

DAVID WENDELL GARTON

School of Biological Sciences
Georgia Institute of Technology
310 Ferst Avenue
Atlanta, GA 30332

Telephone: (404) 385-1039
FAX: (404) 894-0519
e-mail: david.garton@gatech.edu

EDUCATION

B.S. Biology	University of Alabama in Huntsville, 1975
M.S. Physiology	Louisiana State University, 1978
M.App.Stat. Applied Statistics	Louisiana State University, 1980
Ph.D. Physiology	Louisiana State University, 1983

POSITIONS

Senior Lecturer, Georgia Tech School of Biology, 2014-present, Lecturer 2004-2014 *and*
Director, Pacific Study Abroad Program, 2003-present
Academic Advisor II, Georgia Tech School of Biology, 2001-2004
Senior Research Scientist, Georgia Tech School of Biology, 1998-2001
Associate Director, Ohio Sea Grant College Program and F.T. Stone Laboratory, 1997-1998
Assistant & Associate Professor of Biology, Indiana University Kokomo, 1992-1997
Assistant Professor of Zoology; Ohio State University, 1985-1992
Postdoctoral Research Associate and Sea Grant Postdoctoral Fellow; Stony Brook University 1983-1985

PUBLICATIONS

- McCauley, D., P. DeSalles, H. Young, Y. Papastamatiou, J. Casselle, M. Deakos, J. Gardner, **D. Garton**, J. Collen and F. Michelli. 2014. Reliance of mobile species on sensitive habitats: a case study of manta rays (*Manta alfredi*) and lagoons. *Marine Biology* 161: 1987-1998.
- Gardner, J., R. Bartz, R. Brainard, J. Collen, R. Dunbar, **D. Garton** and S. Powell. 2014. Conservation management options and actions: Putative decline of coral cover at Palmyra Atoll, Northern Line Islands, as a case study. *Marine Pollution Bulletin* 84: 182-190.
- Gardner, J., **D. Garton**, J. Collen and D. Zwartz. 2014. Distant storms as drivers of environmental change at Pacific atolls. *PLoS ONE* 9(1): e87971. doi:10.1371/journal.pone.0087971
- Garton, D.**, R. McMahon and A. Stoeckmann. 2013. Limiting environmental factors and competitive interactions between zebra and quagga mussels in North America. Pp 383-402. In T. Nalepa and D. Schloesser, Eds. *Quagga and Zebra Mussels: Biology, Impacts and Control*, 2nd edition. CRC Press, Inc.
- Gardner, J., J. Collen, R. Dunbar and **D. Garton**. 2011. Commentary on Palmyra atoll. *Marine Pollution Bulletin* 62: 2876-2877.

- Gardner, J., **D. Garton** and J. Collen. 2011. Near-surface mixing and pronounced deep water stratification in a compartmentalized, human-disturbed atoll lagoon system. *Coral Reefs* 30: 271-282.
- Collen, J., J. Baker, R. Dunbar, U. Rieser, J. Gardner, **D. Garton** and K. Christiansen. 2011. The atmospheric lead record preserved in lagoon sediments at a remote equatorial Pacific atoll: Palmyra Atoll, northern Line islands. *Marine Pollution Bulletin*. 62: 251-257.
- Collen, J.D., J.A. Gardner and **D. Garton**. 2009. Application of the littoral cell concept to managing a protected atoll: Palmyra Atoll National Wildlife Refuge. *Ocean and Coastal Management* 52: 628-635.
- Collen, J.D., **D. Garton** and J.A. Gardner. 2009. Shoreline changes and sediment redistribution at Palmyra Atoll (Equatorial Pacific Ocean): 1874-present. *Journal of Coastal Research* 25: 711-722.
- Garton, D.**, C. Payne and J. Montoya. 2005. Flexible diet and trophic position of dreissenid mussels as inferred from stable isotopes of carbon and nitrogen. *Canadian Journal of Fisheries and Aquatic Sciences* 62: 1119-1129.
- Collen, J. And **D. Garton**. 2004. Larger foraminifera and sedimentation around Fongafale Island, Funafuti Atoll, Tuvalu. *Coral Reefs* 23: 445-454.
- Berg, D., **D. Garton**, H. MacIsaac V. Panov and I. Telesh. 2002. Changes in genetic structure of North American *Bythotrephes* populations following invasion from Lake Ladoga, Russia. *Freshwater Biology* 47: 1-8.
- Stoeckmann, A. and **D. Garton**. 2001. Flexible energy allocation in zebra mussels (*Dreissena polymorpha*) in response to different environmental conditions. *Journal of the North American Benthological Society* 20: 486-500.
- Haltuch, M., P. Berkman and **D. Garton**. 2000. Geographic information system (GIS) analysis of ecosystem invasion: Exotic mussels in Lake Erie. *Limnology & Oceanography* 45: 1778-1787.
- Garton, D.** and L. Johnson. 2000. Variation in growth rates of the zebra mussel, *Dreissena polymorpha*, within Lake Wawasee. *Freshwater Biology* 45: 443-451.
- Berkman, P., **D. Garton**, M. Haltuch, G. Kennedy and L. Febo. 2000. Habitat shift in invading species: Zebra and quagga mussel population characteristics on shallow soft substrates. *Biological Invasions* 2: 1-6.
- Berkman, P., **D. Garton**, M. Chiantore, R. Cattaneo-Vietti, M. Nigro and F. Regoli. 1999. Remotely operated vehicle (ROV) surveys and applications during the 1998-99 austral summer in Terra Nova Bay, Antarctica. Pp. 47-54. In M. Tamburrini (Ed.) *Newsletter of Italian Biological Research in Antarctica*.
- Garton, D.**, P. Berkman, M. Chiantore, M. Nigro, and F. Regoli. 1999. Seasonal patterns in metabolic response to stress in scallops (*Adamussium colbecki*) in Terra Nova Bay, Antarctica. Pp. 55-62. In M. Tamburrini (Ed.) *Newsletter of Italian Biological Research in Antarctica*.

- Hsu, M., **D. Garton** and J. Harder. 1999. Energetics of offspring production: a comparison of a marsupial (*Monodelphis domestica*) and a eutherian (*Mesocricetus auratus*). *Journal of Comparative Physiology B* 169: 67-76.
- Berkman, P., **D. Garton**, G. Kennedy, J. Gannon, S. Mackey, J. Fuller, D. Liebenthal, M. Haltuch, and E. Tichich. 1998. Zebra mussels invade Lake Erie muds. *Nature* 393: 27-28.
- Stoeckmann, A. and **D. Garton**. 1997. A seasonal energy budget for zebra mussels (*Dreissena polymorpha*) in western Lake Erie. *Canadian Journal of Fisheries and Aquatic Sciences* 54: 2743-2751.
- Ram, J., P. Fong, and **D. Garton**. 1997. Physiological aspects of zebra mussel spawning: Maturation, spawning and fertilization. *American Zoologist* 36: 326-338.
- Harder, J., M. Hsu and **D. Garton**. 1996. Metabolic rates and body temperature of the gray short-tailed opossum (*Monodelphis domestica*) during gestation and lactation. *Physiological Zoology* 69: 317-339.
- Haag, W. and **D. Garton**. 1995. Variation in genotype frequencies during the life history of a bivalve, *Dreissena polymorpha*. *Evolution* 49:1284-1288.
- Berg, D. and **D. Garton**. 1994. Genetic differentiation in North American and European populations of the cladoceran *Bythotrephes*. *Limnology & Oceanography* 39: 1503-1516.
- Garton, D.**, M. Hsu and J. Harder. 1994. Environmental temperature and metabolic rates during gestation and lactation in golden hamsters (*Mesocricetus auratus*). *Physiological Zoology* 67: 497-514.
- Stoeckel, J. and **D. Garton**. 1993. Techniques for mass-spawning and culture of *Dreissena polymorpha* larvae. *Proceedings 3rd International Zebra Mussel Conference*. Electric Power Research Institute.
- Garton, D.**, D. Berg, A. Stoeckmann and W. Haag. 1993. Biology of recent invertebrate invading species in the Great Lakes: The spiny water flea, *Bythotrephes cederstroemi*, and the zebra mussel, *Dreissena polymorpha*. Pp. 63-84. In: W. McKnight, Ed. *Biological Pollution: The Control and Impact of Invasive Exotic Species*. Indiana Academy of Sciences.
- Haag, W., D. Berg, **D. Garton** and J. Farris. 1993. Reduced survival and fitness in native bivalves in response to fouling by the introduced zebra mussel (*Dreissena polymorpha*) in western Lake Erie. *Canadian Journal of Fisheries and Aquatic Sciences* 50: 13-19.
- Garton, D.** and W. Haag. 1992. Seasonal reproductive cycles and recruitment patterns of *Dreissena polymorpha* in Lake Erie. Pp. 111-128. In: T. Nalepa and D. Schloesser, Eds. *Zebra mussels: biology, impact and control*. Lewis Publishers.
- Haag, W. and **D. Garton**. 1992. Synchronous spawning in a recently established population of the zebra mussel, *Dreissena polymorpha*, in western Lake Erie, USA. *Hydrobiologia* 234: 103-110.

- Hartmann, K. and **D. Garton**. 1992. Identification of partially digested prey of piscivorous fish using starch-gel electrophoresis. *North American Journal of Fisheries Management* 12: 260-263.
- Garton, D.** and W. Haag. 1991. Heterozygosity, shell length and metabolism of the European mussel, *Dreissena polymorpha*, from a recently established population in Lake Erie. *Comparative Biochemistry and Physiology* 99A: 45-48.
- Garton, D.**, D. Berg and R. Fletcher. 1990. Thermal tolerances of the predatory cladocerans *Bythotrephes cederstroemi* (Schoedler) and *Leptodora kindti* Focke: Relationship to seasonal abundance in western Lake Erie. *Canadian Journal of Fisheries and Aquatic Sciences* 47: 731-738.
- Garton, D.** and D. Berg. 1990. Occurrence of *Bythotrephes cederstroemi* in Lake Superior, with evidence of demographic variation in the Great Lakes. *Journal of Great Lakes Research* 16: 148-152.
- Garton, D.** and D. Berg. 1989. Genetic variation at the *Lap* locus and ammonia excretion following salinity transfer in an estuarine snail. *Comparative Biochemistry and Physiology* 92A: 71-74.
- Berg, D. and **D. Garton**. 1988. Seasonal abundance of the exotic predatory cladoceran *Bythotrephes cederstroemi*, in western Lake Erie. *Journal of Great Lakes Research* 14: 479-488.
- Garton, D.** 1986. Effect of prey size on the energy budget of a predatory gastropod, *Thais haemastoma canaliculata* (Gray). *Journal of Experimental Marine Biology and Ecology* 98: 21-33.
- Garton, D.**, R. Koehn and T. Scott. 1985. The physiological energetics of growth in the clam *Mulinia lateralis*: An explanation for the relationship between growth rate and individual heterozygosity. In P. Gibbs (ed) *Proceedings 19th European Marine Biology Symposium*, Plymouth, England (1984), Cambridge University Press. Pp. 455-464.
- Garton, D.** and W. Stickle. 1985. Relationship between multiple locus heterozygosity and fitness in the gastropods *Thais haemastoma* and *T. lamellosa*. In: J.S. Gray and M.E. Christianson, Eds. *Proceedings 18th European Marine Biology Symposium*, Oslo, Norway (1983). John Wiley and Sons. Pp. 545-554.
- Garton, D.**, R. Roller and J. Caprio. 1984. Fine structure and vital staining of osphradium of the southern oyster drill, *Thais haemastoma canaliculata* (Gray) (Prosobranchia: Muricidae). *Biological Bulletin* 167: 310-321.
- Garton, D.**, R. Koehn and T. Scott. 1984. Multiple-locus heterozygosity and the physiological energetics of growth in the coot clam, *Mulinia lateralis*, from a natural population. *Genetics* 108: 445-455.
- Sabourin, T., W. Stickle, T. Michot, C. Villars, **D. Garton** and H. Mushinsky. 1984. Organochlorine residue levels in Mississippi River water snakes in southern Louisiana. *Bulletin of Environmental Contamination and Toxicology* 32: 460-468.
- Garton, D.** 1984. Relationship between multiple locus heterozygosity and the physiological energetics of growth in the estuarine gastropod *Thais haemastoma*. *Physiological Zoology* 57: 530-543.
- Roller, R., **D. Garton** and W. Stickle. 1984. Regeneration of the proboscis, radula and odontophoral cartilage of the southern oyster drill *Thais haemastoma canaliculata* (Prosobranchia: Muricidae) after amputation. *American Malacological Bulletin* 2: 63-73.

Garton, D. and K. Koonce. 1981. Two-way analysis of variance in computer statistical packages: A comparison of SPSS, BMDP and RUMMAGE to SAS GLM. *Proceedings Sixth Annual SAS User's Group International Conference*, Pp. 185-190.

Garton, D. and W. Stickle. 1980. Effects of salinity and temperature on the predation rate of *Thais haemastoma* on *Crassostrea virginica* spat. *Biological Bulletin* 158: 49-57.

HONORS

- 2016 Geoffrey G. Eichholz Faculty Teaching Award
- 1999 Antarctic Service Medal, National Science Foundation
- 1989 Selected as a Fellow in NOAA Cooperative Institute for Limnology and Ecosystem Research (CILER)
- 1985 Sea Grant Postdoctoral Fellow
- 1982 Recipient, Richard A. LaFleur Fellowship of the Petroleum Refiners Environmental Council of Louisiana
- 1982 Recipient, LSU Sigma Xi Chapter Graduate Student Research Award

REVIEWING EXPERIENCE

Reviewed grants submitted to:

National Research Council (National Academy of Science)	New Jersey Sea Grant Program
National Science Foundation	Oregon Sea Grant Program
National Sea Grant Program	Minnesota Sea Grant Program
Michigan Sea Grant Program	Great Lakes Protection Fund
Wisconsin Sea Grant Program	Hudson River Foundation
Maine Sea Grant Program	National Geographic Society
New York Sea Grant Program	

National Review Panel Member: NOAA-Sea Grant (1992 and 1997)

Peer reviewer for manuscripts submitted to:

<i>Canadian Journal of Fisheries and Aquatic Sciences</i>	<i>American Zoologist</i>
<i>Marine Ecology Progress Series</i>	<i>The Biological Bulletin</i>
<i>Journal of Great Lakes Research</i>	<i>Journal of Shellfish Research</i>
<i>American Malacological Bulletin</i>	<i>Aquatic Living Resources</i>
<i>Journal of Experimental Marine Biology and Ecology</i>	<i>American Midland Naturalist</i>
<i>Journal of the North American Benthological Society</i>	<i>Limnology & Oceanography</i>
<i>Regulated Rivers: Research & Management</i>	<i>Marine Biology</i>
<i>Archiv fur Hydrobiologie</i>	<i>Hydrobiologia</i>
<i>International Review of Hydrobiology</i>	<i>Marine & Freshwater Research</i>
<i>Biological Invasions</i>	<i>Journal of Molluscan Studies</i>
<i>Proceedings of the Royal Society (London)-Biological Sciences</i>	

Member, American Water Works Association Research Foundation Project Advisory Committees (1991-1997)

TEACHING EXPERIENCE

Undergraduate courses at Georgia Institute of Technology: (1998-present)

- Biology 4590, *Project Lab*. Supervised independent research project laboratory for senior-level biology majors. Course requires development of research proposal, conducting a research project, collecting and analyzing data, and preparing final research report (in scientific paper format). Fulfills undergraduate research requirement for B.S. in Biology.
- Biology 4450, *Senior Seminar*. Required for biology majors. Preparation and presentation of a seminar-style talk based on current research in biology. Taught multiple semesters.
- Biology 4010, *Aquatic Ecology*. Lecture-based course on the principles of aquatic ecology for biology majors (co-taught with resident faculty member).
- Biology 4011, *Aquatic Ecology Laboratory*. Laboratory and field-based course covering the essentials of collecting and analyzing water samples, interpreting and presenting results of analyses. Course includes overnight field trips and independent student research project (co-taught with resident faculty member).
- Biology 3332, *Biostatistics*. Lecture and lab based course on applied statistics in the life sciences, covering the fundamentals of probability, normal distribution, t-test, regression analysis, analysis of variance, non-parametric statistics, and an basic introduction to multiple regression and multivariate techniques. Required course for all Biology undergraduate majors (removed from catalog in 2004 and replaced with a new course, Biology 4400).
- Biology 4400/4401, *Experimental Design and Statistical Methods in Biology*. Lecture and lab based course emphasizing elements of experimental design and interpretation of statistics in biology. Includes statistical methods commonly applied in biology, regression, analysis of variance, goodness-of-fit as well as power analyses. Taught beginning Fall 2005; renumbered Biology 4401 Fall 2007.
- Biology 4446, *Animal Physiology*. Lecture course focused on integrative physiology and systems physiology for upper level undergraduate students.
- Biology 4803, *Marine Biology of Pacific Islands*. Four-week field course taught in the Study Abroad Program at Georgia Tech. Includes week-long visits to New Zealand, Rarotonga (Cook Islands), Fiji, Moorea and Hawaii. All aspects of marine biology are presented, although focus of course is on the biology, ecology and conservation of coral reef ecosystems (co-taught with faculty partner from Victoria University, Wellington, New Zealand).
- Biology 3100, *Ecology and Evolution: An Australian Perspective*. Six-week field course taught in the Pacific Study Abroad Program at Georgia Tech. Includes visits to coastal intertidal and forest habitats in Australia along the eastern seaboard between Sydney and Brisbane, as well as a week-long stay at Heron Island Research Station on the Great Barrier Reef. Lecture material includes ecology and evolution of Australia's unique flora and fauna.
- Biology 2335, *Introductory Ecology*. Fundamental concepts in ecology including theoretical and empirical approaches. Required course for Biology majors in the School of Biology.

Biology 2100, *Island Biogeography of New Zealand*. Six-week field course taught in the Pacific Study Abroad Program at Georgia Tech. First three weeks emphasizes geological history of New Zealand, including plate tectonics and volcanism. Latter three weeks covers the unique flora and fauna of New Zealand and the principles of island biogeography.

Biology 1510, 1511, 1520 & 1521, *Biological Principles; Introduction to Organismal Biology*. First and second semester of two-semester introductory biology sequence required for all Biology majors; BIOL 1511 & 1521 sections are part of the Honors Program at GT.

High school summer program at Georgia Institute of Technology

Coordinator and instructor, *Light & Life*, a three week lecture, lab and field based program for advanced high school students with career objectives in the life sciences (1999-2009). Program included college-level topics in the areas of molecular genetics and environmental sciences. Initiative funded by Howard Hughes Medical Institute grants through 2003; currently funded by School of Biology and CEISMIC, GT's Center for Integrating Education in Science, Mathematics and Computing. Renamed *Bio@Tech*, summer 2005.

Undergraduate courses at Indiana University Kokomo: (1992-1997)

Physiology P215, *Basic Human Physiology*. Survey course for nursing and allied health profession students.

Biology L367, *Cell Physiology*. Upper level course on cellular physiology, including cell metabolism and molecular genetics, for biology majors.

Physiology P416, *Comparative Animal Physiology*. Upper level physiology course on comparative physiology for biology majors.

Biology Z466, *Endocrinology*. Upper level course on endocrine physiology for biology majors.

Undergraduate courses at Ohio State University: (1985-1992)

Zoology 654, *Ecological Physiology of Aquatic Animals*. Upper level specialty course for seniors and graduate students.

Zoology 652, *Limnology*. Upper level course on fundamentals of biological, chemical and physical limnology, taught as a field course at Ohio State University's F.T. Stone Laboratory on Lake Erie.

Zoology 613, *Biology of the Invertebrates*. Survey of invertebrate phyla for advanced undergraduate students.

Zoology 612, *Invertebrate Zoology*. A field course taught at Ohio State University's F.T. Stone Laboratory on Lake Erie.

Zoology 532, *Neurobiology*. Introductory neurophysiology course for physiology students, team taught (responsible for 15% of course material).

Zoology 514, *Laboratory in Animal Physiology*. Introduction to laboratory techniques in animal physiology, using Macintosh computers for recording, displaying, and analyzing data.

Zoology 125, *Introductory Aquatic Biology*. Introductory course emphasizing basic principles of aquatic ecology for students with minimal science background.

Zoology 232, *Introductory Physiology*. Survey course for nursing and allied health profession students, enrollment > 450.

Graduate courses at Ohio State University:

Zoology 881, *Seminar in Ecological Genetics*.

Zoology 881/891, *Applied Techniques in Starch Gel Electrophoresis*.

ADVISING EXPERIENCE

Ohio State University:

Major advisor for:

David J. Berg	Ph.D. Zoology	Ohio State University	1991
Wendell R. Haag	M.S. Zoology	Ohio State University	1992
Ann M. Stoeckmann	Ph.D. Zoology	Ohio State University	1997

Graduate committee member for numerous M.S. and Ph.D. students in the Department of Zoology, The Ohio State University. External advisory committee member for graduate students at Purdue University, University of Windsor and Laval University.

Served two+ years as the Zoology Undergraduate Coordinating Advisor (200+ undergraduate zoology majors).

Indiana University Kokomo:

Advisor for pre-professional undergraduate students in Radiation Therapy, Radiography and Nuclear Medicine programs.

Georgia Institute of Technology

Undergraduate Coordinating Advisor (2001-2004)

Academic advisor for graduate programs in the School of Biology (2001-2004)

Interim undergraduate advisor (Fall 2009)