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EDUCATION

1989 Ph.D. Marine Sciences, University of North Carolina at Chapel Hill
1983 M.S. Zoology, University of Maine at Orono
1981 B.S. (*magna cum laude*) Biology, Spring Hill College

PROFESSIONAL POSITIONS

2008 – present *Loretta and Lewis Glucksman Professor of Marine Science*, College of William & Mary
2005 – present *Research Associate*, American Museum of Natural History
2005 – 2008 *Chair*, Dept Biological Sciences, School of Marine Science, College of William & Mary
2004 – 2008 *Professor of Marine Science*, The College of William and Mary
1999 – 2004 *Associate Professor of Marine Science*, The College of William and Mary
1994 – 1999 *Assistant Professor of Marine Science*, The College of William and Mary, School of Marine Science and Virginia Institute of Marine Science
1992 – 1994 *National Science Foundation Postdoctoral Fellow in Environmental Biology*, Center for Population Biology, University of California, Davis
1992 *Peer Review Coordinator*, Research Enhancement Program for the San Francisco Bay/Delta
1991 – 1992 *Postdoctoral Researcher*, Institute of Marine Sciences and Curriculum in Marine Sciences, University of North Carolina at Chapel Hill
1990 *Postdoctoral Fellow*, National Museum of Natural History, Smithsonian Institution
1989 *Postdoctoral Researcher*, University of Guam Marine Laboratory

HONORS AND AWARDS

2009 Plumeri Award for Faculty Excellence, The College of William and Mary
2008 Keynote Speaker, 7th International Flatfish Symposium, Sesimbra, Portugal
2007 Cheryl Beth Silverman Memorial Lecture, Academy of Natural Sciences, Philadelphia
2007 Invited speaker, Gordon Research Conference on Plant-Herbivore Interactions
2006 Faculty of 1000, Population Ecology section
2006 Editorial Board, *Ecology Letters*
2006 Aldo Leopold Leadership Fellow
2005 Editorial Board, *Journal of Ethology*
2002 Plenary speaker, Congress of the Intl. Union for Study of Social Insects, Sapporo, Japan
1998 Editorial Board, *Ecology, Ecological Monographs*
1992 NSF Postdoctoral Research Fellowship in Environmental Biology
1992 Invited speaker, Gordon Research Conference on Plant-Herbivore Interactions
1989 Smithsonian Institution Postdoctoral Fellowship
1988 Smithsonian Tropical Research Institute, Short-term Fellowship

PROFESSIONAL ACTIVITIES

- 2009 Invited participant, Workshop: “Ecological Principles of Marine Spatial Management”, Center for Ocean Solutions, Stanford University, Monterey, CA.
- 2008 Co-founder of “Virginia Initiative for Coastal Climate Change Research”, Virginia Institute of Marine Science (<http://web.vims.edu/climatechange>)
- 2003 – 2007 Participant: National Center for Ecological Analysis and Synthesis, Working Group: "Linking marine biodiversity to ecosystem functions and services"
- 2002 – 2006 Steering Committee: “Coordinated Research on the North Atlantic (CoRoNA)” (NSF-funded Research Coordination Network, Cliff Cunningham, PI)
- 2006 Invited participant, Workshop: “BioMerge/ DIVERSITAS Workshop: The Consequences of Changing Biodiversity - Solutions and Scenarios”, Ascona, Switzerland
- 2005 Invited participant, Workshop: “The next generation of biodiversity-ecosystem functioning research”, DIVERSITAS, Kota Kinabalu, Borneo, Malaysia
- 2005 Invited participant, Workshop: “BioMerge Adaptive Synthesis Workshop III: Multi-trophic and cross-biome syntheses”, Kota Kinabalu, Borneo, Malaysia
- 2005 Invited Participant, Workshop: “How to succeed in ecology: advice from senior ecologists and rising stars”, ESA/INTECOL joint meeting, Montreal, Canada
- 2005 Symposium Co-organizer (w/ A.S. Flecker, K.E. France, and P.B. MacIntyre): “Incorporating trophic diversity into the biodiversity-ecosystem functioning debate: lessons from aquatic ecosystems”, ESA/INTECOL joint meeting, Montreal
- 2005 Co-organizer: Marine Benthic Ecology Meeting, Williamsburg, VA
- 2002 – 2005 North American Governor, The Crustacean Society
- 2004 Invited Contributor: *Marine Ecology Progress Series* thematic section: “Marine biodiversity and ecosystem function” (published 2006)
- 2004 Invited Participant: “The ecosystem functioning of food webs: The consequences of species loss and gain”, European Science Foundation ‘InterACT’ Network, Cork, Ireland
- 2004 Special Session Co-organizer (w/ J. Stachowicz): “Biodiversity and functioning of marine ecosystems”, ASLO/TOS joint meeting, Honolulu, HI
- 2003 Keynote Speaker, Workshop: “Marine Biodiversity, Patterns and Processes” (MARBIPP), Swedish Environmental Protection Agency, Tjärnö, Sweden
- 2003 Co-organizer: The Crustacean Society, Annual meeting, Williamsburg, VA

PROFESSIONAL SERVICE

- 2007 – present Advisory Board, *Natural History of Crustacea* Series, Oxford University Press
- 2006 – present Faculty of 1000, Population Ecology section (<http://www.f1000biology.com>)
- 2006 – present Editorial board, *Ecology Letters*
- 2006 – present Editorial Board, *Foundations of Experimental Ecology* (Univ of Chicago Press)
- 2006 – present Stewardship Council, *Environmental Information Coalition* (<http://www.earthportal.net>)
- 2006 – present Editorial Board, *Encyclopedia of Earth* (<http://authors.earthportal.net>)
- 2005 – present Editorial board, *Journal of Ethology*
- 1998 – 2002 Editorial Board, *Ecology and Ecological Monographs*
- 1997 – 2004 Review Panelist, Biological Oceanography program, National Science Foundation (2x)
- Review Panelist, Doctoral Dissertation Improvement Grants (DDIG), NSF-DEB (2x)
- Review panelist, Smithsonian Institution Scholarly Studies program
- Review Panelist, Ocean Sciences CAREER program, National Science Foundation

Manuscript reviewer for: *American Naturalist*, *Animal Behaviour*, *BioScience*, *Botanica Marina*, *Canadian Journal of Zoology*, *Chemoecology*, *Conservation Biology*, *Coral Reefs*, *Diversity and Distribution*, *Ecography*, *Ecology*, *Ecology Letters*, *Ecological Monographs*, *Ecosystems*, *Estuaries and Coasts*, *Estuarine Coastal and Shelf Science*, *Evolution*, *Frontiers in Ecology and the Environment*, *Functional Ecology*, *Global Change Biology*, *Hydrobiologia*, *Heredity*, *Journal of Animal Ecology*, *Journal of Crustacean Biology*, *Journal of Ethology*, *Journal of Experimental Marine Biology and Ecology*, *Journal of the Marine Biological Association UK*, *Journal of the North American Benthological Association*, *Journal of Phycology*, *Limnology and Oceanography*, *Marine Biology*, *Marine Ecology Progress Series*, *Molecular Ecology*, *Naturwissenschaften*, *New Zealand Journal of Marine and Freshwater Research*, *Oecologia*, *Oikos*, *PLoS Biology*, *PLoS One*, *Proceedings of the National Academy of Sciences USA*, *Proceedings of the Royal Society of London B*, *PSZNI Marine Ecology*, *Science*, *Trends in Ecology and Evolution*, *Zootaxa*

Proposal Reviewer for: National Science Foundation (several programs); NOAA National Undersea Research Program; ECOHAB Program; National Geographic Society; Natural Environment Research Council (UK); California Sea Grant; Georgia Sea Grant; WHOI Sea Grant; Maine/New Hampshire Sea Grant; Smithsonian Scholarly Studies program; Swiss National Science Foundation, Marsden Fund (New Zealand)

REFEREED PUBLICATIONS (many available in PDF form at <http://www.vims.edu/bio/mobee>)

* = graduate student co-authors; † = undergraduate student co-authors

Duffy, J.E. *In review*. The future of marine fish resources. AIBS ACTION BIOSCIENCE

(www.actionbioscience.org)

Duffy, J.E. and K.S. Macdonald III. *In revision*. Kin structure, ecology, and the evolution of social organization in shrimp: A comparative analysis. PROCEEDINGS OF THE ROYAL SOCIETY OF LONDON B BIOLOGICAL SCIENCES.

Spivak, A.C., E.A. Canuel, **J.E. Duffy**, and J.P. Richardson. *In press*. Nutrient enrichment and food web composition affect ecosystem metabolism in an experimental seagrass habitat. PLOS ONE.

K.M. Hultgren, K.S. Macdonald III, and **J.E. Duffy**. *In press*. Sponge-dwelling snapping shrimp of Curaçao, with descriptions of three new species. ZOOTAXA.

Duffy, J.E. 2009. Why biodiversity is important to functioning of real-world ecosystems. FRONTIERS IN ECOLOGY AND THE ENVIRONMENT, *in press*.

Macdonald III, K.S., K.M. Hultgren, and **J.E. Duffy**. 2009. Sponge-dwelling snapping shrimp of Discovery Bay, Jamaica, with descriptions of four new species. ZOOTAXA, *in press*

Srivastava, D.S., B.J. Cardinale, A.L. Downing, **J.E. Duffy**, C. Jouseau, M. Sankaran, and J.P. Wright. 2009. Diversity has stronger top-down than bottom-up effects on decomposition. ECOLOGY 90:1073-1083.

Cardinale, B.J., D. Srivastava, **J.E. Duffy**, J. Wright, A. Downing, M. Sankaran, C. Jouseau, M. Cadotte, I. Carroll, J. Weis, A. Hector, and M. Loreau. 2009. Effects of biodiversity on the functioning of ecosystems: A summary of 164 experimental manipulations of species richness. ECOLOGY 90:854 (ECOLOGICAL ARCHIVES E090-060).

Spivak*, A.C., E.A. Canuel, **J.E. Duffy**, J.G. Douglass, and J.P. Richardson. 2009. Community composition and nutrient availability alter sediment organic matter composition in a seagrass bed: a field experiment. MARINE ECOLOGY PROGRESS SERIES 376: 55–67.

Bruno J.F., K.E. Boyer, **J.E. Duffy**, and S.C. Lee. 2008. Relative and interactive effects of plant and grazer richness in a benthic marine community. ECOLOGY 89:2518-2528.

Douglass*, J.G., **J.E. Duffy**, and J.F. Bruno. 2008. Herbivore and predator diversity interactively affect ecosystem properties in marine macroalgal communities. ECOLOGY LETTERS 11:598-608.

- Rubenstein, D.R., B.V. McCleery, and **J.E. Duffy**. 2008. Microsatellite development suggests evidence of polyploidy in the social sponge-dwelling snapping shrimp *Zuzalpheus brooksi*. *MOLECULAR ECOLOGY RESOURCES* 8:890-894.
- Tóth, E. and **J.E. Duffy** 2008. Influence of sociality on allometric growth and morphological differentiation in sponge-dwelling alpheid shrimp. *BIOLOGICAL JOURNAL OF THE LINNEAN SOCIETY* 94:527-540.
- Long, Z.T., J.F. Bruno, and **J.E. Duffy**. 2007. Biodiversity mediates productivity through different mechanisms at adjacent trophic levels. *ECOLOGY* 88:2821-2829.
- Stachowicz, J.J., J.F. Bruno, and **J.E. Duffy**. 2007. Understanding the effects of marine biodiversity on community and ecosystem processes. *ANNUAL REVIEW OF ECOLOGY, EVOLUTION, AND SYSTEMATICS*, 38:739-766. (*featured as Must-Read [6.0] paper in Faculty of 1000*)
- Douglass*, J.G., **J.E. Duffy**, A.C. Spivak*, and J.P. Richardson. 2007. Nutrient versus consumer control of community structure in a Chesapeake Bay eelgrass habitat. *MARINE ECOLOGY PROGRESS SERIES* 348:71-83.
- Spivak*, A.C., E.A. Canuel, **J.E. Duffy**, and J.P. Richardson. 2007. Top-down and bottom-up controls on sediment organic matter composition in an experimental seagrass ecosystem. *LIMNOLOGY AND OCEANOGRAPHY* 52: 2595-2607.
- Ríos*, R. and **J.E. Duffy**. 2007. A review of the sponge-dwelling snapping shrimp from Carrie Bow Cay, Belize, with description of *Zuzalpheus*, new genus, and six new species (Crustacea: Decapoda: Alpheidae). *ZOOTAXA* 1602:1-89.
- Worm, B., E.B. Barbier, N. Beaumont, **J.E. Duffy**, C. Folke, B.S. Halpern, J.B.C. Jackson, H.K. Lotze, F. Micheli, S.R. Palumbi, E. Sala, K.A. Selkoe, J.J. Stachowicz, and R. Watson. 2007. Response to comments on "Impacts of biodiversity loss on ocean ecosystem services". *SCIENCE* 316:1282-1284.
- Duffy, J.E.**, B.J. Cardinale, K.E. France*, P.B. McIntyre, E. Thébault, and M. Loreau. 2007. The functional role of biodiversity in food webs: Incorporating trophic complexity. *ECOLOGY LETTERS* 10:522-538.
- Canuel, E.A., A.C. Spivak*, E.J. Waterson*, and **J.E. Duffy**. 2007. Biodiversity and food web structure influence short-term accumulation of sediment organic matter in an experimental seagrass system. *LIMNOLOGY AND OCEANOGRAPHY* 52: 590-602.
- Worm, B., E.B. Barbier, N. Beaumont, **J.E. Duffy**, C. Folke, B.S. Halpern, J.B.C. Jackson, H.K. Lotze, F. Micheli, S.R. Palumbi, E. Sala, K.A. Selkoe, J.J. Stachowicz, and R. Watson. 2006. Impacts of biodiversity loss on ocean ecosystem services. *SCIENCE* 314:787-790. (*featured as Must-Read [6.0] paper in Faculty of 1000*)
- Cardinale, B.J., Srivastava, D.S., **Duffy, J.E.**, Wright, J.P., Downing, A.L., Sankaran, M. and Jouseau, C. 2006. Effects of biodiversity on the functioning of trophic groups and ecosystems: A meta-analysis. *NATURE* 443:989-992. (*featured as Must-Read [6.0] paper in Faculty of 1000*)
- France*, K.E. and **J.E. Duffy**. 2006. Biodiversity, dispersal, and scale interactively affect stability of ecosystem function in seagrass metacommunities. *NATURE* 441:1139-1143. (*featured as Must-Read [4.8] paper in Faculty of 1000*)
- Bruno, J.F., S.C. Lee*, J.S. Kertesz*, R.C. Carpenter, Z.T. Long, and **J.E. Duffy**. 2006. Partitioning the effects of algal species identity and richness on benthic marine primary production. *OIKOS* 115:170-178.
- Macdonald, K.S. III and **J.E. Duffy**. 2006. Two new species of sponge-dwelling snapping shrimp from the Belizean Barrier Reef, and a synopsis of the *Synalpheus brooksi* species complex. *AMERICAN MUSEUM NOVITATES*, 3543: 1-22.
- Macdonald, K.S. III, R. Ríos*, and **J.E. Duffy**. 2006. Biodiversity, host specificity, and dominance by eusocial species among sponge-dwelling alpheid shrimp on the Belize Barrier Reef. *DIVERSITY AND DISTRIBUTIONS* 12:165-178.
- Duffy, J.E.** 2006. Biodiversity and the functioning of seagrass ecosystems. *MARINE ECOLOGY PROGRESS SERIES* 311:233-250 (Invited).

- Duffy, J.E. and J.J. Stachowicz. 2006. Why biodiversity is important to oceanography: potential roles of genetic, species, and trophic diversity in pelagic ecosystem processes. *MARINE ECOLOGY PROGRESS SERIES* 311:179-189.
- France*, K.E. and J.E. Duffy. 2006. Consumer diversity mediates invasion dynamics at multiple trophic levels. *OIKOS* 113:515-529.
- Duffy, J.E., J.P. Richardson, and K.E. France*. 2005. Ecosystem consequences of diversity depend on food chain length in estuarine vegetation. *ECOLOGY LETTERS* 8:301-309. (featured as Must-Read [6.0] paper in Faculty of 1000)
- Tóth, E. and J.E. Duffy. 2005. Coordinated group response to nest intruders in social shrimp. *BIOLOGY LETTERS* 1:49-52 (featured in Research Highlights section of *NATURE*, 3 Mar 2005, p. 36; *New York Times* 15 March 2005).
- Bruno, J.F., K.E. Boyer, J.E. Duffy, S.C. Lee*, and J.S. Kertes*. 2005. Effects of macroalgal species identity and richness on primary production in benthic marine communities. *ECOLOGY LETTERS* 8:1165-1174.
- Macdonald*, K.S. III, L. Yampolsky, and J.E. Duffy. 2005. Molecular and Morphological Evolution of the amphipod radiation of Lake Baikal. *MOLECULAR PHYLOGENETICS AND EVOLUTION* 35:323-343.
- Rhode*, J.M. and J.E. Duffy. 2004. Relationships between bed age, bed size, and genetic structure in Chesapeake Bay (Virginia, USA) eelgrass (*Zostera marina* L). *CONSERVATION GENETICS* 5: 1-11.
- Rhode*, J.M. and J.E. Duffy. 2004. Seed Production from the Mixed Mating System of Chesapeake Bay (USA) Eelgrass (*Zostera marina* L; Zosteraceae). *AMERICAN JOURNAL OF BOTANY* 91:192-197.
- Morrison, C. L., R. Ríos*, and J.E. Duffy. 2004. Phylogenetic evidence for an ancient rapid radiation of Caribbean sponge-dwelling snapping shrimps (*Synalpheus*). *MOLECULAR PHYLOGENETICS AND EVOLUTION* 30:563-581.
- Worm, B. and J.E. Duffy. 2003. Biodiversity, productivity, and stability in real food webs. *TRENDS IN ECOLOGY AND EVOLUTION* 18:628-632.
- Duffy, J.E. 2003. Biodiversity loss, trophic skew, and ecosystem functioning. *ECOLOGY LETTERS* 6:680-687 (Top 20 most cited papers in Ecology Letters, as of July 2006).
- Duffy, J.E., J.P. Richardson, and E.A. Canuel. 2003. Grazer diversity effects on ecosystem functioning in seagrass beds. *ECOLOGY LETTERS* 6:637-645 (featured in Editor's Choice section of *SCIENCE*, 1 Aug 2003, p. 569).
- Sagasti*, A., J.E. Duffy, and L.C. Schaffner. 2003. Effects of stress on recruitment: estuarine epifauna recruit despite hypoxic stress. *MARINE BIOLOGY* 142: 111-122.
- Duffy, J.E. 2002. Biodiversity and ecosystem function: the consumer connection. *OIKOS* 99: 201-219 (6th most cited paper in *Oikos*, as of July 2006; ISI top 1% of citations in field from 2002).
- Duffy, J.E., C.L. Morrison, and K.S. Macdonald*. 2002. Colony defense and behavioral differentiation in the eusocial shrimp *Synalpheus regalis*. *BEHAVIORAL ECOLOGY AND SOCIOBIOLOGY* 51:488-495.
- Duffy, J.E. and A.M. Harvilicz†. 2001. Species-specific impacts of grazing amphipods in an eelgrass-bed community. *MARINE ECOLOGY PROGRESS SERIES* 223:201-211.
- Duffy, J.E., K.S. Macdonald*, J.M. Rhode*, and J.D. Parker*. 2001. Grazer diversity, functional redundancy, and productivity in seagrass beds: an experimental test. *ECOLOGY* 82:2417-2434.
- Parker*, J.D., J.E. Duffy, and R.J. Orth. 2001. Plant species diversity and composition: experimental effects on marine epifaunal assemblages. *MARINE ECOLOGY PROGRESS SERIES* 224:55-67.
- Sagasti*, A., L.C. Schaffner, and J.E. Duffy. 2001. Effects of periodic hypoxia on mortality, feeding and predation in an estuarine epifaunal community. *JOURNAL OF EXPERIMENTAL MARINE BIOLOGY AND ECOLOGY* 258:257-283.
- Duffy, J.E., C.L. Morrison, and R. Ríos*. 2000. Multiple origins of eusociality among sponge-dwelling shrimps (*Synalpheus*). *EVOLUTION* 54:503-516.
- Duffy, J.E. and M.E. Hay. 2000. Strong impacts of grazing amphipods on the organization of a benthic community. *ECOLOGICAL MONOGRAPHS* 70:237-263.

- Sagasti*, A., L.C. Schaffner, and **J.E. Duffy**. 2000. Epifaunal communities thrive in an estuary with hypoxic episodes. *ESTUARIES* 23:474-487.
- Ríos*, R. and **J.E. Duffy**. 1999. Description of *Synalpheus williamsi*, a new species of sponge-dwelling shrimp (Crustacea: Decapoda: Alpheidae), with remarks on its first larval stage. *PROCEEDINGS OF THE BIOLOGICAL SOCIETY OF WASHINGTON* 112:541-552.
- Duffy, J.E.** and K.S. Macdonald*. 1999. Colony structure of the social snapping shrimp, *Synalpheus filidigitus*, in Belize. *JOURNAL OF CRUSTACEAN BIOLOGY* 19:283-292.
- Duffy, J.E.** 1998. On the frequency of eusociality in snapping shrimps with description of a new eusocial species. *BULLETIN OF MARINE SCIENCE* 63:387-400.
- Duffy, J.E.** 1996. Eusociality in a coral-reef shrimp. *NATURE* 381:512-514. (*News & Views Commentary by J. Seger and N.A. Moran, pp. 473-474*).
- Duffy, J.E.** 1996. Resource-associated population subdivision in a symbiotic coral-reef shrimp. *EVOLUTION* 50:360-373.
- Duffy, J.E.** 1996. Specialization, species boundaries, and the radiation of sponge-dwelling alpheid shrimp. *BIOLOGICAL JOURNAL OF THE LINNEAN SOCIETY* 58:307-324.
- Duffy, J.E.** 1996. *Synalpheus regalis*, new species, a sponge-dwelling shrimp from the Belize Barrier Reef, with comments on host specificity in *Synalpheus*. *JOURNAL OF CRUSTACEAN BIOLOGY* 16:564-573.
- Duffy, J.E.** and M.E. Hay. 1994. Herbivore resistance to seaweed chemical defense: the roles of mobility and predation risk. *ECOLOGY* 75:1304-1319.
- Pennings, S.C., S.R. Pablo, V.J. Paul, and **J.E. Duffy**. 1994. Effects of sponge secondary metabolites in different diets on feeding by three groups of consumers. *JOURNAL OF EXPERIMENTAL MARINE BIOLOGY AND ECOLOGY* 180:737-
- Duffy, J.E.** 1993. Genetic population structure in two tropical sponge-dwelling shrimps that differ in dispersal potential. *MARINE BIOLOGY* 90:127-138.
- Duffy, J.E.** 1992. Host use patterns and demography in a guild of tropical sponge-dwelling shrimps. *MARINE ECOLOGY PROGRESS SERIES* 90:127-138.
- Duffy, J.E.** and V.J. Paul. 1992. Prey nutritional quality and the effectiveness of chemical defenses against tropical reef fishes. *OECOLOGIA* 90:333-339.
- Duffy, J.E.** and M.E. Hay. 1991. Host plants as food and shelter: determinants of food choice in an herbivorous marine amphipod. *ECOLOGY* 72: 1286-1298.
- Duffy, J.E.** and M.E. Hay. 1991. Amphipods are not all created equal: a reply to Bell. *ECOLOGY* 72:354-358.
- Duffy, J.E.** 1990. Amphipods on seaweeds: partners or pests? *OECOLOGIA* 83:267-276.
- Duffy, J.E.** and M.E. Hay. 1990. Seaweed adaptations to herbivory. *BIOSCIENCE* 40:368-376.
- Hay, M.E., **J.E. Duffy**, and W. Fenical. 1990. Host-plant specialization decreases predation on a marine amphipod: an herbivore in plant's clothing. *ECOLOGY* 71:733-743.
- Hay, M.E., **J.E. Duffy**, V.J. Paul, P.E. Renaud, and W. Fenical. 1990. Specialist herbivores reduce their susceptibility to predation by feeding on the chemically defended seaweed *Avrainvillea longicaulis*. *LIMNOLOGY AND OCEANOGRAPHY* 35:1734-1743.
- Hay, M.E., J.R. Pawlik, **J.E. Duffy**, and W. Fenical. 1989. Seaweed-herbivore-predator interactions: host-plant specialization reduces predation on small herbivores. *OECOLOGIA* 81:418-427.
- Hay, M.E., **J.E. Duffy**, and W. Fenical. 1988. Seaweed chemical defense: among-compound and among-herbivore variance. *PROCEEDINGS OF THE SIXTH INTERNATIONAL CORAL REEF SYMPOSIUM, TOWNSVILLE, AUSTRALIA* 3:43-48.
- Hay, M.E., **J.E. Duffy**, W. Fenical, and K. Gustafson. 1988. Chemical defense in the seaweed *Dictyopterus delicatula*: differential effects against reef fishes and amphipods. *MARINE ECOLOGY PROGRESS SERIES* 48:185-192.
- Hay, M.E., **J.E. Duffy**, C.A. Pfister, and W. Fenical. 1987. Chemical defense against marine herbivores: are amphipods insect equivalents? *ECOLOGY* 68:1567-1580.
- Paul, V.J., M.E. Hay, **J.E. Duffy**, W. Fenical, and K. Gustafson. 1987. Chemical defense in the seaweed *Ochtodes secundiramea* (Montagne) Howe (Rhodophyta): effects of its monoterpenoid

components upon diverse coral-reef herbivores. *JOURNAL OF EXPERIMENTAL MARINE BIOLOGY AND ECOLOGY* 114:249-260.

Duffy, J.E. and S. Tyler. 1984. Quantitative differences in mitochondrial ultrastructure of a thiotobiotic and an oxybiotic turbellarian. *MARINE BIOLOGY* 83:95-102.

BOOKS AND BOOK CHAPTERS

Duffy, J.E. *In review.* Social biology of Crustacea. In: M. Breed and J. Moore, editors. *ENCYCLOPEDIA OF ANIMAL BEHAVIOR*. Elsevier, Oxford.

Duffy, J.E. *In press.* Sea changes: structure and functioning of emerging marine communities. In: H.A. Verhoef and P.J. Morin, editors. *COMMUNITY ECOLOGY. PROCESSES, MODELS AND APPLICATIONS*. Oxford University Press.

Duffy, J.E., D.S. Srivastava, J. McLaren, M. Sankaran, J. Griffin, M. Emmerson, M. Solan, and K.E. Jones. 2009. Forecasting decline in ecosystem services under realistic scenarios of extinction. In: Naeem, S., D.E. Bunker, and A. Hector (editors). *BIODIVERSITY, ECOSYSTEM FUNCTIONING, AND HUMAN WELLBEING: AN ECOLOGICAL AND ECONOMIC PERSPECTIVE*. Oxford University Press, *in press*.

Cardinale, B.J., **J.E. Duffy**, D.S. Srivastava, M. Loreau, M. Thomas, and M. Emmerson. 2009. Towards a Food-web perspective on biodiversity and ecosystem functioning. In: Naeem, S., D.E. Bunker, and A. Hector (editors). *BIODIVERSITY, ECOSYSTEM FUNCTIONING, AND HUMAN WELLBEING: AN ECOLOGICAL AND ECONOMIC PERSPECTIVE*. Oxford University Press, *in press*.

Duffy, J.E. 2008. General ecology: Association. Pages 269-272 in: *ENCYCLOPEDIA OF ECOLOGY*. Elsevier, Oxford, UK.

Duffy, J.E. and M. Thiel, editors. 2007. *EVOLUTIONARY ECOLOGY OF SOCIAL AND SEXUAL SYSTEMS: CRUSTACEANS AS MODEL ORGANISMS*. Oxford University Press.

Thiel, M. and **J.E. Duffy**. 2007. The behavioral ecology of crustaceans. A primer in taxonomy and functional biology. In: **Duffy, J.E.** and M. Thiel, editors. *EVOLUTIONARY ECOLOGY OF SOCIAL AND SEXUAL SYSTEMS: CRUSTACEANS AS MODEL ORGANISMS*. Oxford University Press, pp 3-28.

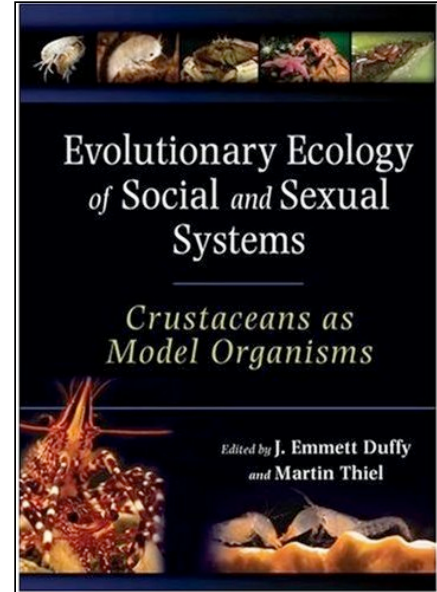
Duffy, J.E. 2007. The evolution of eusociality in sponge-dwelling shrimp. In: **Duffy, J.E.** and M. Thiel, editors. *EVOLUTIONARY ECOLOGY OF SOCIAL AND SEXUAL SYSTEMS: CRUSTACEANS AS MODEL ORGANISMS*. Oxford University Press, pp 387-409.

Duffy, J.E. and M. Thiel. 2007. Sexual and social behavior of Crustacea: A way forward. In: **Duffy, J.E.** and M. Thiel, editors. *EVOLUTIONARY ECOLOGY OF SOCIAL AND SEXUAL SYSTEMS: CRUSTACEANS AS MODEL ORGANISMS*. Oxford University Press, pp 461-473.

Valentine, J.F. and **J.E. Duffy**. 2006. The central role of grazing in seagrass ecology. In: A.W.D. Larkum, R.J. Orth, and C.M. Duarte (eds). *SEAGRASSES: BIOLOGY, ECOLOGY, AND CONSERVATION*. Springer, Amsterdam, pp. 463-501.

Duffy, J.E. 2003. The ecology and evolution of eusociality in sponge-dwelling shrimp. Pp. 217-252 in: T. Kikuchi, S. Higashi, and N. Azuma (editors). *GENES, BEHAVIORS, AND EVOLUTION IN SOCIAL INSECTS*. University of Hokkaido Press, Sapporo, Japan. (*Also published in Japanese translation in the journal Seibutsu no Kagaku, Iden (Life Science, Heredity) April 2003, translated by A. Noriko & S. Higashi*).

Duffy, J.E. and M.E. Hay. 2000. Ecology and evolution of marine consumer-prey interactions. Pages 131-157 in: Bertness, M.D., S. Gaines, and M.E. Hay (editors). *MARINE COMMUNITY ECOLOGY*. Sinauer Associates.



POPULAR ARTICLES

- Duffy, J.E. 2008. Keystone species. In: ENCYCLOPEDIA OF EARTH. Ed. Mark McGinley (Washington, D.C.: Environmental Information Coalition, National Council for Science and the Environment). [Published October 7, 2008; Retrieved 8 October, 2008].
http://www.eoearth.org/article/Food_web
- Duffy, J.E. 2008. Food webs. In: ENCYCLOPEDIA OF EARTH. Ed. Jay Gulledge (Washington, D.C.: Environmental Information Coalition, National Council for Science and the Environment). [Published January 7, 2008; Retrieved February 21, 2008].
http://www.eoearth.org/article/Food_web
- Duffy, J.E. 2007. Take action on climate change (Op-Ed). DAILY PRESS (Newport News, VA), 11 April 2007
- Duffy, J.E. 2007. Perspective: Ocean biodiversity and the future of seafood. FOOD TECHNOLOGY, April 2007, p. 100
- Duffy, J.E. 2007. Marine biodiversity and food security. In: ENCYCLOPEDIA OF EARTH. Ed. Cutler J. Cleveland (Washington, D.C.: Environmental Information Coalition, National Council for Science and the Environment). [Published Aug 29, 2007; Retrieved February 21, 2008].
http://www.eoearth.org/article/Marine_biodiversity_and_food_security
- Duffy, J.E. 2006. Biodiversity. ENCYCLOPEDIA OF EARTH. Ed. John Lloyd. (Washington, D.C.: Environmental Information Coalition, National Council for Science and the Environment). [First published September 04, 2006; Last revised September 29, 2006; Retrieved October 05, 2006].
<http://www.eoearth.org/article/Biodiversity>
- Duffy, J.E. 2006. Marine ecosystem services. ENCYCLOPEDIA OF EARTH. Ed. Walker Smith. (Washington, D.C.: Environmental Information Coalition, National Council for Science and the Environment). [Published October 10, 2006; Retrieved October 10, 2006].
http://www.eoearth.org/article/Marine_ecosystem_services
- Duffy, J.E. 2005. Faith, science, and the mystery of nature. DAILY PRESS (Newport News, VA), 20 March 2005, cover article in Outlook section [a critique of "Intelligent Design"]
- Duffy, J.E. 2003. Underwater urbanites. NATURAL HISTORY 112(10):40-45.

BOOK REVIEWS

- Duffy, J.E. 2001. Meadows of the sea. ECOLOGY 82:2969-2970 (review of Hemminga, M.A., and C.M. Duarte. 2000. *Seagrass ecology*. Cambridge University Press, Cambridge, UK).
- Duffy, J.E. 1998. Review of: Margalef, R. 1997. *Our Biosphere*. Excellence in Ecology Book 10. ESTUARIES 21:364-365.
- Duffy, J.E. 1992. Evolutionary biology: this year's model. ECOLOGY 73:1521-1522 (Review of D. Futuyma and J. Antonovics, editors. 1990. *Oxford Surveys in Evolutionary Biology*. Volume 7).

RESEARCH GRANTS

- 2007 – 2009 *National Geographic Society*. "Historical ecology and evolution of a hyperdiverse coral-reef invertebrate taxon: Caribbean sponge-dwelling snapping shrimp (*Synalpheus*)."
\$19,955
- 2007 – 2009 *National Science Foundation (Biological Oceanography program)*. "Collaborative research: Biocomplexity and environmental change in a vegetated estuarine ecosystem."
\$455,000.
- 2004 – 2007 *National Science Foundation (Biological Oceanography program)*. "Biodiversity,

- trophic structure, and the stability of seagrass ecosystems.” \$399,993
- 2003 – 2006 *National Science Foundation (Biological Oceanography program)*. (PIs: J. Bruno, K. Boyer, and J.E. Duffy) “Collaborative research: Biodiversity and ecosystem functioning in plant-grazer systems: experimental tests in a marine benthic community”. \$176,040 to Duffy.
- 2002 – 2005 *National Science Foundation (Animal Behavior program)*. “Comparative social biology of sponge-dwelling snapping shrimp (*Synalpheus*).” \$250,438.
- 2001 – 2004 *National Science Foundation (Biological Oceanography program)*. “Grazer diversity, foodweb architecture, and ecosystem function in Eelgrass Beds.” \$352,000.
- 1999 – 2002 *National Science Foundation (Systematic Biology Program)*. “The Radiation of Sponge-Dwelling Shrimp: A New Model System for the Comparative Analysis of Social Evolution”. \$200,000.
- 1995 – 1999 *National Science Foundation (Biological Oceanography Program)*. “Grazer diversity and ecosystem function in seagrass beds”. \$170,769 + two REU supplements totalling \$11,981.
- 1995 – 1999 *National Geographic Society*. (PIs: J.E. Duffy and L.Y. Yampolsky). “Evolution in an ancient lake: radiation of the Baikal gammarids.” \$11,248.
- 1996 *National Science Foundation (Instrumentation and Instrument Development)*. (PIs: J.E. Graves, E.M. Burreson, S.L. Kaattari, M.S. Saha, and J.E. Duffy). “An automated DNA sequencer for use in population biology, phylogeny, neurobiology and immunology.” \$56,383.
- 1992 – 1994 *National Science Foundation*, Postdoctoral Research Fellowship in Environmental Biology. “Host race speciation in sponge-dwelling shrimps (*Synalpheus*): mechanisms and phylogenetic implications.” \$69,600.
- 1990 – present *Caribbean Coral Reef Ecosystem Program*, Smithsonian Institution. Twelve awards covering travel, living costs, and minor research expenses at the Smithsonian’s Carrie Bow Cay Research station, Belize, for field research on systematics, evolution, and sociobiology of sponge-dwelling shrimps (*Synalpheus*).
- 1990 *Lerner-Gray Fund*, American Museum of Natural History. “Host specificity and speciation in tropical sponge-dwelling shrimps”. \$945.
- 1989 *Sigma Xi*, Grant-in-aid of Research. “Host specificity and speciation in tropical sponge-dwelling shrimps (*Synalpheus* spp.)”. \$400.
- 1987 – 1988 *The Charles A. Lindbergh Fund, Inc.* (PIs: M.E. Hay and J.E. Duffy). “Marine natural products as ecologically sound agrochemicals and oncologic drugs.” \$10,482.
- 1988 *Smithsonian Tropical Research Institute*, short-term fellowship. “The dynamics of commensalism in reef invertebrates: patterns of commensal community structure with host demography and predator resistance”. \$4100.

SELECTED TEACHING EXPERIENCE

- 1995 - 2007 *Principles of Biological Oceanography* (MS 526). w/ Hugh Ducklow, 4 credits.
- 1996 - 2006 *Evolutionary Ecology* (MS 576). 3 credits.
- 2005 - 2007 *Fundamentals of Environmental Science for Policy* (PUBP 600). w/ D. Taylor, H. Ducklow, I Anderson, H. Kator, 3 credits.
- 2004 *Evolution: Philosophical, Biological, and Religious Perspectives* (INTR 491). 1 credit.
- 2003 *Graduate Seminar: Ecological Stoichiometry* (MS 698). w/ K. Tang, 1 credit.
- 2003 *Graduate Seminar: The unified neutral theory of biogeography and biodiversity* (MS 698). w/ M. Patterson. 1 credit.
- 2002 *Biological Sciences Seminar* (MS 601). Coordinator of departmental series, 1 credit.
- 2002 *Graduate Seminar: Biodiversity* (MS 698). w/ M. Vecchione. 1 credit.
- 2001 *Graduate Seminar: Shaking the Tree of Life: Readings in the History of Life* (MS 698).

- Co-leader with J. Graves, M. Vecchione. 1 credit.
- 2000 *Experimental Design in the Marine Science Laboratory* (MS 548). One of 7 instructors, high-school teacher training class. 2 credits.
- 1999 *Graduate Seminar: Speciation* (MS 698). w/ J. Graves, 1 credit.
- 1998 *Graduate Seminar: Phylogenetics* (MS 698). 1 credit.
- Perspectives in Evolution: Conservation Genetics* (MS 698). w/ J. Graves, 1 credit.
- 1997 *Perspectives in Evolution: Darwin and Mayr* (MS 698). w/ J. Graves. 1 credit.
- 1996 *Graduate Seminar: Species Diversity in Ecological Communities* (MS 698). 1 credit.

SELECTED OUTREACH/PUBLIC EDUCATION

The Natural Patriot blog (www.naturalpatriot.org)

- 2008 Co-founder, *Initiative for Coastal Climate Change Research*, VIMS (<http://www.vims.edu/research/units/programs/icccr/index.php>).
- 2008 *Virginia Governor's Commission on Climate Change*, testimony: "Impacts of climate change on coastal Virginia and Chesapeake Bay: Ecosystems and living resources"
- NASA EarthFest* "Ask a scientist" panel
- 2007 *Aldo Leopold Leadership Program, all-cohorts meeting*, invited speaker, "New media" session
- AAAS Science Fellows*, media training workshop, invited speaker
- Academy of Natural Sciences Philadelphia*, Cheryl Beth Silverman Memorial Lecture: "Turning the Tide: The coming crisis in ocean resources"
- 2005 *Chesapeake Bay Academy*, lecture: "Marine biodiversity & environmental health: Why bugs and slugs are important"
- 2004 *Mid-Atlantic Marine Education Association*. Plenary talk: "Marine biodiversity and environmental health: Why bugs and slugs are important"
- 2004 *Mid-Atlantic Marine Education Association*. K-12 Teacher workshop: "Simple ways to describe and count biodiversity."
- 2001 Social shrimp research listed as "Hot topic in Marine Biology" in J.S. Levinton's text *Marine Biology: Function, Biodiversity, Ecology, 2nd Edition* (Oxford U Press, pp. 111-112)
- 2001 *Science Museum of Virginia*, K-12 teacher workshop: "Marine biodiversity: What is it? What's happening to it? And why should we care?"
- 2000 MS 548: *Experimental Design in the Marine Science Laboratory* (secondary school teachers)
- 2000 *Science Museum of Virginia*, public lecture: "Marine biodiversity: what's happening to it and why should we care?"
- 2000 *Chesapeake Bay Governor's School faculty*, lecture: "Marine biodiversity: what's happening to it and why should we care?"
- 2000 *VIMS Mini-school of Marine Science*, public lecture (Eastern Shore Lab, Wachapreague, VA): "Marine biodiversity: what's happening to it and why should we care?"
- 1999 *VIMS Mini-school of Marine Science*, public lecture: "Marine biodiversity: what's happening to it and why should we care?"
- 1997 *Governor's School for Science & Technology*: Evaluator, student internship presentations.
- 1996 *Educational Publishers*. Provided photographic material about my research on social shrimps for inclusion in the textbooks *Life, 3rd Edition* (R. Lewis), and *Systematische Zoologie, 5th Edition* (V. Storch and U. Welsch), and the educational CD-ROM *Metazoa: the Vanishing Kingdom, v 3.0* (K. Clark).
- 1995 Evaluator for student research internship presentations, the Governor's School for Science and Technology.

INVITED SEMINARS (last ten years)

- 2007 Chesapeake Biological Laboratory; Duke University; University of California, Davis
- 2006 Stanford University; University of Chicago, National Museum of Natural History
- 2005 University of Pennsylvania, Smithsonian Environmental Research Center, University of Virginia, Georgia Institute of Technology
- 2004 University of Turku (Finland), Cornell University, University of New Hampshire, UC Davis
- 2003 University of Maryland; The College of William and Mary; University of Oslo (Norway)
- 2002 University of North Carolina at Chapel Hill; University of South Carolina; American Museum of Natural History; Appalachian State University (NC); Florida State University; California State University, Northridge
- 2001 Ohio University; Old Dominion University (VA); Duke University Marine Laboratory
- 1999 University of Maine, Darling Marine Center; Horn Point Laboratory, University of Maryland
- 1998 Smithsonian Environmental Research Center; University of Florida; University of Michigan

INVITED SYMPOSIA

- 2008 Keynote Speaker, 7th International Symposium on Flatfish Ecology, Sesimbra, Portugal
Invited Speaker, World Congress on Marine Biodiversity, Valencia Spain
- 2007 Invited Speaker, Gordon Research Conference on Plant-Herbivore Interactions
- 2006 Invited Speaker, “The myth of the sterile worker”, Congress of the International Union for Study of Social Insects, Washington, DC.
- 2005 Invited Speaker, “The other social arthropods”, American Society of Entomologists annual meeting, Fort Lauderdale, FL
- 2003 Keynote speaker, “Workshop: Marine Biodiversity, Patterns and Processes” (MARBIPP), Swedish Environmental Protection Agency, Tjärnö, Sweden
- 2002 Plenary speaker, Congress of the International Union for the Study of Social Insects, Sapporo, Japan
- 1999 Invited Speaker, “Molecular Approaches in Crustacean Biology”, The Crustacean Society, Lafayette, LA
- 1996 Keynote Speaker, American Academy of Underwater Sciences, Washington, DC
- 1992 Invited Speaker, Gordon Research Conference on Plant-herbivore Interactions, Oxnard, CA

STUDENTS

Current:

- Rachael Blake, Ph.D. “Ecological consequences of anthropogenic impacts on the eelgrass (*Zostera marina*) community in the lower Chesapeake Bay”. Entered 2004.
- Jonathan Lefcheck, Ph.D.. Topic TBA. Entered August 2009.
- Althea Moore, M.S. Testing the equivalency of seagrass species in providing structural habitat for community processes and interactions. Entered Aug 2007.
- Kathryn Sobocinski, Ph.D (co-advised with R. Latour). Connecting productivity in eelgrass beds to recreationally important finfishes in Chesapeake Bay: Forage fishes as trophic conduits. Entered Aug 2008.
- Matt Whalen, M.S. Bottom-up and top-down processes in a natural seagrass system: a mesograzers-exclusion experiment without cages. Entered Aug 2008.

Graduated:

- 2008 William Tarantino, M.S. “Modeling and Testing Diversity’s Effect on Food Web Interactions”.
- 2008 James G. Douglass, Ph.D. “Food-web responses to bottom-up and top-down forcing in seagrass beds”. (Current: Postdoctoral Fellow, Smithsonian Marine Station, Fort Pierce, FL)
- 2008 Amanda Spivak, Ph.D. (co-advised with E.A. Canuel). “Influence of food web architecture on sediment biogeochemistry in seagrass beds”. (Current: Postdoctoral Researcher, Miami University of Ohio)
- 2007 Kristin E. France, Ph.D. “Effects of regional species pool dynamics on local and meta-community structure and ecosystem function”. (current: Senior Scientist, The Nature Conservancy)
- 2003 Rubén Ríos G., Ph.D. “*Synalpheus* shrimp (Crustacea: Decapoda: Alpheidae) from Carrie Bow Cay, Belize: Systematics, Phylogenetics, and biological observations.” (current: VIMS)
- 2002 Kenneth S. Macdonald, Ph.D. “Molecular and morphological evolution of the amphipod radiation of Lake Baikal”. (current: Postdoctoral Researcher, New Mexico State university)
- 2002 Jennifer M. Rhode, Ph.D. “Microevolutionary processes in Chesapeake Bay eelgrass, *Zostera marina*”. (current: Assistant Professor, University of North Carolina Asheville).
- 2000 Alessandra Sagasti, Ph.D. (co-advised with L.C. Schaffner). “Hypoxic stress and the organization of estuarine epifaunal communities”. (current: Assistant Professor, Montgomery College, MD).
- 1998 John Parker, M.S. (co-advised with R.J. Orth). “Does plant diversity control animal diversity? An experimental approach.” (current: Senior Scientist, Smithsonian Environmental Research Center)

POSTDOCS

- 2004 – 2006 Zachary T. Long (current: Postdoctoral Researcher, McGill University)
- 2004 – 2006 Brian R. Silliman (current: Assistant Professor, University of Florida)
- 2002 – 2004 Eva Tóth (current: Assistant Professor, Trinity University)
- 1999 – 2001 Cheryl L. Morrison (current: Biologist, U.S. Geological Survey, Leetown Science Ctr)

SELECTED INSTITUTIONAL GOVERNANCE

The College of William and Mary

- 2004 – 2008 *Faculty Grievance and Hearing Committee*
- 2001 – 2004 *Faculty Grievance and Hearing Committee, Alternate*
- 1999 – 2007 *Career Services Advisory Committee*

School of Marine Science (SMS)/Virginia Institute of Marine Science (VIMS)

- 2009 – present *Academic Council, Biological Sciences Representative*
- 2005 – 2008 *Department of Biological Sciences (Chair)*
- 2005 – 2008 *Administrative Council*
- 2005 – 2006 *Marine Ecosystem Modeler Search Committee (Chair)*
- 2004 – 2005 *Quantitative Skills Committee*
- 2004 – 2005 *Field Support Facility Committee*
- 2004 – 2005 *Aquaculture Breeding Center Advisory Committee (Chair)*
- 2004 *Academic Council, Working Group on Future of SMS Graduate Program*
- 2003 – 2005 *Academic Council, Biological Sciences Representative*
- 2002 *Search Committee, Dean of Graduate Studies, School of Marine Science*
- 2000 – 2003 *Biological Sciences departmental seminar series, Coordinator*

1999 – 2000 *Search Committee for Zooplankton Ecologist*
1999 – 2004 *Educational Policy Committee, Biological Sciences Representative*
1999 *Search Committee, Dean of Graduate Studies, School of Marine Science*
1998 – 1999 *VIMS/SMS Faculty, Secretary*
1997 – 1999 *VIMS/SMS Seminar Committee (Chair)*
1996 – 1999 *Biodiversity & Conservation Core Program Coordinating Committee*
1996 – 1999 *Faculty Council, Biological Sciences Representative*
1995 – 2002 *Seminar Committee, Biological Sciences Representative*