CURRICULUM VITAE

MARTHA MONICA MUÑOZ

Department of Ecology and Evolutionary Biology, Yale University
165 Prospect Street, New Haven, CT 06511
email: martha.munoz@yale.edu; phone: (203) 432-9861; website: www.marthamunoz.com

EDUCATION:

2014 Ph.D. Organismic and Evolutionary Biology, Harvard University
2007 B.A. Biology, *summa cum laude*, Boston University (with Distinction)

APPOINTMENTS:

2019-present **Assistant Professor**
Department of Ecology and Evolutionary Biology, Yale University
Affiliate Faculty, Yale Institute for Biospheric Studies
Affiliate Faculty, Vertebrate Zoology, Yale Peabody Museum of Natural History

2017-2019 **Assistant Professor**
Department of Biological Sciences, Virginia Tech
Affiliate Faculty, Global Change Center, Virginia Tech

2015-2017 **Post-doctoral Researcher**
Department of Biology, Duke University

2014-2015 **Post-doctoral Researcher**
Research School of Biology, The Australian National University

2007-2008 **Fulbright Research Scholar**
National Museum of Natural Sciences, Madrid

SELECTED HONORS AND AWARDS

2019 'Scientist to Watch', *The Scientist* Magazine
2019 Boston University Department of Biology: Distinguished Alumni 'Rising Star' Award
2017 Young Investigator Award, American Society of Naturalists
2014 Raymond Huey Best Student Talk, Society for Integrative and Comparative Biology
2006 Phi Beta Kappa Honor Society, Boston University (early induction)
2006 College of Arts and Sciences Merit Award, Boston University
2006 Harold C. Case Award, Boston University
2003 National Hispanic Merit Scholar

FELLOWSHIPS AWARDED

2017 Foerster-Bernstein Postdoctoral Fellowship, Duke University (declined)
2014 National Science Foundation, Postdoctoral Research Fellowship (declined)
2013 John Parker Merit Fellowship, Harvard University
2012 Robert A. Chapman Memorial Fellowship, Harvard University
2010 National Science Foundation, Graduate Research Fellowship

2008 Herchel Smith Graduate Fellowship, Harvard University
2007 William J. Fulbright Research Fellowship, Spain

FUNDED GRANTS:

2018 National Science Foundation, Rules of Life:FELS Conference grant, $21,868 (PI)
2018 Global Change Center Seed Grant, Virginia Tech, $19,810 (co-PI)
2012 National Science Foundation, Doctoral Dissertation Improvement Grant, $14,999
2012 Sigma Xi Grant-In-Aid, $500
2012 Ken B. Miyata Expedition Grant, Harvard University, $9,100
2012 David Rockefeller Center for Latin American Studies Grant, Harvard, $1,500
2010 George Putnam Expedition Grant, Harvard University, $9,700
2008 Ken B. Miyata Expedition Grant, Harvard University, $5,260
2006 Undergraduate Research Opportunities Program Grant, Boston U., $3,500

PROPOSALS UNDER CONSIDERATION:

"Hidden dimensions of diversity in woodland salamanders: investigating ecophysiological evolution in a classic non-adaptive radiation" National Science Foundation, DEB SBS; Lead PI

"De-mystifying the tangled bank: integrating macroevolutionary and mechanistic landscape approaches across scales of organization" John Templeton Foundation; Lead PI

PUBLICATIONS:

[1]Undergraduate Mentee; [2]Graduate Student; [3]Postdoctoral Researcher; [4]High School Mentee; [5]Visiting Graduate Student

Metrics: 540 citations; H-index=11; i10-index=12

28. **Muñoz MM**, Feeley KJ, Martin PM, Farallo VR[3]. Resilience to warming slows, but cannot stop, the 'escalator to extinction' in a group of tropical lizards. (submitted)

27. Bodensteiner BL[2], Agudelo-Cantero GA, Arietta AZA, Gunderson AR, **Muñoz MM**, Refsnider JF, Gangloff EJ. Thermal adaptation revisited: how conserved are thermal traits of reptiles of amphibians? ***Journal of Experimental Zoology A*** (accepted pending revision)

26. Domínguez-Guerrero SF[5], Bodensteiner BL[2], Pardo-Ramírez A, Aguillón-Gutierrez DR, Méndez-de la Cruz FR, **Muñoz MM**. Thermal physiology responds to interannual temperature shifts in a montane horned lizard, *Phrynosoma orbiculare*. ***Journal of Experimental Zoology A*** (in press)

25. Camarillo H[2], **Muñoz MM**. Weak relationships between swimming morphology and water depth in wrasses and parrotfish belie multiple selective demands on form-function evolution. ***Integrative and Comparative Biology*** (in press)

24. Farallo VR[3], **Muñoz MM**, Uyeda JC, Miles DB. 2020. Scaling between macro- to microscale climate data reveals strong phylogenetic inertia in niche evolution in plethodontid salamanders. ***Evolution*** 74:979—991. *Issue cover image

23. **Muñoz MM**, Price SA. 2019. The future is bright for evolutionary morphology and biomechanics in the era of big data. ***Integrative and Comparative Biology*** 59:599—603.

22. **Muñoz MM**. 2019. The evolutionary dynamics of mechanically complex systems. ***Integrative and Comparative Biology*** 59:705—715.

21. Salazar JC[1], Castañeda MR, Londoño GA, Bodensteiner BL[2], **Muñoz MM**. 2019. Physiological evolution during adaptive radiation: A test of the island effect in *Anolis* lizards. ***Evolution*** 73:1241—1252. *Issue cover image

20. Kuo C-Y, **Muñoz MM**, Irschick DJ. 2019. Lizard foraging: A perspective integrating sensory ecology and life history. Pp. 87—106 *in* **Behavior of Lizards: Evolutionary and Mechanistic Perspectives** (VL Bels & AP Russell, Eds.) Taylor and Francis Publishing; Abingdon, UK.

19. **Muñoz MM**, Bodensteiner BL[2]. 2019. Janzen's hypothesis meets the Bogert effect: Connecting climatic variation, thermoregulatory behavior, and rates of physiological evolution. 2019. ***Integrative Organismal Biology*** 1:oby002. *Invited contribution for inaugural issue

18. Domínguez-Guerrero S[5], **Muñoz MM**, Pasten-Téllez D, Arenas-Moreno D, Rodríguez-Miranda L, Manríquez-Morán N, Méndez de la Cruz F. 2019. Interactions between thermoregulatory behavior and physiological acclimatization in a wild lizard population. ***Journal of Thermal Biology*** 79:135—143.

17. **Muñoz MM**, Hu Y, Anderson PSL, Patek SN. 2018. Strong mechanical relationships bias the tempo and mode of morphological evolution. ***eLife*** 7:e37621.

16. Boronow KE, Shields IH, **Muñoz MM**. 2018. Parallel behavioral divergence with microhabitat in *Anolis* (Squamata: Dactyloidae) lizards from the Dominican Republic. ***Breviora*** 561:1—17.

15. **Muñoz MM**, Losos JB. 2018. Thermoregulatory behavior simultaneously promotes and forestalls evolution in a tropical lizard. ***American Naturalist*** 191:E15—E26.

14. **Muñoz MM**, Anderson PSL, Patek SN. 2017. Mechanical sensitivity and the dynamics of evolutionary rate shifts in biomechanical systems. ***Proceedings of the Royal Society, B*** 284:20162325.

13. **Muñoz MM**, Langham GM, Brandley MC, Williams SE, Moritz C. 2016. Basking behavior predicts the evolution of heat tolerance in Australian rainforest lizards. ***Evolution*** 70:2537—2549.

12. Muñoz MM, Moritz C. 2016. Adaptation to a changing world: Evolutionary resilience to climate change. Pp. 238—252 *in* How Evolution Shapes Our Lives: Essays on Biology and Society. (JB Losos & RE Lenski, Eds.) Princeton University Press, Princeton, NJ.

11. Phillips BL, Muñoz MM, Hatcher A, Macdonald S, Llewelyn J, Lucy V, Moritz C. 2016. Heat hardening in a tropical lizard: geographic variation explained by the predictability and variance in environmental temperatures. ***Functional Ecology*** 30: 1161—1168.

10. Conover AE[4], Cook EG, Boronow KE, Muñoz MM. 2015. Effects of ectoparasitism on behavioral thermoregulation in the tropical lizards, *Anolis cybotes* (Squamata: Dactyloidae) and *A. armouri* (Squamata: Dactyloidae). ***Breviora*** 545:1—13.

9. Muñoz MM, Crandell KE, Campbell-Staton S, Fenstermacher K, Kim H, Van Middlesworth P, Sasa M, Losos JB, Herrel A. 2015. Multiple paths to aquatic specialization in four species of Central American aquatic *Anolis* lizards. ***Journal of Natural History*** 49:1717—1730.

8. Muñoz MM. 2015. The London Baedeker for the Darwin enthusiast. ***Evolution: Education and Outreach*** 8:1.

7. Muñoz MM, Wegener JE, Algar AC. 2014. Untangling intra- and interspecific effects on body size clines reveal divergent processes structuring convergent patterns in *Anolis* lizards. ***American Naturalist*** 184:636—646.

6. Muñoz MM, Stimola MA[1], Algar AC, Conover A[4], Rodriguez A[1], Landestoy MA, Bakken GS, Losos JB. 2014. Evolutionary stasis and lability in thermal physiology in a group of tropical lizards. ***Proceedings of the Royal Society, B*** 281:20132433.

5. Muñoz MM, Crawford NG, McGreevy TJ, Messana NJ, Tarvin RD, Revell LJ, Zandvliet RM, Hopwood JM[1], Mock E[1], Schneider AL, Schneider CJ. 2013. Divergence in coloration and ecological speciation in the *Anolis marmoratus* species complex. ***Molecular Ecology*** 22:2668—2682.

4. Muñoz MM, Hewlett J. 2011. Ecological consequences of continual volcanic activity on the lizard, *Anolis lividus*, from Montserrat. ***Herpetological Review*** 42:160—165.

3. Yamaguchi A, Muñoz MM, Bose TO, Oberlander JG, Smith S. 2010. Sexually distinct development of vocal pathways in *Xenopus laevis*. ***Developmental Neurobiology*** 70:862—874.

2. Crandall ED, Jones EM, Muñoz MM, Akinronbi B, Erdmann MV, Barber PH. 2008. Comparative phylogeography of two seastars and their ectosymbionts within the Coral Triangle. ***Molecular Ecology*** 17:5276—5290.

1. Reitzel AM, Sullivan JC, Brown BK, Chin, DW, Cira EK, Edquist SK, Genco BM, Joseph OC,

Kaufman CA, Kovitvongsa K, **Muñoz MM**, Negri TL, Taffel JR, Zuehike RT, Finnerty JR. 2007. Ecological and developmental dynamics of a host-parasite system involving a sea anemone and two ctenophores. ***Journal of Parasitology*** 93:1392—1402.

KEYNOTES & PLENARIES:

2021 Canadian Society of Zoologists annual meeting: **Plenary Symposium Speaker**
2020 Iowa State University, Ecology & Evolution Symposium: **Keynote Speaker**
2019 College of Charleston, School of Science and Mathematics: **Darwin Day Speaker**
2017 Association for Amphibian and Reptile Research and Conservation, San Miguel de Allende, México: **Plenary Speaker** (Delivered in Spanish)

INVITED SYMPOSIUM TALKS:

2020 Society for Integrative and Comparative Biology, Austin, TX
Joint Meeting of Ichthyology and Herpetology, Norfolk, VA (meeting cancelled)
2019 International Congress of Vertebrate Morphology, Prague, Czech Republic
Joint Meeting of Ichthyology and Herpetology, Snowbird, UT
North American Paleontological Conference, Riverside, CA
2017 American Society of Naturalists Young Investigator Award, Portland, OR
Latin American Herpetology, Quito, Ecuador (Delivered in Spanish)
2013 Biological Impacts of Tropical Warming for Ectotherms, San Juan, Puerto Rico

CONFERENCES AND SYMPOSIA ORGANIZED:

2021 **Society for Integrative and Comparative Biology**: Special Session to honor the life and legacy of Dr. George Gilchrist; Washington, D.C. (Co-organizer: Dr. Cam Ghalambor)
2020 **ASN/SSB/SSE Evolution Meeting**: Spotlight Session: "The Role of Behavior in Evolution"; Cleveland, OH (meeting cancelled)
2019 **Society for Integrative and Comparative Biology**: "Comparative Evolutionary Morphology and Biomechanics in the Era of Big Data"; Tampa, FL. (Co-organizer: Dr. Samantha Price)
2018 **ASN/SSB/SSE Evolution Meeting**: "The Macroevolutionary Dynamics of Form-Function Relationships"; Montpellier, France. (Co-organizers: Dr. Josef Uyeda, Dr. Christine Böhmer, Dr. Brandon Kilbourne, Dr. Alexandra Houssaye)
2017 **Society for Integrative and Comparative Biology Southeast Regional Meeting**: Virginia Tech; Blacksburg, VA. (Co-organizer: Dr. Hodjat Pendar)

INVITED SEMINARS:

2021 Princeton University, EEB Colloquium Series
2020 @EvoEcoSeminars, Digital Seminar Series for Evolution and Ecology
Brown University, Department of Ecology and Evolutionary Biology
University of California, Berkeley, Department of Integrative Biology (postponed)
University of Texas, Arlington, Department of Biology (postponed)
Washington University in St. Louis, Tyson Research Center

Rockefeller University, Center for Physics and Biology
University of California, Irvine, EEB, *Graduate Student Invited Speaker
University of Bern, Institute of Ecology and Evolution; Bern, Switzerland
Swiss Federal Institute of Aquatic Science and Technology; Lucerne, Switzerland
University of Massachusetts, Boston, Department of Biology

2019 Harvard University, Organismic & Evolutionary Bio., *Graduate Student Invited Speaker
Yale University, Department of Biomedical Engineering
Yale University, Yale Institute for Biospheric Studies
University of Pittsburgh, Department of Biological Sciences
University of Chicago, Department of Ecology and Evolution
Yale University, Department of Ecology and Evolutionary Biology
University of Wisconsin-Madison, Department of Integrative Biology
Christopher Newport University, Department of Organismal and Environmental Biology

2018 Purdue University, Department of Biological Sciences
University of Florida, Department of Biology
Case Western Reserve University, Department of Biology
Mountain Lake Biological Station, University of Virginia
University of Idaho, Department of Biological Sciences
University of Chicago, Committee on Evolutionary Bio., Evolutionary Morphology Series

2017 Duke University, Department of Biology, Population Biology Series
University of Virginia, Department of Biology
Ohio University, Department of Biological Sciences
University of North Carolina, Chapel Hill, Biology Department

2016 Duke University, Department of Biology, University Program in Ecology Series
Virginia Tech, Department of Biological Sciences
University of North Carolina, Asheville, Department of Biology
East Carolina University, Department of Biology

2015 The Australian National University, Division of Ecology and Evolution

2014 James Cook University, Centre for Tropical Biodiversity and Climate Change
University of Arizona, Department of Ecology & Evolutionary Biology, Lunch Seminar
Union College, Department of Biology

2012 Indiana State University, Department of Biology
Harvard Museum of Natural History, Topics in Evolution Public Lecture Series

2010 Buffalo State College, Women in Science and Math Lecture Series

Selected Media Coverage:

"Martha Muñoz: Uncovering the mechanisms underlying uneven rates of evolution across organisms" by M. McNeely, *People Behind the Science Podcast*, 6/2020. [link]
"Martha Muñoz uncovers the drivers and dampers of biodiversity" by N. Lanese, *The Scientist* Magazine, 11/2019. [link]
"Island lizards are expert sunbathers, and researchers find it's slowing their evolution" by B. Bodensteiner, *Virginia Tech News*, Apr. 2019. [link]
"Basking behavior reveals vulnerability to climate change" by J. Nowack, *Outside JEB*, 11/2017 [link]

"Researcher settles decades-old evolutionary biology question by examining Caribbean lizards" by L. Key, *Virginia Tech News*, 10/2017. [link]
"Lizards in the Caribbean: How geography influences animal evolution" by A. Algar, *University of Nottingham*, 10/2014. [link]

CONFERENCE PRESENTATIONS:

I. Contributed Talks (As Presenting Author)

2020 ASN/SSB/SSE Evolution Meeting, Cleveland, OH (cancelled)
2019 Society for Integrative and Comparative Biology, Tampa, FL (2 talks)
2018 Society for Integrative and Comparative Biology, San Francisco, CA
Society for Integrative and Comparative Biology, Regional Meeting, Clemson, SC
2017 Society for Integrative and Comparative Biology Regional Meeting, Blacksburg, VA
Society for Integrative and Comparative Biology, New Orleans, LA
2016 Society for Integrative and Comparative Biology, Regional Meeting, Durham, NC
Society for Integrative and Comparative Biology, Portland, OR
2015 Australian Society of Herpetology, Eildon, Australia
2014 ASN/SSB/SSE Evolution Meeting, Raleigh, NC
Society for Integrative and Comparative Biology, Austin, TX
2013 ASN/SSB/SSE Evolution Meeting, Snowbird, UT
Society for Integrative and Comparative Biology, San Francisco, CA
2012 Society for Integrative and Comparative Biology, Charleston, SC
2009 Society for Integrative and Comparative Biology, Boston, MA
2008 Latin American Herpetology Conference, Varadero, Cuba
William J. Fulbright Research Conference, Valencia, Spain
2006 ASN/SSB/SSE Evolution Meeting, Stony Brook, NY
Boston University Undergraduate Research Symposium, Boston, MA
2005 Young Scientist Symposium, Woods Hole, MA

II. Student or Postdoc as Presenting Author

2020 World Congress of Herpetology, Dunedin, New Zealand
Society for Integrative and Comparative Biology, Austin, TX (2 talks)
2019 Society for Integrative and Comparative Biology, Tampa, FL (2 talks)
ASN/SSB/SSE Evolution Meeting, Providence, RI (2 talks)
2013 Society for Integrative and Comparative Biology, San Francisco (1 talk, 1 poster)
2012 Society for Integrative and Comparative Biology, Charleston, SC

TEACHING EXPERIENCE:

Department of Ecology and Evolutionary Biology, Yale University, Assistant Professor

2020 Life in Motion: Ecological and Evolutionary Physiology (E&EB 295) (upcoming)
2020 Evolutionary Biology (E&EB 225)
2019 Life in the Anthropocene (E&EB 804)

Department of Biological Sciences, Virginia Tech, Assistant Professor
2019 Evolutionary Biology (BIOL 2704)
2018 Life in the Anthropocene (BIOL 5984)
2018 Evolutionary Biology (BIOL 2704)

Department of Organismic and Evolutionary Biology, Harvard University, Graduate TF
*Distinction in Teaching Award from the Derek Bok Center, Harvard University
2013 Adaptive Radiation
2011 Evolutionary Biology*
Animal Behavior*
2009 Evolutionary Biology*

STUDENTS ADVISED AND STUDENT COMMITTEES:

a. Graduate Students

2020- Júlia Laterza-Barbosa (Ph.D.) (starting Fall 2020)
2018- Henry Camarillo (Ph.D.)
2017- Brooke Bodensteiner (Ph.D.)

b. Postdoctoral Researchers

2020- Sarah Friedman (starting Fall 2020)
2020- Dr. Ed Burress (starting Fall 2020)
2017-2020 Dr. Vincent Farallo (Assistant Professor, University of Scranton)

c. Visiting Graduate and Undergraduate Students

2018-2020 Saúl Domínguez (Ph.D. student - Universidad Nacional Autónoma de México)
2017 Jhan Carlos Salazar (Undergraduate – Universidad ICESI, Colombia)

d. Doctoral Student Committees

2020- Yara Alshwairikh, Yale University, School of Forestry & Environmental Studies
2019- Jasmine Mah, Yale University, Ecology & Evolutionary Biology
2019- Liam Taylor, Yale University, Ecology & Evolutionary Biology
2019- Michael Hanson, Yale University, Geology & Geophysics
2019- Kelsey Jenkins, Yale University, Geology & Geophysics
2019- Jonathan Rader, UNC-Chapel Hill, Department of Biology
2017-2019 Jack Whitehead, Virginia Tech, Department of Biological Sciences

e. Masters Student Committees

2020- Dahn-Young Dong, Yale University, School of Forestry & Environmental Studies
2018-2020 Sean Kelly, Virginia Tech, Department of Biological Sciences

f. Undergraduate and High School Mentees

* Denotes that student co-authored a publication; § denotes that student presented at SICB
2019- Marcus Lau (Bronx High School of Science, NYC)

2019- Christian Milian (Yale University)
2018-2019 Emma White (Virginia Tech)
2017-2019 Michelle Cox (Virginia Tech)
2016-2017 Riya Dange (Duke University)
2012-2014 *Ian Shields (Harvard University)
2012-2013 *§Ellee Cook (Trinity University)
2012-2013 *§Maureen Stimola (Columbia University)
2011-2013 *§Asa Conover (Stuyvesant High School, NYC)
2011-2012 *Anthony Rodriguez (UC Davis)
2009-2011 *Juanita Madrid Hopwood (Harvard University)
2009 *Elbert Mock (UC Davis)

SCIENTIFIC AND SOCIETY SERVICE:

I. EDITORIAL SERVICE

2021-2022 *Integrative Organismal Biology*; Associate Editor
2020 *Current Zoology*: Guest Editor for Special Issue: "De-mystifying the Tangled Bank: Motors and Brakes of Phenotypic Evolution."

II. PROFESSIONAL REVIEWING

Selected Journals: *American Naturalist*, *Biological Journal of the Linnaean Society*, *Biology Letters*, *BMC Evolutionary Biology*, *Diversity and Distributions*, *Ecography*, *Ecology*, *Ecology Letters*, *Ethology Ecology & Evolution*, *Evolution*, *Evolutionary Biology*, *Functional Ecology*, *Global Ecology and Biogeography*, *Herpetologica*, *Integrative and Comparative Biology*, *Integrative Organismal Biology*, *Journal of Biogeography*, *Journal of Experimental Biology*, *Journal of Morphology*, *Journal of Thermal Biology*, *Molecular Ecology*, *Nature Communications*, *Nature Ecology and Evolution*, *Oecologia*, *Proceedings of the Royal Society B, Zoology*

Federal and Independent Agencies (ad hoc reviews): National Geographic Society, National Science Foundation

Funding Panels: National Science Foundation: DEB Dimensions of Biodiversity; DEB Evolutionary Processes; IOS Physiological Mechanisms and Biomechanics.

III. UNIVERSITY SERVICE

Departmental Committees, Yale University, Department of Ecology & Evolutionary Biology

2020- Faculty Mentor for EEB Sophomores
2020-2021 EEB Seminar Series Organizer
2019-2020 Undergraduate Curriculum Committee

Inter-Departmental Committees, Yale University

2020 Review Committee; Graduate Fellowships; Yale Institute for Biospheric Studies
2020 Review Committee; Hutchinson Fellowship; Yale Institute for Biospheric Studies

Yale College, Yale University

2020 Review Committee; Henry Edwards Ellsworth Prize; Jonathan Edwards College

2020 Review Committee; Rosenfeld Science Scholars Program; Yale College
2019-present Resident Fellow, Jonathan Edwards College

Faculty of Arts and Sciences, Yale University

2019 Yale Development Council Meeting

Departmental Committees, Virginia Tech

2017-2019 Diversity Committee, Department of Biological Sciences

IV. Service to the Society for Integrative and Comparative Biology

2021-2022 Program Officer, Division of Ecology and Evolution
2019-2020 Secretary, Division of Ecology and Evolution
2017-2021 Public Affairs Committee
2016-2017 Broadening Participation Committee – Mentor
2016-2018 Huey Award Committee, Division of Ecology and Evolution

V. Professional Membership:

Society for Integrative and Comparative Biology
American Society of Naturalists
Society for the Study of Evolution
Sigma Xi

VI. Selected Scientific Commentary:

"Evolutionary climate control" by M. Eisenstein, *Nature Middle East*, 10/2019.
"These albino lizards are the first gene-edited non-avian reptiles" by K. Wu, *PBS NOVA*, 9/2019.
"Predators drove a lizard population to extinction without eating them" by K. Wu, *PBS NOVA*, 6/2019.
"The wild experiment that showed evolution in real time" by E. Yong, *The Atlantic*, 1/2019.
"A single spine from this cactus can lift a half-pound slab of pork" by K. Wu, *PBS NOVA*, 11/2018.
"Hurricanes may have made these lizards better huggers" by K. Eschner, *Popular Science*, 7/ 2018.
"Lizards with Bigger Toes & Smaller Hind Legs Survive Hurricanes" by J. Learn, *Smithsonian*, 7/ 2018.
"Natural History Makes a Comeback on Campus" by D. Lyman, *Undark Magazine*, 11/2017.