

Stephanie L. Bush

Monterey Bay Aquarium Research Institute
7700 Sandholdt Rd., Moss Landing, CA, 95039 USA, 831-775-1920
sbush@mbari.org

Doctoral Candidate, Department of Integrative Biology, University of California, Berkeley
Graduate Researcher/Collaborator, Midwater Ecology Group, Monterey Bay Aquarium Research Institute

MBARI webpage: <http://www.mbari.org/staff/sbush/>

UC Berkeley webpage: <http://socrates.berkeley.edu/~sbush/>

UC Museum of Paleontology Field Notes - Squid Science:

http://www.ucmp.berkeley.edu/science/profiles/bush_0704index.php

EDUCATION

2004-present, **University of California, Berkeley**

Dissertation title: Deep-sea squid defensive behaviors: ink release, body patterning, and arm autotomy

Advisor: Dr. Roy L. Caldwell

Expected date of graduation: 2009

2002-2003, **Three Seas Program**, Northeastern University, Boston, MA

Intensive marine biology field- and course-work at 3 locations: The Marine Science Center, Nahant, Massachusetts; Discovery Bay Marine Laboratory, Discovery Bay, Jamaica; and Friday Harbor Laboratories, San Juan Island, Washington

1998-2002, **Illinois Wesleyan University**, Bloomington, IL

Bachelors of Science, Biology, Magna Cum Laude, May 2002

2000-2001, **James Cook University**, Townsville, Queensland, Australia

Study-abroad concentrating on marine biology and statistics course-work

TEACHING EXPERIENCE

Course Designer and Lecturer - **Natural History and Human Interactions of Monterey Bay**, Osher Lifelong Learning Institute, California State University, Monterey Bay, 2009

Course Designer and Lecturer - **The Deep Sea**, Osher Lifelong Learning Institute, California State University, Monterey Bay, 2008

Graduate Student Instructor - **Invertebrate Zoology**, University of California, Berkeley, 2006

Graduate Student Instructor - **Animal Biology: A Behavioral View**, University of California, Berkeley, 2005

Graduate Student Instructor - **General Biology**, University of California, Berkeley, 2004, 2005

Teaching Assistant - **Oceanography**, Three Seas Program, Northeastern University, 2004

Teaching Assistant - **Marine Conservation Biology**, Three Seas Program, Northeastern University, 2004

Teaching Assistant and Lab Instructor - **Marine Biology**, Harvard University, 2003

PUBLICATIONS

- Bush, S. L., Robison, B. H., & R. L. Caldwell. 2009. Behaving in the dark: locomotor, chromatic, postural and bioluminescent behaviors of the deep-sea squid *Octopoteuthis deletron* Young 1972. Biol. Bull. 216: 7-22.
- Bush, S. L. & B. H. Robison. 2007. Ink utilization by mesopelagic squid. Marine Biology. 152(3):485-494.
- LaJeunesse, T. C., Lee, S., Bush, S. L., & J. F. Bruno. 2004. Persistence of non-Caribbean algal symbionts in Indo-Pacific mushroom corals released to Jamaica 35 years ago. Coral Reefs. 24(1):157-159.
- Bush, S. L., Precht, W. L., Woodley, J. D., & J. F. Bruno. 2004. Indo-Pacific mushroom corals found on Jamaican reefs. Coral Reefs. 23(2): 234.

FELLOWSHIPS, SCHOLARSHIPS, and HONORS

National Science Foundation, Graduate Research Fellowship, 2006-2009

Outstanding Graduate Student Instructor, UC Berkeley, 2007

UC Museum of Paleontology Remington-Kellogg Grant, 2008

Robert and Nancy Beim Field Research Fellowship, 2008

Society of Integrative and Comparative Biology, Student Support, 2007

Graduate Research Funds, UC Berkeley, 2007, 2008, 2009

Sigma Xi Grants-in-Aid of Research, 2006

Julius Thomas Hansen Travel Fellowship, UC Berkeley, 2006

Graduate Student Summer Fellowship, UC Berkeley, 2006, 2007, 2008

Ralph I. Smith Grant for Marine Research, UC Berkeley, 2005

Bermuda Biological Station for Research, Course Scholarship, 2005

Phi Beta Kappa, National Honor Society, inducted 2002

Beta Beta Beta, Biology Honors Society, inducted 2002

Dean's List, Illinois Wesleyan University, 1998-2000, 2001-2002

Golden Key International Honor Society, nominated 2001

Presidential Scholarship, Illinois Wesleyan University, 1998-2002

PRESENTATIONS

“Deep-sea squid covert activities...”
TONMOCON III, 2009

“Deep sea squid: What are they inking?”
Science, Technology, Engineering, and Mathematics Colloquium, Hartnell College, 2009

“How to survive as a squid in the deep sea”
NOAA Ocean Explorer Teacher Enrichment Workshop, 2009

“Hunting and hiding in the dark: Predator-prey interactions in the deep sea”
Sea Creatures Rediscovered, Pacific Grove Natural History Museum, 2009

“Deep sea research: Understanding animal adaptations”
California State University, Channel Islands, Resource Management course, 2008

“Arm autotomy in a mesopelagic squid”
Micheli Lab, Hopkins Marine Station, Stanford University, 2008

“Deep sea research and squid defenses”
UC Berkeley Lawrence Hall of Science, MARE Summer Leadership Institute, 2008

“Defensive behavior of a deep-sea squid”
American Society of Limnology & Oceanography Conference, 2007

“Posing in the dark: Behavioral components of the deep-sea squid *Octopoteuthis deletron*”
World Congress of Malacology, 2007

“Autotomy as a deep-sea squid defense”
Society of Integrative & Comparative Biology Conference, 2007

“Animal adaptations to the deep sea”
Camp SEA Lab, 2007

“Ink release by deep-sea squid”
11th International Deep-sea Biology Symposium, 2006

“Why do deep-sea squid release ink in the dark?”
American Malacological Society Conference, 2006

“How does a midwater squid avoid becoming a sperm whale (or ROV) meal?”
MBARI Summer Intern Symposium, 2006

“A day in the life of a squid”
Bermuda Biological Station for Research Scientific Photography Course Symposium, 2004

“It’s pitch-black down here: Why are the squids still inking?”
MBARI Summer Intern Symposium, 2003

POSTERS

Robison, B. H., R. E. Sherlock, K. R. Reisenbichler, S. L. Bush. *In situ studies of the dark ocean: deep pelagic biology and ecology*. ASLO Aquatic Sciences Meeting, Nice, France, 2009

RESEARCH and FIELD EXPERIENCE

- 2004-present **Researcher, deep-sea squid defensive behaviors**. Ink release, ink chemical composition, marine organism reaction to cephalopod ink, deep-sea squid body patterning, deep-sea squid arm autotomy. Collaborator: Dr. Bruce Robison, Monterey Bay Aquarium Research Institute.
- 2007-present **Researcher, liquid chromatography-mass spectroscopy of cephalopod ink**. Collaborator: Dr. Ulla Anderon, University of California, Berkeley
- 2006 **Researcher, animal camouflage**. Sulawesi, Papua, and Ambon, Indonesia.
- 2006 **Assistant intern coordinator and researcher, deep-sea squid arm autotomy**. Advisor: Dr. George Matsumoto, Monterey Bay Aquarium Research Institute.
- 2005 **Researcher, stomatopod reaction to squid ink**. Hawaii Institute of Marine Biology, Coconut Island.
- 2003 **Intern, deep-sea squid ink release**. Advisor: Dr. Bruce Robison, Monterey Bay Aquarium Research Institute.
- 2003 **Researcher, courtship behavior in the Caribbean Reef Squid**. Bonaire, Netherlands Antilles. Collaborator: Jennifer Mather, University of Lethbridge.
- 2003 **Researcher, heat shock response in anemones**. Independent study, Three Seas Program. Advisor: Dr. Michael Lesser, University of New Hampshire.
- 2003 **Researcher, heterotrophy in corals**. Discovery Bay, Jamaica. Independent study, Three Seas Program. Advisor: Dr. Pete Edmunds, California State University, Northridge.
- 2002 **Researcher, primary productivity**. Friday Harbor Laboratories, WA. Independent study, Three Seas Program. Advisor: Dr. Jan Newton, University of Washington.
- 2002 **Researcher, bryozoan natural products**. Advisor: Dr. Elizabeth Balser, Illinois Wesleyan University.
- 2001 **Researcher, coral colonization**. Orpheus Island Research Station, James Cook University, Australia. Advisor: Dr. Bette Willis, James Cook University.
- 2001 **Station assistant**. Orpheus Island Research Station, James Cook University, Australia.

RESEARCH CRUISES

R/V Nathaniel B. Palmer, **Antarctica**. MBARI, 2008, 2009
R/V Pt. Lobos, **Monterey Bay**. MBARI, 2003-present (64 cruises, including those as chief scientist)
R/V Western Flyer, **Monterey Bay; Oregon**. MBARI, 2003-present (12 cruises)
R/V Derek M. Bayliss, **Monterey Bay**. MBARI, 2006
R/V New Horizon, **Gulf of California, Mexico**. University of Rhode Island, 2006
R/V Pt. Sur, **Monterey Bay**. Moss Landing Marine Labs, 2008

PROFESSIONAL SERVICE

Reviewer: The Biological Bulletin

Reviewer: Marine Biology Research

Reviewer: Journal of Experimental Marine Biology and Ecology

Reviwer: Oregon Sea Grant

EDUCATIONAL OUTREACH and VOLUNTEER WORK

Kayaking & Snorkeling Instructor, Young Women in Science, Monterey Bay Aquarium

Squid Science: Field Notes from Stephanie Bush, University of California Museum of Paleontology web feature at http://www.ucmp.berkeley.edu/science/profiles/bush_0704index.php

Elkhorn Slough Foundation and National Estuarine Research Reserve, weeding of invasives

California Coastal Cleanup Day, Asilomar Beach, Monterey, CA

Science Fair Judge, The Aptos Academy, Aptos, CA

PROFESSIONAL SOCIETIES and ORGANIZATIONS

American Academy of Underwater Sciences - Scientific Diver

American Malacological Society

American Microscopical Society

American Society of Limnology and Oceanography

Animal Behavior Society

Sigma Xi, Associate Member

Society for Integrative and Comparative Biology

Western Society of Naturalists

Women in Science, UC Berkeley

REFERENCES

Dr. Roy L. Caldwell

Professor, Integrative Biology, University of California, Berkeley

Director, University of California Museum of Paleontology

Department of Integrative Biology

3060 Valley Life Sciences Building #3140

Berkeley, CA 94720-3140

510-642-1391

rlcaldwell@berkeley.edu

Dr. Bruce H. Robison
Senior Scientist, Midwater Ecology
Monterey Bay Aquarium Research Institute
7700 Sandholdt Rd.
Moss Landing, CA 95039-9644
831-775-1721
robr@mbari.org