Behaviour 54: 579-586.

- Lemon, R. E., Perreault S. and **Lozano, G. A.** 1996. Breeding dispersions and site fidelity of American redstarts (*Setophaga ruticilla*). Canadian Journal of Zoology 74: 2238-2247.
- Lozano, G. A.** and Lemon, R. E. 1996. Male plumage, paternal care and reproductive success in yellow warblers, *Dendroica petechia*. Animal Behaviour 51: 265-272.
- Lozano, G. A.**, Perreault S. and Lemon, R. E. 1996. Age, arrival date, and reproductive success of male American redstarts, *Setophaga ruticilla*. Journal of Avian Biology 27: 164-170.
- Lozano, G. A.** and Handford, P. T. 1995. A test of an assumption of delayed plumage maturation hypotheses using female tree swallows. Wilson Bulletin 107: 153-164.
- Lozano, G. A.** and Lemon, R. E. 1995. Food abundance and parental care in yellow warblers (*Dendroica petechia*). Behavioral Ecology and Sociobiology 37: 45-50.
- Lozano, G. A.** 1994. Carotenoids, parasites, and sexual selection. Oikos 70: 309-311 (see **popular media coverage below** - Walker 2000).
- Lozano, G. A.** 1994. Size, condition, and territoriality in male tree swallows (*Tachycineta bicolor*). Canadian Journal of Zoology 72: 330-333.
- Lozano, G. A.** 1991. Optimal foraging theory: a possible role for parasites. Oikos 60: 391-395.
- PRESENTATIONS** (presenter in **bold**)
- Lozano, G. A.** 2010. Obesity and sexually selected anorexia nervosa. Evolutionary Psychology Research Symposium. Hyytiala Field Station, Finland. 9-10 August 2010.
- Ros\*, A. F. H.** and **Lozano\*, G. A.** 2010. Immunity and oxidative stress in behavioural ecology: results and insights from species with alternative reproductive tactics/strategies. 5<sup>th</sup> European Conference on Behavioural Biology, 16 to 18 July, Ferrara, Italy. (\* **Symposium's organizers and session's keynote presenters**).
- Lozano, G. A.** 2010. My work, my life. Archimedes Foundation's 6<sup>th</sup> Annual Science Student's Association Conference. 16-17 April, Tallinn, Estonia (**for high-school science students**).
- Lozano, G. A.** 2008. Obesity and sexually selected anorexia nervosa. Twelfth International Behavioral Ecology Congress, 9-15 August, Cornell University, Ithaca, New York, USA.
- Lank, D. B.** and **Lozano, G. A.** 1999. Does immunosenescence occur as predicted by life history theory? an interspecific test of T-cell mediated responses among three genders of ruffs, *Philomachus pugnax*. 113th Stated Meeting, American Ornithologists' Union, 10-14 August, Cornell University, Ithaca, New York. U.S.A.
- Lozano, G. A.** and Lemon, R. E. 1996. Parental care responses by yellow warblers (*Dendroica petechia*) to simultaneous manipulations of food abundance and brood size. 21st Annual

meeting, Société Québécoise pour l'Étude Biologique du Comportement, 18-20 October, Université de Sherbrooke, Sherbrooke, Quebec, Canada.

**Lozano, G. A.**, Perreault S. and Lemon, R. E. 1995. Age, arrival date, and reproductive success of male American redstarts (*Setophaga ruticilla*). 20th Annual Meeting, Société Québécoise pour l'Étude Biologique du Comportement, 3-5 November, McGill University, Montreal, Quebec, Canada.

**Lozano, G. A.** and Lemon, R. E. 1995. Food abundance and paternal care in yellow warblers (*Dendroica petechia*). 20th Annual Meeting, Société Québécoise pour l'Étude Biologique du Comportement, 3-5 November, McGill University, Montreal, Quebec, Canada.

Lafleur, D., **Lozano, G. A.** and Sclafani, M. 1995. Mate choice copying in female guppies, *Poecilia reticulata*, NOT!! 20th Annual Meeting, Société Québécoise pour l'Étude Biologique du Comportement, 3-5 November, McGill University, Montreal, Quebec, Canada.

**Lozano, G. A.** and Lemon, R. E. 1995. Food abundance and paternal care in yellow warblers (*Dendroica petechia*). 113th Stated Meeting, American Ornithologists' Union, 15-19 August, The Cincinnati Museum Center, Cincinnati, Ohio, U.S.A.

**Lozano, G. A.** and Lemon, R. E. 1994. Paternal care and female mate choice in yellow warblers (*Dendroica petechia*). 31st Annual Meeting, Animal Behavior Society, 23-28 July, University of Washington, Seattle, Washington, U.S.A.

**Lozano, G. A.** 1992. A test of an assumption of delayed plumage maturation hypotheses using tree swallows (*Tachycineta bicolor*). Fourth International Behavioral Ecology Congress, 17-22 August, Princeton University, Princeton, New Jersey, U.S.A.

**Lozano, G. A.** 1991. Age-related differences in foraging ability and condition in female tree swallows (*Tachycineta bicolor*). 109th Stated Meeting, American Ornithologists' Union, 14-17 August, McGill University, Montreal, Quebec, Canada.

**Lozano, G. A.** 1991. Age-related differences in competitiveness in female tree swallows, *Tachycineta bicolor*. Ontario Ecology and Ethology Colloquium, 12-14 May, University of Guelph, Guelph, Ontario, Canada.

### **IN THE POPULAR MEDIA . . .**

Lozano, G. A. 2010. Evolutsioonituleb meditsiinile appi [Evolution helps medicine]. Tarkade Klubi [Wise Club] 39(3): 24-25. (<http://www.presshouse.ee/tarkadeklubi>)

Javois, J. 2010. Evolutsioonibioloogia aitab mõista ühiskonda terikuna [Evolutionary biology helps to understand society as a whole]. Essti Loodus [Estonian Nature] 61(2): 86-90 [Interview] ([http://www.loodusajakiri.ee/eesti\\_loodus/](http://www.loodusajakiri.ee/eesti_loodus/))

- Withers, M. 2008. Modern persuasions and foreign liaisons. The Baltic Times, December 3 (<http://www.baltictimes.com/news/articles/21897/>)
- Lozano, G. A. 2003. Letter to the Editor- Sexual differences in human risk-taking behaviour. Ottawa Citizen, January 5 (<http://www.georgealozano.com/papers/mine/Lozano2003OttawaCitizen.jpg>).
- Pennisi, E. 2003. Colorful males flaunt their health. Science 300: 29-30.
- Canadian Broadcasting Corporation. 2003. Brightest beak signals a healthy male. July 3 ([http://www.cbc.ca/health/story/2003/04/03/bird\\_beaks030403.html](http://www.cbc.ca/health/story/2003/04/03/bird_beaks030403.html)).
- Pickrell, J. 2003. Bright beaks signal health to female birds, study says. National Geographic News - On line. April 3 ([http://news.nationalgeographic.com/news/2003/04/0403\\_030403\\_beaks.html](http://news.nationalgeographic.com/news/2003/04/0403_030403_beaks.html))
- Expert Instinct. 2000. Pharmacopia. Presenter: Jolyon Jenkins. Producer: Paul Arnold. British Broadcasting Corporation- Radio 4. Aired April 24, 2000 (<http://www.georgealozano.com/Pharmacopia.wma>)
- Walker, M. 2000. She's gotta have it. New Scientist 165(2223): 22-26 (January 29).
- Furlow, B. 2000. Kills all known germs. New Scientist 165(2222): 36-39 (January 22).

### **MOST IMPORTANT CONTRIBUTIONS**

- Lozano, G. A.** 1991. Optimal foraging theory: a possible role for parasites. *Oikos* 60: 391-395.  
This paper, along with my paper on self-medication (**Lozano 1998 - 41 Citations**), provided a general framework for the study of the effects of actual or perceived parasitism on foraging behaviour. It became the basis for much research on the subject (**71 Citations**).
- Lozano, G. A.** 1994. Carotenoids, parasites, and sexual selection. *Oikos* 70: 309-311.  
This seminal paper brought forth one of the most exciting and productive areas of research in behavioural and evolutionary ecology in the past 20 years. Several of the most prominent researchers in the field have based their entire careers on this idea, which has been the basis for at least 2 dozen Ph.D. graduate theses (**246 Citations**).
- Lozano, G. A.**, Perreault S. and Lemon, R. E. 1996. Age, arrival date, and reproductive success of male American redstarts, *Setophaga ruticilla*. *Journal of Avian Biology* 27: 164-170.  
This paper analyzed the effects of various sequential events (arrival, mating, egg-laying, etc) on reproductive success, taking into account the effects of each event consecutively. The idea has been emulated repeatedly (**85 Citations**).
- LaFleur, D. L., **Lozano, G. A.** and Sclafani, M. 1997. Female mate choice copying in guppies, *Poecilia reticulata*: a re-evaluation. *Animal Behaviour* 54: 579-586.

If you were to ask scientists in other fields, one of the problems with behavioural ecology is that experiments are seldom replicated. Here we attempted, unsuccessfully, to replicate what is still the most clear experimental evidence of female choice copying. Few researchers would have the audacity to replicate a study, and fewer still the ability get their results published, particularly when they differ from those of the first report. I must give proper credit to my undergraduate student, Daniel Lafleur, who conducted the study and ensured a high-quality result. Afterwards, Daniel earned an M.D. from McGill, and is now a practicing children's psychiatrist in Vancouver (**35 Citations**).

**Lozano, G. A.** and Lank, D. B. 2003. Seasonal trade-offs in cell-mediated immunosenescence in ruffs (*Philomachus pugnax*). Proceedings of the Royal Society of London, Series B 270: 1203-1208.

This was one of the first papers documenting senescence of immune function in a wild bird, and the first to address differences in immunocompetence between the sexes by comparing both the mean response and the difference in the variance of the response (**32 Citations**).

Of course, in a couple of years this list might have to be modified to include some of my last few papers. Time will tell.

Total number of papers = 23

Total number of citations = 653

Raw Hirsch Index (h) = 12

Corrected for multiple authors ( $h_i$ ) = 9

Mean citations per paper = 28.3

Mean citations/year = 32.8

Mean citations/year, previous 7 years = 59.3

Citations this year, so far = 63