

Catriona Munro

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Contact Information

Current position: PhD Student, Dunn Lab, Brown University

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Research Interests

My research interests include: the major transitions in evolution; evolution of functional specialization; body plan evolution; mutation rate evolution; siphonophore natural history and systematics; and physiological adaptations to extreme environmental conditions.

Education

2013-2018 (expected)	PhD Ecology and Evolutionary Biology, Brown University Advisor: Casey W. Dunn
2012-2013	MRes Ocean Science, University of Southampton Advisors: Sven Thatje, Chris Hauton
2008-2011	BSc Biology, First Class Honours, University College London

Manuscripts in preparation

Munro C, Zapata F, Howison M, Haddock SHD, Dunn CW (in prep). Analyzing siphonophore gene expression patterns within a comparative phylogenetic context.

Munro C, Haddock SHD, Dunn CW (in prep). Differential gene expression of siphonophore zooids.

Munro C, Vue Z, Behringer RR, Dunn CW (in prep). Morphology and development of the Portuguese man of war, *Physalia physalis*.

Peer-Reviewed Publications

Munro C, Siebert S, Zapata F, Howison M, Damian-Serrano A, Church SH, Goetz FE, Pugh PR, Haddock SHD, Dunn CW (2018) Improved phylogenetic resolution within Siphonophora (Cnidaria) with implications for trait evolution. *Molecular Phylogenetics and Evolution*. doi: 10.1016/j.ympev.2018.06.030, bioRxiv preprint: doi:10.1101/251116

Brown, A, Thatje S, Oliphant A, **Munro C**, Smith KE (2018) Temperature effects on larval development in the lithodid crab *Lithodes maja*. Journal of Sea Research. 139:73-84

Dunn CW, Zapata F, **Munro C**, Siebert S, Hejnl A (2018). Pairwise comparisons are problematic when analyzing functional genomic data across species. Proceedings of the National Academy of Sciences. doi:10.1073/pnas.1707515115. bioRxiv preprint: doi:10.1101/107177

Dunn CW, **Munro C** (2016) Comparative genomics and the diversity of life. Zoologica Scripta. 45:5-13. doi:10.1111/zsc.12211

Munro C, Morris JP, Brown A, Hauton C, Thatje S (2015). The role of ontogeny in physiological tolerance: decreasing hydrostatic pressure tolerance with development in the northern stone crab *Lithodes maja*. Proceedings of the Royal Society of London B. 282(1809): 20150577 doi: 10.1098/rspb.2015.0577

Shank TM, Baker ET, Embley RW, Hammond S, Holden JF, White S, Walker SL, Calderon M, Herrera S, Lin TJ, **Munro C**, Heyl T, Stewart L, Malik M, Lobecker M, Potter J (2012) GALREX 2011: Exploration of the Deep-Water Galapagos Region. Oceanography 25 Suppl.: 50-51. URL: http://tos.org/oceanography/archive/25-1_supplement.pdf

Academic Awards and Scholarships

June 2017– May 2018	NSF Doctoral Dissertation Improvement Grant (award no. 1701272) \$21,028
May–June 2017	EMBRC-France funding (main PI: Casey Dunn)
April–May 2016	EMBRC-France funding (main PI: Casey Dunn)
March 2016	MBL Embryology Post-Course research \$1484
2014–2015	RI-EPSCoR Graduate Student Fellowship (full tuition and stipend)
May 2014	Travel Award, Evolution of the First Nervous Systems II Meeting
2012–2013	Society for Underwater Technology, Educational Support Fund (full Masters' degree tuition)
2011	Dean's List, UCL Lilian Clarke Prize, UCL
2008–2011	Harold and Olga Fox Scholarship, UCL
2009	Darwin Prize, UCL

Research Positions

2012	Research Assistant Shank Lab, Woods Hole Oceanographic Institution
Summer	Summer Student Fellow, then Guest Student Shank Lab, Woods Hole Oceanographic Institution
2011–end 2011	Oceanographic Institution
Summer 2010	Volunteer Shank Lab, Woods Hole Oceanographic Institution

Conference Presentations

†Oral, ‡Poster, presenting author

†**Munro C**, S Siebert, F Zapata, CW Dunn (2018) Siphonophore Differential Gene Expression Patterns Analyzed within a Phylogenetic Context. SICB Meeting, San Francisco CA

‡†**Munro C**, S Siebert, M Howison, F Zapata, CW Dunn (2016) Gene expression patterns in siphonophore zooids, Hydroidfest, Bodega CA

‡**Munro C**, S Siebert, M Howison, F Zapata, CW Dunn (2016) Exploring the evolution of functional specialization in siphonophores using RNAseq, SICB Meeting, Portland OR

†**Munro C**, GW Luther III, RA Lutz, C Vetriani, TS Moore, S Herrera, TM Shank (2012) Temporal and spatial patterns of in situ community structure using time-lapse camera systems at a vent field on the East Pacific Rise, 13th International Deep-Sea Biology Symposium, Wellington New Zealand

Teaching

Graduate Teaching Assistant Brown University

Invertebrate Zoology (Undergraduate level): Fall semester, 2014

Invertebrate Zoology (Undergraduate level): Fall semester, 2013

Guest Lecture, University of Rhode Island, BIO460 Pelagic Ecology, 6 August 2014

Mentoring

Fall 2015 - Nicola Malakooti, undergraduate

Scientific Expeditions

R/V Western Flyer, ROV Doc Ricketts, Gulf of California, Mexico, March 8-16, 2015. Chief scientist: Steven Haddock

R/V Western Flyer, ROV Doc Ricketts, Monterey Bay, U.S.A, September 16-22, 2014. Chief scientist: Steven Haddock

R/V Endeavor, North East Atlantic, U.S.A, August 13-18, 2014. Chief scientist: Brad Seibel

R/V Western Flyer, ROV Doc Ricketts, Monterey Bay, U.S.A, May 17-23, 2014. Chief scientist: Steven Haddock

R/V Western Flyer, ROV Doc Ricketts, Monterey Bay, U.S.A, November 19-24, 2013. Chief scientist: Steven Haddock

R/V Falkor, ROV Global Explorer MK3, Deep-Sea Coral Shakedown cruise, Gulf of Mexico U.S.A, August 26 - September 6, 2012. Chief scientist: Peter Etnoyer

M/V Holiday Chouest, ROV UHD 34, HC3 Leg 1 and 2. October 2-26, 2011. Gulf of Mexico, U.S.A. Chief scientists: Charles Fisher and Erik Cordes

Science Outreach

Volunteering

Feb 2016 – present, Hennessy Elementary School, Brown Junior Researchers Program (After-school science class, 5th grade students)

Science Writing

Munro, C., S. Herrera, T. Heyl Muric (2011) Exploring the Paramount Seamounts.

<http://oceanexplorer.noaa.gov/oceanos/explorations/ex1103/logs/july14/july14.html>

Munro, C. (2010) Volunteer Gets an Oceanful of Experience. Oceanus.

<http://www.who.edu/oceanus/viewArticle.do?id=84128>

Courses and Workshops

Jun 7- Jul 18 | MBL Embryology, Woods Hole MA
2015

Additional Skills

Languages	English (native), Russian (conversational)
Computing	Extensive experience with large datasets (RNAseq). R, shell scripting. Work in MacOS, Linux. (Bitbucket: cmunro, Github: cmunro)
Diving	AAUS Scientific Diver (active, #588470), SDI Rescue Diver, SSI Advanced Open Water Diver