Curriculum Vitae

Steven G. Johnson

Education

B.A. Biology, Knox College, June 1982.

M.A. Biology (Systematics and Ecology), The University of Kansas (Honors), May 1986. Thesis: Life History Evolution and Quantitative Genetics of the Feral Pigeon.

Ph.D. Biology (Systematics and Ecology), The University of Kansas (Honors), May 1991. Thesis: Parasitic Castration and the Origin and Consequences of Apomictic Parthenogenesis in a Freshwater Snail, *Campeloma decisum*

Experience

Associate Professor, Department of Biological Sciences, University of New Orleans, New Orleans, LA. August 2000 - present.

Assistant Professor, Department of Biological Sciences, University of New Orleans, New Orleans, LA. August 1994 to August 2000.

Postdoctoral Fellow and Part-Time Assistant Professor, Indiana University, Bloomington, IN. July 1992 to June 1994.

Postdoctoral Research Associate, University of Mississippi Medical Center, Jackson, MS. September 1990 to June 1992.

1. Publications

B. Refereed Publications

a. Book Chapter

Johnson, S.G., C.M. Lively and S. Schrag. 1997 . Evolutionary ecology of uniparental and biparental reproduction in freshwater snails. In B. Streit, T. Staedler, and C.M. Lively (eds.), Evolutionary Ecology of Freshwater Animals: Concepts and Case Studies, Birkhauser, Basel. Pp. 263-291. Refereed.

b. Journal Articles

Vogel, L. S. and S. G. Johnson. 2008. Estimation of hybridization and introgression frequency in toads (Genus: *Bufo*) using DNA sequence variation at mitochondrial and nuclear loci. Journal of Herpetology 42:61-75.

Johnson, S. G. and R. S. Howard. 2007. Contrasting Patterns of Synonymous and Nonsynonymous Sequence Evolution in Asexual and Sexual Freshwater Snail Lineages. Evolution, 61:2728-2735.

Johnson, S. G., C. D. Hulsey, and F. J. García de León. 2007. Spatial mosaic evolution of snail defensive traits. BMC Evolutionary Biology 7:50 doi:10.1186/1471-2148-7-50.

Johnson, S. G. 2006. Geographic ranges, population structure and ages of sexual and parthenogenetic snail lineages. Evolution 60:1417-1426.

Johnson, S. G., 2005 Mode of origin differentially influences the fitness of parthenogenetic freshwater snails. Proc. Roy. Soc. Lond. B. 272: 2149-2153.

Johnson, S.G. 2005. Age, phylogeography and population structure of the microendemic banded spring snail, *Mexipyrgus churinceanus*. Molecular Ecology 14:2299-2311.

Johnson, S.G. 2000. Population structure, parasitism and survivorship of sexual and parthenogenetic *Campeloma limum* (Gastropoda:Viviparidae). Evolution 54:167-175.

Johnson, S.G. and E. Bragg. 1999. Age and polyphyletic origins of hybrid and spontaneous parthenogenetic *Campeloma* (Gastropoda: Viviparidae) from the southeastern United States. Evolution 53:1769-1781.

Johnson, S.G. and W. Leefe. 1999. Clonal diversity and polyphyletic origins of hybrid and spontaneous parthenogenetic *Campeloma* (Gastropoda: Viviparidae) from the southeastern United States. Journal of Evolutionary Biology 12:1056-1068.

Johnson, S.G., R. Hopkins, and K. Goddard. 1999. Constraints on elevated ploidy in hybrid and non-hybrid parthenogenetic snails. Journal of Heredity 90: 659-662.

Johnson, S.G., L. Delph, and C. Elderkin. 1995. Effect of petal-size manipulation on seed set, pollen removal rates, and insect visitation in *Campanula americana*. Oecologia 102:174-179.

Johnson, S.G., C.M. Lively and S. Schragg. 1995. Evolution and ecological correlates of uniparental reproduction in freshwater snails. Experientia 51:498-509.

Lively, C.M., S.G. Johnson, L.F. Delph, and K. Clay. 1995. Thinning reduces the effect of rust infection on jewelweed (*Impatiens capensis*). Ecology 76:1859-1862.

Johnson, S. G. 1994. Parasitism, reproductive assurance and the evolution of reproductive mode in a freshwater snail. Proceedings of the Royal Society of London, Series B 255:209-213.

Lively, C.M. and S.G. Johnson. 1994. Brooding and the evolution of parthenogenesis: strategy models and evidence from aquatic invertebrates. Proceedings of the Royal Society of London, Series B 256:89-95.

Johnson, S. G. 1992. Spontaneous and hybrid origins of parthenogenesis in *Campeloma decisum* (freshwater prosobranch snail). Heredity 68:253-261.

Johnson, S. G. 1992. Parasite-induced parthenogenesis in a freshwater snail: Stable, persistent patterns of parasitism. Oecologia 89:533-541.

Johnson, S. G. 1991. Effects of predation, parasites, and phylogeny on bright coloration in North American male passerines. Evolutionary Ecology 5:52-62.

Johnson, S. G. and R. F. Johnston. 1990. Environmental variation and quantitative genetic parameters in the feral pigeon. Biological Journal of the Linnean Society 40:321-332.

Johnston, R. F. and S. G. Johnson. 1990. Reproductive ecology of feral pigeons. In: Granivorous Birds in the Ecological Landscape: Proceedings of General Meetings of the Working Group on Granivorous Birds, INTECOL, pp. 237-252, (J. Pinowski, J.D. Summer-Smith, eds.), Warszawa, Poland.

Johnson, S. G. and R. F. Johnston. 1989. A multifactorial study of variation in interclutch interval and annual reproductive success in the feral pigeon, *Columba livia*. Oecologia 80:87-92.

Johnson, S. G. and R. K. Swihart. 1989. The influence of predation risk on central place foraging variables in the American robin, *Turdus migratorius*. Transactions of the Kansas Academy of Science 92:155-158.

Johnston, R. F. and S. G. Johnson. 1989. Nonrandom mating in feral pigeons. Condor 91:23-29.

Johnston, R. F., D. Siegel-Causey, and S. G. Johnson. 1988. European populations of the Rock Dove, *Columba livia*, and genotypic extinction. American Midland Naturalist 120:1-10.

Swihart, R. K. and S. G. Johnson. 1986. Central place foraging in the American robin: somatic and reproductive tradeoffs. Behavioural Ecology and Sociobiology 19:275-282.

Johnston, R. F. and S. G. Johnson. 1985. The breeding season of feral pigeons in Kansas. Kansas. Orn. Soc. Bull. 36:32-33.

4. Participation at Professional Meetings

Johnson, S.G., C.D. Hulsey, and F.J. Garcia de Leon. 2007. The Geographic Mosaic of Snail Defense. 2nd Congreso de Investigadores CuatroCiénegas, August 16-19, 2007.

Johnson, S.G. 2005. Geographic patterns of sequence variation in sexual and asexual lineages of a freshwater snail. Society for the Study of Evolution Annual Meeting, Fairbanks, Alaska, June 2005.

Johnson, S.G. and C.D. Hulsey. 2004. Phylogeography and Conservation Genetics of Three Endemic Snail Genera from Cuatro Ciénegas. Congreso de Investigadores CuatroCiénegas, August 13-14, 2004.

Johnson, S.G. 2004. Spatial Patterns of Genetic Variation, Shell Morphology and Load Strength in *Mexipyrgus churinceanus*. Society for the Study of Evolution Annual Meeting, Ft. Collins, CO, June 2004.

Johnson, S.G. 2002. Spatial patterns of genetic structure, armature and coloration in *Mexipyrgus churinceanus*. Invited Speaker, American Malacological Society Annual Meeting, Charleston, SC, August 3-7.

Johnson, S.G. 1997. Virulence and infectivity of microsporidians in sexual and parthenogenetic populations of a freshwater snail. Annual Meeting of the Society for the Study of Evolution and Society of Systematic Biology, University of Colorado, Boulder, June.

Johnson, S.G. 1996. Parasitism by trematodes and microsporidians in sexual and parthenogenetic populations of a freshwater snail. Annual Meeting of the Society for the Study of Evolution and Society of Systematic Biology, Washington University, St. Louis, June 19-23.

Johnson, S.G., C.M. Lively, L. Delph, and K. Clay. 1995. Thinning reduces the effect of rust infection on jewelweed (*Impatiens capensis*). Society for the Study of Evolution and the American Society of Naturalists, Montreal, Canada.

Johnson, S. G. 1990. Parasitic castration and the origin and consequences of apomictic parthenogenesis in a freshwater snail, *Campeloma decisum*. IV International Congress for Systematic and Evolutionary Biology, University of Maryland.

Johnson, S. G. and R. F. Johnston. April 1988. Nonrandom mating in feral pigeons. Symposium on Mate Choice, Midwest Animal Behavior Conference, Springfield, IL.

Johnston, R. F. and S. G. Johnson. 1987. Nonrandom mating in feral pigeons. American Ornithologist's Union annual meeting, San Francisco (Presented by first author).

Johnson, S. G. and R. F. Johnston. 1986. A quantitative genetic analysis of external morphology in feral pigeons. 11th Annual Meeting of the Prairie States Ecology Conclave.

Johnston, R. F. and S. G. Johnson. 1986. Ecological and evolutionary importance of interclutch interval in feral pigeons. 11th Annual Meeting of the Prairie States Ecology Conclave (Presented by first author).

Johnson, S. G. and R. F. Johnston. 1986. Ecological and evolutionary importance of interclutch interval in feral pigeons. Society for the Study of Evolution, Durham, New Hampshire.

Johnston, R. F. and S. G. Johnson. 1986. Continuous breeding in feral pigeons. XIX International Ornithological Congress. Ottawa, Canada (Presented by first author).

5. Other Scholarly or Creative Activities

A. Publication Reviewer

American Naturalist
BMC Ecology (1)
Canadian Journal of Zoology (1)
Evolution (1)
Ecology
Invertebrate Biology
Molecular Ecology (4)
Molecular Phylogenetics and Evolution (1)
Philosophical Transaction of the Royal Society: Biological Sciences
Proceedings of the Royal Society of London, Series B (2)
The Royal Society's Biology Letters (2)
Trends in Ecology and Evolution

B. Granting Agencies Reviewer and Panelist

National Science Foundation, Population Biology and Ecology Panels, Reviewer (3 grants in 2004;2 grants in 2005; 1 in 2006)
Panel Member, NSF, Population Biology Panel, April, 2003
Panel Member, NSF, Population Biology Panel, April, 2002
Florida Sea Grant

Panel Member, NSF, Professional Opportunities for Women in Research and Education (POWRE), March 22-23, 1999

D. Professional Society Membership

Society for Study of Evolution

7. Grants and Contracts

A. Grants Received

a. Principal Investigator or Co-principal investigator

Undergraduate Mentoring in Environmental Biology: Mentoring Undergraduate Research in Conservation Biology and Ecology, PI, National Science Foundation, $438,902. August 1, 2004- July 31, 2009.

Tests of competing hypotheses for the maintenance of sex and parthenogenesis in a southeastern US snail. Population Biology Program, National Science Foundation ($153,000). July 15, 2000 – August 31, 2005.

Development of a DNA Sequencing Facility. Louisiana Board of Regents Support Fund Enhancement Program ($125,237). Principal Investigator. July 1, 2000 – June 30, 2001.

Dispersal and Parasitism of Sexual and Autodiploid Parthenogenetic Snails. Ecology Program, NSF (Supplement to current grant), $4500. April 1, 1999 - October 31, 1999.

Population dynamics and structure of parthenogenetic and sexual *Campeloma*. Ecology Program, NSF (Supplement to current grant), $5000. April 1, 1998 - December 1, 1998.

Allozymic and RAPD genetic diversity in coexisting sexual and parthenogenetic snails and its relationship to parasitism by trematodes and microsporidians. Ecology Program, NSF (Supplement to current grant), $5000. April 1, 1997 - December 1, 1997.

Experimental investigation of ecological and genetic correlates of parthenogenetic and sexual reproduction in a freshwater snail. Ecology Program, National Science Foundation ($88,640). July 1, 1996 - October 31, 1999.

Naturalist-Ecologist Training Program (NETP) Investigator's Award, The University of Michigan Biological Station and Carnegie-Mellon Foundation. June-August 1989, $5000.

Sigma Xi grant. Observational and experimental analysis of parasitism in parthenogenetic and sexual populations of a freshwater snail, *Campeloma decisum*. May 1989, $400.

Theodore Roosevelt Fund, American Museum of Natural History. Observational and experimental analysis of parasitism in parthenogenetic and sexual populations of a freshwater snail, *Campeloma decisum*. May 1989, $800.

Elizabeth Kennedy Foundation, University of Michigan, May-September, 1988, $750.

Sigma Xi grant. The role of sexual selection in the maintenance of male nuptial color polymorphism in three-spine sticklebacks of the Olympic peninsula. May-August 1987, $500 (declined).

Panorama Society grant, Museum of Natural History, The University of Kansas. Spatial patterns of genetic diversity in clonal and sexual populations of a freshwater snail, *Campeloma decisum*. September-December 1988, $300.

B. Grants and contracts applied for

a. Principal or co-principal investigator

Resource productivity, phenotypic plasticity and the geographic mosaic of snail defense interaction. National Science Foundation, $338,908. Submitted July 2007, no funded PI.

Resource productivity, coevolutionary selection and phenotype matching in a snail-cichlid interaction. National Science Foundation, $564,280. Submitted July 2006. PI. Not Funded

A UNO/LSUHSC/Xavier research and education program in bioinformatics. EPSCoR sponsored research program, LA Board of Regents, $1,750,000, Submitted June 2006. Co-PI.

IGERT: Integrative Conservation Science and Policy. National Science Foundation, $3,091,061. Submitted April 2004. PI, not funded.

Parasitic castration and the Red Queen in sexual and parthenogenetic populations of a freshwater snail. PI, Louisiana Educational Quality Support Fund ($114,569), November 1994. Not funded.

8. Thesis/Dissertation Committee Service

Lyndon Coghill, Ph.D., major advisor, starting Fall 2007
Laura Vogel, Ph.D., major advisor, (Degree awarded summer 2007)
Cristina Lopez-Gallego, Ph.D., Co- Advisor with Pam O'Neil (Degree awarded spring 2007)
Kathy Brooks, Ph.D. committee member
Dean Croshaw, Ph.D. committee member, (Degree awarded spring 2005)
Ivonne Garzon-Oduna, Ph.D. committee member
Rob Harvey, M.S. committee member
Heather Hurston, M.S. committee member (Degree awarded spring 2007)
Alejandro Lopera, Ph.D. committee member
Stephan Ntie, Ph.D. committee member
Ivan Soto-Calderon, Ph.D. committee member
Rachel Wallace, Ph.D. committee member
William Leefe, M.S. major advisor (Degree awarded December 1998)
Eric Bragg, M.S. major advisor (Degree awarded August 1997)
Raelynn Deaton, M.S. committee member
Amanda Stokes, M.S. committee member
Chris Schieble, M.S. committee member
Julie Wilcox, M.S. committee member
Helen Hull-Sander, M.S. committee member
Jayme Necaise, M.S. committee member

9. Major Areas of Research Interest

Conservation Genetics
Coevolution
Theoretical and empirical studies on the evolution of sex and parthenogenesis

10. Other Professional Accomplishments

A. Submitted and in preparation manuscripts

Hulsey, C.D. and S.G. Johnson. Geographic Mosaic of Genetic Differentiation and Snail Anti-predator Defenses, In preparation for American Naturalist.

B. Course Design and Development

Graduate Topics, Evolutionary Mechanisms, Fall 1999 and Spring 2003
Graduate Seminar, Focus on effective use of statistical and graphical software for scientific communication and presentations. Spring 1999
Ecology, Biology 3653
Evolutionary Ecology, Biology 4092
Biological Interactions and Coevolution, Biology 4092

D. Academic Service

a. On Campus

Committee Member, BGS Faculty Council, Fall 2007 - present
Committee Member, Bachelor of Interdisciplinary Studies Degree, May 2007
Chairperson, Department of Biological Sciences, January 2004 – present
Chairperson, Departmental SACS/IE Committee, January 2004-May 2005
Co-Director, W.M. Keck Center for Conservation and Molecular Genetics, Fall 2003- present
Participant, Grant for W.M. Keck Center for Conservation and Molecular Genetics, Fall 2002 - present
Member, Comprehensive Exam Committee, Fall 2003 – Spring 2004
Member, Search Committee for Conservation Geneticist, Multiple Years
Member, Search Committee for Departmental Chair, Fall 1999
Faculty Senate Representative, 2 years
Co-coordinator of Departmental Seminar Series, August 1999-May 2000
Member, Search Committee for GNOF Endowed Chair, Fall 1999
Temporary Graduate Coordinator (1 month, summer 1997-1999)
Member, Aquatic Ecology Search Committee, Spring 1999
Developed Web Site for Ph.D. program in Conservation Biology
Member of Microbiology Search Committee, March-April 1997
Member of Graduate Committee, Fall 1996 - present
Member of Ph.D. Proposal Committee
Member of Cell Biology/Biochemist Search Committee, March 1995

b. *Speaking engagements*

Museum of Natural Sciences, LSU-Baton Rouge. The geographic mosaic of sequence differentiation and snail defensive traits: Coevolution of Mexican snails and cichlids? February 2007.

Department of Biological Sciences, University of Arkansas. Fitness and sequence variation of parthenogenetic and sexual freshwater snails, March 2, 2006.

Department of Zoology, University of Florida. Spatial and temporal dynamics of nuclear and mitochondrial genealogies in parthenogenetic and sexual lineages of a freshwater snail, November 2, 2004.

Museum of Natural Sciences, LSU-Baton Rouge. Origin and maintenance of sexual and parthenogenetic reproduction in a freshwater snail, April, 2001.

Williams' Lecture, Department of Biological Sciences, University of Akron. Origin and maintenance of sexual and parthenogenetic reproduction in a freshwater snail, March, 2001.

Department of Biological Sciences, University of Akron. Genes, armature and coloration in the Mexican banded spring snail, March, 2001.

Guest lecture, Department of Biological Sciences, University of New Orleans. Origin and maintenance of hybrid and non-hybrid parthenogenesis in freshwater snails, April 26, 1999.

Guest lecture, Department of Biology, University of Southwestern Louisiana. Origin and maintenance of hybrid and non-hybrid parthenogenesis in freshwater snails, March 25, 1999.

Guest lecture, Department of Ecology, Evolution, and Organismic Biology, Tulane University. Parasites, sex, and asex in a freshwater snail, April 12, 1996.

Guest lecture, Department of Biological Sciences, Southeastern Louisiana State University. Parasites, sex, and asex in a freshwater snail, May 3, 1996.

Guest lecture, University of California, Davis . The role of host-parasite interactions in conservation biology, 1990.

Guest lecture, Indiana University at Bloomington. Parasites and parthenogenesis in a freshwater snail. 1990

E. Other service

1. Undergraduate Research

Elizabeth Estevez (Undergaduate Mentoring in Environmental Biology student, Fall 2007) -- Transposable elements in sexual and sexual *Campeloma*.

Flor Espinoza (Undergaduate Mentoring in Environmental Biology student, Fall 2007) -- Transposable elements in sexual and sexual *Campeloma*.

Aaron Rasch (Bios 3092, Fall 1999) -- Mitochondrial and nuclear intron DNA sequence variation in the Mexican snail, *Mexipyrgus*.

Robin Cargille (Undergraduate Honors Thesis -- May 1998) -- Evidence for a high cost of sex in sexual *Campeloma geniculum* and hybrid advantage in *Campeloma parthenum* (freshwater prosobranch snail).

Rebecca Quave (Bios 3092, Fall 1997) -- Sequencing of 16S rRNA from an undescribed species of microsporidian.

Chris Bishop (Bios 3092, Spring 1997 & Summer 1997) -- RAPD genetic diversity in sexual and parthenogenetic populations of a freshwater snail.

Henry Nuss (Fall '96) -- Ploidy levels in hybrid and non-hybrid clones of a freshwater snail.

2. Other Service

Phone-A-Thon for undergraduate recruitment, Spring 1999.
Biology Coordinator for Regional Science Olympiad, March 1995 & March 1997.
NO/AIDS Task Force, Volunteer, March 1995-March 1997.
Developed Bio-Process Exam for Regional Science Olympiad, March 1996.

September 14, 2007