

NATASHA PICCIANI

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EDUCATIONAL EXPERIENCE

University of California at Santa Barbara, Santa Barbara, CA, United States September 2014-present
PhD, Ecology, Evolution and Marine Biology
Thesis: Evolution of complex traits in cnidarians with an emphasis on eye origins
GPA: 4.0

Federal University of Rio de Janeiro, National Museum, Rio de Janeiro, RJ, Brazil March 2011-February 2013
MSc, Biological Sciences (Zoology)
Dissertation: Molecular diversity of zooxanthellae associated with Brazilian reef-building corals
GPA: 10 out of 10

Federal Rural University of Rio de Janeiro, Seropédica, RJ, Brazil June 2006-March 2011
BSc, Biological Sciences
Undergraduate research project: Diversity of cnidocysts of deep-sea corals
GPA: 8.69 out of 10

RESEARCH EXPERIENCE

University of California at Santa Barbara September 2014-present
Graduate Student

Advisor: Todd Oakley

Research Project: Evolution of complex traits in cnidarians with an emphasis on eye origins

- Will use molecular techniques such as RNA sequencing technologies to investigate genes expressed in populations of different photoreceptor cells of eyed cnidarians, and reconstruct their phylogenetic history based on this data. Duties include organizing the experimental design, collecting data, performing phylogenetic analyses, summarizing/interpreting the data and presenting the research project in a final seminar open to the public

Progress towards the degree:

- Completed coursework, teaching requirements and advancement to candidacy.

Mentoring experience:

- Advised the undergraduate student Jamie Kerlin and pre-doctoral student Noemie Sierra from Aug 2015-June 2017 (both co-authors in a high impact journal article)
- Advised the undergraduate student Ulysses Torres from May-September 2018 in the CAMP Research Internship Program (California Alliance for Minority Participation)

Admiral Paulo Moreira Marine Research Institute January 2014-August 2014
Research Technician

Main researcher: Ricardo Coutinho

- Participated in the implementation of the Marine Genetics Laboratory, helping from the design of the room and workflow to the acquisition of equipments, reagents and materials. Duties included performing the molecular analyses of two research projects: connectivity among populations of

Atlantic blue crabs and connectivity among populations of the invasive sun-coral from oil platforms and coastal habitats (in collaboration with Dr. Daniel Rittschof from Duke University).

Federal University of Rio de Janeiro, National Museum

March 2011-February 2013

Graduate Student

Advisor: Carla Zilberberg

Co-Advisor: Clovis Barreira e Castro

Research Project: Molecular diversity of zooxanthellae associated with corals of the genus *Mussismilia* (Cnidaria: Scleractinia) in Brazil

- Used molecular techniques such as PCR-RFLP (18S and 28S rDNA), PCR-DGGE (ITS2 rDNA) and DNA sequencing to investigate the *Symbiodinium* strains associated with three species of endemic Brazilian reef-building corals. Duties included organizing the experimental design, collecting coral samples from 2 depth intervals, 2 positions in each colony and 6 geographic locations, performing molecular analyses, summarizing/interpreting the data and presenting the thesis in a final seminar open to the public

Mentoring experience:

- Advised the undergraduate student Isabela Seiblitiz in this research project from Jan - Dec 2012

Federal Rural University of Rio de Janeiro in collaboration with

August 2009-December 2010

Federal University of Rio de Janeiro, National Museum

Undergraduate Student

Advisor: Débora de Oliveira Pires

Co-advisor: Helio Ricardo da Silva

Research Project: Cnidocysts of Caryophylliidae and Dendrophylliidae (Cnidaria: Scleractinia): taxonomic distribution and phylogenetic implications

- Used light and differential interference contrast microscopy techniques to investigate the diversity of cnidocysts in two widespread families of deep-sea corals, and performed a phylogenetic analysis based on this taxonomic data. Duties included organizing the experimental design, collecting data, performing phylogenetic analyses, summarizing/interpreting the data and presenting the undergraduate research project in a final seminar open to the public

PUBLICATIONS

PEER-REVIEWED

Picciani, N.; Kerlin, J.; Sierra, N.C.; Swafford, A.J.; Ramirez, M.D.; Roberts, N.G.; Cannon, J.T.; Daly, M.; Oakley, T.H. (2018) Prolific origination of eyes in Cnidaria with co-option of non-visual opsins. *Current Biology*, 28 (15): 2413-2419 (featured in the cover).

Ramirez, M.D.; Swafford, A.J.; **Picciani, N;** Oakley, T.H. Extraocular photoreceptors are more than just ancestors of eyes (in preparation).

Picciani, N.; Seiblitiz, I.; Castro, C.B.; Zilberberg, C. (2016). Geographic patterns of *Symbiodinium* diversity associated with the coral *Mussismilia hispida* (Cnidaria, Scleractinia) correlate with major reef regions in the Southwestern Atlantic Ocean. *Marine Biology*, 163: 236.

Picciani, N.; Pires, D.O.; Silva, H.R. (2011). Cnidocysts of Caryophylliidae and Dendrophylliidae (Cnidaria: Scleractinia): taxonomic distribution and phylogenetic implications. *Zootaxa*, 3135: 35-54.

NON PEER-REVIEWED

Picciani, N.; Garrido, A.G.; Castro, C.B.; Zilberberg, C. Do equador aos trópicos: as zooxantelas na dimensão do espaço, May 2016 (Book chapter, Conhecendo os Recifes Brasileiros, Coral Vivo)

Garrido, A.G.; **Picciani, N.;** Zilberberg, C. Simbiose coral-zooxantelas em um mundo em transformação, May 2016 (Book chapter, Conhecendo os Recifes Brasileiros, Coral Vivo)

Picciani, N. Molecular diversity of zooxanthellae associated with corals of the genus *Mussismilia* (Cnidaria: Scleractinia) in Brazil, 2013 (Master's Thesis)

Picciani, N. Cnidocysts of Caryophylliidae and Dendrophylliidae: taxonomic distribution and phylogenetic implications, 2010. (Senior Thesis)

GRANTS AND AWARDS

Conference Travel Award (Cnidofest 2018) September 2018

Financial support for oral presentation at the Cnidofest (\$500)

Conference Travel Award (UCSB) September 2018

Financial support for oral presentation at the Cnidofest (\$200)

Travelling Fellowship (The Company of Biologists) June 2018

Fellowship for visiting the Arendt Group at EMBL in Germany (\$1700)

Single Cell Analysis Course (Cold Spring Harbor Labs) May 2018

Scholarship through the National Institute of General Medical Sciences (\$800)

EEMB Departmental Block Grant April 2018

Financial support for research supplies (\$1,600)

Student Research Fellowship (Friday Harbor Laboratories) March 2018

Research fellowship (\$1,500)

Travel Grant (Society for the Study of Evolution) March 2018

Financial support (\$500) for presenting at the conference Evolution in Montpellier, France

Charlotte Mangum Student Support Award (Society for Integrative and Comparative Biology) January 2018

Financial support for registration fee for the 2018 SICB meeting (assistance as a photographer in the event) (\$100)

Travel Award (European Molecular Biology Laboratory) July 2017

Financial support for attending the Summer course "Marine Animal Models in Evolution and Development: Single cell approaches and genome editing in marine neurobiology" (\$500)

Broadening Participation Committee Travel Award (Society for Integrative and Comparative Biology) January 2017

Financial support for attending the 2017 SICB meeting (\$500)

Charlotte Mangum Student Support Award (Society for Integrative and Comparative Biology) January 2017

Financial support for registration fee for the 2017 SICB meeting (\$100)

Broadening Participation Committee Travel Award (Society for Integrative and Comparative Biology) January 2016

Financial support for attending the 2016 SICB meeting (\$500)

Charlotte Mangum Student Support Award (Society for Integrative and Comparative Biology) January 2016

Financial support for registration fee for the 2016 SICB meeting (assistance as a photographer in the event) (\$100)

Coordination for the Improvement of Higher Education Personnel (CAPES) 2014- 2018

Full doctorate scholarship through the program "Science without Borders" (\$180,000)

Federal University of Rio de Janeiro May 2012
 Honorable mention in the 'Thesis and Dissertation Seminars' (among 61 students)

Research Networking – The Coral Vivo Project October 2011
 Research grant for a field trip during three days to a coastal reef in Bahia, Brazil

National Council for Scientific and Technological Development (CNPq) March 2011-February 2013
 Graduate scholarship (2nd place in the selection process among 30 students, awarded 1 out of 6 scholarships; (\$10,400)

Federal Rural University of Rio de Janeiro December 2010
 Undergraduate research project approved with honors

Petrobras Research Center (CENPES) August 2010-December 2010
 Undergraduate fellowship

Federal Rural University of Rio de Janeiro April 2009-January 2010
 Undergraduate teaching assistant fellowship in "Plant Physiology" (1st place in the selection process)

TEACHING EXPERIENCE

University of California at Santa Barbara March 2016-June 2016
 Teaching assistant in the course "Introductory Biology III"
 - Conducted students through a series of laboratory practical exercises on the topic "Diversity of the Tree of Life"

University of California at Santa Barbara April 2015-June 2015
 Teaching assistant in the course "Introductory Biology III"
 - Conducted students through a series of laboratory practical exercises on the topic "Diversity of the Tree of Life"

Federal University of Rio de Janeiro April 2013
 Lecturer in the course "Zoology I"
 - Lectured about coral-algal symbiosis to undergraduate students

Center of Science and Distance Learning in Higher Education of Rio de Janeiro July 2011-December 2011
 Professional qualifying course in distance-learning tutoring
 - Administered a series of distance-learning classes in "Diversity of Living Organisms" as a requirement for the completion of the course

Federal Rural University of Rio de Janeiro April 2009-January 2010
 Undergraduate teaching assistant in "Plant Physiology"
 - Assisted students with difficulties in understanding the concepts and practical experiments performed in the classes; organized practical experiments, exercises and study groups

RELATED PROFESSIONAL EXPERIENCE

University of California at Santa Barbara September 2016-March 2018
 Reader in the core courses of Introduction to Biology
 - Assist the academic team with preparation, application and grading of the exams from core courses of Introduction to Biology (up to ~ 5,000 exams per quarter)

Instituto Coral Vivo Rio de Janeiro, RJ, Brazil
 Co-Founder August 2013
 - The "Instituto Coral Vivo" is a Brazilian non-profit organization that aims to promote the conservation and sustainable use of marine and coastal environments as well as the production and dissemination of technical and scientific knowledge related to the theme

BioConsult Ambiental Ltda.

Rio de Janeiro, RJ, Brazil

Technical consultant, freelancer

July 2013-August 2014

- Provided support on the identification of anthozoans, especially deep-sea corals, in a deep-sea biodiversity project sponsored by Petrobras. Duties included examining the external morphology of the samples and carrying out histological analyses to determine taxonomic identification

PRESENTATIONS

Picciani, N. Prolific origination of eyes in Cnidaria with co-option of non-visual opsins. Society of Integrative and Comparative Biology Annual Meeting, San Francisco, CA, United States, 2018 (Oral presentation)

Picciani, N.; Kerlin, J.R.; Sierra, N.W.; Cannon, J.T., Daly, M.; Ramirez M.D.; Oakley, T.H. Cnidaria and Xenacoelomorpha opsins revisited: extended sampling corroborates the presence of several major pre-Bilaterian groups, Society of Integrative and Comparative Biology Annual Meeting, New Orleans, LA, United States, 2017 (Poster)

Picciani, N.; Oakley T.H. How does diversity arise? Marine Biology Laboratory, Woods Hole, MA, United States, 2016 (Speed Talk)

Teschima, M.M., Garrido, A.G., **Picciani, N.**, Seiblitiz, I.G.L., Pires, D.O., Castro, C.B., Calderon, E.N., Zilberberg, C. *Symbiodinium* distribution along the Southwestern Atlantic Ocean, 13th International Coral Reef Symposium, Honolulu, Hawai'i, United States, 2016 (Poster)

Picciani, N.; Kerlin, J.; Jindrich, K.; Gold, D.A.; Oakley, T.H. Light modulated cnidocyte firing predates the evolution of eyes in Cnidaria (Metazoa), Society of Integrative and Comparative Biology Annual Meeting, Portland, OR, United States, 2016 (Poster)

Picciani, N. The evolution of cnidocytes and light sensing in cnidarians, 11th Annual EEMB Graduate Student Symposium, UCSB, Santa Barbara, CA, United States, 2015 (Speed talk)

Picciani, N.; Seiblitiz, I.G.L.; Castro, C.B.; Zilberberg, C. Variação latitudinal da diversidade de *Symbiodinium* associada ao coral *Mussismilia hispida* (Cnidaria: Scleractinia) ao longo da costa brasileira, Congresso Brasileiro de Oceanografia, Itajaí, SC, Brazil, 2014 (Oral presentation)

Picciani, N.; Pires, D.O.; Silva, H.R. (2011). Phylogenetic implications of cnidocysts of Caryophylliidae and Dendrophylliidae (Cnidaria: Scleractinia), 30th Annual Meeting of the Willi Hennig Society, São José do Rio Preto, SP, Brazil, 2011 (Poster)

LANGUAGE SKILLS

English: advanced (TOEFL iBT 108)

Spanish: basic

Portuguese: native language (lived in Brazil for school/college/graduate studies)

ADDITIONAL COURSEWORK**Extension Courses**

Single Cell Analysis (100h)

Cold Spring Harbor Labs, NY, 2018

Marine Animal Models in Evolution and Development (100h)

Fiskebackskil, Sweden, 2017

Workshop on Molecular Evolution (100h)

Woods Hole, MA, 2016

Phylogenetics in the -omics era (100h)

EMBO, Iquitos, Peru, 2016

Topics in Marine Biology (50h)

Marine Biology Center, University of São Paulo, São Sebastião, SP, 2010

Advanced Methods for Phylogenetic Analysis of Molecular Data (62h)	EMBO, Rio de Janeiro, RJ, 2009
Introduction to Phylogenetic Analysis (56h)	State University of São Paulo, Rio Claro, SP, 2008
Internship Program in the Project "Coral Vivo" (200h)	Arraial D'Ajuda, BA, 2008

Meetings and Conferences

Cnidofest 2018	St Augustine, FL, 2018
SICB Annual Meeting 2018	San Francisco, CA, 2018
13 th Annual EEMB Graduate Student Symposium	Santa Barbara, CA, 2017
SICB Annual Meeting 2017	New Orleans, LA, 2017
Hydroidfest 2016	Bodega Bay, CA, 2016
Arthur M. Sackler Colloquia of the National Academy of Sciences	Irvine, CA, 2016
12 th Annual EEMB Graduate Student Symposium	Santa Barbara, CA, 2016
SICB Annual Meeting 2016	Portland, OR, 2016
11 th Annual EEMB Graduate Student Symposium	Santa Barbara, CA, 2015
30 th Annual Meeting of the Willi Hennig Society	São José do Rio Preto, SP, 2011
Advances in Evolution, Phylogenetics and Functional Genomics: the New Tree of Life	Rio de Janeiro, RJ, 2009
II Brazilian Congress of Marine Biology	Búzios, RJ, 2009
XXVII Brazilian Congress of Zoology	Curitiba, PR, 2008
XII Latin American Congress of Marine Science	Florianópolis, SC, 2007

Organizing Committee Member

Darwin: 150 years	Seropédica, RJ, 2009
Environmental June	Seropédica, RJ, 2009
XXVIII Biology Week	Seropédica, RJ, 2009