

PATRICK ANDREW GREEN, PH.D.

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EDUCATION

- Ph.D.** – Duke University; Biology 2018
Advisor: Dr. Sheila Patek
- B.S.** – University of California, Los Angeles; Ecology, Behavior and Evolution 2009

PROFESSIONAL POSITIONS

- Professional Researcher** Nov. 2022 – Nov. 2024
University of California, Santa Barbara; Ecology, Evolution, Marine Biology Department
- Paternity Leave** Aug. 2022 – Nov. 2022
- Human Frontier Science Program Postdoctoral Fellow** 2019 – 2022
Michael Cant, advisor (2019-2022); Centre for Ecology and Conservation, University of Exeter
Mark Briffa, co-advisor (2019-2022); University of Plymouth
Stephen Proulx, co-advisor (2021-2022); University of California, Santa Barbara
- Postdoctoral Associate** 2018 – 2019
Nowicki Laboratory; Duke University
- Professional Teaching Assistant – UCLA** 2010 – 2011
Community Ecology; Tropical Ecology; Vertebrate Morphology

PUBLICATIONS (REVERSE CHRONOLOGICAL ORDER, *EQUAL CONTRIBUTION, †UNDERGRADUATE, ^MASTERS STUDENT, @OPEN ACCESS, OTHERWISE CONTACT ME FOR A COPY; N = # OF CITATIONS ON WEB OF SCIENCE AS OF AUGUST 2023)

22. Caves, E.M., **Green, P.A.**, Hughes, M. (2022) Communication. In: *The Routledge International Handbook of Comparative Psychology*, pp. 147-159. Freeberg, T., d’Etorre, P., Ridley, A., editors. Routledge Press, UK (N = 0).
21. **Green, P.A.**, Thompson, F.J., Cant, M.A. (2022) Fighting force and experience combine to determine contest success in a warlike mammal. *Proceedings of the National Academy of the United States of America* 119 (25). <https://doi.org/10.1073/pnas.2119176119>@ (N = 0).
20. Sankey D.W.E., Hunt K.L.^, Croft D.P., Franks D.W., **Green P.A.**, Thompson F.J., Johnstone R.A., Cant M.A. (2022) Leaders of war: modelling the evolution of conflict among heterogeneous groups. *Philosophical Transactions of the Royal Society—B* 377. <https://doi.org/10.1098/rstb.2021.0140> (N = 6).
19. **Green, P.A.**, George, E.M., Rosvall, K., Johnsen, S., Nowicki, S. (2022) Testosterone, signal coloration, and signal color perception in male zebra finch contests. *Ethology* 128 (2). <https://doi.org/10.1111/eth.13247> (N = 1).
18. **Green, P.A.**, Preston, B., Nicholl, M^., Thompson, F.J., Cant, M.A. (2021) Collective defence and coordinated behaviour during simulated territorial intrusions in banded mongooses (*Mungos mungo*). *Ethology* 127 (10). <https://doi.org/10.1111/eth.13204>@ (N = 3).
17. **Green, P.A.**, McHenry, M.J., Rico-Guevara, A. (2021) Mechanoethology: the physical mechanisms of behavior. (Introduction to Symposium Issue). *Integrative and Comparative Biology* 61 (2). <https://doi.org/10.1093/icb/icab133>@ (N = 6).
16. Caves, E.M., **Green, P.A.**, Zipple, M.N., Bharath, D.†, Peters, S. Johnsen, S., Nowicki, S. (2021) Comparison of categorical perception in two Estrildid finches. *The American Naturalist* 197 (2). <https://doi.org/10.1086/712379> (N = 2).
15. **Green, P.A.**, Briffa, M., Cant, M.A. (2020). Assessment during intergroup contests. *Trends in Ecology and Evolution* 36 (2). <https://doi.org/10.1016/j.tree.2020.09.007>@ (N = 11).

14. Peniston, J., **Green, P.A.**, Zipple, M.N., Nowicki, S. (2020) Threshold assessment, categorical perception, and the evolution of reliable signaling. *Evolution* 74 (12). <https://doi.org/10.1111/evo.14122> (N = 1).
13. **Green, P.A.** & Harrison, J.S. (2020). Quadratic resource value assessment during mantis shrimp (Stomatopoda) contests. *Animal Behaviour* 170. <https://doi.org/10.1016/j.anbehav.2020.09.014> (N = 2).
12. Caves, E.M., Schweikert, L.E., **Green, P.A.**, Taboada, C., Zipple, M.N., Peters, S., Nowicki, S., Johnsen, S. (2020). Variation in retinal carotenoids correlates with individual variation in perception of carotenoid-based signals. *Behavioral Ecology and Sociobiology* 74. <https://doi.org/10.1007/s00265-020-02874-5> (N = 7).
11. **Green, P.A.**, Brandley, N.C., Nowicki, S. (2020) The many dimensions of categorical perception: a response to comments on Green et al. *Behavioral Ecology* 31 (4). Invited commentary. <https://doi.org/10.1093/beheco/araa060> (N = 0).
10. **Green, P.A.**, Brandley, N.C., Nowicki, S. (2020) Categorical perception in animal communication and decision-making. *Behavioral Ecology* 31 (4). Invited review. <https://doi.org/10.1093/beheco/araa004> (N = 24).
Winner of biennial [Pitelka Award](#) for best paper in *Behavioral Ecology* by author within 5 years of PhD.
9. Zipple, M.N.*, Caves, E.M.*, **Green, P.A.**, Peters, S., Johnsen, S., Nowicki, S. (2019) Categorical perception occurs in both signalling and non-signalling colour ranges in a songbird. *Proceedings of the Royal Society B*. 286. <https://doi.org/10.1098/rspb.2019.0524> (N = 11).
8. **Green, P.A.**, McHenry, M., Patek, S.N. (2019) Context-dependent scaling of weapon energetics and kinematics in mantis shrimp (Stomatopoda). *Journal of Experimental Biology* 222. <https://doi.org/10.1242/jeb.198085> (N = 9).
Editor's Choice, May 2019; shortlisted for [2019 JEB Outstanding Paper Prize](#); coverage in [Inside JEB](#).
7. Caves, E.M.*, **Green, P.A.***, Zipple, M.N., Peters, S., Johnsen, S., Nowicki, S. (2018) Categorical perception of colour signals in a songbird. *Nature* 560 365-367. <https://doi.org/10.1038/s41586-018-0377-7> (N = 57).
Reviewed in [Nature News & Views](#).
6. Caves, E.M., **Green, P.A.**, Johnsen, S. (2018) Mutual visual signalling between the cleaner shrimp *Ancylomenes pedersoni* and its client fish. *Proceedings of the Royal Society B* 285 (1881). <https://doi.org/10.1098/rspb.2018.0800> (N = 14).
5. **Green, P.A.** & Patek, S.N. (2018) Mutual assessment during ritualised fighting in mantis shrimp (Stomatopoda). *Proceedings of the Royal Society B* 285 (1871). <https://doi.org/10.1098/rspb.2017.2542> (N = 36).
4. Sigwart, J. D., **Green, P.A.**, Crofts, S.C. (2015) Functional morphology in chitons (Mollusca, Polyplacophora): influences of environment and ocean acidification. *Marine Biology*. 162 (11) 2257-2264. <https://doi.org/10.1007/s00227-015-2761-2> (N = 11).
3. **Green, P.A.** & Patek, S.N. (2015) Contests with deadly weapons: telson sparring in mantis shrimp (Stomatopoda). *Biology Letters* 11: 20150558. <https://doi.org/10.1098/rsbl.2015.0558> (N = 41).
2. Patek, S.N., **Green, P.A.**, Rosario, M.V. (2013) Internal Morphology. In: Treatise on Zoology - Anatomy, Taxonomy, Biology: the Crustacea. Vol. 4, Part A. Eds. J. C. von Vauple Klein, M. Charmantier-Daures, and F. Schram. Brill: Boston (N = 22).
1. **Green, P.A.***, Van Valkenburgh, B.*, Pang, B.†, Bird, D., Rowe, T., Curtis, A. (2012). Respiratory and olfactory tubinal size in canid and arctoid carnivorans. *Journal of Anatomy* (221). <https://doi.org/10.1111/j.1469-7580.2012.01570.x> (N = 47).

PUBLICATIONS UNDER REVIEW, SUBMITTED, OR IN PREPARATION (AVAILABLE UPON REQUEST)

Hunt K.L.[^], Patel M., Croft D.P., Franks D.W., **Green P.A.**, Thompson F.J., Johnstone R.A., Cant M.A., Sankey D.W.E. The evolution of democratic peace in animal societies. Under review, *Nature Communications*.
Available on bioRxiv: <https://doi.org/10.1101/2023.02.14.528470>

Green, P.A., Sankey, D.W.E., Collins, T., Cant, M.A., Thompson, F.J. Fitness incentives to male warriors undermine collective action in a warlike mammal. In preparation for *PNAS*.

Green, P.A. Combining approaches from behavior and mechanics reveals the dynamics of biological impact in mantis shrimp (Stomatopoda). Under review at *Journal of Experimental Biology*.

Available on bioRxiv: <https://doi.org/10.1101/2023.11.20.567920>

MEDIA & SOCIAL IMPACT

My research has been covered by [Wired](#), [The Atlantic](#), [Live Science](#), [AAAS](#), [CBC](#), [Newsweek](#), [Science News](#), [National Geographic](#), [Ars Technica](#), and the [Daily Mail](#).

My work has achieved very high interest in media outlets, social media, and other venues as tracked by [Altmetric](#) (mean \pm sd percentile relative to all tracked articles, controlled for age and source = 80.26 ± 10.90 , range = 69-99).

RESEARCH GRANTS, FELLOWSHIPS AND AWARDS

Research Partnership Kickstart Travel Grant, Journal of Experimental Biology (£2,000)	2024
<i>Funding to support initial collaboration and further grant writing with Asst. Prof. Kate Feller (Union College).</i>	
Research Grant, UC Santa Barbara Coastal Fund (\$13,648.50)	2023
<i>Funds to support development of local snapping shrimp system, including undergraduate assistant salary.</i>	
Pitelka Award, International Society for Behavioral Ecology (see Green et al., 2020, <i>Beh. Eco.</i> , above)	2022
<i>\$500 prize + funded attendance of 2022 ISBE conference (delayed to 2024)</i>	
Human Frontier Science Program Long-Term Fellowship	2019
<i>3 years' salary (~\$120K) + relocation allowance (\$2K) + \$5K research funding/yr</i>	
Royal Society Newton Fellowship (Finalist)	2019
Duke Core Facilities Voucher (\$1,000)	2019
Royal Commission for the Exhibition of 1851 Fellowship (Finalist)	2019
Marshall Sherfield Postdoctoral Fellowship (Reserve Candidate)	2019
International Society for Research on Aggression (ISRA) Young Investigator Award (\$1,000)	2018
Duke Biology One-Semester Fellowship	2017
<i>Full stipend + tuition + fees; declined for Research Assistantship</i>	
Grant in Aid of Research; Duke University Biology (three awards, \$1,000 each)	2015, 2016, 2017
Short-Term Fellowship, Smithsonian Tropical Research Institute (\$3,000)	2013
Natural History Collections Grant; UMass, Amherst (\$2,000)	2013
Research Grant; UMass, Amherst (\$1,000)	2012

TEACHING AND MENTORSHIP GRANTS, FELLOWSHIPS AND AWARDS

Duke Dean's Award for Excellence in Mentoring	2018
Duke Data Expeditions Teaching Award (three awards, \$1,500 each)	2017, 2018, 2019
Duke Support for Interdisciplinary Graduate Student Networks Grant (\$13,000)	2016
Professional Development Grant; Duke University (\$500)	2014
Outstanding Teaching Assistant Award; UMass, Amherst	2012

DEI TRAINING AND EXPERIENCE

Queer Trans Identity & Experience Seminar, UC Santa Barbara	2023
<i>Training to understand and support people identifying as Queer & Trans.</i>	
Working Group for Recruitment, Retention, and Accountability, UC Santa Barbara EEMB	2021-2023
<i>Postdoctoral representative and coordinator of faculty recruitment committee.</i>	
Microaggressions Seminar, UC Santa Barbara	2021
<i>Training to identify, prevent, and manage microaggressions.</i>	

Inclusive Teaching Seminar, UC Santa Barbara	2021
<i>Training for inclusive and equitable teaching.</i>	
Fieldwork Toolkit Leadership Training, UC Santa Barbara	2021
<i>Training on safety, mental health, and DEI awareness during fieldwork and in general group settings.</i>	
Implementing Code of Conduct Training, Animal Behavior Society	2020
<i>Training to improve implementation of Code of Conduct, including bystander training, before 2020 conference.</i>	
P.R.I.D.E. Training, Duke University	2017
<i>Training on issues impacting those with marginalized sexual orientations, gender identities and gender expressions.</i>	

PROFESSIONAL SERVICE AND RECOGNITION

Graduate Student Representative and Social Media Fellow (elected)	2018 – 2020
Animal Behavior Society, Executive Committee	
Reviewer for – <i>NSF Div. Environmental Biology, eLife, Behaviour, Animal Behaviour, Journal of the Royal Society Interface, Proceedings of the Royal Society B, Evolution, Behavioral Ecology, Journal of Experimental Biology, Scientific Reports, The Biological Bulletin, Journal of Experimental Marine Biology and Ecology, Ecology and Evolution.</i>	
View my Publons Account .	
UCSB EEMB Graduate Student Advisory Council Recognition	May 2023
Recognized for efforts in supporting EEMB Graduate Student community.	

CONFERENCES AND WORKSHOPS

Co-organizer, “Physical Mechanisms of Behavior”	2021
Society-wide symposium at 2021 Society for Integrative and Comparative Biology conference.	
Supported by £2,000 Company of Biologists Grant. Resulted in 13 publications in Volume 61 (2) of <i>Integrative and Comparative Biology</i> .	

PROFESSIONAL PRESENTATIONS

INVITED SEMINARS AND PRESENTATIONS

Yale University; Ecology & Evolutionary Biology	2024 (planned)
Mississippi State University; Biology	2024 (planned)
Tulsa University; Biology	2024 (planned)
Brown University; Ecology, Evolution, and Organismal Biology	2024 (planned)
University of Georgia; Odum School of Ecology	2024 (planned)
UC Santa Barbara; Ecology, Evolution, and Marine Biology	2024
New Mexico State University; Biology	2023
Pomona College; Biology	2023
UC Davis; Neurobiology, Physiology, and Behavior	2023
California State University, San Jose (virtual)	2023
Scripps Institute of Oceanography; Marine Biology (virtual)	2022
Long-Term Animal Research Seminar Series (virtual)	2021
Association for the Study of Animal Behavior (ASAB) Conference (virtual) Early Career Spotlight Symposium	2021
Durham University; Department of Biosciences (virtual)	2021
University of Exeter; Centre for Ecology and Conservation (virtual)	2020
UC Santa Barbara; Ecology, Evolution, and Marine Biology	2016, 2019
University of Chicago; Ecology and Evolution	2019
University of Guam; Marine Laboratory	2018
Wake Forest University; Ecology and Evolutionary Biology	2017

CONTRIBUTED PRESENTATIONS

Society for Integrative and Comparative Biology (SICB) Conference	2024 (planned)
Animal Behavior Society (ABS) Conference	2023
Society for the Study of Evolution (SSE) Conference	2023
SICB Conference	2023
Human Frontier Science Program Awardees Meeting (virtual)	2022
Ecological Society of America Annual Conference	2022
SICB Conference	2022
Southwestern Regional SICB Conference	2021
Animal Behavior Society Conference (virtual)	2021
SICB Conference (virtual)	2021
ABS Conference (virtual)	2020
Association for the Study of Animal Behaviour (ASAB) Conference (poster)	2019
ABS Conference	2019
SICB Conference	2019
International Society for Behavioral Ecology (ISBE) Conference	2018
International Society for Research on Aggression Conference Young Investigator Award	2018
SICB Conference, Division of Animal Behavior Best Student Presentation Session	2018
ABS Conference	2017
SICB Conference	2017
ABS Conference	2016
ABS Conference	2015
Duke University Ecology Symposium, Best Student Presentation Award Winner	2015
SICB Conference, Division of Animal Behavior Best Student Presentation Award Session	2015
Society for the Study of Evolution Conference	2014
Smithsonian Tropical Research Institute Fellows' Symposium	2014
SICB Conference (poster)	2013
SICB Division of Comparative Biomechanics Northeast Regional Conference	2012
SICB Conference (poster)	2012
UMass, Amherst Life Science Graduate Research Symposium	2011

TEACHING EXPERIENCE

INSTRUCTOR

Co-Instructor – UCSB, <i>R Seminar</i>	2023
Collaborative seminar teaching R coding and analysis.	
Instructor and Course Designer – Duke University, <i>Biology Boot Camp (Bio 790)</i>	2015, 2017
Graduate professional development class.	
Laboratory Coordinator – Duke University, <i>Animal Physiology (Bio 329L)</i>	2016
Trained TA instructors; organized and taught lab materials	

GUEST LECTURER

Guest Lecturer and Laboratory Instructor – Duke Alumni Marine Lab Weekend	2016
Guest Lecturer – Duke University, Elon University, UCSB	2014 – 2023
<i>Behavioral Ecology</i> (UCSB, Kelly Thomasson)	
<i>Quantifying Spectral Sensitivity Data in R</i> (Duke University) – description of class, data, and code here .	
<i>Behavioral Ecology</i> (Duke University, Susan Alberts)	
<i>Animal Communication</i> (Duke University, Steve Nowicki)	
<i>Sensory Biology</i> (Duke University, Sönke Johnsen)	
<i>Science Without Borders</i> (Elon University, Dave Gammon)	
<i>The Evolution of Animal Form</i> (Duke University, Dan McShea)	

Animal Physiology (Duke University, Anna Coppola, Sheila Patek)

TEACHING ASSISTANTSHIPS

- Teaching Assistant** – Duke University 2014 – 2015
The Evolution of Animal Form (Bio 121); *Principles of Animal Physiology* (Bio 329L)
- Teaching Assistant** – University of Massachusetts, Amherst 2012 – 2013
Life After Biology (Bio 494LI); *Quantitative Systems Biology* (Bio 197)

OUTREACH, MENTORSHIP, AND LEADERSHIP

- SciREN, the Scientific Research and Education Network** 2014 – 2018
Co-Founder and Researcher Liaison. 501c3 non-profit educational outreach organization (www.sciren.org).
- Behavioral Ecology and Morphology (BEAM) Review Group** – Duke University 2015 – 2016
Coordinator. Faculty, post-doc, and graduate student review group.
- Teaching Assistant Committee** – Duke University Biology 2014 – 2018
Graduate Student Representative. Facilitated training, feedback, and awards for Teaching Assistants.
- Preparing Future Faculty** – Duke University 2014 – 2015
Fellow. Competitive program that trains graduate students for faculty careers at diverse institutions.
- Biology Literary Review Group (BLERG)** – Duke University 2014 – 2015
Founder and Coordinator. Graduate and post-doc review group for manuscripts, grants, and presentations.
- Graduate Mentorship** 2020 – present
UCSB – Committee member for EEMB PhD student Bryce Barbee; mentor to second PhD student.
University of Exeter – 3 Masters of Science projects
- Undergraduate Mentorship** 2012 – present
UCSB – 9 undergraduates
 4 undergraduates mentored as part of Data Science Capstone Project.
 1 undergraduate funded through UCSB Coastal Fund grant (\$15/hr x 10hr/wk).
 1 undergraduate funded through UCSB Benson Scholarship (\$5,000).
University of Bristol – 3 undergraduates
Duke University – 7 undergraduates; 4 independent study projects, 1 high-school teacher, 1 high school student.
 1 mentee awarded Duke Dean’s Summer Research Fellowship and \$500/mo equipment usage grant.
 1 mentee awarded Duke Huang Fellowship.
University of Massachusetts, Amherst – 2 undergraduates
UCLA – 1 undergraduate