

RACHEL PAGE

- CV -

Smithsonian Tropical Research Institute • MRC 0580-12 • Apartado 0843-03092
Panamá, República de Panamá

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PROFESSIONAL APPOINTMENTS

Smithsonian Tropical Research Institute (11/2009–present), Panama
Staff Scientist, Vertebrate behavior, predator-prey interactions, sensory and cognitive ecology of foraging, effect of eavesdroppers on signal evolution

McGill University (1/2014–present), Montreal, Canada
Adjunct Professor, Department of Biology, Faculty of Science

University of Auckland and **University of Otago** (1/2017–1/2018), New Zealand
Sabbatical Researcher. Hosts: Stuart Parsons and Mike Paulin

Max Planck Institute for Ornithology (10/2008–10/2009), Seewiesen, Germany
Humboldt Postdoctoral Research Fellow
Comparative cognition in bats: Ecological correlates of learning and novelty response.
Host: Björn Siemers

EDUCATION

University of Texas at Austin (2002–2008), Austin, Texas
Ph.D. in Ecology, Evolution & Behavior, Section of Integrative Biology, Advisor:
Michael J. Ryan

Columbia University (1992–1996), New York, New York
B.A. East Asian Languages and Cultures, Concentration in Anthropology

PUBLICATIONS

PDFs available on [publications page](#)

2017

- **47.** Carter GG, Wilkinson GS, Page RA. 2017. Food-sharing vampire bats are more nepotistic under conditions of perceived risk. *Behavioral Ecology*. doi:10.1093/beheco/ax006.
- **46.** Flores, EE, Page, RA, Cisneros, I, Rodriguez, S. 2017. *Oophaga vicentei* (Vicente's Poison Frog). Color change. *Herpetological Review*. 8: 166-167.

- **45.** Hemingway, C, Ryan, MJ, Page, RA. 2017. Rationality in decision-making in the fringe-lipped bat, *Trachops cirrhosus*. *Behavioral Ecology and Sociobiology*. 71: 94. doi:10.1007/s00265-017-2321-5.
- **44.** Gomes, DGE, Halfwerk, W, Taylor, RC, Ryan, MJ, Page, RA. *In press*. Multimodal weighting differences by bats and their prey: probing natural selection pressures on sexually selected traits. *Animal Behaviour*.
- **43.** Jones PL, Hämsch F, Page RA, Kalko EKV, O'Mara MT. *In press*. Foraging and roosting behavior of the fringe-lipped, *Trachops cirrhosus*, on Barro Colorado Island, Panamá. *Acta Chiropterologica*.
- **42.** Taylor, RC, Page, RA, Klein, BA, Ryan, MJ, Hunter, KL. 2017. Perceived synchrony of frog multimodal signal components is influenced by content and order. *Integrative and Comparative Biology*. doi: <https://doi.org/10.1093/icb/ix027>.
- **41.** ter Hofstede, H.M., Voigt-Heucke, S.L., Lang, A., Römer, H., Page, R.A., Faure, P.A., Dechmann, D.K.N. 2017. Revisiting adaptations of Neotropical katydids (Orthoptera: Tettigoniidae) to gleaned bat predation. *Neotropical Biodiversity*. 3: 41-49. doi: 10.1080/23766808.2016.1272314.

2016

- **40.** Gomes, DGE, Page, RA, Geipel, I, Taylor, RC, Ryan, MJ, Halfwerk, W. 2016. Bats perceptually weight prey cues across sensory systems when hunting in noise. *Science*. 353: 1277-1280. doi: 10.1126/science.aaf7934.
- **39.** Halfwerk, W, Guerra, MA, Lea, AM, Page, RA, Ryan, MJ. 2016. Amplitude regulation in frogs reveals the ancestral state of the Lombard effect. *Behavioral Ecology*. 27: 669-676. doi:10.1093/beheco/arv204.
- **38.** Jones, PL, Page, RA, Ratcliffe, JM. 2016. To scream or to listen? Prey detection and discrimination in animal-eating bats. In: Bat Bioacoustics (volume editors: B. Fenton and A. Grinnell; series editor: A. Popper). Springer. pp. 93-116.
- **37.** Page, RA, Jones, PL. 2016. Overcoming sensory uncertainty: factors affecting foraging decisions in frog-eating bats. In: Perception and Cognition in Animal Communication (volume editors, MA Bee and CT Miller), in the book series Animal Signals and Communication (series editors: PK McGregor and VM Janik). Springer. pp 285-312. DOI 10.1007/978-3-319-48690-1_11.
- **36.** Ramakers JJC, Dechmann DKN, Page RA, O'Mara MT. 2016. Frugivorous bats prefer information from novel social partners. *Animal Behaviour*. 116: 83-87.
- **35.** Ripperger, S, Josic, D, Hierold, M, Koelpin, A, Weigel, R, Hartmann, M, Page, RA, Mayer, F. 2016. Automated proximity sensing in small vertebrates: design of miniaturized sensor nodes and first field tests in bats. *Ecology and Evolution*. 6: 2179–2189.
- **34.** Stange, N, Page, RA, Ryan, MJ, Taylor, RC. 2016. Interactions between complex multisensory signal components result in unexpected mate choice responses. *Animal Behaviour*. DOI: 10.1016/j.anbehav.2016.07.005.
- **33.** Symes, LB, Page, RA, ter Hofstede, HM. 2016. Effects of acoustic environment on male calling activity and timing in Neotropical forest katydids. *Behavioral Ecology and Sociobiology*. 70: 1485-1495. doi:10.1007/s00265-016-2157-4.

- **32.** Trillo, PA, Bernal, XE, Caldwell, M, Halfwerk, W, Owens, M, Page, RA. 2016. Collateral damage or a shadow of safety? The effects of signaling neighbors on the risks of parasitism and predation. *Proceedings of the Royal Society Series B*. 283: 20160343. <http://dx.doi.org/10.1098/rspb.2016.0343>.
- **31.** Vencl, FV, Ottens, K, Dixon, MM, Candler, S, Bernal, XE, Estrada, C, Page, RA. 2016. Pyrazine emission by a tropical firefly: an example of chemical aposematism? *Biotropica*. 48: 645–655. doi:10.1111/btp.12336.

2015

- **30.** Bader, E, Jung, K, Kalko, EKV, Page, RA, Rodriguez, R, Sattler, T. 2015. Mobility explains the response of aerial insectivorous bats to anthropogenic habitat change in the Neotropics. *Biological Conservation*. 186: 97–106.
- **29.** Bulbert, MW, Page, RA, Bernal, XE. 2015. Danger comes from all fronts: predator-dependent escape tactics of túngara frogs. *PLoS ONE*: 10(4): e0120546. doi:10.1371/journal.pone.0120546.
- **28.** Falk, JJ, ter Hofstede, HM, Jones, PL, Dixon, MM, Faure, PA, Kalko, EKV, Page, RA. 2015. Sensory-based niche partitioning in a multiple predator-multiple prey community. *Proceedings of the Royal Society Series B*. 282: 20150520. <http://dx.doi.org/10.1098/rspb.2015.0520>.
- **27.** Fugère, V, O'Mara, MT, Page, RA. 2015. Perceptual bias does not explain preference for prey call adornment in the frog-eating bat. *Behavioral Ecology and Sociobiology*. DOI 10.1007/s00265-015-1949-2.
- **26.** Rhebergen, F, Taylor, RC, Ryan, MJ, Page, RA, Halfwerk, W. 2015. Multimodal cues improve prey localisation under complex environmental conditions. *Proceedings of the Royal Society Series B*. 282: 20151403. <http://dx.doi.org/10.1098/rspb.2015.1403>.
- **25.** Stockmaier, S, Dechmann, DKN, Page, RA, O'Mara, MT. 2015. No fever and leukocytosis in response to a lipopolysaccharide challenge in an insectivorous bat. *Biology Letters*. 11: 20150576. <http://dx.doi.org/10.1098/rsbl.2015.0576>.

2014

- **24.** Clarin, TMA, Borissov, I, Page, RA, Ratcliffe, JM, Siemers, BM. 2014. Social learning within and across species: information transfer in mouse-eared bats. *Canadian Journal of Zoology*. 129-139. DOI 10.1139/cjz-2013-0211.
- **23.** Halfwerk, W, Dixon, MM, Ottens, K, Taylor, RC, Ryan, MJ, Page, RA, Jones, PL. 2014. Risks of multimodal signaling: bat predators attend to dynamic motion in frog sexual displays. *Journal of Experimental Biology*. 217: 3038-3044. DOI 10.1242/jeb.107482.
- **22.** Halfwerk, W, Jones, PL, Taylor, RC, Ryan, MJ, Page, RA. 2014. Risky ripples allow bats and frogs to eavesdrop on a multisensory sexual display. *Science*. 342: 413-416, DOI 10.1126/science.1244812.

- **21.** Halfwerk, W, Page, RA, Taylor, RC, Wilson, PS, Ryan, MJ. 2014. Cross-modal comparisons of signal components allow for relative distance assessment. *Current Biology*: <http://dx.doi.org/10.1016/j.cub.2014.05.068>.
- **20.** Jones, PL, Ryan, MJ, Page, RA. 2014. Population and seasonal variation in response to prey calls by an eavesdropping bat. *Behavioral Ecology and Sociobiology*. 68: 605-615. DOI 10.1007/s00265-013-1675-6.
- **19.** O'Mara, MT, Dechmann, DKN, Page, RA. 2014. Frugivorous bats evaluate the quality of social information when choosing novel foods. *Behavioral Ecology*: 1–7. doi:10.1093/beheco/aru120.
- **18.** Page, RA, Ryan, MJ, Bernal, XE. 2014. Be loved, be prey, be eaten. In: Animal Behavior, vol 3. Case Studies: Integration and Application of Animal Behavior (ed., K. Yasukawa), New York: Praeger. pp. 123-154.

2013

- **17.** Clarin, TMA, Ruczyński, I, Page, RA, Siemers, BM. 2013. Foraging ecology predicts learning performance in insectivorous bats. *PLoS ONE*. 8: e64823.
- **16.** Jones, PL, Farris, HE, Ryan, MJ, Page, RA. 2013. Do frog-eating bats perceptually bind the complex components of frog calls? *Journal of Comparative Physiology A*. 199: 279-283.
- **15.** Jones, PL, Ryan, MJ, Page, RA. 2013. When to approach novel prey cues? Social learning strategies in frog-eating bats. *Proceedings of the Royal Society Series B*. 280: 20132330, <http://dx.doi.org/10.1098/rspb.2013.2330>.
- **14.** Surlykke, A, Jakobsen, L, Kalko, EKV, Page, RA. 2013. Echolocation intensity and directionality of perching and flying fringe-lipped bats, *Trachops cirrhosus* (Phyllostomidae). *Frontiers in Physiology*. 4:143, doi: 10.3389/fphys.2013.00143.

2012

- **13.** Page, RA, Schnelle, T, Kalko, EKV, Bunge, T, Bernal, XE. 2012. Reassessment of prey through sequential use of multiple sensory cues by an eavesdropping bat. *Naturwissenschaften* 99: 505-509.
- **12.** Page RA, von Merten, S (equal contribution), Siemers, BM. 2012. Associative memory or algorithmic search: a comparative study on learning strategies of bats and shrews. *Animal Cognition* 15: 495-504.

2011

- **11.** Akre, KL, Farris, HE, Lea, AM, Page, RA, Ryan, MJ. 2011. Signal perception in frogs and bats and the evolution of mating signals. *Science* 333: 751-752.

- **10.** Jones, PL, Page, RA, Hartbauer, M, Siemers, BM. 2011. Behavioral evidence for eavesdropping on prey song in two Palearctic sibling bat species. *Behavioral Ecology and Sociobiology* 65: 333-340.

2009

- **9.** Bernal, XE, Page, RA, Ryan, MJ, Argo, TF, Wilson, PS. 2009. Acoustic radiation patterns of mating calls of the túngara frog (*Physalaemus pustulosus*): implications for multiple receivers. *Journal of the Acoustical Society of America* 126: 2757-2767.
- **8.** Siemers, BM, Page, RA. 2009. Behavioral studies of bats in captivity: methodology, training, and experimental design. In: Ecological and Behavioral Methods for the Study of Bats (ed. TH Kunz & S. Parsons), Baltimore: Johns Hopkins University Press. pp. 373-392.

2008 and earlier

- **7.** Page, RA, Ryan, MJ. 2008. The effect of signal complexity on localization performance in bats that localize frog calls. *Animal Behaviour* 76: 761-769.
- **6.** Bernal, XE, Page, RA, Rand, AS, Ryan, MJ. 2007. Cues for eavesdroppers: do frog calls indicate prey density and quality? *American Naturalist* 169: 409-415.
- **5.** Page, RA. 2007. Prey-predator communication: for your sensors only. Dispatch for *Current Biology* 17: R965-R966.
- **4.** Page, RA, MJ. Ryan. 2006. Social transmission of novel foraging behavior in bats: frog calls and their referents. *Current Biology* 16: 1201-1205.
- **3.** Page, RA, Bernal, XE. 2006. Túngara frogs. Quick guide for *Current Biology* 16: R979-980.
- **2.** Page, RA, Ryan, M.J. 2005. Flexibility in assessment of prey cues: frog-eating bats and frog calls. *Proceedings of the Royal Society Series B* 272: 841-847.
- **1.** Gabor, CR, Page, RA. 2003. Female preference for large males in sailfin mollies, *Poecilia latipinna*: the importance of predation pressure and reproductive status. *Acta Ethologica* 6: 7-12.

RESEARCH GRANTS AND FELLOWSHIPS

- **U.S.–Israel Binational Science Foundation (BSF):** The benefits of social sleeping: Behavior and neuroimaging of sleep within a group. PIs: Yossi Yovel (Tel-Aviv University), Rachel Page (STRI), Barrett Klein (University of Wisconsin, La Crosse). Four years: Sept 2017-Sept 2021. \$220,000.
- **National Geographic Society Research Grant (WW-057R-17):** Food-sharing vampire bats: manipulating and tracking cooperative relationships in the lab and field. PI:

Gerry Carter. Co-PIs: Simon Ripperger, Rachel Page, Frieder Mayer. One year: 2017-2018. \$19,275.

- **Scholarly Studies Program**, Smithsonian Institution: Tracking and manipulating cooperative relationships in vampire bats. PI: Rachel Page, Co-PIs: Gerry Carter, Simon Ripperger, Frieder Mayer. One year: 2016-2017. \$54,200.
- **Competitive Grants Program for Science Pell Grant**: Improved learning as a shared functional benefit of sleep. PI: Rachel Page. Co-PIs: Bill Wcislo, Barrett Klein. One year: 2014-2016. \$26,043.
- **Human Frontier Science Program**: Multimodal sensing in the natural environment. PI: Cindy Moss. Co-PIs: Yossi Yovel, John Hallam, Annemarie Surlykke, Rachel Page. Three years: 2013-2016. \$1,350,000.
- **National Science Foundation**: Multimodal communication, mate choice and predation risk. PIs: Mike Ryan, Ryan Taylor. Co-PI: Rachel Page. Five years: 2011-2016. \$1,174,954.
- **National Geographic Society Research Grant (9794-15)**: Acoustic-GPS tracking of frog-eating bats to reveal foraging flexibility in a changing world. PI: Yossi Yovel. Co-PIs: Rachel Page and Gerry Carter. One year: April 2016-April 2017. \$25,000.
- **Smithsonian Institution Barcode Network Opportunity**: Barcoding Central American bats and their ectoparasites including a new type of acoustic voucher. PI: Rachel Page. Co-PIs: Matt Miller, Thomas Sattler, Marco Tschapka, Thomas Hiller, Jose Loaiza Rodriguez. One year: 2013-2014. \$14,283.
- **Alexander von Humboldt Postdoctoral Research Fellowship**: 2008-2009
- **Smithsonian Institute Postdoctoral Fellowship**: 2008-2010 (declined)
- **Smithsonian Institute Predoctoral Fellowship**: 2007-2008
- **P.E.O. Scholar Award**: 2007-2008
- **National Science Foundation Doctoral Dissertation Improvement Grant**: 2006-2008
- **American Association of University Women Dissertation Fellowship**: 2006-2007
- **National Science Foundation Graduate Research Fellowship**: 2003-2006
- **American Society of Mammalogists**, Elisabeth Horner Award for best research proposal: 2005
- **Zoology Scholarship Endowment for Excellence**, UT Austin: 2004
- **Center for Perceptual Systems** Travel Grant, UT Austin: Summer 2003, 2004, 2007
- **Dorothea Bennett Memorial Graduate Fellowship**, UT Austin: 2003
- **American Museum of Natural History**, Theodore Roosevelt Memorial Fund: 2003
- **Smithsonian Tropical Research Institute** Short-Term Fellowship: Spring 2002, Spring 2003
- **Terrell H. Hamilton** Endowed Graduate Fellowship Fund: 2002
- **Dean's Excellence Award**, UT Austin: 2002

CONFERENCES AND INVITED TALKS

- **Page, RA.** The cognitive ecology of predator eavesdropping behavior: Learning and memory in a frog-eating bat. La Trobe University, Melbourne, Australia. September 20, 2017.
- **Page, RA.** Learning, flexibility and memory: Cognitive ecology of an eavesdropping bat. University of Otago. Dunedin, New Zealand. August 11, 2017.
- **Page, RA.** The costs and benefits of sexual signaling: Learning, memory and signal detection in an eavesdropping bat. Head of School Seminar Series, Queensland University of Technology (QUT). Brisbane, Australia. July 24, 2017.
- **Page, RA,** Ryan, MJ, Jones, PL. Social eavesdropping in bats: When, where, why and how? 45th Meeting of the Australasian Society for the Study of Animal Behaviour. Mooroolbark, Victoria, Australia. July 19-22, 2017.
- **Page, RA.** Efficient eavesdroppers, evasive advertisers, and multimodal cocktails: The sensory and cognitive ecology of a frog-eating bat. University of Auckland. Auckland, New Zealand. May 15, 2017.
- **Page, RA,** Bernal, XE, Caldwell, MS, Halfwerk, WH, Wessel, MO, Trillo, PA. Collateral damage or shadow of safety? Effect of predatory bats and parasitic midges on frog calling. North American Symposium for Bat Research. San Antonio, TX. Oct 12-15, 2016.
- **Page, RA.** Eavesdropping predators and sexual signals: Bat exploitation of frog calls. Harvard Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts. August 1, 2016.
- **Page, RA.** Conservation in the Neotropics: Challenges and triumphs. Lecture in International Conservation course at the University of Greifswald, Germany. November 23, 2015.
- **Page, RA.** Foraging flexibility in the Neotropical frog-eating bat, *Trachops cirrhosus*: Behavioral metrics for genetic correlation. Invited talk at the University of Greifswald, Germany. November 18, 2015.
- **Page, RA,** Taylor, R, Ryan, MJ, Halfwerk, W. Water-borne vibrations and dynamically inflating vocal sacs: a multimodal cocktail for frog-eating bats. North American Symposium for Bat Research. Monterey, California. October 28-31, 2015.
- **Page, RA,** Taylor, R, Ryan, MJ, Halfwerk, W. Costs and benefits of multimodal signaling in environmental complexity. 52nd Annual Conference of the Animal Behavior Society. Anchorage, Alaska. June 10-14, 2015.
- **Page, RA.** The dark side of the túngara frog call: 30 years of research on frog-eating bats. Invited speaker for symposium: Brain, behavior and evolution: three decades of scientific exploration. University of Texas at Austin. January 17, 2014.

- **Page, RA.** Predator use of prey cues: Sensory and cognitive ecology of a frog-eating bat. Invited departmental seminar for consideration as adjunct faculty. McGill University, Montreal, Canada. December 5, 2013.
- **Page, RA.** Of bats, frogs and flies: Cognitive and sensory insights from a communication network. Gamboa Seminar, Smithsonian Tropical Research Institute. December 2, 2013.
- **Page, RA,** Falk, J, Jones, PL, ter Hofstede, H, Dixon, M, Faure, PA, Kalko, EKV. Neotropical mosaic: an Eli Kalko approach to understanding sensory niche partitioning, species coexistence, and eavesdropping in Phyllostomid bats. Invited talk in the Memorial Symposium, Two curious explorers: the work of Elisabeth Kalko and Björn Siemers. 16th International Bat Research Conference, San Jose, Costa Rica, August 11-15, 2013.
- **Page, RA,** O'Mara, MT, Jones, PL. Learning, decision-making, and flexibility in the fringe-lipped bat, *Trachops cirrhosus*. Invited talk in the Behavioral Ecology Symposium. 16th International Bat Research Conference, San Jose, Costa Rica, August 11-15, 2013.
- **Page, RA.** Sensory perception in frog-eating bats – and other recent projects with Elisabeth Kalko. Elisabeth Kalko Memorial Symposium, Tupper Auditorium, Smithsonian Tropical Research Institute, August 20-21, 2012.
- **Page, RA,** Akre, KL, Farris, HE, Lea, AM, Ryan, MJ. Psychoacoustics, ratio-comparisons, sex and dinner: stimulus perception in frogs and bats. 41st North American Symposium on Bat Research, Toronto, Canada, October 26-29, 2011.
- **Page, RA,** Ryan, MJ. The acoustic universe of a frog-eating bat. 13th International Society for Behavioral Ecology, Perth, Australia, September 26-October 1, 2010.
- **Page, RA.** Bat-frog interactions: Learning, categorization and memory. Invited talk in the Adaptations and Evolutionary Ecology Symposium. 15th International Bat Research Conference, Prague, Czech Republic, August 22-27, 2010.
- **Page, RA.** Social transmission of novel foraging behavior in bats: Frog calls and their referents. Invited talk for Interdisciplinary Symposium and Workshop on Copying, Zurich, Switzerland. Host: Dr. Gerald Kerth. February 5-7, 2009.
- **Page, RA.** Flexibility, learning and memory in foraging behavior. German Bat Research Conference (Treffen der Fledermausforscher). Frauenchiemsee, Germany. January 22-24, 2009.
- **Page, RA.** Learning and flexibility in foraging: Bats, frogs and shrews. Max Planck Institute for Ornithology, Seewiesen, Germany. November 25, 2008.
- **Page, RA,** Kalko, EKV, Ryan, MJ. Flexibility in sensory strategy use during foraging in the fringe-lipped bat, *Trachops cirrhosus*. Invited talk in the

Adaptability and Functional Significance of Echolocation Symposium. 14th International Bat Research Conference, Mérida, Mexico, August 19-23, 2007.

- **Page, RA.** Foraging flexibility in the frog-eating bat, *Trachops cirrhosus*. Allee Competition. Animal Behavior Society Meeting, Burlington, VT, July 21-25, 2007.
- **Page, RA.** Predator use of prey cues: Learning and flexibility in a frog-eating bat. Invited talk at the Max Planck Institute for Ornithology, Seewiesen, Germany. Host: Dr. Björn Siemers. March 16, 2007.
- **Page, RA.** Predator use of prey cues: Frog-eating bats and frog calls. Invited talk for the Acoustics Seminar Series, Engineering Department, University of Texas at Austin. Host: Dr. Preston Wilson. November 10, 2006.
- **Page, RA.** Predator use of prey cues: Frog-eating bats and frog calls. Biology Department, Texas A&M University. Host: Dr. Michael Smotherman. November 6, 2006.
- **Page, RA.** Sensory mode switching in prey detection by the frog-eating bat, *Trachops cirrhosus*. 35th Annual North American Symposium on Bat Research, Wilmington, NC, October 18-21, 2006.
- **Page, RA.** Predator use of prey cues: Frog-eating bats and frog calls. Invited talk at the University of Tübingen, Germany. Host: Dr. Björn Siemers and Dr. Hans-Ulrich Schnitzler. February 2, 2006.
- **Page, RA.** Whisper in my pinna: Social learning, persistence, and memory in the frog-eating bat, *Trachops cirrhosus*. 35th Annual North American Symposium on Bat Research, Sacramento, CA, October 19-22, 2005.
- **Page, RA.** Flexibility in foraging: Tales of a frog-eating bat. Bambi seminar, Smithsonian Tropical Research Institute, Barro Colorado Island, Panama, May 5, 2005.
- **Page, RA.** Frogs, toads, or Bob Marley? Flexibility and learning in the frog-eating bat, *Trachops cirrhosus*. 34th Annual North American Symposium on Bat Research, Salt Lake City, UT, October 27-30, 2004.
- **Page, RA.** Behavioral flexibility in the frog-eating bat, *Trachops cirrhosus*. Invited talk at the University of Ulm, Germany. Host: Dr. Elisabeth Kalko. August 31, 2004.
- **Page, RA, Ryan, MJ.** Foraging flexibility and response to prey mating calls in the frog-eating bat, *Trachops cirrhosus*. Invited talk in Sensory Ecology in Bat Foraging Behaviour Symposium, 13th International Bat Research Conference, Mikolajki, Poland, August 23-27, 2004.
- **Page, RA.** Behavioral flexibility in the frog-eating bat, *Trachops cirrhosus*. Smithsonian Tropical Research Institute Science Symposium, Panama City, Panama, July 8-9, 2004.
- **Page, RA, Bernal, XE.** Eavesdroppers are listening: Convergent acoustic preferences in frogs, bats, and flies. Invited talk in Sexual Communication in

Túngara Frogs Symposium, 41st Animal Behavior Society Meeting, Oaxaca, Mexico, June 13-16, 2004.

- **Page, RA.** Prey preferences and localization performance: Behavioral flexibility in a frog-eating bat. Tupper talk, Smithsonian Tropical Research Institute, Panama, June 2003.

TEACHING, MENTORSHIP AND CONSERVATION

Masters and PhD advisor (2009 to present) Smithsonian Tropical Research Institute, Panama. Since my start as a staff scientist at STRI, I have co-advised thesis research for numerous Masters and PhD students. Duties range from hosting students in the field; participating in committee meetings and evaluating in thesis defenses; advising on experimental design, data analysis and manuscript writing. Institutes I have partnered with include:

- *University of Texas at Austin, McGill University, Purdue University, University of Chicago, Max Plank Institute for Ornithology*

Field course instructor (2010 to present) Smithsonian Tropical Research Institute, Panama. Lecturer and field leader for numerous courses that come through STRI. For example:

- *McGill-STRI Neotropical Environment Option (NEO)* field course: Led guest lecture and field excursion, demonstration of bat mistnetting, bioacoustic monitoring, and ongoing experimental work.
- *STRI's Gigante Course*, a course designed for Latin American students to get experience with tropical research; I give a lecture and teach small, group-based nocturnal research projects.

Intern mentor (2009-present) Smithsonian Tropical Research Institute, Panama. I host numerous interns in my lab, guiding them through the basics of tropical field biology, often mentoring through the publication of their first manuscript and their application to graduate school.

Bat Conservation (2014-present). I am on the board of directors for [Merlin Tuttle's Bat Conservation](#), an organization dedicated to bat conservation worldwide.

REVIEWER FOR

- Acta Chiropterologica
- American Naturalist
- Animal Behaviour
- Behavioral Ecology
- Behavioral Ecology and Sociobiology
- Behavioural Processes
- Biology Letters
- Biotropica
- Current Biology
- Ecology
- Ethology
- Evolutionary Ecology
- Journal of Experimental Biology
- Journal of Mammalogy
- Journal of the Acoustical Society of America
- Mammalia
- PLOS ONE
- PNAS
- Proceedings of the Royal Society, Series B
- Science