
JOCELYN E. BEHM

Center for Biodiversity

Department of Biology

Temple University, Philadelphia, PA, 19122 USA

Email: jebehm@temple.edu website: <http://www.iecolab.org> Skype: jebehm

EDUCATION

- 2012 Ph.D. Department of Zoology, University of Wisconsin-Madison, USA,
Influence of land use change on amphibian biodiversity in Southwest China
- 2006 M.S. Department of Zoology, University of Wisconsin-Madison, USA
Loss of ecological separation in endangered threespine stickleback species pair collapse
- 2001 B.S. in Environmental Science *Suma Cum Laude*, Drexel University, Philadelphia, USA

PROFESSIONAL HISTORY

- 2017-Present Assistant Professor, Temple University
- 2015-2017 Adjunct Professor, Temple University
- 2012-2017 Postdoctoral Fellow, Department of Ecological Science, Vrije Universiteit, The Netherlands
- 2015 Adjunct Professor, Ursinus College
- 2007-2012 PhD Student, Department of Zoology, University of Wisconsin-Madison, USA
- 2004-2009 Graduate Teaching Assistant, University of Wisconsin-Madison, USA
- 2003-2006 MS Student, Department of Zoology, University of Wisconsin-Madison, USA

PUBLICATIONS

Published Articles

**indicates mentored student*

22. Liu, S., Lin, X., **Behm, J. E.**, Yuan, H., Stiblik, P., Šobotník, J., Gan, J., Xia, S., and Yang, X. *In Press*. Comparative responses of termite functional and taxonomic diversity to land-use change. *Ecological Entomology*.
21. Helmus, M.R. & **J.E. Behm**. 2019. Island Biogeography Revisited. In: Earth Systems and Environmental Sciences. Elsevier.
20. **Behm, J.E.**, van Buurt, G., DiMarco, B. M.*, Eilers, J., Irian, C. G., Langhans, K. E., McGrath, K., Tran, T. J., and Helmus, M. R. 2019. First records of the mourning gecko (*Lepidodactylus lugubris* Duméril and Bibron, 1836), common house gecko (*Hemidactylus frenatus* Schlegel, 1836), and Tokay gecko (*Gecko gecko* Linnaeus, 1758) on the island of Curaçao, Dutch Antilles, and remarks on their distributions in the Caribbean region. **BioInvasions Records**. 8(1): 34-44.
media coverage: <https://www.dcnanature.org/wp-content/uploads/2018/12/BioNews20-Gecko.pdf>
19. Rapacciolo, G., Graham, C.H., **Behm, J.E.**, Costa, G.C., Hedges, S.B., Helmus, M.R., Marin, J., Radeloff, V.C., Young, B.E., and Brooks, T.M. 2019. Species diversity is a surrogate for phylogenetic and functional diversity in targeting conservation. **Nature Ecology and Evolution**. 3: 53-61
18. Liu, S., Hu, J., **Behm, J.E.**, He, X., Gan, J., and Yang, X. 2018. Nitrogen addition changes the trophic cascade effects of predators on a detrital food web. **Ecosphere**. 9(10):e02466. 10.1002/ecs2.2466
17. **Behm, J. E.**, Waite, B.R.*, Hsieh, S. T., and Helmus, M.R. 2018. Benefits and limitations of three-dimensional printing technology for ecological research. **BMC Ecology**. 18:32. doi: 10.1186/s12898-018-0190-z
media coverage: <http://www.sciencemag.org/news/2018/04/here-s-what-happens-when-you-replace-toads-and-turtles-3d-printed-replicas-wild>

16. Jesse, W.* , **Behm, J.E.**, Helmus, M. R., and Ellers, J. 2018. Differential effects of human impact and habitat structure on exotic and native species diversity on oceanic islands. **Global Change Biology**. 24:4784-4796. doi: 10.1111/gcb.14334
15. Marin, J., Rapacciuolo, G., Costa, G.C., Graham, C.H., Brooks, T.M., Young, B.E., Radeloff, V.C., **Behm, J.E.**, Helmus, M.R., and Hedges, S.B. 2018. Evolutionary time drives global tetrapod diversity. **Proceedings of the Royal Society B**. 285: 20172378 doi: 10.1098/rspb.2017.2378
14. Helmus, M.R., and **Behm, J.E.** 2018. Anthropocene Island Biogeography. In: Encyclopedia of the Anthropocene (eds. D. DellaSala, M. Goldstein). Elsevier. pp 37-43. Book Chapter.
13. Rapacciuolo G., Marin J., Costa G.C., Helmus, M.R., **Behm, J.E.**, Brooks, T. M., Hedges, S.B., Radeloff, V.C., Young, B.E., and Graham, C. H. 2017. The signature of human pressure history on the biogeography of body mass in tetrapods. **Global Ecology and Biogeography**. 26: 1022-1034. doi: 10.1111/geb.12612
12. Helmus, M.R., **Behm, J.E.**, Jesse, W.A.M., Kolbe, J.J., Ellers, J. and Losos, J.B. 2017. Exotics exhibit more evolutionary history than natives: A comparison of the ecology and evolution of exotic and native anole lizards. In: Invasion Genetics: The Baker and Stebbins Legacy. (eds. S.C.H. Barrett, K.M. Dlugosch) Book Chapter.
11. Liu, S., **Behm, J.E.**, Chen, J., Fu, S., Xinling, H., Hu, J., Schaefer, D. Gan, J., and Yang, X. 2016. Functional redundancy dampens the trophic cascade effect of a web-building spider in a tropical forest floor. **Soil Biology and Biogeochemistry**, 98: 22-29
10. Jamshidi, S., **Behm, J.E.**, Eveillard, D., Kiers, E. T., Vandenkoornhuys, P. 2015. Using hybrid automata modeling to study phenotypic plasticity and allocation strategies in the plant mycorrhizal mutualism. **Ecological Modelling**, 311: 11-19.
9. **Behm, J.E.**, Geurts, R. and Kiers, E.T. 2014. *Parasponia*: a novel system for mutualism stability. **Trends in Plant Science**, 19(12): 757-763.
8. **Behm, J.E.** and Kiers, E.T. 2014. A phenotypic plasticity framework for assessing intraspecific variation in arbuscular mycorrhizal fungal traits. **Journal of Ecology**, 102(2): 315-327.
7. Engelmoer, D.J.P., **Behm, J.E.**, Kiers, E.T. 2014. Intense competition between arbuscular mycorrhizal mutualists in an *in vitro* root microbiome negatively affects total fungal abundance. **Molecular Ecology**, 23(6): 1584-1593.
6. **Behm J.E.**, Yang X, Chen J. 2013. Slipping through the cracks: Rubber plantation is unsuitable breeding habitat for frogs in Xishuangbanna, China. **PLOS ONE**, 8(9): e73688.
5. **Behm, J.E.**, Edmonds, D.A.* , Harmon, J.P., and Ives, A.R. 2013. Multilevel statistical models and the analysis of experimental data. **Ecology**, 94(7): 1479-1486.
4. Gilman, R.T. and **Behm, J.E.** 2011. Hybridization, species collapse, and species reemergence after disturbance to premating mechanisms of reproductive isolation. **Evolution**. 65(9): 2592-2605.
3. Quan R-C, Ren, G., **Behm, J.E.**, Wang, L., Huang, Y., Long, Y., and Zhu, J. 2011. Why Does *Rhinopithecus bieti* Prefer the Highest Elevation Range in Winter? A Test of the Sunshine Hypothesis. **PLOS ONE**, 6(9): e24449.
2. **Behm, J.E.**, Ives, A.R., and Boughman, J.W. 2010. Breakdown in postmating isolation and the collapse of a species pair through hybridization. **American Naturalist**, 175(1): 11-26.
1. Drake, D.L., Hagerty, M.A., **Behm, J.E.**, Goldenberg S.J., and Spotila, J.R. 2003. Marine turtle nesting activity at Playa Naranjo Santa Rosa National Park, Costa Rica for the 1998-99 season. **Chelonian Conservation and Biology**, 4(3): 675-678.

Published Natural History Notes and Field Guides

8. Assour, H.R.* and **J.E. Behm**. *In Press*. First Occurrence of *Cheilomenes sexmaculata* (Fabricius) (Coleoptera: Coccinellidae) to the Caribbean Island of Curaçao. **Neotropical Entomology**

7. Behm, J.E., Behm, C. F., Behm, G.M., Behm, M.C., Behm, S.P. and Helmus, M.R. 2018. *Hemidactylus turcicus* (Mediterranean Gecko) Geographic Update. **Herpetological Review**. 49(1): 73.
6. Behm, J.E., and Helmus, M.R. 2016. *Microhyla butleri* (Tubercled Pygmy frog) predation. **Herpetological Review**, 47(4): 643-644.
5. Behm, J.E., and Fu, W.K.V.* 2013. Field guide to the frogs of the Xishuangbanna Tropical Botanic Garden. Xishuangbanna Tropical Botanic Garden Education Center Press.
4. Edmonds, D.A.* and Behm, J.E. 2012. *Raorchestes menglaensis* (Mengla small treefrog) coloration. **Herpetological Review**, 43(1): 125.
3. Edmonds, D.A.* and Behm, J.E. 2012. *Raorchestes menglaensis* Geographic Update. **Herpetological Review**, 43(1): 125-126.
2. Behm, J.E., Knaebe*, B. E., Fu*, V.W.K., and Edmonds*, D.A. 2012. *Polypedates leucomystax* (Java Whipping Frog) communal nesting. **Herpetological Review**, 42(4): 587-588.
1. Drake, D.L., Behm, J.E., Goldenberg, S.J. and Hagerty, M.A. 2001. *Lepidochelys olivacea* (olive ridley sea turtle) predation. **Herpetological Review**, 32:104.

RESEARCH GRANTS AND AWARDS

Awards Received

- 2019 NSF SUS Conference (\$50,000): *How does infrastructure shape equity and well-being across the urban-rural gradient?* (senior personnel)
- 2018 Pennsylvania Department of Agricultural Research Grant (\$75,000): *An integrative approach to model, predict and control the spotted lanternfly invasion meltdown in Pennsylvania* (co-PI)
- 2018 Pennsylvania Department of Agricultural Research Grant (\$42,000): *An integrative approach to model, predict and control the spotted lanternfly invasion meltdown in Pennsylvania* (co-PI)
- 2016 Dobberke Foundation Behavioral Ecology Grant (\$2,000) (PI)
- 2014 NWO Dutch Caribbean Research Grant (\$640,000): *Caribbean island biogeography meets the Anthropocene* (co-PI)
- 2014 Chester County Economic Development Council Agriculture Partnership Grant (\$500)
- 2013 Amsterdam Global Change Institute (\$6500): *Biodiversity neutral development of Roggebotstaete*
- 2012 Best student presentation at the Wisconsin Ecology Symposium
- 2009 Fulbright Institute of International Education Fellowship (\$18,350): *Determining the impact of rubber plantations on frog species in Xishuangbanna, China*
- 2008 Graduate Research Grant, University of Wisconsin Department of Zoology (\$3,000): *Assessing the impact of rubber plantations on frog biodiversity in Xishuangbanna, Yunnan, China*
- 2008 IGERT Supplemental Funds Grant (\$5000): *Assessing the impact of rubber plantations on frog biodiversity in Xishuangbanna, Yunnan, China*
- 2006 NSF IGERT Fellow- Biodiversity Conservation and Sustainable Development in Yunnan, China
- 2005 World Wildlife Fund Canada Endangered Species Recovery Fund (\$24,000): *Investigation of crayfish as the causal agent for increased Enos Lake benthic and limnetic stickleback hybrid abundance*
- 2005 Zoological Society of Milwaukee Student Conservation Grant (\$2,000): *Endangered threespine stickleback species loss through hybridization: Is the invasive crayfish to blame?*
- 2004 Graduate Research Grant, University of Wisconsin Department of Zoology (\$1500): *Does nest predation lead to an increase in sneaking in threespine sticklebacks?*
- 2003 University of Wisconsin- Madison University Fellowship for Academic Excellence (\$26,000)

TEACHING EXPERIENCE

Lead Instructor

2018 Biodiversity and Ecosystem Functioning Seminar (BIO 8250) – Temple University, Philadelphia, PA
 2018-19 Principles of Ecology (BIOL 2777) (co-taught) – Temple University, Philadelphia, PA
 2015 Biodiversity (BIO 350.E) – Ursinus College, Collegeville, PA

Teaching Assistant – University of Wisconsin-Madison

2005 Introductory Biology for non-majors (ZOO 101)
 2005-06 Introductory Biology Laboratory for non-majors (ZOO 102)
 2008 Extinction of Species (ZOO 360)
 2005-08 Evolutionary Biology (ZOO 410)

Field Course Instructor – Xishuangbanna Tropical Botanic Garden, Yunnan, China

2009 Advanced Field Ecology and Conservation Course. Taught herpetology section and led student independent project group that won 1st prize for best independent research project.

STUDENTS MENTORED

**indicates student is co-author on manuscript* *†indicates student presented work at conference*

PhD Students

Temple University: Payton Phillips[†] (2018-present), Timothy Swartz[†] (2018-present)
 Vrije Universiteit-Amsterdam: Wendy Jesse^{*†} (co-advised 2015-present)
 PhD Committee Member Temple University: Mariana Bonfim, Emily Cowel, Michele Repetto, Molly Schools, Gerard Smith, April Stabbins

Masters Students

University of Amsterdam: Annette van Balen
 Vrije University Amsterdam: Benjamin Hearn (co-advisor)
 Hong Kong University: Vivian Wing Kan Fu

Undergraduate Students

Temple University:
 Rachel Lewandowski (2019-present) Camille Lynch[†](2017-18)
 Pamela Rodriguez (2019-present) Hannah Assour^{*}(2017-present)
 Gianna Busala (2019-present) Lahari Gadey[†] (2016-18)
 Victoria Ramirez (2018-present) Brenna Waite^{*} (2016-17)
 Spencer Williams (2018-present) Haseeb Goheer[†](2016-17)
 Daniel Turner^{*†} (2017-18)

Drexel University: Kathryn Innamorato (2019-present); Brianna DiMarco^{*} (2018); Christina Perella^{*} (2017-18)

University of Wisconsin-Madison: Devin Edmonds^{*}, Brenna Knaebe, Katherine Groble, Freya Rowland, Kristin Aquilino, Dana Bigham

RESEARCH PRESENTATIONS

Invited presentations

12. **Behm, J.E.** 2018. *Using the currency of ecosystem services to quantify the sustainability of the local food system in Philadelphia, PA.* Urban futures conference, Philadelphia, PA, USA

Updated: July 2019

11. **Behm, J.E.** 2017. *The roles of biotic resistance and human development in the establishment of exotic lizards on Curaçao island.* Academy of Natural Sciences at Drexel University, Philadelphia, PA.
10. **Behm, J.E.** 2015. *How traits lead to species declines following environmental change.* Temple University
9. **Behm, J.E.** 2015. *How traits lead to species declines following environmental change.* Utah State University.
8. **Behm, J.E.** 2015. *How traits lead to species declines following environmental change.* University of Oklahoma.
7. **Behm, J.E.** 2014. *Biodiversity footprinting: Lessons from Biodiversity impact surveys.* Ursinus College
6. **Behm, J.E.,** and E. T. Kiers. 2013. *A phenotypic plasticity framework for assessing intraspecific variation in arbuscular mycorrhizal fungi traits.* International Association for Ecology Annual Congress, London, England.
5. **Behm, J.E.** 2013. *Can the carbon neutrality framework be applied to biodiversity?* Sustainability Research Symposium, University of Amsterdam.
4. **Behm, J.E.** 2012 *Habitat selection in frogs from tropical Xishuangbanna, China.* Undergraduate Tropical Herpetology Seminar, University of Wisconsin- Madison.
3. **Behm, J.E.** 2011 *Ecological interactions in an evolutionary context.* Netherlands Institute of Ecology, Wageningen, Netherlands
2. **Behm, J.E.** 2008 *Effects of rubber plantations on frogs in tropical China: preliminary results.* Undergraduate Zoological Society, University of Wisconsin-Madison.
1. **Behm, J.E.,** A.R. Ives and J.W. Boughman. 2006. *Invasive crayfish and stickleback hybrids: what we know so far.* Weekly Seminar Series, Center for Limnology, University of Wisconsin- Madison.

Submitted presentations

9. **Behm, J.E.,** and Helmus, M.R. 2018. *Incorporating biotic resistance in models to predict the establishment probability of exotic lizard species.* Ecological Society of America Mid-Atlantic Conference Annual Meeting, April 7, 2018. Research Talk. Newark, New Jersey.
8. **Behm, J.E.,** Helmus, M.R., Jesse, W., and Ellers, J. 2017. *Incorporating biotic resistance in models to predict the establishment probability of exotic lizard species.* Ecological Society of America Annual Meeting, August 9, 2017. Research Talk. Portland, Oregon.
7. **Behm, J.E.,** X. Yang, J. Chen. *Surveys incorporating breeding and post-metamorphic habitat use reveal rubber plantations are poor habitat for frogs.* University of Wisconsin Ecology Spring Symposium. March 29, 2012. Research Talk. University of Wisconsin- Madison.
6. **Behm, J.E.** 2011. *Assessing the competition-predation phenotypic plasticity trade-off in three tadpole species.* Ecological Society of America Annual Meeting. August 12, 2011. Research Talk. Austin, TX.
5. **Behm, J.E.,** Chen, J, Yang, X. *The failure of frog populations to expand into human-created habitat: Why frogs do not breed in rubber plantations in Xishuangbanna, China.* Association for Tropical Biology Asia-Pacific Chapter Annual Meeting. February 15, 2009. Research Talk. Chiang Mai, Thailand.
4. **Behm, J.E.,** A.R. Ives and J.W. Boughman. *Can an invasive species induce the hybridization of two native species?* Symposium of pioneering young scientists on chemical pollution and environmental change. November 19, 2006. Research talk. Matsuyama, Japan.
3. **Behm, J.E.,** A. R.Ives, J.W. Boughman. *Can an invasive species trigger the hybridization of two native species?* Ecological Society of America: Ecology in an Era of Globalization. January 11, 2006. Poster Presentation. Merida, Mexico.
2. **Behm, J.E.,** M.A., Hagerty, D.L. Drake and J. R. Spotila. 2000. *Marine turtle nesting activity at Playa Naranjo, Santa Rosa National Park, Costa Rica, 1998-99.* 20th Annual International Symposium on Sea Turtle Biology and Conservation. March 2000. Poster Presentation. Orlando, Florida.

1. **Behm, J.E.**, M.A., Hagerty, D.L. Drake and J. R. Spotila. 2000. *Marine turtle nesting activity at Playa Naranjo, Santa Rosa National Park, Costa Rica, 1998-99*. The 12th Annual Sigma Xi Research Symposium. May 2, 2000. Poster Presentation. Philadelphia, PA.

SUPPLEMENTAL EDUCATION

2017-18	Grant Academy – Temple University
2014	Permaculture Design Certificate
2004	Organization for Tropical Studies: Tropical Ecology and Conservation, Costa Rica

PROFESSIONAL SERVICE

University Service

2018-19	Member of Temple University Biology Department P & P committee
2018	Biology Department Graduate Recruitment Committee Co-Chair
2017-18	Undergraduate Research Program Poster Symposium Judge

Society Membership

Society for Conservation Biology, Ecological Society of America, Society for the Study of Amphibians and Reptiles, PA State Invasive Species Council

Peer Reviewer

The American Naturalist, Ecology, Global Change Biology, Global Ecology and Conservation, Integrative and Comparative Biology, PLOS Computational Biology, PLOS ONE, Proceedings B, Journal of Tropical Ecology, BioInvasions Records, Oecologia, Journal of 3D Printing in Medicine

OUTREACH

2018-19	Custom farm biodiversity reports developed in R that summarized research findings and were distributed to farmers and homeowners involved in our research
2018	Panelist for Defend our Future Climate Change event discussing the links between coffee agriculture, climate change and sustainability
2014	Biodiversity Conservation Presentation to Chester County AMBUCS association
2013-14	Sustainable Development and Biodiversity Conservation of Roggebot Estate, the Netherlands