

Curriculum Vitae

September 2009

Dr. Catherine Schaeff

Biology Department, American University
(202) 885-2194; schaeff@american.edu

Citizenship: Canadian

Education

1993 Queen's University Ph.D., Conservation Biology and Population Genetics
1988 University of Ottawa M.Sc., Behavioural Ecology
1983 University of Toronto B.Sc. (Honors), Animal Behaviour

Employment History

2007-present Associate Professor, Department of Biology, American University
2000-2007 Associate Professor and Chair, Department of Biology, American University
1993-2000 Assistant Professor, Department of Biology, American University

Major Administrative and Leadership Experience

2000-2007 Chair, Department of Biology, American University
2003-2006 Co-Chair, University Student Learning and Assessment Task Force, American University
2002-2006 Co-Chair, Joint Senate Committee on Curriculum and Academic Affairs, Faculty Senate, American University
AY 2004-05 Co-Coordinator, Science Student Recruitment Pilot, American University
2001-2005 Co-Chair, University Environmental Issues Project Team
1994-1999 Chair, Graduate Studies Committee, Department of Biology, American University

Honors and Awards

2008 Associate Professor Award, College of Arts and Sciences, American University
2005 Outstanding Administrator Award, American University
1993 Dean's Award, Queen's University
1992 Student Presentation Award, American Cetacean Society

Publications

Journal Articles (refereed)

1. **Schaeff, CM & J Picman. 1988.** Destruction of eggs by Western Meadowlarks. *Condor* 90:935-937.
2. **Schaeff, CM, SD Kraus, MW Brown, D Gaskin, J Perkins, R Payne, P Boag & BN White. 1991.** Preliminary analysis of mitochondrial DNA variation within and between right whale species

- Eubalaena glacialis* and *E. australis*. In **Genetic Ecology of Whales and Dolphins**. A.R. Hoelzel (Ed) International Whaling Commission 13:217-224.
3. **Schaeff**, CM, SD Kraus, MW Brown & BN White. **1993**. Assessment of the population structure of western North Atlantic right whales (*Eubalaena glacialis*) based on sighting and mtDNA data. **Canadian J. Zoology** 71:339-45.
 4. **Schaeff**, CM, SD Kraus, MW Brown, J Perkins, R Payne & BN White. **1997**. Comparison of genetic variability of North Atlantic right whales (*Eubalaena glacialis*) using DNA fingerprinting. **Canadian J. Zoology** 75:1073-1080.
 5. **Schaeff**, CM, DJ Boness & WD Bowen. **1999**. Female distribution, genetic relatedness, and fostering behavior in harbor seals (*Phoca vitulina*). **Animal Behaviour** 57:427-434.
 6. **Schaeff**, CM & PK Hamilton. **1999**. Genetic basis and evolutionary significance of ventral skin color markings in North Atlantic right whales (*Eubalaena glacialis*). **Marine Mammal Science** 15(3):701-711.
 7. Schwartz, M, DJ Boness, CM **Schaeff**, P Majluf, EA Perry & RC Fleischer. **1999**. Female solicited extra-pair matings in Humboldt penguins fail to produce extra-pair fertilizations. **Behavioral Ecology** 19(3):242-250.
 8. **Schaeff**, CM, PB Best, VJ Rowntree, R Payne, C Jarvis & VA Portway. **1999**. Dorsal skin color patterns among southern right whales (*Eubalaena australis*): genetic basis and evolutionary significance. **J. Heredity** 90:464-471.
 9. Rosenbaum, H, H Brownell, Jr., MW Brown, CM **Schaeff**, VA Portway, BN White, S Malik, L Pastene, PB Best, PJ Clapham, PK Hamilton, M Moore & R Payne. **2000**. A genetic review of interrelationships between right whales in different ocean areas. **Molecular Ecology**. 9:1793-1803.
 10. Steeves T, J Darling, CM **Schaeff** & R Fleischer. **2001** Population structure of gray whales that summer in Clayoquot Sound, British Columbia based on sighting and molecular data. **Conservation Genetics** 2:379-384.
 11. Best, PB, CM **Schaeff**, D Reeb, PJ Palsboll. **2003**. Composition and possible function of social groupings of southern right whales in South African waters. **Behaviour** 140 (11-12):1469-1494
 12. Goerlitz, D, Belson M, Urban, J., CM **Schaeff**. **2004**. Genetic population structure of Eastern North Pacific gray whales (*Eschrichtius robustus*) on winter breeding grounds in Baja California. **Canadian Journal of Zoology** 81:1965-1972.
 13. Best, PB, D Reeb, MB Rew, PJ Palsboll, CM **Schaeff**, A Brandao. **2005**. Biopsying southern right whales; their reactions and effects on reproduction. **Journal of Wildlife Management** 69(3):1171-1180.
 14. Zofia AK, J Seger, VJ Rowntree, SG Barco, R Benegas, PB Best, MW Brown, RL Brownell, A Carribo, R Harcourt, AR Knowlton, K Marshall-Tilas, NJ Patenaude, M Rivarola, CM **Schaeff**, M Sironi, WA Smith, TK Yamada. Population histories of right whales (Cetacea: *Eubalaena*) inferred from mitochondrial sequence diversities and divergences of their whale lice (Amphipoda: *Cyamus*). **2005. Molecular Ecology** 3439-3456.
 15. Mitochondrial DNA Diversity and Population Structure among Southern Right Whales (*Eubalaena australis*) N.J. Patenaude, V.A. Portway, **C.M. Schaeff**, J.L. Bannister, P.B. Best, R.S. Payne, J.

- Rowntree, M. Rivarola, and C.S. Baker 2007 *Journal of Heredity* 98(2):147-157
16. P Hall, P. & Schaeff, C.M. 2008. Sexual Orientation and Fluctuating Asymmetry in Men and Women. *Archives of Sexual Behavior* 37(1): 158-165.
17. Hall, P. and CM Schaeff. The influence of sexual orientation on women's assessment of male and female faces. *Evolution and Human Behavior*. *Under review*

Book Chapters/Contributions

- Schaeff, CM. 2002. Right Whale (*Eubalaena*) Molecular Ecology *in* Cell and Molecular Biology of Marine Mammals. Carl Pfeiffer (Ed). Krieger Pub. Co. (refereed) pg 65-83.
- Schaeff, CM 2004. Homosexuality *in* Encyclopedia of Genetics, Revised Edition. Volume 1, pg 419-421. BD Ness and JA Knight (Eds). Salem Press Inc.
- Schaeff, CM. 2004. Fostering Behavior *in* Encyclopedia of Animal Behavior. Volume 1, pg 182-184 M Bekoff (Ed). Greenwood Press, Westport, Connecticut.
- Schaeff, C.M. 2007. Courtship and Mating Behavior *in* Reproductive Biology and Phylogeny of Cetacea, Whales, Porpoises and Dolphins. DL Miller (Ed) Pg 349-370.

Papers Given at Professional Refereed Meeting (referred)

- Schaeff, CM, SD Kraus, MW Brown, J Perkins, R Payne & BN White. mtDNA variation within and between right whale populations in the Atlantic Oceans. **Canadian Genetics Society**, Kingston, ON. 06/1991. (Oral presentation)
- Schaeff, CM, SD Kraus, MW Brown & BN White. Population structuring of North Atlantic right whales detected with mtDNA RFLP analysis. **Society for the Study of Evolution**, Hilo, HI. 08/1991.
- Schaeff, CM, SD Kraus, MW Brown, J Perkins, R Payne & BN White. *Inbreeding depression in North Atlantic right whales*. **Marine Mammal Society Conference**, Galveston, TX. 11/1993. (Oral presentation)
- Schaeff, CM, D. Boness & D. Bowen. *Preliminary assessment of the importance of genetic relatedness for fostering behavior among harbor seals*. **Marine Mammal Genetics Symposium**, La Jolla, CA. 09/1994. (Oral presentation)
- Schaeff, CM, DJ Boness & WD Bowen. *Is fostering behavior in harbor seals a consequence of kin selection?* **International Marine Mammal Society Conference**, Orlando, FL. 12/1995.
- Steeves, T, J Darling & CM Schaeff. *Population structure of gray whales that summer in Clayoquot Sound, British Columbia based on sighting and molecular data*. **International Marine Mammal Conference**, Monaco. 01/1998.
- Portway, V, CM Schaeff, PB Best, VJ Rowntree, & R Payne. *Southern right whale distribution and stock identity*. **International Marine Mammal Conference**, Monaco. 01/1998.
- Marshall-Tilas, Rivarola, Arias, Moore, Payne, Pfeiffer, Portway, Rowntree, Schaeff & Schel. *Information resulting from a stranding network established for right whales (*Eubalaena australis*) at Peninsula Valdes, Argentina*. **International Marine Mammal Conference**. Monaco. 01/1998.
- Schaeff, CM, PB Best, VJ Rowntree, R Payne, C Jarvis & VA Portway. *Dorsal skin color patterns among*

- southern right whales (Eubalaena australis): genetic basis and evolutionary significance. International Marine Mammal Conference.* Monaco. 01/1998.
- Patenaude, NJ, VA Portway, CM **Schaeff**, JL Bannister, PB Best, RS Payne, VJ Rowntree, M Rivarola and CS Baker. *Mitochondrial DNA genetic differentiation and current genetic population structure among southern right whale populations. International Marine Mammal Conference,* Maui, HI. 11/1999.
- Rosenbaum, H, H Brownell, Jr., MW Brown, CM **Schaeff**, VA Portway, BN White, S Malik, L Pastene, PB Best, PJ Clapham, PK Hamilton, M Moore & R Payne. *A genetic review of interrelationships between right whales in different ocean areas. International Marine Mammal Conference,* Maui, HI. 11/1999.
- Schaeff**, C.M. *Is fluctuating asymmetry an effective indicator of environmental and genetic stress in cetaceans?* **Society of Conservation Biology**, Missoula, MT. 06/2000. (Oral presentation)
- Schaeff** C.M. *Fluctuating asymmetry as a tool to assess population health: methodological concerns. Right Whale Consortium Annual Meeting* New England Aquarium, Boston, MA. 11/2000. (Oral presentation)
- Gaines C, Brownell, Jr, RL, **Schaeff**, CM and HC Rosenbaum. *Evaluating relationships among right whales using nuclear gene regions. International Marine Mammal Conference,* Vancouver, B.C. 11/2001.
- Schaeff**, CM and PB Best. *Where or when – the enigma of right whale conception. International Marine Mammal Conference,* Vancouver, BC. 11/2001.
- Goerlitz, D, Belson M, Urban, J., CM **Schaeff**. *Genetic population structure of Eastern North Pacific gray whales (Eschrichtius robustus) on winter breeding grounds in Baja California. International Marine Mammal Conference,* Vancouver, BC. 11/2001.
- Dorsey C and CM **Schaeff**. *Is fluctuating asymmetry a good bio-indicator for manatees?* **International Marine Mammal Conference,** Vancouver, BC. 11/2001.
- Coy B and CM **Schaeff** *Has sea lion fitness declined over the past century?* **International Marine Mammal Conference,** Vancouver, BC. 11/2001.
- Seger, Kaliszewska, Best, Brown, Carribero, Knowlton, **Schaeff**, Rowntree. *What can the phylogenetic and population-genetic relationships of right-whale cyamids tell us about the history and behavior of right whales?* **International Marine Mammal Conference,** Vancouver, BC. 11/2001.
- Maguire C and CM **Schaeff**. *Fluctuating Asymmetry in Harbor Porpoises (Phocoena phocoena) – A Useful Bioindicator of Health?* **Biennial Conference on the Biology of Marine Mammals,** Greensboro NC. 12/2003.
- Hall P and CM **Schaeff** *The Potential Role for Developmental Instability in Sexual Orientation. International Behavioral Development Symposium: Biological Basis of Sexual Orientation, Gender Identity, and Sex-Typical Behavior* Minot State University, Minot, ND 8/2005.
- Bifolck A and CM **Schaeff**. *Relationship between fluctuating asymmetry levels and other health indicators in California sea lions. Carnivores Conference,* St. Petersburg, FL [co-presenters] 12/2006.
- Schaeff** CM and P Hall *Homosexual Women's Assessment of Models' Attractiveness* **International**

Association of Sex Research (ISAR) Leuven, Belgium 2008.

Schaeff CM. *Monitoring marine mammal health: maximizing the fluctuating asymmetry signal.*

Monitoring Strategies for Marine Mammal Populations, La Rochelle, 21-23 November 2008.

Centre de Recherche sur les Mammifères Marins Annual Seminar (Oral presentation)

Sponsored Research

- 2006-2007 "Manatee population health: do fluctuating asymmetry and internal relatedness estimates support down listing this population from endangered to threatened? American University Senate Research Award \$5,550.
- 2001-2002 "Is fluctuating asymmetry an effective bio-indicator for right whales?" American University Senate Research Award \$9,050.
- Mar 2000 "Molecular genetic analysis of the right whale mating system and male mediated gene flow between winter breeding grounds off South Africa and Argentina" International Whaling Commission, \$37,000. (With Peter Best) Sort-listed, unsuccessful.
- 1999-2000 "Is fluctuating asymmetry an effective indicator of environmental and genetic stress in cetaceans?" American University Senate Research Award. \$10,000; Unsuccessful.
- 1998-1999 "Genetic assessment of gray whale summer population structure" American University Senate Summer Research Award, \$10,000.
- 1995-1996 "Gene flow among right whale winter breeding grounds" American University Summer Research Award, \$10,000.
- 1994-1995 "Harbor seal fostering behavior". American University Senate Research Award, \$10,000.

Consulting and Editorial Activities

- 1998-present *Ad hoc* reviewer
Conference Abstracts: Society of Marine Mammalogy
Grant Proposals: NSF (grant applications)
Manuscripts: J. Marine Mammal Science, J. Behavioral Ecology, Ethology, J. Animal Behaviour
- 1996-2003 A.S.K.-A-Scientist, WhaleNet interactive educational project.
- 2001, 2002 Grant Review Panel for Protect Wild Dolphin, Harbor Branch Oceanographic Institution, Inc. (HBOI) in Fort Pierce, Florida.
- 1996 Reviewer, Environmental Science: A Global Concern, by Cunningham & Saigo, The Corporate Environment Leader by B. Dell.

1995 Reviewer, Understanding Evolution by E. Peter Volpe, Brown Publishers.

Graduate Students (and their publications)

Biology Master's of Science Degree Program

Michael Schwartz 1994-1997

Schwartz, M, DJ Boness, CM **Schaeff**, P Majluf, EA Perry & RC Fleischer. **1999**. Female solicited extra-pair matings in Humboldt penguins fail to produce extra-pair fertilizations. **Behavioral Ecology** **19(3):242-250**.

Vicki Portway 1995-1998 Portway VA, PB Best, VJ Rowntree, R Payne, MJ Moore, PK Hamilton & CM **Schaeff**. Genetic population structure of South Atlantic right whales (*Eubalaena australis*). **J. of Heredity** (In revision)

Tammy Steeves 1995-1998

Steeves T, J Darling, CM **Schaeff** & R Fleischer. **2001** Population structure of gray whales that summer in Clayoquot Sound, British Columbia based on sighting and molecular data. **Conservation Genetics** **2:379-384**.

David Goerlitz 1999-2001

Goerlitz, D, Belson M, Urban, J., CM **Schaeff**. **2004**. Genetic population structure of Eastern North Pacific gray whales (*Eschrichtius robustus*) on winter breeding grounds in Baja California. **Canadian J. Zoology** **81:1965-1972**.

Bonnie Coy 1999-2002

Coy, B, & CM **Schaeff**. Assessing the impact of modern environmental stress on California sea lions (*Zalophus californianus*) using fluctuating asymmetry. (In prep.)

Candice Dorsey 1999-2002

Dorsey, C, & CM **Schaeff**. Is Fluctuating asymmetry an effective bio-indicator for the Florida Manatee? (In prep.)

Mandy Maguire 2001-2004

C Maguire and CM **Schaeff**. Fluctuating Asymmetry in Harbor Porpoises (*Phocoena phocoena*) - A Useful Bioindicator of Health? (In prep.)

Kara Stablein 2005-2008

Human mate choice: does self symmetry influence the importance of symmetry in mates?

Cara Crawford 2006-2008

Population health of Bottlenose dolphins from Sarasota evaluated using fluctuating asymmetry.

Spencer Koury 2007-present

Health and population structure of Florida Key Deer.

Bethany Holm 2007-present

Link between FA estimates, mortality factors and levels of genetic variability in coding and non-coding DNA markers.

Behavior, Cognition, & Neuroscience (BCAN) PhD Degree Program

Trish Hall 2002-present

P Hall, P. & **Schaeff, C.M. 2008.** Sexual Orientation and Fluctuating Asymmetry in Men and Women. *Archives of Sexual Behavior* 37(1):158-165.

Hall, P. and **CM Schaeff.** The influence of sexual orientation on women's assessment of male and female faces. **Evolution and Human Behavior.** *Under review*

Hall, P. and **CM Schaeff.** The influence of sexual orientation on the relationship between fluctuating asymmetry and attractiveness. In prep.

Undergraduate Research (limited to research supported by student research awards)

Erica Adams Summer 2002 Dean's Undergraduate Research Award (\$3000). "Arsenic-induced fluctuating asymmetry and infectious disease mortality in *Drosophila*."

University Service

Departmental:

2008-present	Chair, Undergraduate Studies Committee
2008-present	Undergraduate Curriculum Assessment Coordinator, Department of Biology
2007-2008	Chair, Environmental Graduate Studies Committee
2007-2008	Academic Advisor, Environmental Science MS Program
2007-2008	Chair, Cell Biologist Search Committee
2007-present	Member, Science Rank and Tenure Committee
2007-present	Member, Biology Rank and Tenure Sub-Committee
2000-2007	Chair, Department of Biology
2000-2007	Academic Advisor, Biology Undergraduate Program
2003-2005	Member, Environmental Studies Undergraduate Studies Committee
2000-2005	Member, Environmental Studies Graduate Studies Committee
2000-2005	Member, Biology Undergraduate Studies Committee
1995-2001	Chair, Biology Graduate Studies Committee
2002-2003	Chair, Faculty Search Committee (Biogeochemist)
2001-2002	Chair, Faculty Search Committee (Microbiologist)
1999-2001	Member, Faculty Search Committee (Geneticist)

College:

2007-present	Member, Science Rank and Tenure Committee
2008-present	Member, Budget Subcommittee, Educational Policy Committee

2008-present	Member, Educational Policy Committee
1998-present	Panel Member, Academic Integrity Code Panels: <i>ad hoc</i> basis
2007	Session Convener, Robin Mathias Research Conference
2006	Judge, Robin Mathias Research Conference
2005	Session Convener, Robin Mathias Research Conference
2001-2002	Member, <i>Ad Hoc</i> PhD Program Review Committee
2001-2003	<i>Ad Hoc</i> Committee on Technology Resources
1999-2000	Member, Search Committee, Dean, School of Education
1999-2000	Member, Science Advisory, School of Education

University:

2007-present	University Council, member
2006-2007	Member, <i>Ad Hoc</i> Science Cluster Building Committee
2006-2007	Member, <i>Ad Hoc</i> Science Cluster External Funding Committee
2006-2007	Member, <i>Ad Hoc</i> Five Year, BA/MA Committee
2006	Elected Member, Dean of Academic Affairs Search Committee
2003-present	Coordinator and Presenter, Greenberg Seminar, Year 1, 3
2004-2006	Member, Advisory Council, University Honors Program
2004	Member, University College Development Workshop
2003-2006	Co-Chair, University Student Learning and Assessment Task Force, American University
2002-2006	Senator, Faculty Senate
2002-2006	Co-Chair, Joint Senate Committee on Curriculum and Academic Affairs, American University
2001-2006	Co-Chair, University Environmental Issues Project Team
2004-05	Co-Coordinator, Science Student Recruitment Pilot, American University
2002-2005	Building Marshall, Hurst Hall
2002-2003	Member, Middle States Review, Governance Committee
2001-2002	At-Large Member, University Senate

Teaching

Areas of Teaching Expertise

Animal Behavior and Behavioral Ecology; Mating Systems, Molecular Ecology, Biology of Sex and Gender; Conservation Biology, Marine Mammals, Evolution.

Courses Taught

Fall 2009

BIO 364 Evolution

BIO 296 Issues in marine Biology

Spring 2009

BIO 210 General Biology II (2 sections)

BIO 698 Research Methods

Fall 2008

BIO 342 Marine Mammals [17 students, 3 CH]

Spring 2008

BIO 250 General Biology II

BIO 496 Behavioral Ecology

ENVS 102 Seminar in Environmental Issues

Fall 2007

WGST 350 Evolution of Desire [24 students; 3 CH]

ENVS 102 Seminar in Environmental Issues [20 students; 1 CH]

Summer 2006

BIO 596 –N9IU Modeling the Scientific Method [10 students – DCPS teachers; 3 CH]

Spring 2007

On sabbatical

Fall 2006

ENVS 572 Conservation Biology

BIO 342 Marine Mammals

ENVS 102 Seminar in Environmental Issues

Spring 2006

GEN 220 Genetics: Ethical, Legal and Social Issues (General Education wild card course; team taught with Ellen Feder, Dept. Philosophy and Religion) [23 students; 3 CH]

BIO 496 Behavioral Ecology [15 students; 3 CH]

Fall 2006

ENVS 102 Seminar in Environmental Issues [21 students; 1 CH]

BIO 342 Marine Mammals [21 students; 3 CH]

ENVS 572 Conservation Biology [met with BIO 596] [20 students; 3 CH]

Spring 2005

HNRS-301.001 Colloquium: Mating Systems [5 students; 3 CH]

WGST-350.001 Interpreting Gender in Culture: Biology, Sex and Gender [15 students; 3 CH] [co-taught w/L Arneson]

Fall 2005

ENVS 102 Seminar in Environmental Issues [19 students; 1 CH]

Spring 2004

BIO 496 Behavioral Ecology 3 CH [11 students; 3 CH]

BIO 677/679 Topics in Evolutionary Biology [8 students; 1 CH]

Fall 2004

BIO 697 Research Methods [15 students; 3 CH]

Summer 2004

BIO 250 Living in the Environment [13 students; 3 CH]

Spring 2003

WGST 350.01 Biology, Sex and Gender [11 students; 3 CH]

Fall 2003

ENVS 102 environmental Issues Seminar [13 students; 1 CH]

Spring 2002

BIO 496 Behavioral Ecology [11 students; 3 CH]

Fall 2002

BIO 697 Research Methods [11 students; 3 CH]

Summer 2002

BIO 210 General Biology II [18 students; 3 CH][team-taught w/ D. Carlini]

Spring 2001

BIO 210 General Biology II – honors [6 students; 3 CH]

ENVS 572 Conservation Biology [17 students; 3 CH]

ENVS 102 Seminar in Environmental Issues [12 students; 1 CH]

Fall 2001

BIO 697 Research Methods [5 students; 3 CH]

BIO 250 Living in the Environment [44 students; 3 CH]

Spring 2000

BIO 579 Topics in Evolutionary Biology [6 students; 1 CH]

Summer 2000

BIO 240 Oceanography [25 students; 3 CH]

Course Development

BIO 496 Animal Behavior

WGST 350 Evolution of Desire

GEN 220 Genetics: Ethical, Legal and Social Issues (General Education wild card course; team taught with Ellen Feder, Dept. Philosophy and Religion)

WGST 350 Biology, Sex, and Gender (with Lynne Arneson, Department of Biology)

BIO 496 Behavioral Ecology

HNRS 330 Mating Behavior

Experience with Radioactive Materials

Extensive experience using P^{32} (southern blots) and S^{35} (sequencing, microsatellites). Initial intensive training carried out at Queen's University, Kingston Ontario (1989); training updates obtained annually at NIH, Maryland (1993-present).

Membership in Professional Societies

International Academy of Sex Research (Associate Member, elected position)

Society of Conservation Biology, Society for the Study of Evolution, Marine Mammal Society, Canadian Zoological Society, Canadian Women's Studies Association.