

CURRICULUM VITAE

David W. Kikuchi

February 2021

Universität Bielefeld
33615 Bielefeld, Germany

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EDUCATION

University of North Carolina • Chapel Hill, NC

2013 Ph. D. in Biology
Advisor: David Pfennig

University of Illinois • Urbana, IL

2006 BSc *cum laude* in Biology, Chemistry and Creative Writing
Thesis: High Distinction
Advisor: Patrick Weatherhead

TRAINING AND EMPLOYMENT

Universität Bielefeld • Bielefeld, Germany

2020 - Present Postdoctoral Researcher
Advisor: Klaus Reinhold

Wissenschaftskolleg zu Berlin (Institute for Advanced Study) • Berlin, Germany

2019-2020 International award typically offered to senior researchers. In collaboration with Johanna Mappes, Marie Herberstein, and Robert Holt.

University of Arizona • Tucson, AZ

2016 – 2019 Postdoctoral Researcher
Advisor: Anna Dornhaus

Carleton University • Ottawa, ON | University of Jyväskylä • Jyväskylä, Finland

2014 – 2015 NSF Postdoctoral Fellowship
Advisor: Thomas Sherratt
Advisor: Johanna Mappes

RESEARCH AWARDS

in review Academy of Finland. "How Predictable Is Evolution? A Multifaceted Experimental Approach." (€625,680 across 5 years)

2019-2020 Fellowship at the Wissenschaftskolleg zu Berlin

2016-2019 PERT Postdoctoral Fellowship funded through NIH

2017 Center for Insect Science (University of Arizona) Seed Grant for "Integrative Education Advisoring in Higher Education" (\$10,000; Mays Imad as co-PI)

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| 2014-15 | NSF Postdoctoral Fellowship (\$140,000) |
| 2011-13 | NSF Doctoral Dissertation Improvement Grant (\$15,000) |
| 2010-13 | NSF Graduate Research Fellowship |
| 2008-13 | Caroline H. and Thomas S. Royster, Jr. Fellowship |
| 2011 | SSE Outreach Award (\$800; with Segundo Crespo as co-PI) |
| 2010 | Sigma Xi Grant-in-Aid-of-Research (\$800) |
| 2009 | Theodore Roosevelt Memorial Grant (\$1,000) |
| 2007-08 | US Student Fulbright Grant – Peru (\$14,013.20) |
| 2006 | High Distinction for thesis |
| 2006 | Integrative Biology Distinction Award (\$400) |
| 2004-05 | Undergraduate Mentoring in Environmental Biology Fellow |

PUBLICATIONS

I preferentially publish in society-affiliated or non-profit open-access journals

(undergraduate co-author, † graduate student co-author, ‡ equal contribution, OA = in Open Access journal or repository)*

PEER-REVIEWED

30. **Kikuchi, D. W.** and K. Reinhold. *in review at Proceedings of the Royal Society B: Biological Sciences*. Maintenance of individual behavioral variation through costly competition
29. **Kikuchi, D. W.**, M. Barfield, M. E. Herberstein, J. Mappes, R. D. Holt. *major revision at a journal with double-blind peer review*
28. **Kikuchi, D. W.**, M. E. Herberstein, M. Barfield, R. D. Holt, J. Mappes. *major revision at Biological Reviews*. Why aren't warning signals everywhere? On the prevalence of aposematism and mimicry
27. **Kikuchi, D. W.** ‡, S. J. Waldron‡, J. K. Valkonen, S. Dobler, J. Mappes. 2020. Biased predation promotes convergence yet maintains diversity within Müllerian mimicry rings. *Journal of Evolutionary Biology* 33:887-898 [OA]
26. Russell, A. L., **D. W. Kikuchi**, N. W. Giebink†, D. R. Papaj. 2020. Keeping them honest: constraints on signal detection limit cheating in a system of intersexual floral mimicry. *Philosophical Transactions of the Royal Society B* 375:20190469
25. McLean, J. D. †, G. Cassis, G. Giribet, **D. W. Kikuchi**, M. E. Herberstein. 2019. Insincere flattery? Understanding the evolution of imperfect mimicry. *Quarterly Review of Biology* 94:395-415

24. Akcali, C. K. †, H. A. Pérez Mendoza, **D. W. Kikuchi**, D. W. Pfennig. 2019. The role of multiple models in the evolution of imprecise mimicry: an experimental test. *Proceedings of the Royal Society B* 298:20191519
23. **Kikuchi, D. W.**, A. Dornhaus, V. Gopeechund*, and T. N. Sherratt. 2019. Signal categorization by foraging animals depends on ecological diversity. *eLife* 8:e43965 [OA]
22. Akcali, C. K. †, H. A. Pérez Mendoza, D. Salazar-Valenzuela, **D. W. Kikuchi**, J. M. Guayasamin, D. W. Pfennig. 2019. Evaluating the utility of camera traps in field studies of predation. *PeerJ* 7:e6487 [OA]
21. **Kikuchi, D. W.**, G. H. Kattan, and K. C. Navarro-Vélez*. 2019. A continent-scale test of multiple hypotheses on the abundances of Neotropical birds. *Oikos* 128:235-244
20. **Kikuchi, D. W.** and A. Dornhaus. 2018. How cognitive biases select for imperfect mimicry: a study of asymmetry in learning with bumblebees. *Animal Behaviour* 144:125-134
19. Akcali, C. K. †, **D. W. Kikuchi**, and D. W. Pfennig. 2018. Coevolutionary arms races in Batesian mimicry? A test of the chase-away hypothesis. *Biological Journal of the Linnean Society* 124:668-676 [OA]
18. Archis, J. *, C. K. Akcali†, B. L. Stuart, **D. W. Kikuchi**, and A. C. Chunco. 2018. Is the future already here? The impact of climate change on the distribution of the eastern coral snake (*Micrurus fulvius*). *PeerJ* 6:e4647 [OA]
17. **Kikuchi, D. W.**, G. H. Kattan, C. Murcia, and F. Montealegre. 2017. Endless forms most camouflaged: katydid that masquerade as moss. *Ecology* 98:2479-2481 [OA]
16. **Kikuchi, D. W.**, J. Mappes, T. N. Sherratt, and J. K. Valkonen. 2016. Selection for multicomponent mimicry: equal feature salience and variation in preferred traits. *Behavioral Ecology* 27:1515-1521 [OA]
15. Kattan, G. H., M. C. Muñoz†, and **D. W. Kikuchi**. 2016. Population densities of curassows, guans, and chachalacas (Cracidae): effects of body size, habitat, season, and hunting. *The Condor: Ornithological Applications* 118:24-32
14. Sherratt, T. N., E. Whissell*, R. J. Webster, and **D. W. Kikuchi**. 2015. Hierarchical overshadowing of stimuli and its role in mimicry evolution. *Animal Behavior* 108:73-79
13. **Kikuchi, D. W.** and T. N. Sherratt. 2015. Costs of learning and the evolution of mimetic signals. *American Naturalist* 186:321-332
12. **Kikuchi, D. W.**, G. Malick*, R. J. Webster, E. Whissell*, and T. N. Sherratt. 2015. An empirical test of two-dimensional signal detection theory applied to Batesian mimicry. *Behavioral Ecology* 26:1226-1235
11. Pfennig, D. W., C. K. Akcali†, and **D. W. Kikuchi**. 2015. Mimicry promotes pre- and post-mating isolation in a snake mimicry complex. *Evolution* 69:1085-1090

10. **Kikuchi, D. W.**, B. W. Seymoure[†], and D. W. Pfennig. 2014. Mimicry's palette: widespread use of conserved pigments in the aposematic signals of snakes. *Evolution & Development* 16:61-67
Cover article
9. Titcomb, G. C.*, **D. W. Kikuchi**, D. W. Pfennig. 2014. More than mimicry? Evaluating scope for flicker-fusion as a defensive strategy in coral snake mimics. *Current Zoology* 60:123-130 [OA]
8. **Kikuchi, D. W.** and D. W. Pfennig. 2013. Imperfect mimicry and the limits of natural selection. *Quarterly Review of Biology* 88:297-315
7. Pfennig, D. W. and **D. W. Kikuchi**. 2012. Competition and the evolution of imperfect mimicry. *Current Zoology* 58:608-619 [OA]
6. **Kikuchi, D. W.** and D. W. Pfennig. 2012. A Batesian model and its mimic share color production mechanisms. *Current Zoology* 58:658-667 [OA]
5. **Kikuchi, D. W.** and D. W. Pfennig. 2012. Mimicry. In Oxford Bibliographies Online: Ecology. Ed. David Gibson. New York: Oxford University Press.
4. **Kikuchi, D. W.** and D. W. Pfennig. 2010. Predator cognition permits imperfect coral snake mimicry. *American Naturalist* 176:830-834
Subject of an article in *ScienceNow* ("Snakes lie to save their skin")
Subject of an article in *La Recherche* ("Mentir mais pas trop")
3. **Kikuchi, D. W.** and D. W. Pfennig. 2010. High model abundance may permit the gradual evolution of Batesian mimicry: an experimental test. *Proceedings of the Royal Society B* 277:1041-1048 [OA]
2. **Kikuchi, D. W.** 2009. Terrestrial and understory insectivorous birds of a Peruvian cloud forest: species richness, abundance, density, territory size and biomass. *Journal of Tropical Ecology* 25:523-529
1. **Kikuchi, D. W.**, E. Lasso, J. W. Dalling, and N. Nur. 2007. Pollinators and pollen dispersal of *Piper dilatatum* (Piperaceae) on Barro Colorado Island, Panama. *Journal of Tropical Ecology* 23:603-606

OTHER PUBLICATIONS

- Kikuchi, D. W.** 2020. Eyes in the dark. *Aeon*: <https://aeon.co/essays/how-communication-between-predator-and-prey-shapes-evolution>
- Pfennig, D. W. and **D. W. Kikuchi**. 2012. Life imperfectly imitates life. *Nature* 483:410-411
Invited News & Views article
- Kikuchi, D. W.** 2007. Population trends from counts of migrating raptors at Bake Oven Knob, Pennsylvania, 1992-2005. *American Hawkwatcher* 32:8-15

TEACHING AND ADVISORSHIP

GRADUATE STUDENT COMMITTEES

Christopher Akcali (Ph. D. from UNC-Chapel Hill 2019)

THESES EXAMINED

Donald James McLean (MSc. from Macquarie University, Australia 2018)

MASTER'S PROJECTS

Oliver Heerwig (Universität Bielefeld, ongoing)

UNDERGRADUATE STUDENTS (PRIMARY ADVISOR)

§ denotes Honors student

University of Arizona

| | |
|---------------------|--------------|
| Jak Kearsley | 2018-current |
| Andrea Mason | 2016-19 |
| Mohammad Safdar | 2019 |
| Tristan Meyer Owens | 2019 |
| Steven Hsu | 2016-17 |
| Maddie Birr | 2016 |
| Shannon McGlaughlin | 2016 |

Carleton University

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|-------------------------|---------------------------------------|
| Sofia Jain-Schlaepfer § | 2015 – MSc from James Cook University |
| Yinmin Ou § | 2015 |

University of North Carolina at Chapel Hill

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|-----------------------|--|
| Bradley Alif § | 2012-2013 – Now a graduate student at NCSU |
| Georgia Titcomb § | 2012-2013 – Now a graduate student at UC Santa Barbara |
| Townsend Haynes | 2012 |
| Antonio Serrato | 2011 – Now a postdoc at Harvard |
| Saige Clark | 2009-2010 |
| Allison Bailey | 2010 |
| Wendell Juliantius | 2010 |
| Elizabeth Christenson | 2009 |
| Yong Choi | 2009 |
| Rebecca Searles | 2009 |
| Ge Zhang | 2009 |

TEACHING

Instructor of Record

2017 Bio 100: Introductory Biology for Non-majors (Pima Community College)

Guest Lectures

2016 Ecol 487/587: Animal Behavior (University of Arizona)

2014 BIOL 3612: Computational Methods in Ecology & Evolution (Carleton University)

BIOL 3609: Evolutionary Concepts (Carleton University)

2013 BIOL 514: Evolution and Development (UNC-Chapel Hill)

Teaching Assistantships

2010 BIO 471: Evolutionary mechanisms (UNC-Chapel Hill)

2009 BIO 201: Introduction to evolution and ecology (UNC-Chapel Hill)

TALKS AND PRESENTATIONS

INVITED TALKS

2020 Online Research Seminar. Universität Bielefeld, Bielefeld, Germany

Online Research Seminar. University of Florida, Gainesville, Florida

Research Seminar. Universität Hamburg, Hamburg, Germany

2019 Research Seminar. Cornell University, Ithaca, New York

Research Seminar. University of California-Santa Barbara, Santa Barbara, California

2017 Research Seminar. Universidad Javeriana, Cali, Colombia (in Spanish)

Introductory Statistics. Universidad Javeriana, Cali, Colombia (in Spanish)

2013 North Carolina Congress of Herpetology, Asheboro, North Carolina

2011 UNC Biology Department Symposium, Chapel Hill, North Carolina

Speaker elected by the graduate student body to represent the department.

2010 Behavioral, Population, and Community Ecology Seminar, Duke University, Durham, North Carolina

Research in Progress Seminar, East Carolina University, Greenville, North Carolina

TALKS AT MAJOR MEETINGS

* indicates an international society meeting, other meetings are national-level

- 2019 ABS 2019, Chicago, IL
* ESEB 2019, Turku, Finland
- 2018 * ISBE 2018, Minneapolis, MN
ABS 2018, Milwaukee, WI
- 2017 Evolution 2017, Portland, OR
- 2016 Evolution 2016, Austin, TX
ABS 2016, Columbia, MO
- 2015 * Evolution 2015, Guarujá, Brazil
- 2014 ABS 2014, Princeton, New Jersey
Evolution 2014, Raleigh, North Carolina
- 2013 * IEC 2013, Newcastle, England
- 2012 * Evolution 2012, Ottawa, Canada
SICB 2012, Charleston, South Carolina
- 2011 * ESEB 2011, Tübingen, Germany
- 2010 Evolution 2010, Portland, Oregon
- 2008 VII Congreso Nacional de Ornitología, Piura, Peru

OUTREACH, PROFESSIONAL DEVELOPMENT, AND TRAINING IN EDUCATION

- 2021 “Lessons from Online Teaching and Learning Animal Behavior” (ABS Education Committee Workshop)
- 2018 “Designing Classroom Environments that Facilitate Student Learning and the Development of Discipline Fluency” workshop (University of Arizona)
“Addressing Implicit Bias in the Academy” workshop (University of Arizona)
Tour for Arizona Science, Engineering, and Math Scholars (a program for underrepresented minority undergraduates at University of Arizona)
Volunteer at Science Night, Desert Shadows Middle School, Nogales, AZ
- 2017 PERT Pedagogy Workshop on Active Learning in the Classroom
IRACDA Conference 2017, Birmingham, AL
- 2016 Ecology and Evolutionary Biology Dept. Wikipedia Edit-a-thon, 2nd Place Prize for editing pages in the category “Evolutionary Biology” (\$50)
Volunteer for University of Arizona “Insect Fest” outreach event
Attended IRACDA Conference 2016, Tucson, AZ
- 2014 “Experiencing Evolution” professional development workshop

- 2012 Completed course, "Entering Advising Curriculum", by WPST and HHMI
Outreach presentation at North Carolina State Museum for Darwin Day
Poster contributed to UNC "Life as Art" festival
- 2011 Developed and implemented the outreach workshop, "Biodiversity and the Dry Forest," for secondary school students in Peru (with Segundo Israel Crespo More)

PROFESSIONAL SERVICE

EXTERNAL GRANT REVIEW

- Czech Science Foundation (2020)
Swiss National Science Foundation (2020)

PROVIDING FEEDBACK TO YOUNG SCIENTISTS

- US Student Fulbright applications at University of Illinois (2020)
ABS Student Research Grants (2015, 2016, 2017, 2018)

SOCIETY MEMBERSHIP

- American Society of Naturalists (ASN; member since 2018)
Animal Behavior Society – member (ABS; since 2009)
International Society for Behavioral Ecology (ISBE; member since 2020)
Society for the Study of Evolution – member (SSE; since 2010)
Society for Integrative and Comparative Biology – member (SICB; since 2009)

PEER REVIEW OF MANUSCRIPTS

Reviewer for *Acta Herpetologica*, *The American Naturalist*, *Animal Behavior*, *Behavioral Ecology*, *Behavioral Ecology and Sociobiology*, *Biological Journal of the Linnean Society*, *Biotropica*, *BMC Zoology*, *Current Zoology*, *Ecology*, *Ecology Letters*, *Ecology and Evolution*, *eLife*, *Ethology*, *Evolution*, *Evolutionary Ecology*, *Functional Ecology*, *Global Ecology and Biogeography*, *Journal of Evolutionary Biology*, *Journal of Experimental Biology*, *Journal of Animal Ecology*, *Journal of Herpetology*, *Journal of Zoology*, *Marine Ecology Progress Series*, *Nature Communications*, *Oecologia*, *Organisms Diversity and Evolution*, *PeerJ*, *Phyllomedusa*, *PLoS Computational Biology*, *PLoS One*, *Proceedings of the Royal Society-B*, *Scientific Reports*, *The Southwestern Naturalist*, *Tropical Conservation Science*

LANGUAGES

Spanish (advanced spoken and written)

German (intermediate spoken and written)