

KAREN J. OSBORN  
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Smithsonian  
Institution

## EDUCATION and POSITIONS

- 2011– Associate Curator, Smithsonian Institution, National Museum of Natural History, Washington, D.C.
- 2010– Research Associate, University of California, Santa Cruz, Institute of Marine Sciences
- 2008-10 University of California President's Postdoctoral Fellow
- Scripps Institution of Oceanography, University of California, San Diego
  - *Molecular phylogenetics of cirratuliform polychaetes: origins of pelagicism*
  - Greg Rouse, mentor
- 2007 Ph.D., University of California, Berkeley, Department of Integrative Biology
- *Phylogenetics and ecology of midwater munnopsid isopods (Asellota)*
  - Roy Caldwell, advisor
- 2002-7 Graduate Research Assistant, Monterey Bay Aquarium Research Institute, Moss Landing, California
- Bruce Robison, advisor
- 1999-01 Research Technician, Monterey Bay Aquarium Research Institute, 1999-2001
- Atmospheric variability and ecosystem response in the Ross Sea, Antarctica
  - Biology of deep-sea carbon dioxide disposal
- 1999 Master of Science, Biology Department, Western Washington University, Bellingham, Washington
- *Effects of the invasive alga, Sargassum muticum, on native marine communities of north Puget Sound, Washington*
  - Gisele Muller-Parker, advisor
- 1996 Bachelor of Science, Zoology, minor in Chemistry, Andrews University, Berrien Springs, Michigan, Cum Laude with Honors

## RESEARCH INTERESTS

- Pelagic evolution
- Phylogenetics and population genetics of pelagic organisms
- Ecology, behavior and natural history of pelagic invertebrates

## FUNDED GRANTS

- Society for the Study of Evolution, Student Travel Award, 2007
- University of California Museum of Paleontology, Graduate Research Funds, '02, '03, '06 & '07
- SIMoN Program of the Monterey Bay National Marine Sanctuary grant, Greg Calliet, PI, 2004
- Australian Museum Visiting Researcher Fellowship, 2002
- Department of Integrative Biology, U.C., Berkeley, Research/Travel Funds, 2002 & 2003
- Dean J. Alan Ross Travel Award, Western Washington University, 1999
- Washington State Department of Ecology Research Assistantship, 1997–1999
- Graduate Student Research Fund, Western Washington University, 1997

## TEACHING EXPERIENCE

- Supervised four undergraduate researchers, *Inventory of rocky intertidal meiofaunal and microbial biodiversity of San Diego: A test of barcoding techniques for ecological surveys*
- Guest Lecturer, 1999–2009
  - University of California, San Diego, Introduction to Phylogenetic Methods
  - Center for Marine Biodiversity and Conservation, Scripps Inst. Oceanography, MAS Forum
  - Moss Landing Marine Laboratories, CA, Invertebrate Biology
  - University of California, Berkeley, Invertebrate Biology
  - Marine Biotechnology and Bioinformatics Workshop, Moss Landing Marine Laboratory
  - Monterey Peninsula College, Environmental Science, Genetic tools
  - Monterey Academy of Ocean Sciences, Monterey High School
  - Women in Science Coordinator, University of California Berkeley, 2005–2007
- Mentor, Summer Intern, Stephanie Bush, 2003
- Graduate Student Instructor, University of California, Berkeley, Biology 1B Field Section 2001
- Graduate Teaching Assistant, Western Washington University: Oceanography, Zoology, & Introduction to Biology, 1996–1998
- Laboratory Instructor, Andrews University: Anatomy and Physiology, Summer 1996
- Laboratory Coordinator, Andrews University: Foundations of Biology, 1994–1996
  - Completely revised the laboratory curriculum of the year-long, majors biology course
  - Supervised 10+ undergraduate teaching assistants
  - Responsible for ordering and setting up all materials and for all laboratory grades
- Undergraduate Teaching Assistant, Andrews University: Foundations of Biology, 1993–1994
- Life Sciences Instructor, Pohnpei SDA High School, Federated States of Micronesia: Biology, Health, and Art Practicum, 1992–1993
- Website developer and writer, University of California Museum of Paleontology, 2002
- Workshop Coordinator, American Association of University Women's Science and Math Conference, California State University Monterey Bay, 2000
- National Oceans Science Bowl, University of California, Rules Judge, 2000 and 2001
- Cell and Molecular Biology Event Coordinator, Washington State Science Olympiad Finals, Western Washington University, 1998

## HONORS AND FELLOWSHIPS

- University of California President's Postdoctoral Fellowship, 2008–2010
- Postdoctoral Research Fellow, Scripps Institution of Oceanography
- Graduate Research Assistant, Monterey Bay Aquarium Research Institute, 2002–2007
- Instant Recognition Award, Monterey Bay Aquarium Research Institute, 1999, 2000, 2003
- Best Student Paper, Western Society of Naturalists, 1999
- Monterey Bay Aquarium Research Institute Internship, Summer 1998
- Charles and June Ross Graduate Fellowship, 1997
- DaHaan Work Ethic Scholarship for outstanding service, 1995 and 1996
- National Dean's List, 1995
- Andrews University Dean's List, 1992, 1994, 1995, and 1996

## SERVICE

- Reviewer: *Zool. Scripta*, *J. Mar. Biol.*, *Biol. Bull.*, *J. Mar. Biol. Assoc. U.K.*, *Scientia Marina*, *Cahiers de Biologie Marine*, *Zoological Studies*, *Zootaxa*, *Proc. Acad. Nat. Sci. Philadelphia*
- Women in Science, Coordinator, University of California Berkeley, 2005–2007
- Integrative Biology Faculty/Graduate Student Committee, Representative, 2005–2006
- MBARI Computer Equipment Donation Program, Lead Volunteer, 2004 & 2005
- National Underwater Research Center, Key Largo, Day ship operations with R. Caldwell

## PUBLICATIONS

- Osborn, K.J.** 2011. Squidworm. 2011 McGraw-Hill Yearbook of Technology and Science
- Sherlock, R.E., K.R. Reishenbichler, S.L. Bush, **K.J. Osborn**, & B.H. Robison. 2011. Near-field zooplankton and ice-face biota of free-drifting Antarctic icebergs. *Deep Sea Research* 58(11-12): 1457-1468. DOI: 10.1016/j.dsr2.2010.11.025
- Kaufmann, R.S., B.H. Robison, R.E. Sherlock, K.R. Reishenbichler, & **K.J. Osborn**. 2011. Composition and structure of macrozooplankton communities in the vicinity of free-drifting Antarctic icebergs. *Deep Sea Research* 58(11-12): 1469-1484. DOI: 10.1016/j.dsr2.2010.11.026
- Osborn, K.J.** S.H.D. Haddock, & G.W. Rouse. 2011. *Swima* (Annelida, Acrocirridae), holopelagic worms from the deep Pacific. *Zoological Journal of the Linnean Society*. 163(3): 663-678.
- Hull, P.M., **K.J. Osborn**, R.D. Norris, & B.H. Robison. 2011. Seasonality and depth distribution of a mesopelagic foraminifer, *Hastigerinella digitata*, in Monterey Bay, California. *Limnology and Oceanography* 56(2): 562-576. DOI: 10.4319/lo.2011.56.2.0562
- Osborn, K. J.**, L.P. Madin & G.W. Rouse. 2011. The remarkable Squidworm is an example of discoveries that await in deep, pelagic habitats. *Biology Letters* 7: 449-453. DOI: 10.1098/rsbl.2010.0923
- Osborn, K.J.**, & G.W. Rouse. 2010. Phylogenetics of Acrocirridae and Flabelligeridae (Annelida, Cirratuliformia). *Zoologica Scripta*. 40(2): 204-219. DOI: 10.1111/j.1463-6409.2010.00460.x
- Osborn, K.J.**, S.H.D. Haddock, F. Pleijel, L.P. Madin, & G.W. Rouse. 21 Aug. 2009. Deep-sea, swimming worms with luminescent “bombs”. *Science*. 325(5943): 964. DOI: 10.1126/science.1172488
- Osborn, K.J.** 2009. Relationships within the Munnopsidae (Crustacea, Isopoda, Asellota) based on three genes. *Zoologica Scripta*. 38(6): 617-635. DOI: 10.1111/j.1463-6409.2009.00394.x
- Osborn, K.J.**, & G.R. Rouse. 2008. Multiple origins of pelagicism within Flabelligeridae (Annelida). *Molecular Phylogenetics and Evolution*. 49: 386-392. DOI: 10.1016/j.ympev.2008.05.042
- Osborn, K.J.**, G.R. Rouse, S.K. Goffredi, & B.H. Robison. 2007. Description and relationships of an unusual pelagic polychaete *Chaetopterus pugaporcinus* (Annelida, Chaetopteridae). *The Biological Bulletin*. 212: 40-54.
- Collins, A.G., B. Bentlage, G.I. Matsumoto, S.H.D. Haddock, **K.J. Osborn**, & B. Schierwater. 2006. Solution to the phylogenetic enigma of *Tetraplatia*, a worm-shaped cnidarian. *Biology Letters*. 2(1): 120-124. DOI: 10.1098/rsbl.2005.0372

## IN PROCESS

- Osborn, K.J.**, L. Kuhnz, I.G. Priede, M. Urata, A. Gebruk, & N. Holland. Diversification of acorn worms (Hemichordata, Enteropneusta) revealed in the deep sea. *In review* Proc. Royal Society B.
- Osborn, K.J.**, K. Walz, R.E. Sherlock, B.H. Robison, & R.C. Vrijenhoek. Panmixia and population dynamics of *Poebobius meseres* (Annelida, Flabelligeridae) through nearly 3000 m of water column. In preparation for submission to *Molecular Ecology*
- Osborn, K.J.** Adaptations to pelagic life. In preparation for submission to *American Naturalist*.

## Abstracts

**Osborn, K.J.**, 2001. Distribution and diversity of midwater munnopsid isopods in the Monterey Submarine Canyon. *American Zoologist* 41(6): 1649.

**Osborn, K.J.** Rouse, G.W., 2009. Fantastic pelagic diversity within Acrocirridae (Polychaeta). *American Zoologist* 49: E127.

## ADDITIONAL EXPERIENCE

San Diego Lab Management Symposium 2009, University of California, San Diego

Molecular Evolution Workshop 2006, Marine Biological Laboratory, Woods Hole, MA

Extensive field experience on oceanic research expeditions totaling over one year at sea:

- Locations: West Coast of North America, Gulf of California, Gulf of Mexico, Gulf of Maine
- With Principal Investigators: Bruce Robison, Steve Haddock, Erik Thuesen, Tammy Frank, Edie Widder, Brad Seibel, Jim Barry, Dave Clague, Francisco Chavez, and Peter Brewer
- Research vessels: *Point Lobos*, *Western Flyer*, *New Horizon*, *Point Sur*, *Cape Hatteras*, and *Seward Johnson*
- Dives with remotely operated vehicles *Ventana*, *Tiburón*, and *Doc Ricketts* and the manned submersible *Johnson SeaLink*
- Blue-water Research Diver, AAUS certified, University of California, Berkeley and MBARI

Iceberg I Expedition, Weddell Sea, Antarctica, 2005

National Museum of Natural History, Smithsonian Institution, Visiting Scientist, 2005

Australian Museums, Sydney and Melbourne, Visiting Scientist, 2002

## SELECTED PRESENTATIONS

2011 Duke University Marine Laboratory – A glimpse into the pelagic realm: discovery, observation and evolution of midwater organisms

Smithsonian Institution, Museum of Natural History – The fabulous, flamboyant, and highly derived: evolution in the pelagic realm

Hopkins Marine Station – The last frontier: evolution of deep, water column enteropneusts and polychaetes

2010 Invited, Bodega Marine Laboratory, University of California, Davis, Bodega Bay and University of California, Merced – A glimpse into the pelagic abyss: discovery, observation and evolution of midwater animals

Evolution, Portland – Adrift in a vast, foreign habitat: pelagic invertebrate evolution

Invited, Harvard University, Boston – A glimpse into the pelagic abyss: discovery, observation and evolution of midwater animals

Invited, University of California, Santa Cruz – Discovery, distribution and genetics of deep plankton

2009 Society of Integrative and Comparative Biology, Boston – Fantastic pelagic diversity discovered within the Cirratuliformia (Annelida)

2008 CeDAMar Workshop on Cosmopolitanism in the Deep Sea, Wilhelmshaven, Germany – Is there a relationship between cosmopolitanism and dispersal potential?

2007 Evolution, Christchurch, N. Z. - Evolution of pelagic isopods (Asellota, Munnopsidae): phylogenetics, natural history, and adaptation

- 2006 Deep-sea Biology Symposium, Southampton, U.K. – Towards a phylogeny for the Munnopsidae (Isopoda, Asellota)  
Invited, Loma Linda University, CA – Exploration of deep pelagic habitats: the molecular systematics and ecology of extraordinary animals
- 2005 International Crustacean Conference, Glasgow, Scotland – Pelagic boundaries: a case study examining the vertical and horizontal distribution of the free-living, holopelagic isopod, *Acanthamunnopsis milleri*
- 2004 American Society of Limnology and Oceanography, Honolulu, HI – Distribution of a holopelagic isopod in the California Current System: Is dissolved oxygen controlling their distribution?