

COLIN M. DONIHUE

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RESEARCH FOCUS

I am an evolutionary ecologist studying the drivers and consequences of intra-specific variation in animal functional traits. In particular, my research focuses on predicting changes in behavioral, morphological, and performance traits as a result of changes in ecological context. My field research in Southern Europe, the West Indies, East Africa, and North America makes use of direct manipulative studies and landscape-scale natural experiments. My work generates fundamental insights into eco-evolutionary dynamics and critical applied lessons for conservation in human-dominated landscapes.

EDUCATION

- 2011 – 2016 School of Forestry and Environmental Studies, Yale University, New Haven, CT
Ph.D. Conservation Ecology and Evolutionary Biology
Dissertation title: “Drivers of functional trait variation in *Podarcis erhardii*, the Aegean Wall Lizard”
- 2015 – 2016 Dept. of Organismic and Evolutionary Biology, Harvard University, Cambridge, MA
Visiting Scholar Host: Dr. Jonathan Losos
- 2009 – 2011 School of Natural Resources & Environment, University of Michigan, Ann Arbor, MI
M.Sc. Natural Resources and Environmental Studies
- 2004 – 2008 Carleton College, Northfield, MN
B.A. Cum laude Biology major with a focus in Ecology

ACADEMIC POSITIONS

- 2017 – National Science Foundation Postdoctoral Fellow, Harvard University, Sponsoring scientist: Dr. Jonathan Losos
- 2018 Visiting Scholar, Functional Evolution Group: Muséum National d'Histoire Naturelle, Paris, France. Sponsoring scientist: Dr. Anthony Herrel
- 2016 Postdoctoral Researcher, Harvard University, Dr. Jonathan Losos' Lab

PUBLICATIONS IN PROGRESS (MANUSCRIPTS AVAILABLE UPON REQUEST)

1. **Donihue, C.M.**, A. Herrel, M. Vasilopoulou-Kampitsi, J. Foufopoulos, P. Pafilis. Lizard body condition and bite force performance plasticity drive survival on experimental islets. Target: *Proceedings of the National Academy of Sciences*.
2. **Donihue, C.M.**, A. Herrel, J. Martín, J. Foufopoulos, P. Pafilis, S. Baeckens. Chemical signal evolution is rapid and repeatable: lizards have more complex chemical fingerprints on experimental islets. Target: *Science*
3. Pafilis, P., A. Herrel, G. Kapsalas, M. Vasilopoulou-Kampitsi, A.-C. Fabre, J. Foufopoulos, **C.M. Donihue**. Habitat shapes thermoregulation profile in a Mediterranean lizard. Target: *Biological Journal of the Linnaean Society*.
4. Scherrer[†], R., **C.M. Donihue**, R. G. Reynolds, J.B. Losos, and A.J. Geneva. Adaptive divergence of dewlap coloration in *Anolis sagrei*. Target: *Proceedings of the National Academy of Sciences*.

PUBLICATIONS (*UNDERGRADUATE & †GRADUATE STUDENTS UNDER MY SUPERVISION)

5. **Donihue, C.M.**, A. Herrel, A-C Fabre, A. Kamath, A.J. Geneva, T.W. Schoener, J.J. Kolbe, J.B. Losos. 2018. Hurricane-induced selection on the morphology of an island lizard. *Nature* 560, 88-91.
6. Itescu, Y., R. Schwarz, **C.M. Donihue**, et al. 2018. Inconsistent patterns of body size evolution in co-occurring island reptiles. *Global Ecology and Biogeography* 2018:00: 1-13.
7. **Donihue, C.M.** 2016. Aegean wall lizards switch foraging modes, diet, and morphology in a human-built environment. *Ecology and Evolution* 6: 7433-7442.
8. **Donihue, C.M.** 2016. Microgeographic variation in locomotor traits among lizards in a human-built environment. *PeerJ* 4, e1776.
9. **Donihue, C.M.**, K.M. Brock, J. Foufopoulos, A. Herrel. 2015. Feed or fight: What drives bite force differences in the Aegean Wall Lizard, *Podarcis erhardii*, across the Greek Cyclades? *Functional Ecology* 30(4): 556-575.
10. Schmitz, O.J., R.W. Buchkowski, K.T. Burghardt, & **C.M. Donihue**. 2015. Functional traits and trait-mediated interactions: Connecting community-level interactions with ecosystem functioning. *Advances in Ecological Research* 52: 319-343.
11. **Donihue, C.M.**, M.R. Lambert. 2014. Adaptive evolution in urban ecosystems. *AMBIO*. DOI: 10.1007/s13280-014-0547-2
12. Sagonas, K., P. Pafilis, P. Lymberakis, **C.M. Donihue**, A. Herrel, & E.D. Valakos. 2014. Insularity affects head morphology, bite force and diet in a Mediterranean lizard. *Biological Journal of the Linnean Society* 112(3): 469-484.
13. Brock K.M., **C.M. Donihue**, & P. Pafilis. 2014. Novel records of frugivory and ovophagy in *Podarcis* lizards from East Mediterranean Islands. *North-Western Journal of Zoology* 10(1): 223-225.
14. **Donihue, C.M.**, J. Foufopoulos, C. Riginos, L. Porensky, & R.M. Pringle. 2013. Glade cascades: Indirect legacy effects of pastoralism enhance the abundance and spatial structuring of arboreal fauna. *Ecology* 94(4): 827-837.

PEER-REVIEWED NATURAL HISTORY CONTRIBUTIONS

15. **Donihue, C.M.**, G. Giller, A. Herrel. 2017. An unusual meal for the Redonda Ground Lizard. Natural History Notes: *Herpetological Review*.
16. **Donihue, C.M.** 2017. *Podarcis siculus*: A breeding population in Boston's Fenway Victory Gardens. Geographic Distribution Notes: *Herpetological Review*.
17. Mossman*, A., K. Culhane*, Z. Miller*, K. Brock, P. Pafilis, & **C.M. Donihue**. 2016. An extreme new record of *Natrix natrix* from a Mediterranean Islet in Greece. *Herpetozoa*.
18. Lambert, M.R., B.A. Goldfarb, G.J. Watkins-Colwell, & **C.M. Donihue**. 2016. *Podarcis siculus* (Italian Wall Lizard). Habitat, invasion of suburban Winchester County, New York. *Herpetological Review*.
19. Goldfarb, B.A., M.R. Lambert, **C.M. Donihue**, & G.J. Watkins-Colwell. 2016. *Podarcis siculus* in Winchester County NY. Geographical Distribution Notes: *Herpetological Review*.
20. **Donihue, C.M.**, M.R. Lambert, & G.J. Watkins-Colwell. 2015. *Podarcis sicula*: Natural history of the invader as it reaches Connecticut. *Herpetological Review* 46(2): 260-261.
21. **Donihue, C.M.**, M.R. Lambert, & G.J. Watkins-Colwell. 2014. *Podarcis sicula*: The first population found in New England. Geographical Distribution Notes: *Herpetological Review* 45(4): 661-662.

OTHER CONTRIBUTIONS

22. **Donihue, C.M.**, B. Kazez. Illustrating a free, open-source method for quantifying locomotor performance with sprinting Aegean wall lizards. *PeerJ PrePrint*. 2:e701v1
<http://dx.doi.org/10.7287/peerj.preprints.701v1>

INVITED TALKS, POSTERS, AND PRESENTATIONS

- 2018 **Department Seminar Series: FunMorph Lab**, University of Antwerp, Belgium
Talk Title: *Natural selection in the wild: Plasticity and Evolution in Island Lizards*
- Joint Congress on Evolutionary Biology**, Montpellier, France
Poster Title: *How does an adaptive radiation begin? Contingency and determinism in Anolis sagrei ecological speciation*
- 2nd Symposium on Mediterranean Lizards**, Tel Aviv, Israel
Talk Title: *Megabites: Rapid increase in lizard bite force following replicated introduction to small Greek Islets*
- 7th Anole Symposium**, Miami, FL
Talk Title: *Hurricane-induced Adaptive Shifts in the Morphology of an Island Lizard*
Poster Title: *Reporting on the Reptiles of Redonda*
- Conservation Seminar Series**, St. John's, Antigua and Barbuda
Invited Talk Title: *Conservation in a Rapidly Evolving World*
- 2017 **NSF Postdoctoral Fellows Conference**, Cambridge, MA
Poster Title: *Rapid Evolution of Lizard Form and Function*
- New England Herpetological Society**, Weymouth, MA
Invited Talk Title: *Italian Wall Lizards in New England*
- 2016 **Carleton College Biology Department**, Northfield, MN
Invited Talk Title: *Lizard Ecology and Evolution in the Anthropocene*
- 2015 **Ecological Society of America Annual Meeting**, Baltimore, MD
Talk Title: *Human land use with cascading ecological effects: an examination of hunting mode switching in Podarcis erhardii and associated effects on insect populations*
- 2014 **21st Century Naturalists: The American Society of Naturalists**, Asilomar, CA
Talk Title: *Human Impacts on Lizard Adaptability and Ecological Dynamics in the Greek Archipelago*
- Yale Forestry and Environmental Studies Doctoral Seminar**, New Haven, CT
Talk Title: *Context Dependence in the Aegean Wall Lizard*
- 2013 **Yale Forestry and Environmental Studies Doctoral Seminar**, New Haven, CT
Talk Title: *Human impacts on lizard adaptation and ecological dynamics in the Greek archipelago*
- 2012 **Student Conference on Conservation Science**, New York City, NY
Workshop leader for 40 conference attendees
Workshop Title: *Harnessing Social Media for Conservation Science*
- 2011 **Student Conference on Conservation Science**, New York City, NY
Poster Title: *Interaction Cascades in Anthropogenic Glades: How Pastoral Practices Increase the Abundance of Native Species in an African Savanna*
- Ecological Society of America Annual Meeting**, Austin, TX
Talk Title: *Interaction Cascades in Anthropogenic Glades: Adding habitat heterogeneity in an otherwise homogenous landscape across multiple spatial scales and trophic levels.*
- 2010 **Discovery Day at the Mpala Research Centre**, Laikipia, Kenya

Talk Title: *Interaction Cascades in Anthropogenic Glades*

International Conference on Pastoralism and Climate Change Adaptation in Africa, Egerton University, Kenya

Talk Title: *Mpala Research Centre: A Case Study in Pastoralism as a Coupled Human-Natural System*

GRANTS, FELLOWSHIPS, AND HONORS

2017	NSF Postdoctoral Fellowship in Biology 36 months of funding for research at Harvard University and the Paris Natural History Museum.	\$250,440
2015	Ecological Society of America Early Career Mentoring Fellow Selected among hundreds of applicants for individual mentorship during the 2015 ESA meeting in Baltimore, MD.	\$200
	Yale Institute for Biospheric Studies Dissertation Improvement Grant <i>Putting trait variation in context: understanding the impact of lizard hunting mode switching in human contexts.</i>	\$3,000
2014	Yale College Undergraduate Research Fellowships Summer research fellowships to support undergraduate research assistants K. Culhane, A. Mossman, and Z. Miller.	\$16,500
	Yale Institute for Biospheric Studies Dissertation Improvement Grant <i>What drives context-dependent trait variability in Greek lizards?</i>	\$4,000
	Crowdfunding with Experiment.com <i>Are Greek lizards adapting to live with humans?</i>	\$4,600
2013	National Geographic Waitt Foundation Grant <i>Anthropogenic Impacts on Lizard Adaptability and Ecosystem Functioning in the Greek Archipelago.</i>	\$12,000
2011	Yale Institute for Biospheric Studies Fellowship <i>Functional Convergence in Island Lizard Communities.</i>	\$5,000
	Samuel Trask Dana Award <i>"...to the graduate student in the school judged most outstanding on the basis of scholarship and service."</i>	
2010	University of Michigan Experiential Learning Fund <i>Integrative Experiential Learning and Research in Mpala, Kenya.</i> With Dr. J. Foufopoulos, Dr. R. Hardin, W. DePuy and K. Yurco	\$6,000
	Rackham Graduate Student Research Grant <i>Interaction Cascades in Anthropogenic Glades</i>	\$1,500
	Natural Resources and Environment Master's Thesis Grant <i>Interaction Cascades in Anthropogenic Glades</i>	\$1,000
2009	Joel Heinen Graduate Student Fund Recipient	\$1,000
2007	Elected to Sigma Xi, the scientific research society	
2004	Named a Carleton Scholar <i>"...in recognition of outstanding qualities of scholarship, character and promise."</i>	

PROFESSIONAL SERVICE AND OUTREACH

STUDENTS UNDER MY SUPERVISION

Yale University: Kathryn Culhane (2014-2016); Angus Mossman (2014), Zachary Miller (2014)
Harvard University: Master's Student: Raphaël Scherrer (2016); Undergraduate Students: Annelie Herrmann (2017-2018); Vanessa Lam (2017-2018); Emmanuel d'Agostino (2017-2018)

REVIEWER

Nature, Functional Ecology, Behavioral Ecology, Biological Invasions, Biology Letters, Ecology and Evolution, Biological Journal of the Linnean Society (2), Journal of Morphology (2), Acta Ethologica (2), Food Webs, Integrative and Comparative Biology, Journal of Herpetology, Journal of Natural History, Acta Herpetologica (3), National Geographic Grants

SCIENCE CONSULTANT

Capstone Press, Chicago IL. Consulting reptile expert for *Flying Dragons* by Will Mara; *Bearded Dragons* by Will Mara; *Komodo Dragons* by Jill Sherman

POPULAR PRESS COVERING MY RESEARCH

National Geographic, The Atlantic, Nature News, New York Times, Smithsonian Magazine, PRI's The World, The Associated Press, The BBC, The Independent, The Conversation, Popular Science, Axios, Atlas Obscura, Popular Mechanics, Mashable, Gizmodo, The Greenwich Time, Earth Island Journal, The Boston Guardian, The Beaker, (e)Science, Yale Peabody Museum, Living on Earth, The Last Word on Nothing Blog, Why Evolution Is True Blog, Wait Wait Don't Tell Me!

SOCIAL MEDIA AND SCIENCE COMMUNICATION

Award-winning personal science blog www.colindonihue.com (320+ posts; 23,000+ visitors to date).
Twitter and instagram science communication (@colindonihue).

TEACHING EXPERIENCE

2012 – 2014 **Yale University**

Teaching fellow for graduate-level course F&ES 550 "Natural Science Research Methods" (Fall 2012, 2013, 2014) and F&ES 740 "Dynamics of Ecological Systems" (Spring 2013)

F&ES 550: Extensive contact time with first-year Master's students to help in thesis project development.

2010 **University of Michigan**

Graduate Student Instructor for graduate-level course SNRE 509 "Ecology: Science of Context and Interaction." Sole responsibility for three, two-hour lab sections; included lab lectures, office hours, grading, individual tutoring, and course content review sessions for class of 150 students.

2007 – 2008 **Carleton College**

Laboratory Teaching Assistant: One term supervising Population Ecology Lab, one term supervising Environmental Animal Physiology Lab, three terms supervising Introductory Biology labs.

PROFESSIONAL MEMBERSHIPS

Member American Society of Naturalists
Member Ecological Society of America
Associate Member, F1000 Biology

December 2014 – Present
July 2011 – Present
July 2010 – Present

SKILLS AND INTERESTS

Languages: French – proficient; Greek and Spanish – basic

Computer Software: Advanced abilities with Microsoft Office, Adobe Creative Suite, R, SPSS, and JMP statistical software packages

RECOMENDERS

Jonathan Losos

Director, Living Earth Collaborative
William H. Danforth Distinguished University Professor
Department of Biology, Washington University
Email: losos@wustl.edu
Phone: +1 (314) 935-3460
Relationship: Postdoctoral fellowship mentor

Oswald Schmitz

Oastler Professor of Population and Community Ecology
Director of the Yale Institute for Biospheric Studies
School of Forestry and Environmental Studies, Yale University
Email: oswald.schmitz@yale.edu
Phone: +1 (203) 436-5276
Relationship: Ph.D. advisor

Anthony Herrel

Directeur de Recherche (DR2)
Muséum National d'Histoire Naturelle (UMR7179), Paris, France
Email: anthony.herrel@mnhn.fr
Phone: +33 14 07 98 120
Relationship: Postdoctoral fellowship mentor