

CURRICULUM VITAE

Henry B. John-Alder Professor

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Birth Date & Place: January 18, 1953, Madison, Wisconsin, USA

Professional Interests:

Ecological and Evolutionary Physiology
Environmental and Behavioral Endocrinology

Degrees:

1974	B.A.	Franklin and Marshall College Lancaster, PA
1979	M.S.	Pennsylvania State University University Park, PA
1983	Ph.D.	University of California, Irvine Irvine, CA

Professional Appointments:

1985-91	Assistant Professor, Department of Biological Sciences, Rutgers University, New Brunswick, N.J.
1991-97	Associate Professor, Department of Biological Sciences, Rutgers University
1997-2002	Associate Professor, Department of Animal Sciences, Rutgers University
1999	Visiting Professor, Ecole Normale Superieure, Paris, France
2002-2007	Professor, Department of Animal Sciences, Rutgers University
2007-	Professor and Chair, Department of Ecology, Evolution, and Natural Resources, Rutgers University

Other Research and Professional Experience:

- 1974-76 Research Assistant, Department of Physiology, R.E. Forster, M.D., University of Pennsylvania
- 1976-79 Teaching Assistant, Pennsylvania State University, Physiology; General Biology
- 1979 Research Assistant, Agricultural Pest Management, Dr. A. Hower, Department of Entomology, Penn State University
- 1980 Research Associate, "The Metabolism and Activity of Lizards" (film), George A. Bartholomew and Albert F. Bennett
- 1981 Research Associate, Expedition to the Kalahari Desert of southern Africa, Drs. R.B. Huey, A.F. Bennett, K.A. Nagy
- 1981-83 Summer Research Assistant, A.F. Bennett, University of California, Irvine
- 1980-83 Teaching Assistant, University of California, Irvine Physiology; General Biology
- 1983-84 Postdoctoral Research Associate, Dr. Albert F. Bennett, University of Adelaide, South Australia
- 1984-85 Postdoctoral Research Associate, Dr. Ronald L. Terjung, SUNY-Upstate Medical Center
- 1992 Panelist, Dissertation Improvement Advisory Panel, National Science Foundation
- 1995-98 Panelist, Ecological and Evolutionary Physiology, National Science Foundation
- 1996-1996-97 Board of Editors, *Physiological and Biochemical Zoology*
Secretary, Division of Comparative Endocrinology, Society for Integrative and Comparative Biology
- 1998-2007 Director, Graduate Program in Animal Science, Rutgers University
- 2002- Panelist, Ecological and Evolutionary Physiology, National Science Foundation
- 2003-2004 Member, Nominating Committee, Division of Comparative Endocrinology, Society for Integrative and Comparative Biology
- 2004-2005 Chair, Education Council, Society for Integrative and Comparative Biology
- 2004-2005 Member, Executive Committee, Society for Integrative and Comparative Biology
- 2004-2005 Chair, Digital Library Advisory Board, Society for Integrative and Comparative Biology
- 2005-2010 Member, Education Committee, American Institute of Biological Sciences
- 2006-2008-10 GRE Biology Advisory Committee, Educational Testing Service
Chair, Chairs Council, School of Environmental and Biological Sciences, Rutgers University
- 2012-2014 Chair, GRE Biology Advisory Committee, Educational Testing Service

Professional Affiliations:

American Association for the Advancement of Science
American Institute of Biological Sciences
American Society of Ichthyologists and Herpetologists
Herpetologist's League
Society for Behavioral Neuroendocrinology
Society for Integrative and Comparative Biologists

Grants:

1982 National Science Foundation
Program in Population Biology and Physiology Ecology
Doctoral Dissertation Research Award
"Seasonal Variations in Circulating Thyroid Hormones and
Activity Capacity in the Lizard Dipsosaurus dorsalis"

1985-86, 1986-87, 1990-91
Biological Research Support Grant, Rutgers University

1986-87, 1987-88, 1989-90, 1990-91, 1991-92, 1992-93
Busch Research Grant, Bureau of Biological Research, Rutgers
University

1986, 1987 Summer Research Fellowship, The Research Council, Rutgers
University

1986-87, 1987-88, 1992-93
Research Council Grant, Rutgers University

1987-90 National Science Foundation
Program in Regulatory Biology
"Reptilian Thyroid Physiology"

1990 National Science Foundation
Physiological Processes Program
REU Supplement

1995 National Science Foundation
Ecological and Evolutionary Physiology
"Ecological Significance of Individual Variation in
Physiology"

1996 National Science Foundation
Ecological and Evolutionary Physiology
REU Supplement

1996 National Science Foundation
Doctoral Dissertation Improvement Grant
Melissa L. Foster, Student PI
"The Role of Kin Recognition in Preventing Inbreeding in
4 Species of Voles"

1996 Undergraduate Curriculum Seed Grant, Rutgers University
"Environmental Biology of the New Jersey Pine Barrens"
(John Dighton, Co-PI)

1997	National Science Foundation Ecological and Evolutionary Physiology REU Supplement
1998	National Science Foundation Ecological and Evolutionary Physiology REU Supplement
2001	National Science Foundation Ecological and Evolutionary Physiology “Proximate Mechanisms of Sexual Size Dimorphism”
2003	NIH-NIAID, Ecology of Infectious Disease “Biodiversity, Habitat Fragmentation, and Lyme Disease Risk” (PI: R. Ostfeld; Collaborator: H. John-Alder)
2009	GAANN, Department of Education “Ecology and Evolution in Urban Environments” \$525,060 (declined)
2012	GAANN, Department of Education “Ecology and Evolution in Urban Environments” (667,293 (pending))

Awards and

Fellowships:

1979-80	Regent's Fellowship, University of California, Irvine
1980	Edward A. Steinhaus Memorial Teaching Award - Honorable Mention
1981	Best Contributed Student Paper American Society of Zoologists. Annual Meeting, Dallas
1981	Regent's Patent Fund Award, University of California, Irvine
2003	Williams Lecturer, University of Akron. “Comparative and Experimental Studies on Growth and Sexual Size Dimorphism in Lizards”

Invited Contributions:

Symposia and Workshops

1989	Workshop on the Thyroid Axis. XI th International Congress on Comparative Endocrinology. Malaga, Spain.
1989	Workshop on Ecological Endocrinology. XI th International Congress on Comparative Endocrinology. Malaga, Spain.
1992	Integrative Thyroid Physiology in Conventional and Comparative Animal Models (Chairman). American Physiological Society (FASEB). Anaheim, California.
1997	Environmental Endocrinology. XIII th International Congress of Comparative Endocrinology. Yokohama, Japan.

- 2001 Plenary Address. Physiology and Evolutionary Biology of Lizards. 4th World Congress on Herpetology. Colombo, Sri Lanka. (Canceled after 9/11 attack on World Trade Center).
- 2005 Invited Speaker. Testosterone and Sexual Growth Divergence in Lizards: Implications for Sexual Size Dimorphism. The Evolution of Sexual Size Dimorphism. 21-26 August 2005, Centro Stefano Franscini, Switzerland.
- 2007 Invited Symposium Presentation. Proximate Determinants of Sexual Size Dimorphism: Case Studies from Squamate Reptiles. Society for Integrative and Comparative Biology, Phoenix, AZ
- 2009 Invited Symposium Presentation. Hormones and Performance: Insights from Natural History and Endocrine Experiments. Society for Integrative and Comparative Biology, Boston, MA

Invited Lectures:

- July, 2012. Pinelands Research Series, Pinelands Commission, State of New Jersey. Ecological and Evolutionary Physiology of Sexual Dimorphism in Body Size in Eastern Fence Lizards.
- April, 2012. Graduate Program in Ecology and Evolution, Rutgers University. Hormonal Pleiotropy and the Evolution of Sexual Dimorphism in Body Size
- November, 2010. University of Sao Paulo. Hormones and Performance: Insights from Natural History and Endocrine Experiments.
- February, 2008. Dartmouth College. Physiology, Performance, Fitness: A Case Study of the Eastern Fence Lizard (*Sceloporus undulatus*)
- January, 2008. Roosevelt Public School (4th & 5th grades), Roosevelt, NJ. Diversity and Distribution of Lizards.
- April, 2007. Columbia University. Ecological Energetics of Reptiles
- March, 2007. Roosevelt Public School (4th & 5th grades), Roosevelt, NJ. Diversity and Distribution of Lizards.
- April, 2006. University of Akron. "Research Overview. Testosterone and Sexual Growth Divergence in Lizards: Implications for Sexual Size Dimorphism
- October, 2005. Rutgers University, Department of Animal Sciences. "Lessons from Lizards: 21st-Century Research and Training in Integrative Animal BioScience"
- October, 2005. Rutgers University, Department of Nutritional Sciences. "Testosterone and Sexual Growth Divergence: Implications for Sexual Size Dimorphism"
- September, 2005. University of Connecticut. "Integrative Animal BioScience"
- April, 2005. Animal Science Education Consortium, Rutgers University. "Undergraduate Physiology at Rutgers and Beyond: Looking Back to the Future?"
- November, 2004. Rutgers University. "Comparative and Experimental Studies on Growth and Sexual Size Dimorphism"
- April, 2004. California State University, Long Beach. "Comparative and Experimental Studies on Growth and Sexual Size Dimorphism in Lizards"

April, 2004. University of California, Irvine. “Comparative and Experimental Studies on Growth and Sexual Size Dimorphism in Lizards”

October, 2003. University of California, Riverside. “Seasonal Alterations in Adrenocortical Cell Function Associated with Sex and Stress in Eastern Fence Lizards”

October, 2003. University of California, Riverside. “Comparative and Experimental Studies on Growth and Sexual Size Dimorphism in Lizards”

October, 2003. Arizona State University. “Seasonal Alterations in Adrenocortical Cell Function Associated with Sex and Stress in Eastern Fence Lizards”

April, 2003. University of Akron. William’s Lecture. “Comparative and Experimental Studies on Growth and Sexual Size Dimorphism in Lizards”

April, 2002. Delaware Valley College. “Graduate Education in Animal Sciences: Areas of Specialty, General Application Procedures, and Acceptance Criteria”

October, 2001. Rutgers University – Newark.). “Demographic and Experimental Studies on Growth and Sexual Size Dimorphism”

March, 2001. Department of Animal Sciences (Rutgers). “Demographic and Experimental Studies on Growth and Sexual Size Dimorphism”

October, 2000. Environmental Change/Environmental Sociology (Rutgers). “On Lizards, Their Behavior and Ecology”

November, 1999. City College of New York (CUNY). “Ecology and Physiology of Exercise Endurance in Lizards”

October, 1999. First Year Seminar in Ecology and Evolution (Rutgers). “Environmental Physiology and Endocrinology of Lizards”

November, 1998. Universite Pierre et Marie Curie, Paris. “Ecology and Physiology of Exercise Endurance in Lizards”

October, 1998. Ecology and Evolution (Rutgers). “Ecology and Physiology of Exercise Endurance in Lizards”

March, 1998. Ecology and Evolution (Rutgers). “Overview of Studies in Animal Physiological Ecology”

February, 1998. Hofstra University. “Social and Hormonal Regulation of Exercise Endurance in Lizards: Experimental Studies and Natural Variation”

October, 1997. First Year Seminar in Ecology and Evolution (Rutgers). “Environmental Physiology and Endocrinology of Lizards”

July, 1997. Biomedical Careers Program, Office of Minority Undergraduate Student Programs. “Orientation to Systems Physiology: What You Can Expect From This Course”

October, 1996. University of Colorado. “Experimental and Observational Studies on Social and Hormonal Control of Exercise Endurance in Lizards”

March, 1996. Universite Pierre et Marie Curie, Paris. “Hormonal Regulation of the Expression of Functional Traits: Studies on Lizards” (3 lectures)

March, 1996. Ecole Normale Supérieure, Paris. “Thyroid Regulation of Growth in Lizards”

February, 1996. University of Pennsylvania. “Social and Hormonal Modulation of Exercise Endurance in Lizards”

- February, 1996. Department of Animal Sciences (Rutgers). "Social and Hormonal Regulation of Exercise Endurance in Lizards"
- April, 1995. Northeastern University. "Regulation of Exercise Endurance by Testosterone and Social Interactions in Lizards"
- April, 1994. Drexel University. "Social and Hormonal Regulation of Exercise Endurance in Lizards"
- March, 1994. University of Chicago. "Social Modulation of Exercise Endurance in Lizards"
- April, 1993. University of Delaware. "Thyroid Hormonal Regulation of Growth, Energy Metabolism, and Exercise Performance in Lizards"

Statement of Research Interests

I am interested in ecological and evolutionary physiology and endocrinology. My general approach is highly integrative, crossing traditional levels of biological organization from biochemical to behavioral and blending descriptive and experimental studies in the laboratory and the field. I stress the importance of field experiments solidly grounded in natural history. While the dissection of underlying mechanisms can require controlled laboratory conditions, the integration of complex physiological and behavioral interactions of interest in organismal biology can be fully understood only in the milieu of the natural environment. My primary research project involves comparative and experimental studies on growth and sexual size dimorphism (SSD) in lizards. At present, I am particularly interested in the apparent bipotentiality of testosterone as a stimulatory or an inhibitory growth regulator, where the effect of testosterone on growth aligns with a species' pattern of sexual dimorphism in body size. In short, the bipotentiality of testosterone may represent a proximate mechanism of macroevolutionary patterns in SSD. Other ongoing projects include 1) integrative studies on stress, adrenal hormones, and adrenocortical cell function (with R. V. Carsia) and 2) evolution of sexually dimorphic aggressive and sexual behavior in geckos (with A. Golinski and L. Kratochvil).

Publications:

Thesis (MS)

John-Alder, H.B. 1979. Aortic regional histamine-forming capacity in normal and diabetic male Wistar rats.

Dissertation (PhD)

John-Alder, H.B. 1983. The physiological basis of activity in lizards: Influences of body temperature and thyroid hormones.

Articles and Book Chapters

1. John-Alder, H.B. and A.F. Bennett. 1981. Thermal dependence of endurance and locomotory energetics in a lizard. Am. J. Physiol. 241:R342-R349.
2. John-Alder, H.B. 1983. Effects of thyroxine supplementation on metabolic rate and aerobic capacity in a lizard. Am. J. Physiol. 244:R659-R666.
3. John-Alder, H.B., C.H. Lowe, and A.F. Bennett. 1983. Thermal dependence of locomotory energetics and aerobic capacity of the Gila monster (Heloderma suspectum). J. Comp. Physiol. B. 151:119-126.
4. Bennett, A.F., R.B. Huey, and H. John-Alder. 1984. Physiological correlates of natural activity and locomotor capacity in two species of lacertid lizards. J. Comp. Physiol. B. 154:113-118.
5. Bennett, A.F., R.B. Huey, H.B. John-Alder, and K.A. Nagy. 1984. The parasol tail and thermoregulatory behavior of the cape ground squirrel (Xerus inauris). Physiol. Zool. 57:57-62.
6. Bennett, A.F. and H.B. John-Alder. 1984. The effect of body temperature on the locomotory energetics of lizards. J. Comp. Physiol. B. 155:21-27.
7. Huey, R.B., A.F. Bennett, H. John-Alder, and K.A. Nagy. 1984. Locomotor capacity and foraging behavior of Kalahari lacertid lizards. Anim. Behav. 32:41-50.
8. John-Alder, H.B. 1984. Reduced aerobic capacity and locomotory endurance in thyroid-deficient lizards. J. Exp. Biol. 109:175-189.
9. John-Alder, H.B. 1984. Seasonal variations in activity, aerobic energetic capacities, and plasma thyroid hormones (T3 and T4) in an iguanid lizard. J. Comp. Physiol. B. 154:409-419.
10. Bennett, A.F. and H.B. John-Alder. 1986. Thermal relations of some Australian skinks (Sauria: Scincidae). Copeia. 1986 (1):57-64.

11. John-Alder, H.B., T. Garland, and A.F. Bennett. 1986. Locomotory capacities, oxygen consumption, and the cost of locomotion of the shingle-back lizard (Trachydosaurus rugosus). Physiol. Zool. 59:523-531.
12. John-Alder, H.B., R. McAllister, and R.L. Terjung. 1986. Reduced running endurance in gluconeogenesis-inhibited rats. Am. J. Physiol. 215:R137-R142.
13. John-Alder, H.B. and A.F. Bennett. 1987. Thermal adaptations in lizard muscle function. J. Comp. Physiol. B. 157:241-252.
14. John-Alder, H.B., P.J. Morin, and S.P. Lawler. 1988. Thermal physiology, phenology, and distribution of treefrogs. Am. Nat. 132:506-520.
15. Tullson, P.C., H.B. John-Alder, D.A. Hood, and R.L. Terjung. 1988. De novo synthesis of adenine nucleotides in different skeletal muscle fiber types. Am. J. Physiol. 255:C271-C277.
16. John-Alder, H.B., M.C. Barnhart, and A.F. Bennett. 1989. Thermal sensitivity of swimming performance and muscle contraction in northern and southern populations of tree frogs (Hyla crucifer). J. Exp. Biol. 142:357-372.
17. John-Alder, H.B. 1990. Thyroid regulation of resting metabolic rate and intermediary metabolic enzymes in a lizard (Sceloporus occidentalis). Gen. Comp. Endocrinol. 77:52-62.
18. John-Alder, H.B. 1990. Effects of thyroxine on standard metabolic rate and selected intermediary metabolic enzymes in field-active lizards (Sceloporus undulatus). Physiol. Zool. 63:600-614.
19. John-Alder, H.B. and P.J. Morin. 1990. Effects of larval density on jumping ability and stamina in newly metamorphosed Bufo woodhousei fowlei. Copeia. 1990(3):856-860.
20. Joos, B. and H.B. John-Alder. 1990. Effects of thyroxine on standard and total metabolic rates in the lizard Sceloporus undulatus. Physiol. Zool. 63:873-885.
21. John-Alder, H.B. and B. Joos. 1991. Interactive effects of thyroxine and experimental location on running endurance, tissue masses, and enzyme activities in captive versus field-active lizards (Sceloporus undulatus). Gen. Comp. Endocrinol. 81:120-132.
22. Rome, L.C, E.D. Stevens, and H.B. John-Alder. 1992. Effects of temperature on physiological systems; thermal acclimation. Pages 183-205 in: "Environmental Physiology of the Amphibia". Edited by Martin E. Feder and Warren Burggren. University of Chicago Press.
23. Gerwien, R.W. and H.B. John-Alder. 1992. Growth and behavior of thyroid deficient

- lizards (Sceloporus undulatus). Gen. Comp. Endocrinol. 87:312-324.
24. Steinberg, M.B., A.L. Finelli, R.W. Gerwien, and H.B. John-Alder. 1993. Behavioral effects of thyroxine in a lizard (Ameiva undulata: Teiidae). Physiol. Zool. 66:148-165.
 25. Marsh, R.L. and H.B. John-Alder. 1994. Jumping performance of hylid frogs measured with high-speed cine films. J. Exp. Biol. 188:131-141.
 26. John-Alder, H.B., S. McMann, L.S. Katz, A. Gross, and D.S. Green. 1996. Social modulation of exercise endurance in a lizard (Sceloporus undulatus). Physiol. Zool. 69:547-567.
 27. John-Alder, H., L. Seitz, and G. Haenel. 1997. Ecological endocrinology of reptiles: hormonal causes and correlates of variation in exercise endurance in lizards. Pages 1661-1667. In Advances in Comparative Endocrinology. Proceedings of the XIIIth International Congress of Comparative Endocrinology, Yokohama, Japan. Editors: S. Kawashima and S. Kikuyama. Monduzzi Editore, Bologna, Italy.
 28. Tokarz, R. R., S. McMann, L. Seitz, and H. John-Alder. 1998. Plasma corticosterone and testosterone levels during the annual reproductive cycle of male brown anoles (Anolis sagrei). Physiol. Zool. 71:139-146.
 29. Oppliger, A., J. Clobert, J. Lecomte, P. Lorenzon, K. Boudjemadi, and H. B. John-Alder. 1998. Environmental stress increases the prevalence and intensity of blood parasite infection in the common lizard Lacerta vivipara. Ecol. Letters. 1:129-138.
 30. Meylan, S., M. de Fraipont, J. Clobert, and H. John-Alder. 1998. Offspring philopatry is promoted by mother stress in the common lizard (Lacerta vivipara). – Pp. 325-330, in: Miaud, C. & G. Guyétant (eds): *Current Studies in Herpetology*, Le Bourget du Lac (SEH), 480 p.
 31. Lorenzon, P., J. Clobert, A. Oppliger, and H. John-Alder. 1999. Effect of water constraint on growth rate, activity and body temperature of yearling common lizard (Lacerta vivipara). Oecologia. 118:423-430.
 32. Zhou, T., H. B. John-Alder, P. Weis, and J. S. Weis. 1999. Thyroidal status of mummichogs (Fundulus heteroclitus) from a polluted vs. a reference habitat. Environ. Toxicol. Chem. 18:2817-2823.
 33. Smith, L. C. and H. B. John-Alder. 1999. Seasonal specificity of hormonal, behavioral, and coloration responses to within- and between-sex encounters in male lizards (Sceloporus undulatus). Horm. Behav. 36:39-52.
 34. de Fraipont, M., J. Clobert, H. John-Alder, and S. Meylan. 2000. Increased pre-natal maternal corticosterone promotes philopatry of offspring in common lizards Lacerta vivipara. J. Anim. Ecol. 69:404-413.

35. Zhou, T., H. B. John-Alder, J. S. Weis, and P. Weis. 2000. Endocrine disruption: thyroid dysfunction in mummichogs (*Fundulus heteroclitus*) from a polluted habitat. Mar. Environ. Res. 50:393-397.
36. Haenel, G. J. and H. B. John-Alder. 2002. Experimental and demographic analyses of growth rate and sexual size dimorphism in a lizard, *Sceloporus undulatus*. Oikos. 96:70-81.
37. Tokarz, R.R., S. McMann, L.C. Smith, and H. John-Alder. 2002. Effects of testosterone treatment and season on frequency of dewlap extensions during male-male interactions in the lizard, *Anolis sagrei*. Horm. Behav. 41:70-79.
38. John-Alder, H. B., Carsia, R. V., Smith, L. C., and Haenel, G. J. 2002. Seasonal and sexual variation in plasma corticosterone and adrenocortical cell function in eastern fence lizards (*Sceloporus undulatus*). Proceedings of the 21st Conference of European Comparative Endocrinologists, Bonn, Germany. Pages 141-146.
39. Kearns, C. F., K.H. McKeever, H. John-Alder, T. Abe, and W.F. Brechue. 2002. Relationship between body composition, blood volume and maximal oxygen uptake. Equine vet. J. Suppl. 34:485-490.
40. Haenel, G. J., L. C. Smith, and H. B. John-Alder. 2003. Home range analysis in *Sceloporus undulatus* (eastern fence lizard). I. Spacing patterns and the context of territorial behavior. Copeia. 2003(1): 99-112.
41. Haenel, G. J., L. C. Smith, and H. B. John-Alder. 2003. Home range analysis in *Sceloporus undulatus*. II. A test of spatial relationships and reproductive success. Copeia. 2003(1): 113-123.
42. Carsia, R. V. and H. John-Alder. 2003. Seasonal Alterations in Adrenocortical Cell Function Associated with Stress-Responsiveness and Gender in the Eastern Fence Lizard (*Sceloporus undulatus*). Horm. Behav. 43:408-420.
43. Cox, R. M., S. L. Skelly, and H. B. John-Alder. 2003. A comparative test of adaptive hypotheses for sexual size dimorphism in lizards. Evolution. 57:1653-1669.
44. Oppliger, A., M. S. Giorgi, A. Conelli, M. Nembrini, and H. B. John-Alder. 2004. Effect of testosterone on immunocompetence, parasite load and metabolic rate in the wall lizard *Podarcis muralis*. Canadian Journal of Zoology. 82: 1713-1719.
45. Cox, R. M., S. L. Skelly, and H. B. John-Alder. 2005. Testosterone inhibits growth in juvenile male eastern fence lizards (*Sceloporus undulatus*): implications for energy allocation and sexual size dimorphism. Physiol. Biochem. Zool. 78(4): 531-545.

46. John-Alder, H. B., L. Smith, M. de Fraipont, J. Lecomte, and J. Clobert. Behavioral and Color Responses During Male Interactions in the European Common Lizard (*Lacerta vivipara*) *Behav. Ecol. Sociobiol.* Revised copy in review.
47. Cox, R. M., S. L. Skelly, A. Leo, and H. B. John-Alder. 2005. Testosterone regulates sexually dimorphic coloration in the eastern fence lizard, *Sceloporus undulatus*. *Copeia*. 2005(3): 597-608.
48. Cox, R.M., and H.B. John-Alder. 2005. Testosterone has opposite effects on male growth in lizards (*Sceloporus* spp.) characterized by opposite patterns of sexual size dimorphism. *J. Exp. Biol.* 208: 4679-4687.
49. Carsia, R. V. and H. B. John-Alder. 2006. Atrial natriuretic peptide (ANP) is a negative modulator of adrenocortical cell function of the eastern fence lizard (*Sceloporus undulatus*). *Gen. Comp. Endocrinol.* 145: 157-161.
50. Cox, R. M., V. Zilberman, and H. B. John-Alder. 2006. Laboratory common garden removes effects of sex and castration on growth of Yarrow's spiny lizard, *Sceloporus jarrovi*. *Functional Ecology*. 20:880-888.
51. Oppliger, A., L. Degen, C. Bouteiller-Reuter, and H. B. John-Alder. 2007. Promiscuity and high level of multiple paternity in common wall lizards (*Podarcis muralis*): data from microsatellite markers. *Amphibia – Reptilia*. 28:301-303.
52. John-Alder, H. B. and R. M. Cox. 2007. Pages 195-204 Development of sexual size dimorphism in lizards: testosterone as a bipotential growth regulator. IN: *Sex, Size, and Gender Roles: Evolutionary Studies of Sexual Size Dimorphism*. Eds. D. J. Fairbairn, W. U. Blanckenhorn, and T. Szekely. Oxford Univ. Press, Oxford, UK.
53. Cox, R. M., M. A. Butler, and H. B. John-Alder. 2007. The evolution of sexual size dimorphism in reptiles. Pages 38-49 IN: *Sex, Size, and Gender Roles: Evolutionary Studies of Sexual Size Dimorphism*. Eds. D. J. Fairbairn, W. U. Blanckenhorn, and T. Szekely. Oxford Univ. Press, Oxford, UK.
54. Cox, R.M. and H.B. John-Alder. 2007. Growing apart together: the development of contrasting sexual size dimorphisms in sympatric *Sceloporus* lizards. *Herpetologica*. 63: 245-257.
55. John-Alder, H. B., R. M. Cox, and E. N. Taylor. 2007. Proximate developmental mediators of sexual dimorphism in size: case studies from squamate reptiles. *Integrative and Comparative Biology*. 47:258-271.
56. Cox, R.M. and H. B. John-Alder. 2007. Increased mite parasitism as a cost of testosterone in male striped plateau lizards *Sceloporus virgatus*. *Functional Ecology*. 21:327-334.

57. Cox, R.M., M.M. Barrett, and H.B. John-Alder. 2008. Effects of food restriction on growth, energy allocation, and sexual size dimorphism in Yarrow's Spiny Lizard, *Sceloporus jarrovii*. *Canadian Journal of Zoology*. 86:268-276.
58. Carsia, R. V., R. M. Cox, M. Barrett, P. McIlroy, and H. B. John-Alder. 2008. Adrenal steroidogenesis in reptiles: insights from dispersed adrenocortical cells from *Sceloporus* lizards. Pages 57-88 IN: Recent Advances in Non-Mammalian Adrenal Gland Research. Ed. A. Capaldo. Research Signpost, Kerala, India.
59. Cox, R. M., V. Zilberman, and H. B. John-Alder. 2008. Testosterone stimulates the expression of a social color signal in Yarrow's Spiny Lizard, *Sceloporus jarrovii*. *J. Exp. Zool.* 309A: 505-514.
60. Carsia, R. V., P. McIlroy, R. M. Cox, M. Barrett, and H. B. John-Alder. 2008. Gonadal modulation of adrenal steroidogenesis in *Sceloporus* lizards. *Gen. Comp. Endocrinol.* 158:202-210. <http://dx.doi.org/10.1016/j.ygcen.2008.07.018>
61. John-Alder, H.B., R.M. Cox, G.J. Haenel, and L.C. Smith. 2009. Hormones, performance, and fitness: insights from natural history and endocrine experiments on a lizard (*Sceloporus undulatus*). *Int. Comp. Biol.* 49(4): 393-407.
62. Golinski, A., H. John-Alder, and L. Kratochvíl. 2011. Male sexual behavior does not require testosterone in a lizard (*Coleonyx elegans*, Eublepharidae). *Horm. Behav.* 59: 144-150.
63. Carsia, R. V., P. McIlroy, R. M. Cox, M. Barrett, and H. B. John-Alder. 2012. Effects of food restriction on steroidogenesis in dispersed adrenocortical cells from Yarrow's Spiny Lizard (*Sceloporus jarrovii*). *Gen. Comp. Endocrinol.* 178:306-313.

Manuscripts in Preparation (listed in likely order of submission)

1. Duncan, C., W. Cohick, and H. B. John-Alder. Nutritional modulation of hepatic IGF-1 message and plasma IGF-1 in relation to growth and body condition in *Sceloporus* lizards.
2. Duncan, C. and H. B. John-Alder. Testosterone reduces hepatic IGF-1 message but not plasma IGF-1 in *Sceloporus undulatus*, a female-larger species of lizard.
3. Golinski, A., H. John-Alder, and L. Kratochvíl. Male sexual behavior does not require testosterone in a lizard (*Coleonyx elegans*, Eublepharidae). Androgenic regulation of sexually dimorphic traits in *Coleonyx elegans* (Eublepharidae).
4. John-Alder, H., L. Smith, M. de Fraipont, J. Lecomte, and J. Clobert. Behavioral and color responses to social stress induced by male interactions in the European common lizard, *Lacerta vivipara*. In preparation for *Ethology*.

Abstracts

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Ongoing Projects

Experimental and Comparative Studies on the Development of Sexual Dimorphisms in Eyelid Geckos. With A. Golinski, L. Kratochvil, L. Kubicka

Experimental and Comparative Studies on Growth and Sexual Size Dimorphism.
With R. M. Cox, W. S. Cohick. C. Duncan

Stress, adrenal hormones, and adrenocortical cell function.
With R. V. Carsia.

Ecotoxicology of atrazine in amphibians
With R. Burrows, M. Gutierrez, M. Robson

Courses Taught

Undergraduate

- 1) Organismic Physiology Lecture and Laboratory (01:119:358/360 and 01:119:361)
- 2) Systems Physiology (01:119/146:356)
- 3) Systems Physiology Laboratory (01:119:357)
- 4) Biology of the New Jersey Pinelands (11:015:249)
- 5) Animal Physiological Ecology (704:360)

Graduate

- 5) Environmental Physiology (16:761:520)
- 6) Physiological Ecology (16:215:600)

- 7) Ecology and Physiology of Growth and Body Size (16:215:603)
- 8) Ecological Endocrinology (16:215:607)
- 9) Topics in Behavioral Endocrinology (16:215:604)
- 10) Herpetology (16:215:600)
- 11) Seminar in Animal Sciences (16:067:693,694)
- 12) Physiology of Reproduction (16:067:502)
- 13) Mammalian Physiology (16:761:502)
- 14) Principles of Integrative Physiology (16:067:506)
- 15) Ecological and Evolutionary Physiology (16:215:599)

Graduate Students (list only includes students for whom I was principal advisor)

Ph. D.

Robert M. Cox
Christine Duncan
Melissa Foster
Alison Golinski
Linda Smith
Robert Gerwien

M. S.

Stephanie L. Skelly
Laura Branagan
Jeanine Bayus
Janet Wang-Lee
Stephen McMann