

Gamboa Laboratories Bibliography

Updated December 15, 2020

This is a list of publications that are attributed to research done at the Gamboa Laboratories and surrounding area by Smithsonian Tropical Research Institute and affiliated staff. The publications are grouped by year and sorted alphabetically by first author, with known Smithsonian Tropical Research Institute researchers marked in bold. The data are generated from [Smithsonian Research Online](#), provided by the Smithsonian Libraries and Archives. Reports are generated on a quarterly basis and may not include the most recent publications.

2020

Byers, Kelsey J. R. P., Darragh, Kathy, Musgrove, Jamie, Almeida, Diana Abondano, Garza, Sylvia Fernanda, Warren, Ian A., Rastas, Pasi M., Kučka, Marek, Chan, Yingguang Frank, Merrill, Richard M., Schulz, Stefan, McMillan, W. O., and Jiggins, Chris D. 2020. "A major locus controls a biologically active pheromone component in *Heliconius melpomene*." *Evolution; international journal of organic evolution* 74 (2):349–364. <https://doi.org/10.1111/evo.13922>

Mérot, Claire, Debat, Vincent, Poul, Yann Le, **Merrill, Richard M., Naisbit, Russell E.,** Tholance, Adélie, **Jiggins, Chris D.,** and Joron, Mathieu. 2020. "[Hybridization and transgressive exploration of colour pattern and wing morphology in *Heliconius* butterflies.](#)" *Journal of Evolutionary Biology* 1–15. <https://doi.org/10.1111/jeb.13626>

Stockmaier, Sebastian, Bolnick, Daniel I., **Page, Rachel A.,** and **Carter, Gerald G.** 2020. "[Sickness effects on social interactions depend on the type of behaviour and relationship.](#)" *Journal of Animal Ecology* 1–18. <https://doi.org/10.1111/1365-2656.13193>

2019

Baudier, Kaitlin M., Ostwald, Madeleine M., Grüter, Christoph, Segers, Francisca H. I. D., **Roubik, David Ward,** Pavlic, Theodore P., Pratt, Stephen C., and Fewell, Jennifer H. 2019. "[Changing of the guard: mixed specialization and flexibility in nest defense \(*Tetragonisca angustula*\).](#)" *Behavioral Ecology* 30 (4):1041–1049. <https://doi.org/10.1093/beheco/arz047>

Berrío-Martínez, Jineth, Kaiser, Samuel, Nowak, Michelle, **Page, Rachel A.,** and **Carter, Gerald G.** 2019. "The role of past experience in development of feeding behavior in common vampire bats." *PeerJ* 7:e7448. <https://doi.org/10.7717/peerj.7448>

Carter, Gerald G., Farine, Damien R., Crisp, Rachel J., Vrtillek, Julia K., **Ripperger, Simon,** and **Page, Rachel.** 2019. "[Development of new food-sharing relationships among nonkin vampire bats.](#)" *bioRxiv* 1–29. <https://doi.org/10.1101/534321>

- Chiver, Ioana** and **Schlinger, Barney A.** 2019. "[Sex-specific effects of testosterone on vocal output in a tropical suboscine bird.](https://doi.org/10.1016/j.anbehav.2018.12.011)" *Animal Behaviour* 148:105–112. <https://doi.org/10.1016/j.anbehav.2018.12.011>
- Christian, Natalie, **Herre, Edward Allen**, and Clay, Keith. 2019. "[Foliar endophytic fungi alter patterns of nitrogen uptake and distribution in Theobroma cacao.](https://doi.org/10.1111/nph.15693)" *New Phytologist* 1–28. <https://doi.org/10.1111/nph.15693>
- Cohen, Kristina L., Piacentino, Michael L., and **Warkentin, Karen M.** 2019. "[Two types of hatching gland cells facilitate escape-hatching at different developmental stages in red-eyed treefrogs, Agalychnis callidryas \(Anura: Phyllomedusidae\).](https://doi.org/10.1093/biolinnean/bly214)" *Biological Journal of the Linnean Society* 1–17. <https://doi.org/10.1093/biolinnean/bly214>
- Concha, Carolina**, Wallbank, Richard W. R., Hanly, Joseph J., Fenner, Jennifer, **Livraghi, Luca**, **Rivera, Edgardo Santiago**, Paulo, Daniel F., **Arias, Carlos**, **Vargas, Marta**, **Sanjeev, Manu**, **Morrison, Colin**, **Tian, David**, **Aguirre, Paola**, **Ferrara, Sabrina**, **Foley, Jessica**, Pardo-Diaz, Carolina, Salazar, Camilo, **Linares, Mauricio**, Massardo, Darli, Counterman, Brian A., Scott, Maxwell J., **Jiggins, Chris D.**, **Papa, Riccardo**, Martin, Arnaud, and **McMillan, W. O.** 2019. "[Interplay between Developmental Flexibility and Determinism in the Evolution of Mimetic Heliconius Wing Patterns.](https://doi.org/10.1016/j.cub.2019.10.010)" *Current Biology* 1–19. <https://doi.org/10.1016/j.cub.2019.10.010>
- Cronin, Andrew D., **Ryan, Michael J.**, **Page, Rachel A.**, **Hunter, Kimberly L.**, and **Taylor, Ryan C.** 2019. "[Environmental heterogeneity alters mate choice behavior for multimodal signals.](https://doi.org/10.1007/s00265-019-2654-3)" *Behavioral Ecology and Sociobiology* 73 (4):1–10. <https://doi.org/10.1007/s00265-019-2654-3>
- Dixon, M. M.**, Hulgard, Katrine, Ratcliffe, John M., and **Page, Rachel A.** 2019. "[Habituation and ecological salience: insights into the foraging ecology of the fringed-lipped bat, Trachops cirrhosus.](https://doi.org/10.1007/s00265-019-2700-1)" *Behavioral Ecology and Sociobiology* 73 (8):101. <https://doi.org/10.1007/s00265-019-2700-1>
- Dosselli, Ryan, Grassl, Julia, Boer, Susanne P. A., den Boer, Madlen Kratz, Moran, Jessica M., **Boomsma, Jacobus J.**, and **Baer, Boris.** 2019. "[Protein-Level Interactions as Mediators of Sexual Conflict in Ants.](https://doi.org/10.1074/mcp.RA118.000941)" *Molecular & Cellular Proteomics* 18 (Supplement 1):S34–S45. <https://doi.org/10.1074/mcp.RA118.000941>
- García, Mark J., **Rodríguez-Brenes, Sofía**, Kobisk, Ashley, Adler, Laurie, **Ryan, Michael J.**, **Taylor, Ryan C.**, and **Hunter, Kimberly L.** 2019. "[Epigenomic changes in the túngara frog \(Physalaemus pustulosus\): possible effects of introduced fungal pathogen and urbanization.](https://doi.org/10.1007/s10682-019-10001-8)" *Evolutionary Ecology* 1–16. <https://doi.org/10.1007/s10682-019-10001-8>
- Geipel, Inga**, **Amin, Bawan**, **Page, Rachel A.**, and **Halfwerk, Wouter.** 2019. "[Does bat response to traffic noise support the misleading cue hypothesis?.](https://doi.org/10.1093/beheco/arz148)" *Behavioral Ecology* 1–7. <https://doi.org/10.1093/beheco/arz148>

- Geipel, Inga**, Smeekes, Marcus J., **Halfwerk, Wouter**, and **Page, Rachel A.** 2019. "[Noise as an informational cue for decision-making: the sound of rain delays bat emergence.](https://doi.org/10.1242/jeb.192005)" *Journal of Experimental Biology* 222 (3):<https://doi.org/10.1242/jeb.192005>
- Halfwerk, Wouter**, Blaas, Michiel, Kramer, Lars, Hijner, Nadia, **Trillo, Paula A.**, **Bernal, Ximena E.**, **Page, Rachel A.**, Goutte, Sandra, **Ryan, Michael J.**, and Ellers, Jacintha. 2019. "[Adaptive changes in sexual signalling in response to urbanization.](https://doi.org/10.1038/s41559-018-0751-8)" *Nature Ecology & Evolution* 3:374–380. <https://doi.org/10.1038/s41559-018-0751-8>
- Hanly, Joseph J., Wallbank, Richard W. R., **McMillan, W. O.**, and **Jiggins, Chris D.** 2019. "[Conservation and flexibility in the gene regulatory landscape of heliconiine butterfly wings.](https://doi.org/10.1186/s13227-019-0127-4)" *EvoDevo* 10 (1):1–14. <https://doi.org/10.1186/s13227-019-0127-4>
- Hemingway, Claire T., Lea, Amanda M., **Page, Rachel A.**, and **Ryan, Michael J.** 2019. "[Effects of information load on response times in frogs and bats: mate choice vs. prey choice.](https://doi.org/10.1007/s00265-019-2726-4)" *Behavioral Ecology and Sociobiology* 73 (8):111. <https://doi.org/10.1007/s00265-019-2726-4>
- Hemingway, Claire T., **Ryan, Michael J.**, and **Page, Rachel A.** 2019. "[Transitive foraging behaviour in frog-eating bats.](https://doi.org/10.1016/j.anbehav.2019.05.005)" *Animal Behaviour* 154:47–55. <https://doi.org/10.1016/j.anbehav.2019.05.005>
- Hiller, Thomas**, Rasche, Andrea, **Brändel, Stefan Dominik**, König, Alexander, Jeworowski, Lara, O'Mara, Teague M., Cottontail, Veronika, **Page, Rachel A.**, Glebe, Dieter, Drexler, Jan Felix, **Tschapka, Marco**. 2019. "[Host Biology and Anthropogenic Factors Affect Hepadnavirus Infection in a Neotropical Bat.](https://doi.org/10.1007/s10393-018-1387-5)" *EcoHealth* 16 (1):82–94. <https://doi.org/10.1007/s10393-018-1387-5>
- Jung, Julie, Kim, Su J., Pérez Arias, Sonia M., McDaniel, James G., and **Warkentin, Karen M.** 2019. "[How do red-eyed treefrog embryos sense motion in predator attacks? Assessing the role of vestibular mechanoreception.](https://doi.org/10.1242/jeb.206052)" *The Journal of experimental biology* 222:jeb206052. <https://doi.org/10.1242/jeb.206052>
- Kelehear, Crystal**, **Saltonstall, Kristin**, and **Torchin, Mark E.** 2019. "[Negative effects of parasitic lung nematodes on the fitness of a Neotropical toad \(*Rhinella horribilis*\).](https://doi.org/10.1017/S0031182019000106)" *Parasitology* 13:1–9. <https://doi.org/10.1017/S0031182019000106>
- Legett, Henry D., **Page, Rachel A.**, and **Bernal, Ximena E.** 2019. "[Synchronized mating signals in a communication network: the challenge of avoiding predators while attracting mates.](https://doi.org/10.1098/rspb.2019.1067)" *Proceedings of the Royal Society B: Biological Sciences* 286 (1912):1–9. <https://doi.org/10.1098/rspb.2019.1067>
- Lipshutz, Sara E.**, Meier, Joana I., Derryberry, Graham E., **Miller, Matthew J.**, Seehausen, Ole, and Derryberry, Elizabeth P. 2019. "[Differential introgression of a female competitive trait in a hybrid zone between sex-role reversed species.](https://doi.org/10.1111/evo.13675)" *Evolution* 73 (2):188–201. <https://doi.org/10.1111/evo.13675>

- Merrill, Richard M.**, Rastas, Pasi, Martin, Simon H., Melo, Maria C., Barker, Sarah, Davey, John, **McMillan, W. O.**, and **Jiggins, Chris D.** 2019. "[Genetic dissection of assortative mating behavior.](https://doi.org/10.1371/journal.pbio.2005902)" *PLoS biology* 17 (2):1–21. <https://doi.org/10.1371/journal.pbio.2005902>
- Mighell, Kimberly, **Saltonstall, Kristin**, **Turner, Benjamin L.**, Espinosa-Tasón, Jaime, and **Bael, Sunshine A. Van.** 2019. "[Abiotic and biotic drivers of endosymbiont community assembly in *Jatropha curcas*.](https://doi.org/10.1002/ecs2.2941)" *Ecosphere* 10 (11):Article 02941. <https://doi.org/10.1002/ecs2.2941>
- Narizano, Hugo** and **Carter, Gerald G.** 2019. "[Do vampire bats groom others based on need?.](https://doi.org/10.1093/beheco/arz165)" *Behavioral Ecology* 1–7. <https://doi.org/10.1093/beheco/arz165>
- Nasto, Megan K., **Winter, Klaus**, **Turner, Benjamin L.**, and Cleveland, Cory C. 2019. "[Nutrient acquisition strategies augment growth in tropical N₂ fixing trees in nutrient poor soil and under elevated CO₂.](https://doi.org/10.1002/ecy.2646)" *Ecology* 1–33. <https://doi.org/10.1002/ecy.2646>
- Piperno, Dolores R., **Holst, Irene**, **Moreno, Jorge Enrique**, and **Winter, Klaus.** 2019. "[Experimenting with domestication: Understanding macro- and micro-phenotypes and developmental plasticity in teosinte in its ancestral pleistocene and early holocene environments.](https://doi.org/10.1016/j.jas.2019.05.006)" *Journal of Archaeological Science* 108:1–12. <https://doi.org/10.1016/j.jas.2019.05.006>
- Ripperger, Simon P.**, **Carter, Gerald G.**, Duda, Niklas, Koelpin, Alexander, Cassens, Björn, Kapitza, Rü, Josic, Darija, Berrío-Martínez, Jineth, **Page, Rachel A.**, and **Mayer, Frieder.** 2019. "[Vampire Bats that Cooperate in the Lab Maintain Their Social Networks in the Wild.](https://doi.org/10.1016/j.cub.2019.10.024)" *Current Biology* 1–11. <https://doi.org/10.1016/j.cub.2019.10.024>
- Ryan, Michael J.**, Akre, Karin L., **Baugh, Alexander T.**, **Bernal, Ximena E.**, Lea, Amanda M., Leslie, Caitlin, Still, Meghan B., Wylie, Dennis C., and Rand, A. S. 2019. "[Nineteen Years of Consistently Positive and Strong Female Mate Preferences despite Individual Variation.](https://doi.org/10.1086/704103)" *American Naturalist* 194 (2):125–134. <https://doi.org/10.1086/704103>
- Sapountzis, Panagiotis**, Nash, David R., Schjøtt, Morten, and **Boomsma, Jacobus J.** 2019. "[The evolution of abdominal microbiomes in fungus-growing ants.](https://doi.org/10.1111/mec.14931)" *Molecular ecology* 28 (4):879–899. <https://doi.org/10.1111/mec.14931>
- Strickland, Lynette R., **Arias, Carlos F.**, Rodriguez, Viterbo, Johnston, J. S., **McMillan, W. O.**, and **Windsor, Donald M.** 2019. "[Inheritance, distribution and genetic differentiation of a color polymorphism in Panamanian populations of the tortoise beetle, *Chelymorpha alternans* \(Coleoptera: Chrysomelidae\).](https://doi.org/10.1038/s41437-018-0149-z)" *Heredity* 122:558–569. <https://doi.org/10.1038/s41437-018-0149-z>
- Taylor, Ryan C.**, Akre, Karin, Wilczynski, Walter, and **Ryan, Michael J.** 2019. "[Behavioral and neural auditory thresholds in a frog.](https://doi.org/10.1093/cz/zoy089)" *Current Zoology* 65 (3):333–341. <https://doi.org/10.1093/cz/zoy089>

2018

- Baugh, Alexander T.**, Gridi-Papp, Marcos, and **Ryan, Michael J.** 2018. "A laryngeal fibrous mass impacts the acoustics and attractiveness of a multicomponent call in túngara frogs (*Physalaemus pustulosus*)." *Bioacoustics* 27 (3):231–243. <https://doi.org/10.1080/09524622.2017.1317288>
- Camperio Ciani, Julio Federico, Guerrel, Jorge**, Baitchman, Eric, Diaz, Rigoberto, Evans, Matthew, **Ibáñez, Roberto, Ross, Heidi**, Klaphake, Eric, Nissen, Bradley, Pessier, Allan P., Power, Michael L., Arlotta, Caitlin, Snellgrove, Donna, Wilson, Brad, and Gratwicke, Brian. 2018. "[The relationship between spindly leg syndrome incidence and water composition, overfeeding, and diet in newly metamorphosed harlequin frogs \(*Atelopus* spp.\)](#)." *PLOS ONE* 13 (10):<https://doi.org/10.1371/journal.pone.0204314>
- Carter, Gerald G.**, Forss, Sofia, **Page, Rachel A.**, and Ratcliffe, John M. 2018. "Younger vampire bats (*Desmodus rotundus*) are more likely than adults to explore novel objects." *PLOS ONE* 13 (5):<https://doi.org/10.1371/journal.pone.0196889>
- Chérasse, Sarah, **Baer, Boris**, Schiøtt, Morten, and **Boomsma, Jacobus J.** 2018. "[Differential immune-gene expression in sperm storage organs of leaf-cutting ants](#)." *Journal of Experimental Biology* 1–32. <https://doi.org/10.1242/jeb.173435>
- Güell, Brandon André and **Warkentin, Karen M.** 2018. "[When and where to hatch? Red-eyed treefrog embryos use light cues in two contexts](#)." *PeerJ* 6 (1):1–47. <https://doi.org/10.7287/peerj.preprints.27026v1>
- Haelewaters, Danny, Page, Rachel A.**, and Pfister, Donald H. 2018. "[Laboulbeniales hyperparasites \(Fungi, Ascomycota\) of bat flies: Independent origins and host associations](#)." *Ecology and Evolution* 8 (16):8396–8418. <https://doi.org/10.1002/ece3.4359>
- Heine, Daniel, Holmes, Neil A., Worsley, Sarah F., Santos, Ana Carolina A., Innocent, Tabitha M., Scherlach, Kirstin, Patrick, Elaine H., Douglas, W. Y., Murrell, J. C., Vieria, Paulo C., **Boomsma, Jacobus J.**, Hertweck, Christian, Hutchings, Matthew I., Wilkinson, Barrie. 2018. "[Chemical warfare between leafcutter ant symbionts and a co-evolved pathogen](#)." *Nature communications* 9 (1):1–11. <https://doi.org/10.1038/s41467-018-04520-1>
- Hite, Jessica L., **Hughey, Myra C., Warkentin, Karen M.**, and **Vonesh, James R.** 2018. "[Cross-ecosystem effects of terrestrial predators link treefrogs, zooplankton, and aquatic primary production](#)." *Ecosphere* 9 (9):<https://doi.org/10.1002/ecs2.2377>
- Jernigan, Christopher M., Birgiolas, Justas, McHugh, Cora, **Roubik, David Ward, Wcislo, William T.**, and Smith, Brian H. 2018. "[Colony-level non-associative plasticity of alarm responses in the stingless honey bee, *Tetragonisca angustula*](#)." *Behavioral Ecology and Sociobiology* 72 (3):<https://doi.org/10.1007/s00265-018-2471-0>
- Kohles, Jenna E., Page, Rachel A., Dechmann, Dina K. N.**, and **O'Mara, M. Teague.** 2018. "[Rapid behavioral changes during early development in Peters' tent-making bat \(*Uroderma bilobatum*\)](#)." *PloS One* 13 (10):<https://doi.org/10.1371/journal.pone.0205351>

- Liberti, Joanito, **Baer, Boris**, and **Boomsma, Jacobus J.** 2018. "[Rival seminal fluid induces enhanced sperm motility in a polyandrous ant.](https://doi.org/10.1186/s12862-018-1144-y)" *BMC Evolutionary Biology* 18 (1):28. <https://doi.org/10.1186/s12862-018-1144-y>
- Miller, Amanda J., **Page, Rachel A.**, and **Bernal, Ximena E.** 2018. "Exploratory behavior of a native anuran species with high invasive potential." *Animal Cognition* 21 (1):55–65. <https://doi.org/10.1007/s10071-017-1138-y>
- Moras, Ligiane M., Gregorin, Renato, **Sattler, Thomas**, and Tavares, Valéria da C. 2018. "Uncovering the diversity of dog-faced bats from the genus *Cynomops* (Chiroptera: Molossidae), with the redescription of *C. milleri* and the description of two new species." *Mammalian Biology* 89:37–51. <https://doi.org/10.1016/j.mambio.2017.12.005>
- Nehring, Volker**, **Dijkstra, Michiel B.**, **Sumner, Seirian**, **Hughes, William O. H.**, and **Boomsma, Jacobus J.** 2018. "[Reconstructing the relatedness of cooperatively breeding queens in the Panamanian leaf-cutting ant *Acromyrmex echinatior* \(Hymenoptera: Formicidae\).](https://doi.org/10.1016/j.mambio.2017.12.005)" *Myrmecological News* 27:33–45.
- O'Connell, Megan C.**, **Castilla, Antonio R.**, Lee, Leticia X., and **Jha, Shalene.** 2018. "[Bee movement across heterogeneous tropical forests: multi-paternal analyses reveal the importance of neighborhood composition for pollen dispersal.](https://doi.org/10.1111/btp.12603)" *Biotropica* 50 (6):908–918. <https://doi.org/10.1111/btp.12603>
- Ostwald, Madeleine M., Ruzi, Selina A., and Baudier, Kaitlin M. 2018. "[Ambush Predation of Stingless Bees \(*Tetragonisca angustula*\) by the Solitary-Foraging Ant *Ectatomma tuberculatum*.](https://doi.org/10.1007/s10905-018-9694-9)" *Journal of Insect Behavior* 1–7. <https://doi.org/10.1007/s10905-018-9694-9>
- Patriquin, Krista J., **Kohles, Jenna E.**, **Page, Rachel A.**, and Ratcliffe, John M. 2018. "Bats without borders: Predators learn novel prey cues from other predatory species." *Science Advances* 4 (3):<https://doi.org/10.1126/sciadv.aag0579>
- Somjee, Ummat**, Woods, H. A., **Duell, Meghan**, and Miller, Christine W. 2018. "[The hidden cost of sexually selected traits: the metabolic expense of maintaining a sexually selected weapon.](https://doi.org/10.1098/rspb.2018.1685)" *Proceedings of the Royal Society B: Biological Sciences* 285 (1891):<https://doi.org/10.1098/rspb.2018.1685>
- Srygley, Robert B.** 2018. "[Experimental Manipulation of Dispersal Ability in A Neotropical Butterfly *Anartia fatima* \(Lepidoptera: Nymphalidae\).](https://doi.org/10.3390/insects9030107)" *Insects* 9 (3):107. <https://doi.org/10.3390/insects9030107>
- Thurman, Timothy J.**, **Brodie, Emily**, **Evans, Elizabeth**, and **McMillan, William Owen.** 2018. "[Facultative pupal mating in *Heliconius erato*: Implications for mate choice, female preference, and speciation.](https://doi.org/10.1002/ece3.3624)" *Ecology and Evolution* 8 (3):1882–1889. <https://doi.org/10.1002/ece3.3624>
- Trierweiler, Annette M., **Winter, Klaus**, and Hedin, Lars O. 2018. "[Rising CO2 accelerates phosphorus and molybdenum limitation of N2-fixation in young tropical trees.](https://doi.org/10.1007/s11104-018-3685-7)" *Plant and Soil* 429 (1):363–373. <https://doi.org/10.1007/s11104-018-3685-7>

Van Schooten, Bas, Godoy-Vitorino, Filipa, **McMillan, W. Owen**, and **Papa, Riccardo**. 2018. "[Conserved microbiota among young *Heliconius* butterfly species](https://doi.org/10.7717/peerj.5502)." *PeerJ* 6:e5502. <https://doi.org/10.7717/peerj.5502>

Vrtilek, Julia K., **Carter, Gerald G.**, Patriquin, Krista J., **Page, Rachel A.**, and Ratcliffe, John M. 2018. "[A method for rapid testing of social learning in vampire bats](https://doi.org/10.1098/rsos.172483)." *Royal Society Open Science* 5 (6):<https://doi.org/10.1098/rsos.172483>

2017

Baugh, Alexander T. and **Ryan, Michael J.** 2017. "Vasotocin induces sexually dimorphic effects on acoustically-guided behavior in a tropical frog." *Journal of Comparative Physiology A* 203 (4):265–273. <https://doi.org/10.1007/s00359-017-1155-y>

Center, Barbara, Kanzaki, Natsumi, Esquivel, Alejandro, Giblin-Davis, Robin, Davies, Kerrie A., Ye, Weimin, Bartholomaeus, Faerlie, and **Herre, Edward Allen**. 2017. "Two new species and three morphospecies of *Ficophagus* Davies & Bartholomaeus, 2015 (Nematoda: Aphelenchoididae) from *Ficus* subgenus *Pharmacosycea* (Moraceae) in Central America." *Nematology* 19 (3):351–374. <https://doi.org/10.1163/15685411-00003055>

Chiver, Ioana and **Schlinger, Barney A.** 2017. "Clearing up the court: sex and the endocrine basis of display-court manipulation." *Animal Behaviour* 131:115–121. <https://doi.org/10.1016/j.anbehav.2017.07.014>

Chiver, Ioana and **Schlinger, Barney A.** 2017. "Sex differences in androgen activation of complex courtship behaviour." *Animal Behaviour* 124:109–117. <https://doi.org/10.1016/j.anbehav.2016.12.009>

Christian, Natalie, **Herre, Edward Allen**, **Mejia, Luis C.**, and Clay, Keith. 2017. "Exposure to the leaf litter microbiome of healthy adults protects seedlings from pathogen damage." *Proceedings of the Royal Society B: Biological Sciences* 284 (1858):<https://doi.org/10.1098/rspb.2017.0641>

Contreras, Maria Angelica, Eastwood, Gillian, Guzman, Hilda, Popov, Vsevolod, Savit, Chelsea, Uribe, Sandra, Kramer, Laura D., Wood, Thomas G., Widen, Steven G., Fish, Durland, Tesh, Robert B., Vasilakis, Nikos, and Walker, Peter J. 2017. "Almendravirus: A Proposed New Genus of Rhabdoviruses Isolated from Mosquitoes in Tropical Regions of the Americas." *American Journal of Tropical Medicine and Hygiene* 96 (1):100–109. <https://doi.org/10.4269/ajtmh.16-0403>

Dalbosco Dell'Aglio, Denise, Akkaynak, Derya, **McMillan, W. Owen**, and **Jiggins, Chris D.** 2017. "Estimating the age of *Heliconius* butterflies from calibrated photographs." *PeerJ* 5:e3821. <https://doi.org/10.7717/peerj.3821>

Farris, Hamilton E. and **Ryan, Michael J.** 2017. "Schema vs. primitive perceptual grouping: the relative weighting of sequential vs. spatial cues during an auditory grouping task in frogs." *Journal of Comparative Physiology A, Neuroethology, Sensory, Neural, and Behavioral Physiology* 203 (3):175–182. <https://doi.org/10.1007/s00359-017-1149-9>

- Finkbeiner, Susan D., Fishman, Dmitry A., Osorio, Daniel, and Briscoe, Adriana D. 2017. "Ultraviolet and yellow reflectance but not fluorescence is important for visual discrimination of conspecifics by *Heliconius erato*." *The Journal of experimental biology* 220:1267–1276.
<https://doi.org/10.1242/jeb.153593>
- Fuxjager, Matthew J., Fusani, Leonida, Goller, Franz, Trost, Lisa, Maat, Andries Ter, Gahr, Manfred, **Chiver, Ioana**, Ligon, R. M., Chew, Jennifer, and **Schlinger, Barney A.** 2017. "Neuromuscular mechanisms of an elaborate wing display in the golden-collared manakin (*Manacus vitellinus*)." *The Journal of experimental biology* 220:4681–4688.
<https://doi.org/10.1242/jeb.167270>
- Gomes, D. G. E., **Halfwerk, Wouter H.**, **Taylor, Ryan C.**, **Ryan, Michael J.**, and **Page, Rachel A.** 2017. "Multimodal weighting differences by bats and their prey: probing natural selection pressures on sexually selected traits." *Animal Behaviour* 134:99–102.
<https://doi.org/10.1016/j.anbehav.2017.10.011>
- Gontang, Erin A., Aylward, Frank O., Carlos, Camila, Glavina, del Rio, Chovatia, Mansi, Fern, Alison, Lo, Chien-Chi, Malfatti, Stephanie A., Tringe, Susannah G., Currie, Cameron R., and Kolter, Roberto. 2017. "Major changes in microbial diversity and community composition across gut sections of a juvenile *Panchlora* cockroach." *PLOS ONE* 12 (5):<https://doi.org/10.1371/journal.pone.0177189>
- Hemingway, Claire T., **Ryan, Michael J.**, and **Page, Rachel A.** 2017. "[Rationality in decision-making in the fringe-lipped bat, *Trachops cirrhosus*](#)." *Behavioral Ecology and Sociobiology* 71 (6):<https://doi.org/10.1007/s00265-017-2321-5>
- Legett, Henry D., Baranov, Viktor A., and **Bernal, Ximena E.** 2017. "Seasonal variation in abundance and diversity of eavesdropping frog-biting midges (Diptera, Corethrellidae) in a neotropical rainforest: Seasonal variation of frog-biting midges." *Ecological Entomology* 1–8.
<https://doi.org/10.1111/een.12492>
- Lorant, Anne, Perderson, Sarah, **Holst, Irene**, Hufford, Matthew B., **Winter, Klaus**, Piperno, Dolores R., and Ross-Ibarra, Jeffrey. 2017. "[The Potential Role of Genetic Assimilation during Maize Domestication](#)." *PLoS One* 12 (9):e0184202.
<https://doi.org/10.1371/journal.pone.0184202>
- Norman, V. C., Pamminer, T., and **Hughes, William O. H.** 2017. "[The effects of disturbance threat on leaf-cutting ant colonies: a laboratory study](#)." *Insectes Sociaux* 64:75–85.
<https://doi.org/10.1007/s00040-016-0513-z>
- O'Mara, M. Teague**, Rikker, Sebastian, **Wikelski, Martin**, Ter Maat, Andries, Pollock, Henry S., and **Dechmann, Dina K. N.** 2017. "Heart rate reveals torpor at high body temperatures in lowland tropical free-tailed bats." *Royal Society Open Science* 4 (12):171359.
<https://doi.org/10.1098/rsos.171359>

- O'Mara, M. Teague, Wikelski, Martin,** Voigt, Christian C., Ter Maat, Andries, Pollock, Henry S., Burness, Gary, Desantis, Lanna M., and **Dechmann, Dina Kn.** 2017. "Cyclic bouts of extreme bradycardia counteract the high metabolism of frugivorous bats." *eLife* 6:e26686. <https://doi.org/10.7554/eLife.26686>
- Rota, Elisa, Tanteri, Gianfranco, Montori, Gilberto, Giachi, Filippo, Delfino, Giovanni, and Sever, David M. 2017. "Skin of the Red Eye Tree Frog *Agalychnis Callidryas* (Hylidae, Phyllomedusinae) Contains Lipid Glands of the Type Described in the Genus *Phyllomedusa*: LIPID CUTANEOUS GLANDS IN *AGALYCHNIS CALLIDRYAS*." *Anatomical Record : Advances in Integrative Anatomy and Evolutionary Biology* 300 (3):503–506. <https://doi.org/10.1002/ar.23502>
- Salica, María José, **Vonesh, James R.,** and **Warkentin, Karen M.** 2017. "Egg clutch dehydration induces early hatching in red-eyed treefrogs, *Agalychnis callidryas*." *PeerJ* 5:e3549. <https://doi.org/10.7717/peerj.3549>
- Slot, Martijn** and **Winter, Klaus.** 2017. "In situ temperature relationships of biochemical and stomatal controls of photosynthesis in four lowland tropical tree species." *Plant, Cell and Environment* 40 (12):3055–3068. <https://doi.org/10.1111/pce.13071>
- Stange, Nicole, **Page, Rachel A., Ryan, Michael J.,** and **Taylor, Ryan C.** 2017. "Interactions between complex multisensory signal components result in unexpected mate choice responses." *Animal Behaviour* 134:239–247. <https://doi.org/10.1016/j.anbehav.2016.07.005>
- Taylor, Ryan C., Page, Rachel A.,** Klein, Barrett A., **Ryan, Michael J.,** and **Hunter, Kimberly L.** 2017. "[Perceived Synchrony of Frog Multimodal Signal Components Is Influenced by Content and Order](#)." *Integrative and Comparative Biology* 57 (4):902–909. <https://doi.org/10.1093/icb/ix027>
- Tiansawat, Pimonrat, **Beckman, Noelle G.,** and **Dalling, James W.** 2017. "Pre-dispersal seed predators and fungi differ in their effect on *Luehea seemannii* capsule development, seed germination, and dormancy across two Panamanian forests." *Biotropica* 49 (6):871–880. <https://doi.org/10.1111/btp.12473>
- Warkentin, Karen M.,** Cuccaro Diaz, Juliana, Güell, Brandon A., Jung, Julie, Kim, Su Jin, and Cohen, Kristina L. 2017. "Developmental onset of escape-hatching responses in red-eyed treefrogs depends on cue type." *Animal Behaviour* 129:103–112. <https://doi.org/10.1016/j.anbehav.2017.05.008>
- Zhukova, Mariya, **Sapountzis, Panagiotis,** Schjøtt, Morten, and **Boomsma, Jacobus J.** 2017. "[Diversity and Transmission of Gut Bacteria in *Atta* and *Acromyrmex* Leaf-Cutting Ants during Development](#)." *Frontiers in Microbiology* 8:1942. <https://doi.org/10.3389/fmicb.2017.01942>

- Aihara, Ikkyu, de Silva, Priyanka, and **Bernal, Ximena E.** 2016. "Acoustic Preference of Frog-Biting Midges (*Corethrella* spp) Attacking Túngara Frogs in their Natural Habitat." *Ethology* 122 (2):105–113. <https://doi.org/10.1111/eth.12452>
- Armitage, Sophie A. O., **Fernández-Marín, Hermógenes, Boomsma, Jacobus J., and Wcislo, William T.** 2016. "[Slowing them down will make them lose: A role for attine ant crop fungus in defending pupae against infections?](https://doi.org/10.1111/1365-2656.12543)." *Journal of Animal Ecology* 85 (5):1210–1221. <https://doi.org/10.1111/1365-2656.12543>
- Baugh, Alexander T., Ryan, Michael J., Bernal, Ximena E., Rand, Austin Stanley,** and Bee, Mark A. 2016. "Female tungara frogs do not experience the continuity illusion." *Behavioral neuroscience* 130 (1):62–74. <https://doi.org/10.1037/bne0000115>
- Beaty, Lynne E., Emmering, Quinn C., and **Bernal, Ximena E.** 2016. "Mixed sex effects on the second-to-fourth digit ratio of túngara frogs (*Engystomops pustulosus*) and cane toads (*Rhinella marina*)." *Anatomical Record : Advances in Integrative Anatomy and Evolutionary Biology* 299 (4):421–427. <https://doi.org/10.1002/ar.23322>
- Bernal, Ximena E.** and Pinto, C. Miguel. 2016. "[Sexual differences in prevalence of a new species of trypanosome infecting túngara frogs.](https://doi.org/10.1016/j.ijppaw.2016.01.005)" *International Journal for Parasitology: Parasites and Wildlife* 5 (1):40–47. <https://doi.org/10.1016/j.ijppaw.2016.01.005>
- Bodony, Daniel J., Day, Lainy, Friscia, Anthony R., Fusani, Leonida, Kharon, Aharon, Swenson, George W., **Wikelski, Martin,** and **Schlinger, Barney A.** 2016. "Determination of the wingsnap sonation mechanism of the Golden-collared manakin (*Manacus vitellinus*)." *Journal of Experimental Biology* 219:1524–1534. <https://doi.org/10.1242/jeb.128231>
- Bouchard, Sarah C., O'Leary, Chelsea R. Jenney, Wargelin, Lindsay J., Charbonnier, Julie F., and Warkentin, Karen M. 2016. "Post-metamorphic carryover effects of larval digestive plasticity." *Functional Ecology* 30 (3):379–388. <https://doi.org/10.1111/1365-2435.12501>
- Brashears, Jake, **Aiello, Annette,** and Seymoure, Brett M. 2016. "[Cool Bands: Wing bands decrease rate of heating, but not equilibrium temperature in *Anartia fatima*.](https://doi.org/10.1016/j.jtherbio.2016.01.007)" *Journal of thermal biology* 56:100–108. <https://doi.org/10.1016/j.jtherbio.2016.01.007>
- Cohen, Kristina L., Seid, Marc A., and **Warkentin, Karen M.** 2016. "How embryos escape from danger: the mechanism of rapid, plastic hatching in red-eyed treefrogs." *Journal of Experimental Biology* 219 (12):1875–1883. <https://doi.org/10.1242/jeb.139519>
- Dalling, James W., Cernusak, Lucas A., Winter, Klaus, Aranda, Jorge, Garcia, Milton N., Virgo, Aurelio,** Cheesman, Alexander W., **Baresch, Andres, Jaramillo, Carlos A.,** and **Turner, Benjamin L.** 2016. "[Two tropical conifers show strong growth and water-use efficiency responses to altered CO₂ concentration.](https://doi.org/10.1093/aob/mcw162)" *Annals of Botany* 1113–1125. <https://doi.org/10.1093/aob/mcw162>

- Dell'aglio, Denise**, Losada, Maria Eugenia, and **Jiggins, Chris D.** 2016. "Butterfly Learning and the Diversification of Plant Leaf Shape." *Frontiers in Ecology and Evolution* 4 (81):<https://doi.org/10.3389/fevo.2016.00081>
- Eastwood, Gillian, **Loaiza, Jose R.**, Pongsiri, Montira J., **Sanjur, Oris I.**, Pecor, James E., Auguste, Albert J., and Kramer, Laura D. 2016. "Enzootic Arbovirus Surveillance in Forest Habitat and Phylogenetic Characterization of Novel Isolates of Gamboa Virus in Panama." *American Journal of Tropical Medicine and Hygiene* 94 (4):786–793. <https://doi.org/10.4269/ajtmh.15-0445>
- Fahey, Catherine, **Winter, Klaus, Slot, Martijn**, and **Kitajima, Kaoru.** 2016. "[Influence of arbuscular mycorrhizal colonization on whole-plant respiration and thermal acclimation of tropical tree seedlings.](#)" *Ecology and Evolution* 6 (3):859–870. <https://doi.org/10.1002/ece3.1952>
- Friscia, Anthony, Sanin, Gloria D., Lindsay, Willow R., Day, Lainy B., **Schlinger, Barney A.**, Tan, Josh, and Fuxjager, Matthew J. 2016. "Adaptive evolution of a derived radius morphology in manakins (Aves, Pipridae) to support acrobatic display behavior: Evolution of a Derived Radius Morphology." *Journal of Morphology* 277 (6):766–775. <https://doi.org/10.1002/jmor.20534>
- Fuxjager, Matthew J., Lee, Jae-Hyung, Chan, Tak-Ming, Bahn, Jae Hoon, Chew, Jenifer G., Xiao, Xinshu, and **Schlinger, Barney A.** 2016. "Research Resource: Hormones, genes and athleticism: effect of androgens on the avian muscular transcriptome." *Molecular Endocrinology* 30 (2):254–271. <https://doi.org/10.1210/me.2015-1270>
- Fuxjager, Matthew J., Schuppe, Eric R., Hoang, John, Chew, Jennifer, Shah, Mital, and **Schlinger, Barney A.** 2016. "Expression of 5 α - and 5 β -reductase in spinal cord and muscle of birds with different courtship repertoires." *Frontiers in Zoology* 13:25. <https://doi.org/10.1186/s12983-016-0156-y>
- Gager, Yann. 2016. "[Causes and consequences of sociality in a neotropical bat.](#)" PhD.
- Gager, Yann, Gimenez, Olivier, O'Mara, Teague M., and **Dechmann, Dina K. N.** 2016. "Group size, survival and surprisingly short lifespan in socially foraging bats." *BMC Ecology* 16 (2):<https://doi.org/10.1186/s12898-016-0056-1>
- Gager, Yann, Tarland, Emilia, Lieckfeldt, Dietmar, Ménage, Matthieu, Botero-Castro, Fidel, Rossiter, Stephen J., Kraus, Robert H. S., Ludwig, Arne, and **Dechmann, Dina K. N.** 2016. "The Value of Molecular vs. Morphometric and Acoustic Information for Species Identification Using Sympatric Molossid Bats." *PloS One* 11 (3):<https://doi.org/10.1371/journal.pone.0150780>
- Gomes, D. G. E., **Page, Rachel A.**, **Geipel, Inga**, **Taylor, Ryan C.**, **Ryan, Michael J.**, and **Halfwerk, Wouter H.** 2016. "[Bats perceptually weight prey cues across sensory systems when hunting in noise.](#)" *Science* 353 (6305):1277–1280. <https://doi.org/10.1126/science.aaf7934>
- Gratwicke, Brian, Ross, H., Batista, A., Chaves, G., Crawford, A. J., Elizondo, L., Estrada, A., Evans, M., Garelle, D., **Guerrel, Jorge**, and Hertz, A. 2016. "[Evaluating the probability of](#)

[avoiding disease-related extinctions of Panamanian amphibians through captive breeding programs.](#)" *Animal Conservation* 19 (4):324–336. <https://doi.org/10.1111/acv.12249>

Halfwerk, Wouter H., Ryan, Michael J., and Wilson, Preston S. 2016. "Wind- and Rain-Induced Vibrations Impose Different Selection Pressures on Multimodal Signaling." *American Naturalist* 188 (3):<https://doi.org/10.1086/687519>

Khadempour, Lily, Burnum-Johnson, Kristin, Baker, Erin S., Nicora, Carrie D., Webb-Robertson, Bobbie, White, Richard A., Monroe, Matthew E., Huang, Eric L., Smith, Richard D., and Currie, Cameron R. 2016. "The fungal cultivar of leaf-cutter ants produces specific enzymes in response to different plant substrates." *Molecular ecology* 25 (22):5795–5805.
<https://doi.org/10.1111/mec.13872>

Kosch, Tiffany A., Bataille, Arnaud, Didinger, Chelsea, Eimes, John A., **Rodríguez-Brenes, Sofia, Ryan, Michael J.,** and Waldman, Bruce. 2016. "Major histocompatibility complex selection dynamics in pathogen-infected túngara frog (*Physalaemus pustulosus*) populations." *Biology Letters* 12 (8):<https://doi.org/10.1098/rsbl.2016.0345>

Krause, G. Heinrich, Winter, Klaus, Krause, Barbara, and **Virgo, Aurelio.** 2016. "[Protection by light against heat stress in leaves of tropical CAM plants containing high acid levels.](#)" *Functional Plant Biology* 43:1061–1069.

Liberti, Joanito, **Baer, Boris,** and **Boomsma, Jacobus J.** 2016. "Queen reproductive tract secretions enhance sperm motility in ants." *Biology Letters* 12 (11):20160722.
<https://doi.org/10.1098/rsbl.2016.0722>

Mighell, Kimberly and **Van Bael, Sunshine A.** 2016. "Selective elimination of microfungi in leaf-cutting ant gardens." *Fungal Ecology* 24 (Part A):15–20.
<https://doi.org/10.1016/j.funeco.2016.08.009>

Mitko, Lukasz, Weber, Marjorie G., Ramirez, Santiago R., Hedenström, Erik, **Wcislo, William T.,** and Eltz, Thomas. 2016. "[Olfactory specialization for perfume collection in male orchid bees.](#)" *Journal of Experimental Biology* 219 (10):1467–1475. <https://doi.org/10.1242/jeb.136754>

Nygaard, Sanne, Hu, Haofu, Li, Cai, Schiott, Morten, Chen, Zhensheng, Yang, Zhikai, Xie, Qiaolin, Ma, Chunyu, Deng, Yuan, Dikow, Rebecca B., Rabeling, Christian, Nash, David R., **Wcislo, William T., Brady, Seán Gary,** Schultz, Ted R., Zhang, Guojie, and **Boomsma, Jacobus J.** 2016. "[Reciprocal genomic evolution in the ant-fungus agricultural symbiosis.](#)" *Nature Communications* 7:e12233. <https://doi.org/10.1038/ncomms12233>

Ramakers, Jip J. C., **Dechmann, Dina K. N., Page, Rachel A.,** and **O'Mara, M. Teague.** 2016. "[Frugivorous bats prefer information from novel social partners.](#)" *Animal Behaviour* 116:83–87.
<https://doi.org/10.1016/j.anbehav.2016.03.021>

Ripperger, Simon, Josic, Darija, Hierold, Martin, Koelpin, Alexander, Weigel, Robert, Hartmann, Markus, **Page, Rachel,** and **Mayer, Frieder.** 2016. "[Automated proximity sensing in small](#)

[vertebrates: design of miniaturized sensor nodes and first field tests in bats.](#)" *Ecology and Evolution* 6 (7):2179–2189. <https://doi.org/10.1002/ece3.2040>

Rodríguez-Brenes, Sofía, Rodríguez, David, **Ibáñez, Roberto**, and **Ryan, Michael J.** 2016. "Spread of Amphibian Chytrid Fungus across Lowland Populations of Túngara Frogs in Panamá." *PLOS ONE* 11 (5):<https://doi.org/10.1371/journal.pone.0155745>

Trillo, Paula A., **Bernal, Ximena E.**, **Caldwell, Michael S.**, **Halfwerk, Wouter H.**, Wessel, Mallory O., and **Page, Rachel A.** 2016. "Collateral damage or a shadow of safety? The effects of signalling heterospecific neighbours on the risks of parasitism and predation." *Proceedings of the Royal Society B: Biological Sciences* 283 (1831):20160343. <https://doi.org/10.1098/rspb.2016.0343>

Vencl, Fredric V., Ottens, Kristina, **Dixon, Marjorie M.**, Candler, Sarah, **Bernal, Ximena E.**, **Estrada, Catalina**, and **Page, Rachel A.** 2016. "[Pyrazine emission by a tropical firefly: An example of chemical aposematism?](#)" *Biotropica* 48 (5):645–655. <https://doi.org/10.1111/btp.12336>

2015

Andersen, Sandra B., Yek, Sze, Nash, David R., and **Boomsma, Jacobus J.** 2015. "Interaction specificity between leaf-cutting ants and vertically transmitted *Pseudonocardia* bacteria." *BMC Evolutionary Biology* 15 (1):27. <https://doi.org/10.1186/s12862-015-0308-2>

Bernal, Ximena E. and de Silva, Priyanka. 2015. "Cues used in host-seeking behavior by frog-biting midges (*Corethrella* spp. Coquillet)." *Journal of Vector Ecology: Journal of the Society for Vector Ecology* 40 (1):122–128. <https://doi.org/10.1111/jvec.12140>

Bouchard, Sarah S., O'Leary, Chelsea J., Wargelin, Lindsay J., Rodríguez, Whitney B., Jennings, Kadeen X., and **Warkentin, Karen M.** 2015. "[Alternative competition-induced digestive strategies yield equal growth, but constrain compensatory growth in red-eyed treefrog larvae.](#)" *Journal of Experimental Zoology Part A: Ecological Genetics and Physiology* 323 (10):778–788. <https://doi.org/10.1002/jez.1991>

Bulbert, Matthew W., **Page, Rachel A.**, and **Bernal, Ximena E.** 2015. "[Danger Comes from All Fronts: Predator-Dependent Escape Tactics of Túngara Frogs.](#)" *PloS One* 10 (4):1–12. <https://doi.org/10.1371/journal.pone.0120546>

Charbonnier, J. F. and **Vonesh, J. R.** 2015. "Consequences of life history switch point plasticity for juvenile morphology and locomotion in the Túngara frog." *PeerJ* 3:e1268. <https://doi.org/10.7717/peerj.1268>

den Boer, Susanne P. A., Sturup, Marlene, **Boomsma, Jacobus J.**, and **Baer, Boris.** 2015. "[The ejaculatory biology of leafcutter ants.](#)" *Journal of insect physiology* 74:56–62. <https://doi.org/10.1016/j.jinsphys.2015.02.006>

- Estrada, Catalina**, Degner, Ethan C., **Rojas, Enith I.**, **Wcislo, William T.**, and **Van Bael, Sunshine A.** 2015. "[The role of endophyte diversity in protecting plants from defoliation by leaf-cutting ants.](#)" *Current science* 109 (1):55–61.
- Farji-Brener, Alejandro, Chinchilla, Federico, **Umana, Maria Natalia**, Ocasio-Torres, Maria, Chauta-Mellizo, Alexander, Acosta-Rojas, Diana, Marinaro, Sofia, Torres Curth, Maria de, and **Amador-Vargas, Sabrina.** 2015. "Branching angles reflect a tradeoff between reducing trail maintenance costs or travel distances in leaf-cutting ants." *Ecology* 96 (2):510–517. <https://doi.org/10.1890/14-0220.1>
- Fernández-Marín, Hermógenes**, Nash, David R., **Higginbotham, Sarah**, **Estrada, Catalina**, van Zweden, Jelle S., d'Ettorre, Patrizia, **Wcislo, William T.**, and **Boomsma, Jacobus J.** 2015. "[Functional role of phenylacetic acid from metapleural gland secretions in controlling fungal pathogens in evolutionarily derived leaf-cutting ants.](#)" *Proceedings of the Royal Society B: Biological Sciences* 282 (1807):<https://doi.org/10.1098/rspb.2015.0212>
- Frankel, Victor M., Hendry, Andrew P., Rolshausen, Gregor, and **Torchin, Mark E.** 2015. "[Host preference of an introduced ‘generalist’ parasite for a non-native host.](#)" *International journal for parasitology* 45 (11):703–709. <https://doi.org/10.1016/j.ijpara.2015.03.012>
- Hammer, Tobin J. and **Van Bael, Sunshine A.** 2015. "[An endophyte-rich diet increases ant predation on a specialist herbivorous insect.](#)" *Ecological Entomology* 40 (3):316–321. <https://doi.org/10.1111/een.12186>
- Huber, B., Whibley, A., Poul, Y. L., Navarro, N., Martin, A., Baxter, S., Shah, A., Gilles, B., Wirth, T., **McMillan, William Owen**, and Joron, M. 2015. "[Conservatism and novelty in the genetic architecture of adaptation in *Heliconius* butterflies.](#)" *Heredity* 114:515–524. <https://doi.org/10.1038/hdy.2015.22>
- Hurme, Kristiina J.** 2015. "Reproductive and Spatial Ecology of *Leptodactylus insularum* (Anura, Leptodactylidae) in Panama." *Journal of Herpetology* 49 (1):36–45. <https://doi.org/10.1670/13-214>
- Kellner, Katrin, Ishak, Heather D., Linksvayer, Timothy A., and **Mueller, Ulrich G.** 2015. "Bacterial community composition and diversity in an ancestral ant fungus symbiosis." *FEMS microbiology ecology* 91 (7):<https://doi.org/10.1093/femsec/fiv073>
- Krause, G. Heinrich**, **Winter, Klaus**, Krause, Barbara, and **Virgo, Aurelio.** 2015. "[Light-stimulated heat tolerance in leaves of two neotropical tree species, *Ficus insipida* and *Calophyllum longifolium*.](#)" *Functional Plant Biology* 42:42–51. <https://doi.org/10.1071/FP14095>
- Marvin, David C., **Winter, Klaus**, Burnham, Robyn J., and **Schnitzer, Stefan A.** 2015. "[No evidence that elevated CO₂ gives tropical lianas an advantage over tropical trees.](#)" *Global Change Biology* 21 (5):2055–2069. <https://doi.org/10.1111/gcb.12820>

- McCoy, Michael W., Wheat, Stefan K., **Warkentin, Karen M.**, and **Vonesh, James R.** 2015. "Risk assessment based on indirect predation cues: revisiting fine-grained variation." *Ecology and Evolution* 5 (20):4523–4528. <https://doi.org/10.1002/ece3.1552>
- Nottingham, Andrew T.**, **Turner, Benjamin L.**, Stott, Andrew W., and **Tanner, Edmund V. J.** 2015. "Nitrogen and phosphorus constrain labile and stable carbon turnover in lowland tropical forest soils." *Soil Biology and Biochemistry* 80:26–33. <https://doi.org/10.1016/j.soilbio.2014.09.012>
- Piperno, Dolores R., **Holst, Irene**, **Winter, Klaus**, and **McMillan, William Owen**. 2015. "[Teosinte before domestication: Experimental study of growth and phenotypic variability in Late Pleistocene and early Holocene environments.](#)" *Quaternary International* 363:65–77. <https://doi.org/10.1016/j.quaint.2013.12.049>
- Rhebergen, F., **Taylor, Ryan C.**, **Ryan, Michael J.**, **Page, Rachel A.**, and **Halfwerk, Wouter H.** 2015. "[Multimodal cues improve prey localization under complex environmental conditions.](#)" *Proceedings of the Royal Society B: Biological Sciences* 282 (1814):<https://doi.org/10.1098/rspb.2015.1403>
- Seymoure, Brett M. and **Aiello, Annette**. 2015. "[Keeping the Band Together: Evidence for False Boundary Disruptive Coloration in a Butterfly.](#)" *Journal of Evolutionary Biology* 28 (9):1618–1624. <https://doi.org/10.1111/jeb.12681>
- Silva, Priyanka de, Miranda, Roberto, and **Bernal, Ximena E.** 2015. "First report of mite parasitization in frog-biting midges (*Corethrella* species)." *International Journal of Acarology* 41 (5):389–392. <https://doi.org/10.1080/01647954.2015.1046922>
- Somjee, Ummat**, Allen, Pablo E., and Miller, Christine M. 2015. "[Different environments lead to a reversal in the expression of weapons and testes in the heliconia bug, *Leptoscelis tricolor* \(Hemiptera: Coreidae\).](#)" *Biological Journal of the Linnean Society* 115 (4):802–809. <https://doi.org/10.1111/bij.12544>
- Stockmaier, Sebastian, **Dechmann, Dina K. N.**, **Page, Rachel A.**, and **O'Mara, M. Teague**. 2015. "[No fever and leucocytosis in response to a lipopolysaccharide challenge in an insectivorous bat.](#)" *Biology Letters* 11 (9):<https://doi.org/10.1098/rsbl.2015.0576>
- Tarvin, Rebecca D., Silva Bermúdez, Catalina, Briggs, Venetia S., and **Warkentin, Karen M.** 2015. "[Carry-over Effects of Size at Metamorphosis in Red-eyed Treefrogs: Higher Survival but Slower Growth of Larger Metamorphs.](#)" *Biotropica* 47 (2):218–226. <https://doi.org/10.1111/btp.12198>
- Touchon, Justin C.** and **Vonesh, James R.** 2015. "Variation in Abundance and Efficacy of Tadpole Predators in a Neotropical Pond Community." *Journal of Herpetology* 50 (1):113–119. <https://doi.org/10.1670/14-111>

Touchon, Justin C., McCoy, Michael W., Landberg, Tobias, Vonesh, James R., and Warkentin, Karen M. 2015. "[Putting \$\mu/g\$ in a new light: plasticity in life history switch points reflects fine-scale adaptive responses.](https://doi.org/10.1890/14-1301.1)" *Ecology* 96 (8):2192–2202. <https://doi.org/10.1890/14-1301.1>

Tranter, Christopher, **Fernandez, Hermogenes,** and **Hughes, William O. H.** 2015. "[Quality and quantity: transitions in antimicrobial gland use for parasite defense.](https://doi.org/10.1002/ece3.1827)" *Ecology and Evolution* 5 (24):5857–5868. <https://doi.org/10.1002/ece3.1827>

2014

Akre, K. L., **Bernal, Ximena E., Rand, Austin Stanley,** and **Ryan, Michael J.** 2014. "[Harmonic calls and indifferent females: no preference for human consonance in an anuran.](https://doi.org/10.1098/rspb.2014.0986)" *Proceedings of the Royal Society B: Biological Sciences* 281 (1789):<https://doi.org/10.1098/rspb.2014.0986>

Bonnett, Graham D., Kushner, Josef N. S., and **Saltonstall, Kristin.** 2014. "[The reproductive biology of *Saccharum spontaneum* L.: implications for management of this invasive weed in Panama.](https://doi.org/10.3897/neobiota.20.6163)" *NeoBiota* 20:61–79. <https://doi.org/10.3897/neobiota.20.6163>

Bruner, Gaspar, **Wcislo, William T.,** and **Fernandez, Hermogenes.** 2014. "[Prudent inquilines and proactive hosts: behavioral dynamics between an ant social parasite, *Megalomyrmex symmetochus* and its fungus-growing ant host, *Sericomyrmex amabilis*.](https://doi.org/10.1007/s00040-013-0331-5)" *Insectes Sociaux* 61 (1):83–88. <https://doi.org/10.1007/s00040-013-0331-5>

Cikanek, Shawna J., Nockold, Simon, Brown, Janine L., Carpenter, James W., **Estrada, Angie, Guerrel, Jorge,** Hope, Katharine L., **Ibáñez, Roberto,** Putman, Sarah B., and Gratwicke, Brian. 2014. "[Evaluating Group Housing Strategies for the *Ex-Situ* Conservation of Harlequin Frogs \(*Atelopus* spp.\) Using Behavioral and Physiological Indicators.](https://doi.org/10.1371/journal.pone.0090218)" *PLoS ONE* 9 (2):1–6. <https://doi.org/10.1371/journal.pone.0090218>

de Silva, Priyanka, **Jaramillo, Cesar A.,** and **Bernal, Ximena E.** 2014. "Feeding Site Selection by Frog-Biting Midges (Diptera: Corethrellidae) on Anuran Hosts." *Journal of Insect Behavior* 27 (3):302–316. <https://doi.org/10.1007/s10905-013-9428-y>

Dury, Guillaume J., Bede, Jacqueline C., and **Windsor, Donald M.** 2014. "[Preemptive circular defence of immature insects: Definition and occurrences of Cycloaexy revisited.](https://doi.org/10.1155/2014/642908)" *Pysche* 2014:1–13. <https://doi.org/10.1155/2014/642908>

Estrada, Catalina, Rojas, Enith I., Wcislo, William T., and **Van Bael, Sunshine A.** 2014. "[Fungal endophyte effects on leaf chemistry alter the in vitro growth rates of leaf-cutting ants' fungal mutualist, *Leucocoprinus gongylophorus*.](https://doi.org/10.1016/j.funeco.2013.12.009)" *Fungal Ecology* 8:37–45. <https://doi.org/10.1016/j.funeco.2013.12.009>

Fuxhajer, Matthew J., Heston, Jonathan B., and **Schlinger, Barney A.** 2014. "[Peripheral androgen action helps modulate vocal production in a suboscine passerine.](https://doi.org/10.1642/AUK-13-252.1)" *The Auk* 131 (3):327–334. <https://doi.org/10.1642/AUK-13-252.1>

- Halfwerk, Wouter H., Page, Rachel A., Taylor, Ryan C., Wilson, Preston S., and Ryan, Michael J.** 2014. "[Crossmodal Comparisons of Signal Components Allow for Relative-Distance Assessment.](https://doi.org/10.1016/j.cub.2014.05.068)" *Current Biology* 24 (15):1751–1755. <https://doi.org/10.1016/j.cub.2014.05.068>
- Holtum, Joseph A. M. and **Winter, Klaus.** 2014. "[Limited photosynthetic plasticity in the leaf-succulent CAM plant *Agave angustifolia* grown at different temperatures.](https://doi.org/10.1071/FP13284)" *Functional Plant Biology* 41:843–849. <https://doi.org/10.1071/FP13284>
- Jernigan, Chris M., **Roubik, David Ward, Wcislo, William T.,** and Riveros, Andre. 2014. "[Color-dependent learning in restrained Africanized honey bees.](https://doi.org/10.1242/jeb.091355)" *Journal of Experimental Biology* 217:337–343. <https://doi.org/10.1242/jeb.091355>
- Kooij, Pepijn W., Liberti, Joanito, Giampoudakis, Konstantinos, Schiott, Morten, and **Boomsma, Jacobus J.** 2014. "[Differences in Forage-Acquisition and Fungal Enzyme Activity Contribute to Niche Segregation in Panamanian Leaf-Cutting Ants.](https://doi.org/10.1371/journal.pone.0094284)" *PLoS ONE* 9 (4):1–9. <https://doi.org/10.1371/journal.pone.0094284>
- Licht, Henrik H. de Fine and **Boomsma, Jacobus J.** 2014. "[Variable interaction specificity and symbiont performance in Panamanian *Trachymyrmex* and *Sericomyrmex* fungus-growing ants.](https://doi.org/10.1186/s12862-014-0244-6)" *BMC Evolutionary Biology* 14:244. <https://doi.org/10.1186/s12862-014-0244-6>
- Licht, Henrik H. de Fine, **Boomsma, Jacobus J.,** and Tunlid, Anders. 2014. "Symbiotic adaptations in the fungal cultivar of leaf-cutting ants." *Nature Communications* 5:<https://doi.org/10.1038/ncomms6675>
- O'Mara, M. Teague, Dechmann, Dina K. N.,** and **Page, Rachel A.** 2014. "[Frugivorous bats evaluate the quality of social information when choosing novel foods.](https://doi.org/10.1093/beheco/aru120)" *Behavioral Ecology* 25 (5):1233–1239. <https://doi.org/10.1093/beheco/aru120>
- Page, Rachel A., Ryan, Michael J.,** and **Bernal, Ximena E.** 2014. "[Be loved, be prey, be eaten.](#)" in *Animal Behavior, vol 3. Case Studies: Integration and Application of Animal Behavior*, edited by Yasukawa, K., 123–154. New York: Praeger.
- Riveros, Andre J., Esquivel, Darci M. S., Wajnberg, Eliane, and **Srygley, Robert B.** 2014. "[Do leaf-cutter ants *Atta colombica* obtain their magnetic sensors from soil?.](https://doi.org/10.1007/s00265-013-1621-7)" *Behavioral Ecology and Sociobiology* 68 (1):55–62. <https://doi.org/10.1007/s00265-013-1621-7>
- Touchon, Justin C.** and Wojdak, Jeremy M. 2014. "[Plastic Hatching Timing by Red-Eyed Treefrog Embryos Interacts with Larval Predator Identity and Sublethal Predation to Affect Prey Morphology but Not Performance.](https://doi.org/10.1371/journal.pone.0100623)" *PLoS ONE* 9 (6):1–9. <https://doi.org/10.1371/journal.pone.0100623>
- Willink, B., Palmer, M. S., Landberg, T., **Vonesh, J. R.,** and **Warkentin, Karen M.** 2014. "Environmental context shapes immediate and cumulative costs of risk-induced early hatching." *Evolutionary Ecology* 28 (1):103–116. <https://doi.org/10.1007/s10682-013-9661-z>

Wojdak, Jeremy M., **Touchon, Justin C.**, Hite, Jessica L., Meyer, Beth, and **Vonesh, James R.** 2014. "[Consequences of induced hatching plasticity depend on predator community.](https://doi.org/10.1007/s00442-014-2962-2)" *Oecologia* 175 (4):1267–1276. <https://doi.org/10.1007/s00442-014-2962-2>

2013

Andersen, Sandra B., Hansen, L. H., **Sapountzis, P.**, Sorensen, S. J., and Boomsma, J. J. 2013. "Specificity and stability of the *Acromyrmex-Pseudonocardia* symbiosis." *Molecular ecology* 22 (16):4307–4321. <https://doi.org/10.1111/mec.12380>

Barske, J., Fusani, L., Wikelski, M., Feng, N. Y., Santos, M., and **Schlinger, B. A.** 2013. "Energetics of the acrobatic courtship in male golden-collared manakins (*Manacus vitellinus*)."
Proceedings of the Royal Society B: Biological Sciences 281 (1776):<https://doi.org/10.1098/rspb.2013.2482>

Cheesman, Alexander W. and **Winter, Klaus.** 2013. "[Elevated night-time temperatures increase growth in seedlings of two tropical pioneer tree species.](https://doi.org/10.1111/nph.12098)" *New Phytologist* 197:1185–1192. <https://doi.org/10.1111/nph.12098>

Coblentz, Kyle E. and **Van Bael, Sunshine A.** 2013. "Field colonies of leaf-cutting ants select plant materials containing low abundances of endophytic fungi." *Ecosphere* 4 (5):1–10. <https://doi.org/10.1890/ES13-00012.1>

Dalling, James W., Winter, Klaus, Andersen, K. M., and **Turner, Benjamin L.** 2013. "[Artefacts of the pot environment on soil nutrient availability: implications for the interpretation of ecological studies.](https://doi.org/10.1007/s11258-013-0172-3)" *Plant Ecology* 214 (2):329–338. <https://doi.org/10.1007/s11258-013-0172-3>

Dechmann, Dina K. N., Wikelski, Martin, van Noordwijk, Hendrika, Voigt, Christian C., and Voigt-Heucke, Silke. 2013. "[Metabolic costs of bat echolocation in a non-foraging context support a role in communication.](https://doi.org/10.3389/fphys.2013.00066)" *Frontiers in Physiology* 4:66. <https://doi.org/10.3389/fphys.2013.00066>

den Boer, S. P. A., **Boomsma, Jacobus J.,** and Baer, B. 2013. "A technique to artificially inseminate leafcutter ants." *Insectes Sociaux* 60 (1):111–118. <https://doi.org/10.1007/s00040-012-0273-3>

Estrada, Catalina, Wcislo, William T., and **Van Bael, Sunshine A.** 2013. "[Symbiotic fungi alter plant chemistry that discourages leaf-cutting ants.](https://doi.org/10.1111/nph.12140)" *New Phytologist* 198:241–251. <https://doi.org/10.1111/nph.12140>

Fernández-Marín, Hermógenes, Bruner, Gaspar, **Gomez, Ernesto B.,** Nash, David R., **Boomsma, Jacobus J. Koos,** and **Wcislo, William T.** 2013. "[Dynamic Disease Management in *Trachymyrmex* Fungus-Growing Ants \(Attini: Formicidae\).](https://doi.org/10.1086/669664)" *American Naturalist* 181 (4):571–582. <https://doi.org/10.1086/669664>

Hartke, Tamara R. and Rosengaus, Rebeca B. 2013. "Costs of pleometrosis in a polygamous termite." *Proceedings of the Royal Society B: Biological Sciences* 280 (1756):1–7.

- Jimenez, Ana Gabriela, Harper, James M., Queenborough, Simon A., and Williams, Joseph B. 2013. "Linkages between the life-history evolution of tropical and temperate birds and the resistance of cultured skin fibroblasts to oxidative and non-oxidative chemical injury." *Journal of Experimental Biology* 216:1373–1380. <https://doi.org/10.1242/jeb.079889>
- Kellner, K., Fernández-Marín, H., Ishak, H. D., Sen, R., Linksvayer, T. A., and Mueller, U. G. 2013. "Co-evolutionary patterns and diversification of ant-fungus associations in the asexual fungus-farming ant *Mycocetopus smithii* in Panama." *Journal of Evolutionary Biology* 26 (6):1353–1362. <https://doi.org/10.1111/jeb.12140>
- Loaiza, Jose R. and Miller, Matthew J.** 2013. "Seasonal pattern of avian Plasmodium-infected mosquitoes and implications for parasite transmission in central Panama." *Parasitology research* 112 (11):3743–3751. <https://doi.org/10.1007/s00436-013-3562-5>
- Loaiza, Jose R.,** Scott, Marilyn E., **Bermingham, Eldredge, Sanjur, Oris I., Rovira, Jose R., Dutari, Larissa C.,** Linton, Yvonne-Marie, Bickersmith, Sara, and Conn, Jan E. 2013. "[Novel genetic diversity within *Anopheles punctimacula* s.l.: Phylogenetic discrepancy between the Barcode cytochrome c oxidase I \(COI\) gene and the rDNA second internal transcribed spacer \(ITS2\).](#)" *Acta Tropica* 128 (1):61–69. <https://doi.org/10.1016/j.actatropica.2013.06.012>
- Nottingham, Andrew T., Turner, Benjamin L., Winter, Klaus,** Chamberlain, Paul M., Stott, Andrew, and **Tanner, Edmund V. J.** 2013. "[Root and arbuscular mycorrhizal mycelial interactions with soil microorganisms in lowland tropical forest.](#)" *FEMS microbiology ecology* 85 (1):37–50. <https://doi.org/10.1111/1574-6941.12096>
- Surlykke, Annemarie, Jakobsen, Lasse, Kalko, Elisabeth K. V., and Page, Rachel A.** 2013. "[Echolocation intensity and directionality of perching and flying fringe-lipped bats, *Trachops cirrhosus* \(Phyllostomidae\).](#)" *Frontiers in Physiology* 4 (143):1–9. <https://doi.org/10.3389/fphys.2013.00143>
- Touchon, Justin C.,** Jimenez, Randall R., Abinette, Shane H., **Vonesh, James R., and Warkentin, Karen M.** 2013. "Behavioral plasticity mitigates risk across environments and predators during anuran metamorphosis." *Oecologia* 173 (3):801–811. <https://doi.org/10.1007/s00442-013-2714-8>
- Touchon, Justin C.,** McCoy, Michael W., **Vonesh, James R., and Warkentin, Karen M.** 2013. "Effects of plastic hatching timing carry over through metamorphosis in red-eyed treefrogs." *Ecology* 94 (4):850–860.
- Windsor, Donald M.,** Dury, Guillaume, Frieiro-Costa, Fernando, Lanckowsky, Susanne, and Pasteels, Jacques M. 2013. "Subsocial Neotropical Doryphorini (Chrysomelidae, Chrysomelinae): new observations on behavior, host plants and systematics." *ZooKeys* 332 (Special Issue):71–93. <https://doi.org/10.3897/zookeys.332.5199>
- Yek, Sze H., **Boomsma, Jacobus J.,** and Schiçtt, Morten. 2013. "Differential gene expression in *Acromyrmex* leaf-cutting ants after challenges with two fungal pathogens." *Molecular Ecology* 22 (8):2173–2187. <https://doi.org/10.1111/mec.12255>

2012

- Armitage, Sophie A. O., **Fernández-Marín, Hermógenes, Wcislo, William T., and Boomsma, Jacobus J. Koos.** 2012. "[An evaluation of the possible adaptive function of fungal brood covering by Attine ants.](https://doi.org/10.1111/j.1558-5646.2011.01568.x)" *Evolution* 66 (6):1966–1975. <https://doi.org/10.1111/j.1558-5646.2011.01568.x>
- Aylward, Frank O., Burnum, Kristin E., **Scott, Jarrod J.,** Suen, Garret, Tringe, Susannah G., Adams, Sandra M., Barry, Kerrie W., Nicora, Carrie D., Piehowski, Paul D., Purvine, Samuel O., Starrett, Gabriel J., Goodwin, Lynne A., Smith, Richard D., Lipton, Mary S., and Currie, Cameron R. 2012. "Metagenomic and metaproteomic insights into bacterial communities in leaf-cutter ant fungus gardens." *The ISME Journal* 6 (9):1688–1701. <https://doi.org/10.1038/ismej.2012.10>
- Barbosa, Flavia. 2012. "[Males responding to sperm competition cues have higher fertilization success in a soldier fly.](https://doi.org/10.1093/beheco/ars035)" *Behavioral Ecology* 23 (4):815–819. <https://doi.org/10.1093/beheco/ars035>
- Estrada-Villegas, Sergio, McGill, Brian J., and Kalko, Elisabeth Klara Viktoria.** 2012. "[Climate, habitat, and species interactions at different scales determine the structure of a Neotropical bat community.](https://doi.org/10.1890/11-0275.1)" *Ecology* 93 (5):1183–1193. <https://doi.org/10.1890/11-0275.1>
- Finkbeiner, Susan D., Briscoe, Adriana D., and Reed, Robert D. 2012. "[The Benefit of Being a Social Butterfly: Communal Roosting Deters Predation.](https://doi.org/10.1098/rspb.2012.0203)" *Proceedings of the Royal Society B: Biological Sciences* 279 (1739):2769–2776. <https://doi.org/10.1098/rspb.2012.0203>
- Hines, Heather M., **Papa, Riccardo,** Ruiz, Mayte, Papanicolaou, Alexie, Wang, Charles, Nijhout, Frederik, **McMillan, William Owen,** and Reed, Robert D. 2012. "[Transcriptome analysis reveals novel patterning and pigmentation genes underlying Heliconius butterfly wing pattern variation.](https://doi.org/10.1186/1471-2164-13-288)" *BMC Genomics* 13:288. <https://doi.org/10.1186/1471-2164-13-288>
- Hughey, Myra C., McCoy, Michael W., Vonesh, James R., and Warkentin, Karen M.** 2012. "Spatial contagion drives colonization and recruitment of frogflies on clutches of red-eyed treefrogs." *Biology Letters* 8 (5):887–889. <https://doi.org/10.1098/rsbl.2012.0468>
- Hughey, Myra C., Nicolas, Angie, Vonesh, James R., and Warkentin, Karen M.** 2012. "Wasp predation drives the assembly of fungal and fly communities on frog egg masses." *Oecologia* 168 (4):1057–1068. <https://doi.org/10.1007/s00442-011-2137-3>
- Krause, G. H., Winter, Klaus,** Matsubara, Shizue, Krause, Barbara, Jahns, Peter, **Virgo, Aurelio, Aranda, Jorge,** and García, Milton. 2012. "[Photosynthesis, photoprotection, and growth of shade-tolerant tropical tree seedlings under full sunlight.](https://doi.org/10.1007/s11120-012-9731-z)" *Photosynthesis Research* 113 (1-3):273–285. <https://doi.org/10.1007/s11120-012-9731-z>
- Krause, G. H., Winter, Klaus,** Matsubara, Shizue, Krause, Barbara, Jahns, Peter, **Virgo, Aurelio, Aranda, Jorge,** and **Garcia, Milton N.** 2012. "Photosynthesis, photoprotection, and growth of

shade-tolerant tropical tree seedlings under full sunlight." *Photosynthesis Research* 113 (1-3):273–285. <https://doi.org/10.1007/s11120-012-9731-z>

Maroja, Luana S., Alschuler, Rebecca, **McMillan, William Owen**, and **Jiggins, Chris D.** 2012. "[Partial Complementarity of the Mimetic Yellow Bar Phenotype in *Heliconius* Butterflies.](https://doi.org/10.1371/journal.pone.0048627)" *Plos One* 7 (10):1–8. <https://doi.org/10.1371/journal.pone.0048627>

Martin, Arnaud, Papa, Riccardo, **Nadeau, Nicola J.**, Hill, Ryan I., Counterman, Brian A., Halder, Georg, **Jiggins, Chris D.**, Kronforst, Marcus R., Long, Anthony D., **McMillan, William Owen**, and Reed, Robert D. 2012. "Diversification of complex butterfly wing patterns by repeated regulatory evolution of a *Wnt* ligand." *Proceedings of the National Academy of Sciences of the United States of America* 109 (31):12632–12637. <https://doi.org/10.1073/pnas.1204800109>

McCoy, Michael W., **Touchon, Justin C.**, Landberg, Tobias, **Warkentin, Karen M.**, and **Vonesh, James R.** 2012. "[Prey Responses to Predator Chemical Cues: Disentangling the Importance of the Number and Biomass of Prey Consumed.](https://doi.org/10.1371/journal.pone.0047495)" *Plos One* 7 (10):1–5. <https://doi.org/10.1371/journal.pone.0047495>

Nehring, Volker, Boomsma, Jacobus J., and d'Ettorre, Patrizia. 2012. "Wingless virgin queens assume helper roles in *Acromyrmex* leaf-cutting ants." *Current Biology* 22 (17):R671–R673. <https://doi.org/10.1016/j.cub.2012.064.038>

Nottingham, Andrew T., Turner, Benjamin L., Chamberlain, Paul M., Stott, Andrew W., and **Tanner, Edmund V. J.** 2012. "[Priming and microbial nutrient limitation in lowland tropical forest soils of contrasting fertility.](https://doi.org/10.1007/s10533-011-9637-4)" *Biogeochemistry* 111 (1-3):219–237. <https://doi.org/10.1007/s10533-011-9637-4>

Van Bael, Sunshine A., Estrada, Catalina, Rehner, Stephen A., Santos, Janette F., and **Wcislo, William T.** 2012. "[Leaf endophyte load influences fungal garden development in leaf-cutting ants.](https://doi.org/10.1186/1471-2148-12-23)" *BMC Ecology* 12:23.

Van Bael, Sunshine A., Seid, Marc A., and Wcislo, William T. 2012. "[Endophytic fungi increase the processing rate of leaves by leaf-cutting ants \(*Atta*\).](https://doi.org/10.1111/j.1365-2311.2012.01364.x)" *Ecological Entomology* 37 (4):318–321. <https://doi.org/10.1111/j.1365-2311.2012.01364.x>

Yek, Sze Huei, Nash, David R., Jensen, Annette, and **Boomsma, Jacobus J. Koos.** 2012. "Regulation and specificity of antifungal metapleural gland secretion in leaf-cutting ants." *Proceedings of the Royal Society B: Biological Sciences* 279 (1745):4215–4222. <https://doi.org/10.1098/rspb.2012.1458>

2011

Akre, Karin L. and **Ryan, Michael J.** 2011. "Female túngara frogs elicit more complex mating signals from males." *Behavioral Ecology* 22 (4):846–853. <https://doi.org/10.1093/beheco/arr065>

- Akre, Karin L., Farris, Hamilton E., Lea, Amanda M., **Page, Rachel A.**, and **Ryan, Michael J.** 2011. "[Signal Perception in Frogs and Bats and the Evolution of Mating Signals](https://doi.org/10.1126/science.1205623)." *Science* 333 (6043):751–752. <https://doi.org/10.1126/science.1205623>
- Armitage, Sophie A. O., Broch, Jens F., **Fernandez Marin, Hermogenes**, Nash, David R., and **Boomsma, Jacobus J. Koos**. 2011. "Immune Defense in Leaf-Cutting Ants: a Cross-Fostering Approach." *Evolution* 65 (6):1791–1799. <https://doi.org/10.1111/j.1558-5646.2011.01241.x>
- Barbosa, Flavia. 2011. "Copulation duration in the soldier fly: The roles of cryptic male choice and sperm competition risk." *Behavioral Ecology* 22 (6):1332–1336. <https://doi.org/10.1093/beheco/arr137>
- Barske, Julia, **Schlinger, Barney A.**, **Wikelski, Martin**, and Fusani, Leonida. 2011. "Female choice for male motor skills." *Proceedings of the Royal Society B: Biological Sciences* 278 (1724):3523–3528. <https://doi.org/10.1098/rspb.2011.0382>
- Baugh, Alexander T.** and **Ryan, Michael J.** 2011. "The relative value of call embellishment in tungara frogs." *Behavioral Ecology and Sociobiology* 65 (2):359–367. <https://doi.org/10.1007/s00265-010-1053-6>
- Bittleston, L. S., Brockmann, F., **Wcislo, William T.**, and **Van Bael, Sunshine A.** 2011. "[Endophytic fungi reduce leaf-cutting ant damage to seedlings](https://doi.org/10.1098/rsbl.2010.0456)." *Biology Letters* 7 (1):30–32. <https://doi.org/10.1098/rsbl.2010.0456>
- Bonachea, Luis A. and **Ryan, Michael J.** 2011. "Simulated Predation Risk Influences Female Choice in Tungara Frogs, *Physalaemus pustulosus*." *Ethology* 117 (5):400–407. <https://doi.org/10.1111/j.1439-0310.2011.01889.x>
- Bonachea, Luis A. and **Ryan, Michael J.** 2011. "Localization Error and Search Costs during Mate Choice in Tungara Frogs, *Physalaemus pustulosus* ." *Ethology* 117 (1):56–62. <https://doi.org/10.1111/j.1439-0310.2010.01843.x>
- Bonachea, Luis A. and **Ryan, Michael J.** 2011. "[Predation risk increases permissiveness for heterospecific advertisement calls in tungara frogs, *Physalaemus pustulosus*](https://doi.org/10.1016/j.anbehav.2011.05.009)." *Animal Behaviour* 82 (2):347–352. <https://doi.org/10.1016/j.anbehav.2011.05.009>
- Cernusak, Lucas A., **Winter, Klaus**, and **Turner, Benjamin L.** 2011. "[Transpiration modulates phosphorus acquisition in tropical tree seedlings](https://doi.org/10.1093/treephys/tpr077)." *Tree Physiology* 31 (8):878–885. <https://doi.org/10.1093/treephys/tpr077>
- Cernusak, Lucas A., **Winter, Klaus**, Martinez, Carlos, Correa, Edwin, **Aranda, Jorge, Garcia, Milton N.**, **Jaramillo, Carlos A.**, and **Turner, Benjamin L.** 2011. "[Responses of legume versus non-legume tropical tree seedlings to elevated \[CO₂\]](https://doi.org/10.1104/pp.111.182436)." *Plant Physiology* 157 (1):372–385. <https://doi.org/10.1104/pp.111.182436>

- Dapper, Amy L., **Baugh, Alexander T.**, and **Ryan, Michael J.** 2011. "The Sounds of Silence as an Alarm Cue in Túngara Frogs, *Physalaemus pustulosus* ." *Biotropica* 43 (3):380–385. <https://doi.org/10.1111/j.1744-7429.2010.00707.x>
- Dechmann, Dina K. N.**, Ehret, Severin, Gaub, Aline, Kranstauber, Bart, and **Wikelski, Martin.** 2011. "Low metabolism in a tropical bat from lowland Panama measured using heart rate telemetry: An unexpected life in the slow lane." *Journal of experimental biology* 214 (21):3605–3612. <https://doi.org/10.1242/jeb.056010>
- Diaz-Munoz, Samuel. 2011. "Paternity and relatedness in a polyandrous nonhuman primate: testing adaptive hypotheses of male reproductive cooperation." *Animal Behaviour* 82 (3):563–571. <https://doi.org/10.1016/j.anbehav.2011.06.013>
- Eberhard, William G.** 2011. "[Are smaller animals behaviourally limited? Lack of clear constraints in miniature spiders.](#)" *Animal Behaviour* 81 (4):813–823. <https://doi.org/10.1016/j.anbehav.2011.01.016>
- Farris, Hamilton E. and **Ryan, Michael J.** 2011. "Relative comparisons of call parameters enable auditory grouping in frogs." *Nature Communications* 2 (410):<https://doi.org/10.1038/ncomms1417>
- Gonzalez, Sergio C., **Touchon, Justin C.**, and **Vonesh, James R.** 2011. "Interactions between competition and predation shape early growth and survival of two Neotropical hyliid tadpoles." *Biotropica* 43 (5):633–639. <https://doi.org/10.1111/j.1744-7429.2010.00748.x>
- Horan, III, R., **Ibáñez, Roberto**, and **Hernandez, Andres.** 2011. "Micrurus nigrocinctus nigrocinctus (Central American coral snake). Diet." *Herpetological Review* 42 (2):294–295.
- Jung, Kirsten and **Kalko, Elisabeth Klara Viktoria.** 2011. "[Adaptability and vulnerability of high flying Neotropical aerial insectivorous bats to urbanization.](#)" *Diversity & Distributions* 17 (2):262–274. <https://doi.org/10.1111/j.1472-4642.2010.00738.x>
- Kays, Roland, Jansen, Patrick A.**, Knecht, Elise M. H., Vohwinkel, Reinhard, and **Wikelski, Martin C.** 2011. "[The effect of feeding time on dispersal of Virola seeds by toucans determined from GPS tracking and accelerometers.](#)" *Acta Oecologica* 37 (6):625–631. <https://doi.org/10.1016/j.actao.2011.06.007>
- McCoy, Michael W., Bolker, Benjamin M., **Warkentin, Karen M.**, and **Vonesh, James R.** 2011. "Predicting Predation through Prey Ontogeny Using Size-Dependent Functional Response Models." *American Naturalist* 177 (6):752–766. <https://doi.org/10.1086/659950>
- McRae, Susan B.** 2011. "[Conspecific brood parasitism in the tropics: an experimental investigation of host responses in common moorhens and American purple gallinules.](#)" *Ecology and Evolution* 1 (3):317–329. <https://doi.org/10.1002/ece3.26>
- Merrill, Richard M.**, Gompert, Zachariah, Dembeck, Lauren M., Kronforst, Marcus R., **McMillan, William Owen**, and **Jiggins, Chris D.** 2011. "Mate preference across the speciation continuum

in a clade of mimetic butterflies." *Evolution* 65 (5):1489–1500. <https://doi.org/10.1111/j.1558-5646.2010.01216.x>

Merrill, Richard M., Van Schooten, Bas, Scott, Janet A., and **Jiggins, Chris D.** 2011. "[Pervasive genetic associations between traits causing reproductive isolation in *Heliconius* butterflies.](#)" *Proceedings of the Royal Society B: Biological Sciences* 278 (1705):511–518. <https://doi.org/10.1098/rspb.2010.1493>

Meyer, Christoph F. J., Aguiar, Ludmilla M. S., Aguirre, Luis F., Baumgarten, Julio, Clarke, Frank M., Cosson, Jean-François, **Villegas, Sergio Estrada**, Fahr, Jakob, Faria, Deborah, Furey, Neil, Henry, Mickaël, Hodgkison, Robert, Jenkins, Richard K. B., Jung, Kirsten G., Kingston, Tigga, Kunz, Thomas H., Cristina, MacSwiney Gonzalez, Moya, Isabel, Patterson, Bruce D., Pons, Jean-Marc, Racey, Paul A., Rex, Katja, Sampaio, Erica M., Solari, Sergio, Stoner, Kathryn E., Voigt, Christian C., von Staden, Dietrich, Weise, Christa D., **Kalko, Elisabeth Klara Viktoria.** 2011. "Accounting for detectability improves estimates of species richness in tropical bat surveys." *Journal of Applied Ecology* 48 (3):777–787. <https://doi.org/10.1111/j.1365-2664.2011.01976.x>

Nehring, Volker, Evison, Sophie E. F., Santorelli, Lorenzo A., d'Ettorre, Patrizia, and **Hughes, William O. H.** 2011. "Kin-informative recognition cues in ants." *Proceedings of the Royal Society B: Biological Sciences* 278 (1714):1942–1948. <https://doi.org/10.1098/rspb.2010.2295>

Nygaard, Sanne, Zhang, Guojie, Schiott, Morten, Li, Cai, Wurm, Yannick, Hu, Haofu, Zhou, Jiajian, Ji, Lu, Qiu, Feng, Rasmussen, Morten, Pan, Hailin, Hauser, Frank, Krogh, Anders, Grimmelikhuijzen, Cornelis J. P., Wang, Jun, and **Boomsma, Jacobus J. Koos.** 2011. "The genome of the leaf-cutting ant *Acromyrmex echinatior* suggests key adaptations to advanced social life and fungus farming." *Genome Research* 21 (8):1339–1348. <https://doi.org/10.1101/gr.121392.111>

Reichert, Michael S. 2011. "Aggressive calls improve leading callers' attractiveness in the treefrog *Dendropsophus ebraccatus*." *Behavioral Ecology* 22 (5):951–959. <https://doi.org/10.1093/beheco/arr074>

Robertson, Jeanne M. and Vega, Andres. 2011. "Genetic and phenotypic variation in a colourful treefrog across five geographic barriers." *Journal of Biogeography* 38 (11):2122–2135. <https://doi.org/10.1111/j.1365-2699.2011.02548.x>

Schad, J., **Dechmann, Dina K. N.**, Voigt, C. C., and Sommer, S. 2011. "MHC class II DRB diversity, selection pattern and population structure in a neotropical bat species, *Noctilio albiventris*." *Heredity* 107 (2):115–126. <https://doi.org/10.1038/hdy.2010.173>

Seid, Marc A., **Castillo, Armando**, and **Wcislo, William T.** 2011. "[The Allometry of Brain Miniaturization in Ants.](#)" *Brain Behavior and Evolution* 77 (1):5–13. <https://doi.org/10.1159/000322530>

- Suen, Garret, Teiling, Clotilde, Li, Lewyn, Holt, Carson, Abouheif, Ehab, Bornberg-Bauer, Erich, Bouffard, Pascal, Caldera, Eric J., Cash, Elizabeth, Cavanaugh, Amy, Denas, Olgert, Elhaik, Eran, Fave, Marie-Julie, Gadau, Juergen, Gibson, Joshua D., Graur, Dan, Grubbs, Kirk J., Hagen, Darren E., Harkins, Timothy T., Helmkampf, Martin, Hu, Hao, Johnson, Brian R., Kim, Jay, Marsh, Sarah E., Moeller, Joseph A., **Munoz-Torres, Monica C.**, Murphy, Marguerite C., Naughton, Meredith C., Nigam, Surabhi, Overson, Rick, Rajakumar, Rajendhran, Reese, Justin T., **Scott, Jarrod J.**, Smith, Chris R., Tao, Shu, Tsutsui, Neil D., Viljakainen, Lumi, Wissler, Lothar, Yandell, Mark D., Zimmer, Fabian, Taylor, James, Slater, Steven C., Clifton, Sandra W., Warren, Wesley C., Elsik, Christine G., Smith, Christopher D., Weinstock, George M., Gerardo, Nicole M., Currie, Cameron Robert. 2011. "[The Genome Sequence of the Leaf-Cutter Ant *Atta cephalotes* Reveals Insights into Its Obligate Symbiotic Lifestyle.](https://doi.org/10.1371/journal.pgen.1002007)" *Plos Genetics* 7 (2):e1002007–e1002007. <https://doi.org/10.1371/journal.pgen.1002007>
- Taylor, Ryan C.**, Klein, Barrett A., Stein, Joey, and **Ryan, Michael J.** 2011. "[Multimodal signal variation in space and time: how important is matching a signal with its signaler?.](https://doi.org/10.1242/jeb.043638)" *Journal of Experimental Biology* 214 (5):815–820. <https://doi.org/10.1242/jeb.043638>
- Touchon, Justin C.** and **Warkentin, Karen M.** 2011. "Thermally contingent plasticity: temperature alters expression of predator-induced colour and morphology in a Neotropical treefrog tadpole." *Journal of Animal Ecology* 80 (1):79–88. <https://doi.org/10.1111/j.1365-2656.2010.01765.x>
- Touchon, Justin C.**, Urbina, Jenny, and **Warkentin, Karen M.** 2011. "Habitat-specific constraints on induced hatching in a treefrog with reproductive mode plasticity." *Behavioral Ecology* 22 (1):169–175. <https://doi.org/10.1093/beheco/arq192>
- Turner, Benjamin L.** and **Engelbrecht, Bettina M. J.** 2011. "[Soil organic phosphorus in lowland tropical rain forests.](https://doi.org/10.1007/s10533-010-9466-x)" *Biogeochemistry* 103 (1-3):297–315. <https://doi.org/10.1007/s10533-010-9466-x>
- Urriola, Jill, Bethancourt, Ariadna, and **Van Bael, Sunshine A.** 2011. "[Limited persistence of endophytic fungi in leaf-cutting ant gardens.](https://doi.org/10.4013/nbc.2011.61.01)" *Neotropical Biology and Conservation* 6 (1):1–4. <https://doi.org/10.4013/nbc.2011.61.01>
- Vencl, Fredric V.**, **Trillo, Paula A.**, and Geeta, R. 2011. "[Functional interactions among tortoise beetle larval defenses reveal trait suites and escalation.](https://doi.org/10.1007/s00265-010-1031-z)" *Behavioral Ecology and Sociobiology* 65 (2):227–239. <https://doi.org/10.1007/s00265-010-1031-z>
- Ventocilla, Jorge Luis** and Dillon, Kurt. 2011. *Gamboa: Una guía para su patrimonio natural y cultural. Gamboa: A guide to its natural and cultural heritage.* Panama: Instituto Smithsonian de Investigaciones Tropicales.
- Walker, Thomas N. and **Hughes, William O. H.** 2011. "Arboreality and the evolution of disease resistance in ants." *Ecological Entomology* 36 (5):588–595. <https://doi.org/10.1111/j.1365-2311.2011.01312.x>

Ziegler, Christian. 2011. *Deceptive beauties: The world of wild orchids*. Chicago and London: The University of Chicago Press.

2010

Akre, Karin L. and **Ryan, Michael J.** 2010. "[Complexity increases working memory for mating signals.](https://doi.org/10.1016/j.cub.2010.01.021)" *Current Biology* 20 (6):502–505. <https://doi.org/10.1016/j.cub.2010.01.021>

Akre, Karin L. and **Ryan, Michael J.** 2010. "Proximity-dependent Response to Variably Complex Mating Signals in Túngara Frogs (*Physalaemus pustulosus*)." *Ethology* 116 (12):1138–1145. <https://doi.org/10.1111/j.1439-0310.2010.01825.x>

Armitage, Sophie A. O., **Boomsma, Jacobus J. Koos**, and **Baer, Boris C.** 2010. "Diploid male production in a leaf-cutting ant." *Ecological Entomology* 35 (2):175–182. <https://doi.org/10.1111/j.1365-2311.2009.01167.x>

Baugh, Alexander T. and **Ryan, Michael J.** 2010. "[Mate choice in response to dynamic presentation of male advertisement signals in Tungara frogs.](https://doi.org/10.1016/j.anbehav.2009.10.015)" *Animal Behaviour* 79 (1):145–152. <https://doi.org/10.1016/j.anbehav.2009.10.015>

Baugh, Alexander T. and **Ryan, Michael J.** 2010. "Ambient light alters temporal-updating behaviour during mate choice in a Neotropical frog." *Canadian Journal of Zoology* 88 (5):448–453. <https://doi.org/10.1139/Z10-018>

Baugh, Alexander T. and **Ryan, Michael J.** 2010. "Temporal updating during phonotaxis in male tungara frogs (*Physalaemus pustulosus*)." *Amphibia-Reptilia* 31 (4):449–454. <https://doi.org/10.1163/017353710X518388>

Caldwell, Michael S., **McDaniel, J. Gregory**, and **Warkentin, Karen M.** 2010. "[Is it safe? Red-eyed treefrog embryos assessing predation risk use two features of rain vibrations to avoid false alarms.](https://doi.org/10.1016/j.anbehav.2009.11.005)" *Animal Behaviour* 79 (2):255–260. <https://doi.org/10.1016/j.anbehav.2009.11.005>

Cernusak, Lucas A., **Winter, Klaus**, and **Turner, Benjamin L.** 2010. "[Leaf nitrogen to phosphorus ratios of tropical trees: experimental assessment of physiological and environmental controls.](https://doi.org/10.1111/j.1469-8137.2009.03106.x)" *New Phytologist* 185 (3):770–779. <https://doi.org/10.1111/j.1469-8137.2009.03106.x>

Dechmann, Dina K. N., **Kranstauber, Bart**, **Gibbs, David**, and **Wikelski, Martin C.** 2010. "[Group hunting---A reason for sociality in molossid bats?.](https://doi.org/10.1371/journal.pone.0009012)" *PLoS ONE* 5 (2):e9012. <https://doi.org/10.1371/journal.pone.0009012>

Dijkstra, Michiel B., **van Zweden, Jelle S.**, **Dirchsen, Maria**, and **Boomsma, Jacobus J. Koos.** 2010. "Workers of *Acromyrmex echinator* leafcutter ants police worker-laid eggs, but not reproductive workers." *Animal Behaviour* 80 (3):487–495. <https://doi.org/10.1016/j.anbehav.2010.06.011>

Feng, Ni Y., **Katz, Amnon**, **Day, Lainy B.**, **Barske, Julia**, and **Schlinger, Barney A.** 2010. "[Limb Muscles Are Androgen Targets in an Acrobatic Tropical Bird.](https://doi.org/10.1210/en.2009-0901)" *Endocrinology* 151 (3):1042–1049. <https://doi.org/10.1210/en.2009-0901>

- Frost, C. L., **Fernandez, Hermogenes**, Smith, J. E., and **Hughes, William O. H.** 2010. "Multiple gains and losses of Wolbachia symbionts across a tribe of fungus-growing ants." *Molecular Ecology* 19 (18):4077–4085. <https://doi.org/10.1111/j.1365-294X.2010.04764.x>
- Garrish, Valerie, Cernusak, Lucas A., **Winter, Klaus**, and **Turner, Benjamin L.** 2010. "[Nitrogen to phosphorus ratio of plant biomass versus soil solution in a tropical pioneer tree, Ficus insipida.](#)" *Journal of experimental botany* 61 (13):3735–3748. <https://doi.org/10.1093/jxb/erq183>
- Gonzalez, Ranulfo, Carrejo, Nancy, Wilkerson, Richard C., Alarcon, Joubert, Alarcon-Ormasa, Joubert, Ruiz, Fredy, Bhatia, Ravinder, **Loaiza, Jose R.**, and Linton, Yvonne-Marie. 2010. "Confirmation of Anopheles (Anopheles) Calderoni Wilkerson, 1991 (Diptera: Culicidae) in Colombia and Ecuador through molecular and morphological correlation with topotypic material." *Memorias do Instituto Oswaldo Cruz* 105 (8):1001–1009. <https://doi.org/10.1590/S0074-02762010000800009>
- Goutte, S., Kime, N. M., Argo, T. F., and **Ryan, Michael J.** 2010. "Calling strategies of male tungara frogs in response to dynamic playback." *Behaviour* 147 (1):65–83. <https://doi.org/10.1163/000579509X12483520922205>
- Hoke, Kim L., **Ryan, Michael J.**, and Wilczynski, Walter. 2010. "Sexually dimorphic sensory gating drives behavioral differences in tungara frogs." *Journal of Experimental Biology* 213 (20):3463–3472. <https://doi.org/10.1242/jeb.043992>
- Hughes, William O. H.**, Bot, Adriane N. M., and **Boomsma, Jacobus J. Koos.** 2010. "[Caste-specific expression of genetic variation in the size of antibiotic-producing glands of leaf-cutting ants.](#)" *Proceedings of the Royal Society B: Biological Sciences* 277 (1681):609–615. <https://doi.org/10.1098/rspb.2009.1415>
- Jung, Kirsten and **Kalko, Elisabeth Klara Viktoria.** 2010. "Where forest meets urbanization: foraging plasticity of aerial insectivorous bats in an anthropogenically altered environment." *Journal of Mammalogy* 91 (1):144–153. <https://doi.org/10.1644/08-MAMM-A-313R.1>
- Kime, Nicole M., Whitney, Tina K., **Ryan, Michael J.**, **Rand, Austin Stanley**, and Marler, Catherine A. 2010. "Treatment with arginine vasotocin alters mating calls and decreases call attractiveness in male túngara frogs." *General and Comparative Endocrinology* 165 (2):221–228. <https://doi.org/10.1016/j.ygcen.2009.06.023>
- Krause, G. H.**, **Winter, Klaus**, Krause, Barbara, Jahns, Peter, **Garcia, Milton N.**, **Aranda, Jorge**, and **Virgo, Aurelio.** 2010. "[High-temperature tolerance of a tropical tree, Ficus insipida: Methodological reassessment and climate change considerations.](#)" *Functional Plant Biology* 37 (9):890–900. <https://doi.org/10.1071/FP10034>
- Lovette, Irby J., Perez-Eman, Jorge L., Sullivan, John P., Banks, Richard C., Fiorentino, Isabella, Cordoba-Cordoba, Sergio, Echeverry-Galvis, Maria, Barker, F. Keith, Burns, Kevin J., Klicka, John, Lanyon, Scott M., and **Bermingham, Eldredge.** 2010. "A comprehensive multilocus phylogeny for the wood-warblers and a revised classification of the Parulidae (Ayes)."

Molecular Phylogenetics and Evolution 57 (2):753–770.

<https://doi.org/10.1016/j.ympev.2010.07.018>

- Suen, Garret, Teiling, Clotilde, Li, Lewyn, Holt, Carson, Abouheif, Ehab, Bornberg-Bauer, Erich, Bouffard, Pascal, Caldera, Eric J., Cash, Elizabeth, Cavanaugh, Amy, Denas, Olgert, Elhaik, Eran, Fave, Marie-Julie, Gadau, Juergen, Gibson, Joshua D., Graur, Dan, Grubbs, Kirk J., Hagen, Darren E., Harkins, Timothy T., Helmkampf, Martin, Hu, Hao, Johnson, Brian R., Kim, Jay, Marsh, Sarah E., Moeller, Joseph A. et al. 2011. "[The Genome Sequence of the Leaf-Cutter Ant *Atta cephalotes* Reveals Insights into Its Obligate Symbiotic Lifestyle.](#)" *Plos Genetics* 7 (2):e1002007–e1002007. <https://doi.org/10.1371/journal.pgen.1002007>
- Meyer, Christoph F. J.**, Aguiar, Ludmilla M. S., Aguirre, Luis F., Baumgarten, Julio, Clarke, Frank M., Cosson, Jean-François, **Villegas, Sergio Estrada**, Fahr, Jakob, Faria, Deborah, Furey, Neil, Henry, Mickaël, Hodgkison, Robert, Jenkins, Richard K. B., Jung, Kirsten G., Kingston, Tigga, Kunz, Thomas H., MacSwiney Gonzalez, M. Cristina, Moya, Isabel, Pons, Jean-Marc, Racey, Paul A., Rex, Katja, Sampaio, Erica M., Stoner, Kathryn E., Voigt, Christian C., Staden, Dietrich von, Weise, Christa D., **Kalko, Elisabeth Klara Viktoria**. 2010. "Long-term monitoring of tropical bats for anthropogenic impact assessment: Gauging the statistical power to detect population change." *Biological Conservation* 143 (11):2797–2807. <https://doi.org/10.1016/j.biocon.2010.07.029>
- Miller, Christine W. and Emlen, Douglas J. 2010. "[Across- and within-population differences in the size and scaling relationship of a sexually selected trait in *Leptoscelis tricolor* \(Hemiptera: Coreidae\).](#)" *Annals of the Entomological Society of America* 103 (2):209–215. <https://doi.org/10.1603/an09039>
- Parker, Ingrid M., Lopez, Isis**, Petersen, Jennifer J., Anaya, Natalia, **Cubilla-Rios, Luis**, and Potter, Daniel. 2010. "[Domestication Syndrome in *Caimito* \(*Chrysophyllum cainito* L.\): Fruit and Seed Characteristics.](#)" *Economic Botany* 64 (2):161–175. <https://doi.org/10.1007/s12231-010-9121-4>
- Perez-Ortega, B., **Fernandez-Marin, Hermogenes**, Loiacono, M., **Galgani, Paola**, and **Wcislo, William T.** 2010. "[Biological notes on a fungus-growing ant, *Trachymyrmex cf. zeteki* \(Hymenoptera, Formicidae, Attini\) attacked by a diverse community of parasitoid wasps \(Hymenoptera, Diapriidae\).](#)" *Insectes Sociaux* 57 (3):317–322. <https://doi.org/10.1007/s00040-010-0086-1>
- Ryan, Michael J., Bernal, Ximena E., and Rand, Austin Stanley.** 2010. "Female mate choice and the potential for ornament evolution in tungara frogs *Physalaemus pustulosus*." *Current Zoology* 56 (3):343–357.
- Saverschek, N., Herz, Hubert M., Wagner, M., and Roces, F. 2010. "Avoiding plants unsuitable for the symbiotic fungus: learning and long-term memory in leaf-cutting ants." *Animal Behaviour* 79 (3):689–698. <https://doi.org/10.1016/j.anbehav.2009.12.021>

Touchon, Justin C. and Warkentin, Karen M. 2010. "[Short-and long-term effects of the abiotic egg environment on viability, development and vulnerability to predators of a Neotropical anuran.](https://doi.org/10.1111/j.1365-2435.2009.01650.x)" *Functional Ecology* 24 (3):566–575. <https://doi.org/10.1111/j.1365-2435.2009.01650.x>

Touchon, Justin C. and **Warkentin, Karen M.** 2010. "Short- and long-term effects of the abiotic egg environment on viability, development and vulnerability to predators of a Neotropical anuran." *Functional Ecology* 24 (3):566–575. <https://doi.org/10.1111/j.1365-2435.2009.01650.x>

Voigt-Heucke, Silke L., Taborsky, Michael, and **Dechmann, Dina K. N.** 2010. "A dual function of echolocation: bats use echolocation calls to identify familiar and unfamiliar individuals." *Animal Behaviour* 80 (1):59–67. <https://doi.org/10.1016/j.anbehav.2010.03.025>

Voigt, Christian C., Soergel, Karin, and **Dechmann, Dina K. N.** 2010. "Refueling while flying: Foraging bats combust food rapidly and directly to power flight." *Ecology* 91 (10):2908–2917. <https://doi.org/10.1890/09-2232.1>

Waddington, Sarah J., Santorelli, Lorenzo A., Ryan, Fiona R., and **Hughes, William O. H.** 2010. "Genetic polyethism in leaf-cutting ants." *Behavioral Ecology* 21 (6):1165–1169. <https://doi.org/10.1093/beheco/arq128>

2009

Addison, BriAnne, Klasing, Kirk C., Robinson, W. Douglas, Austin, Suzanne H., and **Ricklefs, Robert E.** 2009. "[Ecological and life-history factors influencing the evolution of maternal antibody allocation: a phylogenetic comparison.](https://doi.org/10.1098/rspb.2009.1296)" *Proceedings of the Royal Society B: Biological Sciences* 276:3979–3987. <https://doi.org/10.1098/rspb.2009.1296>

Baer, Boris C., Dijkstra, Michiel B., Mueller, Ulrich G., Nash, David R., and Boomsma, Jacobus J. Koos. 2009. "[Sperm length evolution in the fungus-growing ants.](https://doi.org/10.1093/biology/20.1.38-45)" *Behavioral Biology* 20 (1):38–45.

Barbosa, Flavia. 2009. "[Cryptic female choice by female control of oviposition timing in a soldier fly.](https://doi.org/10.1093/beheco/arp083)" *Behavioral Biology* 20 (5):957–960. <https://doi.org/10.1093/beheco/arp083>

Baugh, Alexander T. and Ryan, Michael J. 2009. "[Female tungara frogs vary in commitment to mate choice.](https://doi.org/10.1093/beheco/arp120)" *Behavioral Ecology* 20 (6):1153–1159. <https://doi.org/10.1093/beheco/arp120>

Bernal, Ximena E., Akre, Karin L., Baugh, Alexander T., Rand, Austin Stanley, and Ryan, Michael J. 2009. "Female and male behavioral response to advertisement calls of graded complexity in tungara frogs, *Physalaemus pustulosus*." *Behavioral Ecology and Sociobiology* 63 (9):1269–1279. <https://doi.org/10.1007/s00265-009-0795-5>

Bernal, Ximena E., Stanley Rand, A., and Ryan, Michael J. 2009. "[Task differences confound sex differences in receiver permissiveness in túngara frogs.](https://doi.org/10.1098/rspb.2008.0935)" *Proceedings of the Royal Society B: Biological Sciences* 276 (1660):1323–1329. <https://doi.org/10.1098/rspb.2008.0935>

Bulmer, Mark S., Bachelet, Ido, Raman, Rahul, Rosengaus, Rebeca B., and Sasisekharan, Ram. 2009. "[Targeting an antimicrobial effector function in insect immunity as a pest control](https://doi.org/10.1093/bioadv/bap011)

[strategy](#)." *Proceedings of the National Academy of Sciences of the United States of America* 106 (31):12652–12657. <https://doi.org/10.1073/pnas.0904063106>

- Caldwell, Michael S.,** McDaniel, J. Gregory, and **Warkentin, Karen M.** 2009. "[Frequency information in the vibration-cued escape hatching of red-eyed treefrogs](#)." *Journal of Experimental Biology* 212 (4):566–575. <https://doi.org/10.1242/jeb.026518>
- Cernusak, Lucas A., **Winter, Klaus,** and **Turner, Benjamin L.** 2009. "[Plant d¹⁵N correlates with the transpiration efficiency of nitrogen acquisition in tropical trees](#)." *Plant Physiology* 151:1667–1676.
- Cernusak, Lucas A., **Winter, Klaus,** and **Turner, Benjamin L.** 2009. "[Physiological and isotopic \(delta C-13 and delta O-18\) responses of three tropical tree species to water and nutrient availability](#)." *Plant Cell and Environment* 32 (10):1441–1455. <https://doi.org/10.1111/j.1365-3040.2009.02010.x>
- Cernusak, Lucas A., **Winter, Klaus,** **Aranda, Jorge E.,** **Virgo, Aurelio,** and **Garcia, Milton N.** 2009. "[Transpiration efficiency over an annual cycle, leaf gas exchange and wood carbon isotope ratio of three tropical tree species](#)." *Tree Physiology* 29 (9):1153–1161. <https://doi.org/10.1093/treephys/tpp052>
- Dechmann, Dina K. N.,** Heucke, Silke L., Giuggioli, Luca, Safi, Kamran, Voigt, Christian C., and **Wikelski, Martin C.** 2009. "[Experimental evidence for group hunting via eavesdropping in echolocating bats](#)." *Proceedings of the Royal Society B: Biological Sciences* 276 (1668):2721–2728. <https://doi.org/10.1098/rspb.2009.0473>
- den Boer, Susanne P. A., **Baer, Boris,** Dreier, Stephanie, Aron, Serge, Nash, David R., and **Boomsma, Jacobus J. Koos.** 2009. "[Prudent sperm use by leaf-cutter ant queens](#)." *Proceedings of the Royal Society B: Biological Sciences* 276 (1675):3945–3953. <https://doi.org/10.1098/rspb.2009.1184>
- Haeder, Susanne, Wirth, Rainer, Herz, Hubert M., and Spitteller, Dieter. 2009. "[Candicidin-producing Streptomyces support leaf-cutting ants to protect their fungus garden against the pathogenic fungus Escovopsis](#)." *Proceedings of the National Academy of Sciences of the United States of America* 106 (12):4742–4746. <https://doi.org/10.1073/pnas.0812082106>
- Hughes, William O. H.,** Bot, A. N. M., and **Boomsma, Jacobus J. Koos.** 2009. "Caste-specific expression of genetic variation in the size of antibiotic-producing glands of leaf-cutting ants." *Proceedings of the Royal Society B: Biological Sciences* 277 (1681):609–615. <https://doi.org/10.1098/rspb.2009.1415>
- Ivens, Aniek B. F., Nash, David R., Poulsen, Michael, and **Boomsma, Jacobus J. Koos.** 2009. "Caste-specific symbiont policing by workers of *Acromyrmex* fungus-growing ants." *Behavioral Biology* 20 (2):378–384.
- Little, Ainslie E. F. and Currie, Cameron Robert. 2009. "[Parasites may help stabilize cooperative relationships](#)." *Bmc Evolutionary Biology* 9:124. <https://doi.org/10.1186/1471-2148-9-124>

- Poulsen, Michael, **Fernández-Marín, Hermógenes**, Currie, Cameron Robert, and **Boomsma, Jacobus J. Koos**. 2009. "Ephemeral Windows of Opportunity for Horizontal Transmission of Fungal Symbionts in Leaf-Cutting Ants." *Evolution* 63 (9):2235–2247. <https://doi.org/10.1111/j.1558-5646.2009.00704.x>
- Roche, Dominique G., **Torchin, Mark E.**, **Leung, Brian**, and Binning, Sandra A. 2009. "[Localized invasion of the North American Harris mud crab, *Rhithropanopeus harrisi*, in the Panama Canal: implications for eradication and spread.](#)" *Biological Invasions* 11 (4):983–993. <https://doi.org/10.1007/s10530-008-9310-6>
- Van Bael, Sunshine A.**, **Fernández-Marín, Hermógenes**, Valencia, Mariana,C., **Rojas, Enith,I.**, **Wcislo, William T.**, and **Herre, Edward Allen**. 2009. "[Two fungal symbioses collide: endophytic fungi are not welcome in leaf-cutting ant gardens.](#)" *Proceedings of the Royal Society B: Biological Sciences* 276 (1666):2419–2426. <https://doi.org/10.1098/rspb.2009.0196>
- Van Bael, Sunshine A.**, Valencia, Mariana C., **Rojas, Enith I.**, Gomez Q., Nelida E., **Windsor, Donald M.**, and **Herre, Edward Allen**. 2009. "[Effects of foliar endophytic fungi on the preference and performance of the leaf beetle *Chelymorpha alternans* in Panama.](#)" *Biotropica* 41 (2):221–225. <https://doi.org/10.1111/j.1744-7429.2008.00476.x>
- Vencl, Fredric V.**, Gomez Q., Nelida E., Ploss, Kerstin, and Boland, Wilhelm. 2009. "[The chlorophyll catabolite, pheophorbide *a*, confers predation resistance in a larval tortoise beetle shield defense.](#)" *Journal of Chemical Ecology* 35 (3):281–288. <https://doi.org/10.1007/s10886-008-9577-1>
- Vo, Tanya L., **Mueller, Ulrich G.**, and **Mikheyev, Alexander S.** 2009. "Free-living fungal symbionts (Lepiotaceae) of fungus-growing ants (Attini: Formicidae)." *Mycologia* 101 (2):206–210. <https://doi.org/10.3852/07-055>
- Walker, Tom N. and **Hughes, William O. H.** 2009. "[Adaptive social immunity in leaf-cutting ants.](#)" *Biology Letters* 5 (4):446–448. <https://doi.org/10.1098/rsbl.2009.0107>
- Winter, Klaus, Garcia, Milton N.**, and Holtum, Joseph A. M. 2009. "[Canopy CO₂ exchange of two neotropical tree species exhibiting constitutive and facultative CAM photosynthesis, *Clusia rosea* and *Clusia cylindrica*.](#)" *Journal of Experimental Botany* 60 (11):3167–3177. <https://doi.org/10.1093/jxb/erp149>
- 2008**
- Baugh, Alexander T.**, Akre, Karin L., and **Ryan, Michael J.** 2008. "[Categorical Perception of a Natural, Multivariate Signal: Mating Call Recognition in *Tungara* Frogs.](#)" *Proceedings of the National Academy of Sciences of the United States of America* 105 (26):8985–8988. <https://doi.org/10.1073/pnas.0802201105>
- Cernusak, Lucas A., Mejia-Chang, Monica, **Winter, Klaus**, and Griffiths, Howard. 2008. "[Oxygen isotope composition of CAM and C\(3\)*Clusia* species: non-steady-state dynamics control leaf](#)

[water O-18 enrichment in succulent leaves.](#)" *Plant Cell and Environment* 31 (11):1644–1662.
<https://doi.org/10.1111/j.1365-3040.2008.01868.x>

- Cernusak, Lucas A., **Winter, Klaus, Aranda, Jorge E., and Turner, Benjamin L.** 2008. "[Conifers, angiosperm trees and lianas: growth, whole-plant water and nitrogen use efficiency, and stable isotope composition \(d13C and d18O\) of seedlings grown in a tropical environment](#) [W][OA]." *Plant Physiology* 148 (1):642–659. <https://doi.org/10.1104/pp.108.123521>
- Clark, M. E., Bailey-Jourdain, C., Ferree, P. M., England, S. J., Sullivan, W., **Windsor, Donald M.,** and Werren, J. H. 2008. "[Wolbachia modification of sperm does not always require residence within developing sperm.](#)" *Heredity* 101 (5):420–428. <https://doi.org/10.1038/hdy.2008.71>
- Cohen, Alan A., McGraw, Kevin J., Wiersma, Popko, Williams, Joseph B., Robinson, W. Douglas, Robinson, Tara R., Brawn, Jeffrey D., and **Ricklefs, Robert E.** 2008. "[Interspecific associations between circulating antioxidant levels and life-history variation in birds.](#)" *American Naturalist* 172 (2):178–193. <https://doi.org/10.1086/589456>
- Cummings, Molly E., Bernal, Ximena E., Reynaga, Roberto, Rand, A. Stanley, and Ryan, Michael J.** 2008. "[Visual sensitivity to a conspicuous male cue varies by reproductive state in *Physalaemus pustulosus* females.](#)" *Journal of Experimental Biology* 211 (8):1203–1210. <https://doi.org/10.1242/jeb.012963>
- Estrada, Catalina and Jiggins, Chris D.** 2008. "[Interspecific sexual attraction because of convergence in warning colouration: is there a conflict between natural and sexual selection in mimetic species?.](#)" *Journal of Evolutionary Biology* 21 (3):749–760. <https://doi.org/10.1111/j.1420-9101.2008.01517.x>
- Gager, Andrea B., **Del Rosario Loaiza, Jose,** Deaborn, Donald C., and **Bermingham, Eldredge.** 2008. "[Do mosquitoes filter the access of *Plasmodium* cytochrome b lineages to an avian host?.](#)" *Molecular ecology* 17 (10):2552–2561. <https://doi.org/10.1111/j.1365-294X.2008.03764.x>
- Hughes, William O. H. and Boomsma, Jacobus J. Koos.** 2008. "[Genetic royal cheats in leaf-cutting ant societies.](#)" *Proceedings of the National Academy of Sciences of the United States of America* 105 (13):5150–5153. <https://doi.org/10.1073/pnas.0710262105>
- Hughes, William O. H., Pagliarini, Roberta, Madsen, Henning B., Dijkstra, Michiel B., and Boomsma, Jacobus J. Koos.** 2008. "[Antimicrobial defense shows an abrupt evolutionary transition in the fungus-growing ants.](#)" *Evolution* 62 (5):1252–1257. <https://doi.org/10.1111/j.1558-5646.2008.00347.x>
- Kirby, Michael Xavier, Jones, Douglas S., and MacFadden, Bruce J. 2008. "[Lower Miocene stratigraphy along the Panamá Canal and Its bearing on the Central American Peninsula.](#)" *PLoS ONE* 3 (7):e2791. <https://doi.org/10.1371/journal.pone.0002791>
- Logue, David M., Chalmers, Carli, and Gowland, A. Heather. 2008. "[The behavioural mechanisms underlying temporal coordination in black-bellied wren duets.](#)" *Animal Behaviour* 75 (5):1803–1808. <https://doi.org/10.1016/j.anbehav.2007.10.036>

- Matsubara, Shizue, **Krause, G. Heinrich**, Seltmann, Martin, **Virgo, Aurelio**, **Kursar, Thomas A.**, Jahns, Peter, and **Winter, Klaus**. 2008. "[Lutein epoxide cycle, light harvesting and photoprotection in species of the tropical tree genus Inga.](https://doi.org/10.1111/j.1365-3040.2008.01788.x)" *Plant, Cell and Environment* 31 (4):548–561. <https://doi.org/10.1111/j.1365-3040.2008.01788.x>
- Meskens, Christophe, **Windsor, Donald M.**, and Hance, Thierry. 2008. "[A comparison of hispine beetles \(Coleoptera: Chrysomelidae\) associated with three orders of monocot host plants in lowland Panamá.](https://doi.org/10.1111/j.1365-3040.2008.01788.x)" *International Journal of Tropical Insect Science* 27 (3):159–171.
- Miller, Christine W. 2008. "[Seasonal effects on offspring reproductive traits through maternal oviposition behavior.](https://doi.org/10.1093/beheco/arn075)" *Behavioral Ecology* 19 (6):1297–1304. <https://doi.org/10.1093/beheco/arn075>
- Rogge, Jessica R. and **Warkentin, Karen M.** 2008. "[External gills and adaptive embryo behavior facilitate synchronous development and hatching plasticity under respiratory constraint.](https://doi.org/10.1242/jeb.020958)" *Journal of Experimental Biology* 211 (22):3627–3635. <https://doi.org/10.1242/jeb.020958>
- Seid, Marc A., Scheffrahn, Rudolf H., and Niven, Jeremy. 2008. "[The rapid mandible strike of a termite soldier.](https://doi.org/10.1016/j.cub.2008.09.033)" *Current Biology* 18 (22):1049–1050. <https://doi.org/10.1016/j.cub.2008.09.033>
- Taylor, Ryan C.**, Klein, Barrett A., Stein, Joey, and **Ryan, Michael J.** 2008. "[Faux frogs: multimodal signalling and the value of robotics in animal behaviour.](https://doi.org/10.1016/j.anbehav.2008.01.031)" *Animal Behaviour* 76 (3):1089–1097. <https://doi.org/10.1016/j.anbehav.2008.01.031>
- Tieleman, B. Irene, Dijkstra, Thomas H., Klasing, Kirk C., Visser, G. Henk, and Williams, Joseph B. 2008. "[Effects of experimentally increased costs of activity during reproduction on parental investment and self-maintenance in tropical house wrens.](https://doi.org/10.1093/beheco/arn051)" *Behavioral Ecology* 19 (5):949–959. <https://doi.org/10.1093/beheco/arn051>
- Touchon, Justin C.** and **Warkentin, Karen M.** 2008. "[Fish and dragonfly nymph predators induce opposite shifts in color and morphology of tadpoles.](https://doi.org/10.1111/j.0030-1299.2008.16354.x)" *Oikos* 117 (4):634–649. <https://doi.org/10.1111/j.0030-1299.2008.16354.x>
- Touchon, Justin C.** and **Warkentin, Karen M.** 2008. "[Reproductive mode plasticity: Aquatic and terrestrial oviposition in a treefrog.](https://doi.org/10.1073/pnas.0711579105)" *Proceedings of the National Academy of Sciences of the United States of America* 105 (21):7495–7499. <https://doi.org/10.1073/pnas.0711579105>
- Winter, Klaus**, **Garcia, Milton N.**, and Holtum, Joseph A. M. 2008. "[On the Nature of Facultative and Constitutive CAM: Environmental and Developmental Control of CAM Expression During Early Growth of *Clusia*, *Kalanchoe*, and *Opuntia*.](https://doi.org/10.1093/jxb/ern080)" *Journal of Experimental Botany* 59 (7):1829–1840. <https://doi.org/10.1093/jxb/ern080>
- Yanoviak, Stephen P.**, **Kaspari, Michael E.**, **Dudley, Robert K.**, and Poinar, Jr, G. 2008. "[Parasite induced fruit mimicry in a tropical canopy ant.](https://doi.org/10.1086/528968)" *American Naturalist* 171 (4):536–544. <https://doi.org/10.1086/528968>

2007

- Bernal, X. E.,** Rand, A. S., and Ryan, M. J. 2007. "Sexual Differences in the Behavioral Response of Tungara Frogs, *Physalaemus pustulosus*, to Cues Associated With Increased Predation Risk." *Ethology* (8): 755.
- Bernal, Ximena E., Page, Rachel A., Rand, Austin Stanley, and Ryan, Michael J.** 2007. "[Cues for eavesdroppers: Do frog calls indicate prey density and quality?](#)." *American Naturalist* 169 (3):409–415. <https://doi.org/10.1086/510729>
- Bernal, Ximena E., Rand, Austin Stanley, and Ryan, Michael J.** 2007. "[Sex differences in response to nonconspecific advertisement calls: receiver permissiveness in male and female tungara frogs.](#)" *Animal Behaviour* 73 (6):955–964. <https://doi.org/10.1016/j.anbehav.2006.10.018>
- Biani, Natalia B. and **Wcislo, William T.** 2007. "[Notes on the reproductive morphology of the parasitic bee *Megalopta byroni* \(Hymenoptera: Halictidae\), and a tentative new host record.](#)" *Journal of the Kansas Entomological Society* 80 (4):392–394.
- Cernusak, Lucas A., **Winter, Klaus, Aranda, Jorge E., Turner, Benjamin L.,** and Marshall, John D. 2007. "[Transpiration efficiency of a tropical pioneer tree \(*Ficus insipida*\) in relation to soil fertility.](#)" *Journal of Experimental Botany* 58 (13):3549–3566. <https://doi.org/10.1093/jxb/erm201>
- Crawford, Andrew J.** 2007. "Chiasmocleis panamensis (Panama humming frog). Predation." *Herpetological Review* 38 (2):181.
- Crawford, Andrew J., Bermingham, Eldredge,** and Polania S., Carolina. 2007. "[The role of tropical dry forest as a long-term barrier to dispersal: a comparative phylogeographical analysis of dry forest tolerant and intolerant frogs.](#)" *Molecular Ecology* 16 (22):4789–4807. <https://doi.org/10.1111/j.1365-294X.2007.03524.x>
- Fernandez-Marin, Hermogenes,** Zimmerman, Jess K., and **Wcislo, William T.** 2007. "[Fungus garden platforms improve hygiene during nest establishment in *Acromyrmex* ants \(Hymenoptera, Formicidae, Attini\).](#)" *Insectes Sociaux* 54 (1):64–69. <https://doi.org/10.1007/s00040-007-0907-z>
- Gerardo, N. M. and Caldera, E. J. 2007. "Labile Associations Between Fungus-Growing Ant Cultivars and Their Garden Pathogens." *Isme Journal* (5): 373.
- Gilbert, Gregory S.** and Webb, Campbell O. 2007. "[Phylogenetic signal in plant pathogen-host range.](#)" *Proceedings of the National Academy of Sciences of the United States of America* 104 (12):4979–4983. <https://doi.org/10.1073/pnas.0607968104>
- Hoke, K. L., Ryan, M. J., and Wilczynski, W. 2007. "Functional Coupling Between Substantia Nigra and Basal Ganglia Homologues in Amphibians." *Behavioral neuroscience* (6): 1393.
- Hoke, Kim L., **Ryan, Michael J.,** and Wilczynski, Walter. 2007. "[Integration of sensory and motor processing underlying social behaviour in tungara frogs.](#)" *Proceedings of the Royal Society B: Biological Sciences* 274 (1610):641–649. <https://doi.org/10.1098/rspb.2006.0038>

- Jiggins, Chris D., Naisbit, Russell E.,** Coe, Rebecca L., and Mallet, James. 2007. "Aislamiento reproductivo causado por el mimetismo de los patrones de color." in *Ecología y evolución en los trópicos*, edited by Leigh, Egbert Giles, Jr., Herre, Edward Allen, Jackson, Jeremy B. C., and Santos-Granero, Fernando., 407–412. Panama: Editora Nova Art.
- Krause, G. Heinrich,** Jahns, Peter, **Virgo, Aurelio, Garcia, Milton N., Aranda, Jorge E.,** Wellmann, Eckard, and **Winter, Klaus.** 2007. "[Photoprotection, Photosynthesis and Growth of Tropical Tree Seedlings Under Near-Ambient and Strongly Reduced Solar Ultraviolet-B Radiation.](https://doi.org/10.1016/j.jplph.2006.09.004)" *Journal of Plant Physiology* 164 (10):1311–1322. <https://doi.org/10.1016/j.jplph.2006.09.004>
- Laurance, Susan G. and Laurance, William F.** 2007. "Chaunus marinus predation." *Herpetological Review* 38 (3):320–321.
- Leigh, Egbert Giles, Jr., Herre, Edward Allen, Jackson, Jeremy B. C., Santos-Granero, Fernando, Londoño de Hobrecker, Olga, and Gómez, Nélida E. . , eds. 2007. *Ecología y evolución en los trópicos*. Panama: Editora Nova Art.
- Logue, D. M. 2007. "Duetting in Space: a Radio-Telemetry Study of the Black-Bellied Wren." *Proceedings of the Royal Society B-Biological Sciences* (1628): 3005.
- Lombardi, Duccio, Dani, Francesca R., Turillazzi, Stefano, and **Boomsma, Jacobus J. Koos.** 2007. "[Chemical mimicry in an incipient leaf-cutting ant social parasite.](https://doi.org/10.1007/s00265-006-0313-y)" *Behavioral Ecology and Sociobiology* 61 (6):843–851. <https://doi.org/10.1007/s00265-006-0313-y>
- Mcculloch, M., **Winter, Klaus,** Meinzer, Frederick C., **Garcia, Milton N., Aranda, Jorge E.,** and Lachenbruch, B. 2007. "[A comparison of daily water use estimates derived from constant-heat sap-flow probe values and gravimetric measurements in pot-grown saplings.](https://doi.org/10.1093/treephys/27.9.1355)" *Tree Physiology* 27 (9):1355–1360. <https://doi.org/10.1093/treephys/27.9.1355>
- Mikheyev, A. S., **Mueller, Ulrich G.,** and **Boomsma, Jacobus J. Koos.** 2007. "[Population genetic signatures of diffuse co-evolution between leaf-cutting ants and their cultivar fungi.](https://doi.org/10.1111/j.1365-294X.2006.03134.x)" *Molecular Ecology* 16 (1):209–216. <https://doi.org/10.1111/j.1365-294X.2006.03134.x>
- Munoz Garcia, Agusti and William, Joseph B. 2007. "[Cutaneous water loss and lipids of the stratum corneum in dusky antbirds, a lowland tropical bird.](https://doi.org/10.1650/0010-5422(2007)109[59:CWLALO]2.0.CO)" *The Condor* 109 (1):59–66. [https://doi.org/10.1650/0010-5422\(2007\)109\[59:CWLALO\]2.0.CO](https://doi.org/10.1650/0010-5422(2007)109[59:CWLALO]2.0.CO)
- Ryan, M. J., **Bernal, X. E.,** and Rand, A. S. 2007. "[Patterns of Mating Call Preferences in Tungara Frogs, Physalaemus Pustulosus.](https://doi.org/10.1111/j.1365-294X.2006.03134.x)" *Journal of Evolutionary Biology* (6): 2235.
- Ryan, Michael J. and Rand, Austin Stanley.** 2007. "Reconocimiento de especie y selección sexual como problema unitario en la comunicación animal." in *Ecología y evolución en los trópicos*, edited by Leigh, Egbert Giles, Jr., Herre, Edward Allen, Jackson, Jeremy B. C., and Santos-Granero, Fernando., 387–396. Panama: Editora Nova Art.

- Ryan, Michael J., Bernal, Ximena E., and Rand, Austin Stanley.** 2007. "[Patterns of mating call preferences in túngara frogs, *Physalaemus pustulosus*](https://doi.org/10.1111/j.1420-9101.2007.01420.x)." *Journal of Evolutionary Biology* 20 (6):2235–2247. <https://doi.org/10.1111/j.1420-9101.2007.01420.x>
- Srygley, Robert B.** 2007. "[Evolution of the wave: aerodynamic and aposematic functions of butterfly wing motion](https://doi.org/10.1111/j.1365-2115.2007.01420.x)." *Proceedings of the Royal Society B: Biological Sciences* 274:913–917.
- Stutchbury, Bridget J. M., Morton, Eugene S., and Woolfenden, Bonnie. 2007. "[Comparison of the mating systems and breeding behavior of a resident and a migratory tropical flycatcher](https://doi.org/10.1111/j.1557-9263.2006.00083.x)." *Journal of Field Ornithology* 78 (1):40–49. <https://doi.org/10.1111/j.1557-9263.2006.00083.x>
- Uy, J. Albert C. and Stein, Adam C. 2007. "[Variable visual habitats may influence the spread of colourful plumage across an avian hybrid zone](https://doi.org/10.1111/j.1420-9101.2007.01378.x)." *Journal of Evolutionary Biology* 20 (5):1847–1858. <https://doi.org/10.1111/j.1420-9101.2007.01378.x>
- Warkentin, Karen M., Caldwell, Michael S., Siok, Timothy D., D'Amato, Alison T., and McDaniel, J. Gregory.** 2007. "[Flexible information sampling in vibrational assessment of predation risk by red-eyed treefrog embryos](https://doi.org/10.1242/jeb.001362)." *Journal of Experimental Biology* 210 (4):614–619. <https://doi.org/10.1242/jeb.001362>
- Windsor, Donald M.** 2007. "Historia natural del escarabajo subsocial *Acromis sparsa* Boheman (escarabajo tortuga) (Chrysomelidae, Cassidinae) en Panamá." in *Ecología y evolución en los trópicos*, edited by Leigh, Egbert Giles, Jr., Herre, Edward Allen, Jackson, Jeremy B. C., and Santos-Granero, Fernando., 177–190. Panama: Editora Nova Art.

2006

- Baer, Boris C. and Boomsma, Jacobus J. Koos.** 2006. "[Mating Biology of the Leaf-Cutting Ants *Atta Colombica* and *A. Cephalotes*](https://doi.org/10.1002/jmor.10467)." *Journal of Morphology* (10): 1165–1171. <https://doi.org/10.1002/jmor.10467>
- Baer, Boris C., Armitage, Sophie A. O., and Boomsma, Jacobus J. Koos.** 2006. "[Sperm Storage Induces an Immunity Cost in Ants](https://doi.org/10.1038/nature04698)." *Nature* (7095): 872–875. <https://doi.org/10.1038/nature04698>
- Bernal, Ximena E., Rand, Austin Stanley, and Ryan, Michael J.** 2006. "[Acoustic Preferences and Localization Performance of Blood-Sucking Flies \(*Corethrella* Coquillett\) to Tungara Frog Calls](https://doi.org/10.1093/beheco/arl003)." *Behavioral Ecology* (5): 709–715. <https://doi.org/10.1093/beheco/arl003>
- Cernusak, Lucas A., **Aranda, Jorge E.**, Marshall, John D., and **Winter, Klaus.** 2006. "[Large variation in whole-plant water-use efficiency among tropical tree species](https://doi.org/10.1111/j.1469-8137.2006.01913.x)." *New Phytologist* 173 (2):294–305. <https://doi.org/10.1111/j.1469-8137.2006.01913.x>
- Eberhard, William G.** and Levi, Herbert W. 2006. "Camouflage and chemical defence in a bolas spider, *Mastophora caesariata* sp. n. (Araneae, Araneidae)." *Bulletin of the British Arachnological Society* 13 (9):337–340. <https://doi.org/10.1007/s00114-005-0048-z>

- Hughes, William O. H.** and **Boomsma, Jacobus J. Koos.** 2006. "[Does Genetic Diversity Hinder Parasite Evolution in Social Insect Colonies?](https://doi.org/10.1111/j.1420-9101.2005.00979.x)." *Journal of Evolutionary Biology* 19 (1):132–143. <https://doi.org/10.1111/j.1420-9101.2005.00979.x>
- Joron, Mathieu, **Papa, Riccardo**, Beltran, Margarita, Chamberlain, Nicola, Mavarez, Jesus, Baxter, Simon W., Abanto, Moises, **Bermingham, Eldredge**, Humphray, Sean J., Rogers, Jane, Beasley, Helen, Barlow, Karen, ffrench-Constant, Ricard H., Mallet, James, **McMillan, William Owen**, and **Jiggins, Chris D.** 2006. "[A Conserved Supergene Locus Controls Colour Pattern Diversity in Heliconius Butterflies.](https://doi.org/10.1371/journal.pbio.0040303)" *PLoS Biology* (10): e303. <https://doi.org/10.1371/journal.pbio.0040303>
- Kirkpatrick, Mark, **Rand, Austin Stanley**, and **Ryan, Michael J.** 2006. "[Mate Choice Rules in Animals.](https://doi.org/10.1016/j.anbehav.2005.11.010)" *Animal Behaviour* (5): 1215–1225. <https://doi.org/10.1016/j.anbehav.2005.11.010>
- Lampert, Kathrin P., **Bernal, Ximena E.**, **Rand, Austin Stanley**, **Mueller, Ulrich Gerhard**, and **Ryan, Michael J.** 2006. "[No Evidence for Female Mate Choice Based on Genetic Similarity in the Túngara Frog Physalaemus Pustulosus.](https://doi.org/10.1007/s00265-005-0125-5)" *Behavioral Ecology and Sociobiology* (6): 796–804. <https://doi.org/10.1007/s00265-005-0125-5>
- Little, Ainslie E. F., Murakami, Takahiro, **Mueller, Ulrich Gerhard**, and Currie, Cameron Robert. 2006. "[Defending Against Parasites: Fungus-Growing Ants Combine Specialized Behaviours and Microbial Symbionts to Protect Their Fungus Gardens.](https://doi.org/10.1098/rsbl.2005.0371)" *Biology Letters* (1): 12–16. <https://doi.org/10.1098/rsbl.2005.0371>
- Logue, David M. 2006. "[The Duet Code of the Female Black-Bellied Wren.](#)" *The Condor* (2): 327–336.
- Matson, Kevin D., Tieleman, B. Irene, and Klasing, Kirk C. 2006. "[Capture Stress and the Bactericidal Competence of Blood and Plasma in Five Species of Tropical Birds doi:10.1086/501057.](https://doi.org/10.1086/501057)" *Physiological and Biochemical Zoology* 79 (3):556–564. <https://doi.org/10.1086/501057>
- Medina, E., Aguiar, G., Gomez, Marcela S., **Aranda, Jorge E.**, Medina, J. D., and **Winter, Klaus.** 2006. "[Taxonomic significance of the epicuticular wax composition in species of the genus Clusia From Panamá.](https://doi.org/10.1016/j.bse.2005.10.009)" *Biochemical Systematics and Ecology* 34 (4):319–326. <https://doi.org/10.1016/j.bse.2005.10.009>
- Pauly, Gregory B., **Bernal, Ximena E.**, **Rand, Austin Stanley**, and **Ryan, Michael J.** 2006. "[The Vocal Sac Increases Call Rate in the Túngara Frog Physalaemus Pustulosus.](https://doi.org/10.1086/504613)" *Physiological and Biochemical Zoology* (4): 708–719. <https://doi.org/10.1086/504613>
- Poulsen, Michael, **Hughes, William O. H.**, and **Boomsma, Jacobus J. Koos.** 2006. "[Differential Resistance and the Importance of Antibiotic Production in Acromyrmex Echinatiior Leaf-Cutting Ant Castes Towards the Entomopathogenic Fungus Aspergillus Nomius.](https://doi.org/10.1007/s00040-006-0880-y)" *Insectes Sociaux* (3): 349–355. <https://doi.org/10.1007/s00040-006-0880-y>

- Stein, Adam C. and Uy, J. Albert C. 2006. "[Plumage Brightness Predicts Male Mating Success in the Lekking Golden-Collared Manakin, *Manacus Vitellinus*](#)." *Behavioral Ecology* (1): 41–47.
- Warkentin, Karen M.**, Buckley, Christine R., and Metcalf, Kelly A. 2006. "[Development of Red-Eyed Treefrog Eggs Affects Efficiency and Choices of Egg-Foraging Wasps](#)." *Animal Behaviour* (2): 417–425. <https://doi.org/10.1016/j.anbehav.2005.06.007>
- Warkentin, Karen M.**, Caldwell, Michael S., and McDaniel, J. Gregory. 2006. "[Temporal Pattern Cues in Vibrational Risk Assessment by Embryos of the Red-Eyed Treefrog, *Agalychnis Callidryas*](#)." *Journal of Experimental Biology* (8): 1376–1384. <https://doi.org/10.1242/jeb.02150>
- 2005**
- Baer, Boris C.**, Krug, A., **Boomsma, Jacobus J. Koos**, and **Hughes, William O. H.** 2005. "[Examination of the Immune Responses of Males and Workers of the Leaf-Cutting Ant *Acromyrmex Echinator* and the Effect of Infection](#)." *Insectes Sociaux* (3): 298-303.
- Condit, Richard S.**, **Pérez, Rolando A.**, Lao, Suzanne, **Aguilar, Salomón**, and Somoza, Agustin. 2005. "[Geographic ranges and B-diversity: Discovering how many tree species there are where](#)." In , 57–71.
- Heckadon-Moreno, Stanley.** 2005. "[Las Selvas Del Río Obispo, Gamboa y Cruces Según Caroline Salvin, 1873](#)." *Epocas* (5): 2–3.
- Keller, Gwen P. 2005. "Wolbachia Distribution and Reproductive Effects in Populations of a Neotropical Beetle, *Chelymorpha Alternans*."
- Lynch, Kathleen S., **Rand, Austin Stanley, Ryan, Michael J.**, and Wilczynski, Walter. 2005. "[Plasticity in Female Mate Choice Associated With Changing Reproductive States](#)." *Animal Behaviour* 69 (3):689–699.
- Pérez, Rolando A.**, **Aguilar, Salomón**, Somoza, Agustin, **Condit, Richard S.**, Tejada, Israel, Camargo, Clara, and Lao, Suzanne. 2005. "[Tree Species Composition and Diversity in the Upper Chagres River Basin, Panamá](#)." in *The Rio Chagres, Panama: A Multidisciplinary Profile of a Tropical Watershed Series*, edited by Harmon, Russell S., 227. Springer.
- Poulsen, Michael, Cafaro, M., **Boomsma, Jacobus J. Koos**, and Currie, Cameron Robert. 2005. "[Specificity of the Mutualistic Association Between Actinomycete Bacteria and Two Sympatric Species of *Acromyrmex* Leaf-Cutting Ants](#)." *Molecular Ecology* (11): 3597–3604.
- Stutchbury, Bridget J. M., Woolfenden, Bonnie E., Fedy, Bradley C., and Morton, Eugene S. 2005. "[Nonbreeding Territorial Behavior of Two Congeneric Antbirds, Chestnut-Backed Antbird \(*Myrmeciza Exsul*\) and White-Bellied Antbird \(*M. Longipes*\)](#)." *Ornitologia Neotropical* 16:397–404.
- Tieleman, B. Irene, Williams, Joseph B., **Ricklefs, Robert E.**, and Klasing, Kirk C. 2005. "[Constitutive Innate Immunity Is a Component of the Pace-of-Life Syndrome in Tropical Birds](#)." *Proceedings of the Royal Society B: Biological Sciences* (1573): 1715–1720.

Vencl, Fredric V., Nogueira-de-Sa, Flavia, Allen, Bengt, **Windsor, Donald M.,** and Futuyma, Douglas J. 2005. "[Dietary Specialization Influences the Efficacy of Larval Tortoise Beetle Shield Defenses.](#)" *Oecologia* (3): 404–414.

Warkentin, Karen M. 2005. "[How Do Embryos Assess Risk? Vibrational Cues in Predator-Induced Hatching of Red-Eyed Treefrogs.](#)" *Animal Behaviour* (1): 59–71.

Weigt, Lee A., **Crawford, Andrew J., Rand, Austin Stanley,** and **Ryan, Michael J.** 2005. "[Biogeography of the Túngara Frog, Physalaemus Pustulosus: a Molecular Perspective.](#)" *Molecular Ecology* (12): 3857–3876.

2004

Baer, Boris C. and Boomsma, Jacobus J. Koos. 2004. "[Male Reproductive Investment and Queen Mating-Frequency in Fungus-Growing Ants.](#)" *Behavioral Ecology* (3): 426–432.

Brown, Culum and Braithwaite, Victoria A. 2004. "[Size Matters: a Test of Boldness in Eight Populations of the Poeciliid Brachyrhaphis Episcopi.](#)" *Animal Behaviour* (6): 1325–1329.

Emlen, Stephen T. and Wrege, Peter H. 2004. "[Size Dimorphism, Intrasexual Competition, and Sexual Selection in Wattled Jacana \(Jacana Jacana\), a Sex-Role-Reversed Shorebird in Panamá.](#)" *The Auk* (2): 391–403.

Emlen, Stephen T. and Wrege, Peter H. 2004. "[Division of Labour in Parental Care Behaviour of a Sex-Role-Reversed Shorebird, the Wattled Jacana.](#)" *Animal Behaviour* (4): 847–855.

Gerardo, N. M., **Mueller, Ulrich Gerhard,** Price, S. L., and Currie, C. R. 2004. "[Exploiting a mutualism: parasite specialization on cultivars within the fungus-growing ant symbiosis.](#)" *Proceedings of the Royal Society B: Biological Sciences* 271 (1550):1791.

Gerardo, Nicole M., **Mueller, Ulrich Gerhard,** Price, Shauna L., and Currie, Cameron Robert. 2004. "[Exploiting a mutualism: parasite specialization on cultivars within the fungus-growing ant symbiosis.](#)" *Proceedings of the Royal Society B: Biological Sciences* 271 (1550):1791–1798.

Hoke, Kim L., Burmeister, Sabrina S., Fernald, Russell D., **Rand, Austin Stanley, Ryan, Michael J.,** and Wilczynski, Walter. 2004. "[Functional Mapping of the Auditory Midbrain During Mate Call Reception.](#)" *The Journal of Neuroscience* (50): 11264–11272.

Hughes, William O. H. and Boomsma, Jacobus J. Koos. 2004. "[Let your enemy do the work: within-host interactions between two fungal parasites of leaf-cutting ants.](#)" *Proceedings of the Royal Society B: Biological Sciences* 271 (3):S104–S106.

Hughes, William O. H. and Boomsma, Jacobus J. Koos. 2004. "[Genetic Diversity and Disease Resistance in Leaf-Cutting Ant Societies.](#)" *Evolution* (6): 1251–1260.

Hughes, William O. H., Eilenberg, Jorgen, Thomsen, Lene, and **Boomsma, Jacobus J. Koos.** 2004. "[Diversity of Entomopathogenic Fungi Near Leaf-Cutting Ant Nests in a Neotropical Forest, With Particular Reference to Metarhizium Anisopliae Var. Anisopliae.](#)" *Journal of Invertebrate Pathology* (1-2): 46–53.

- Hughes, William O. H.**, Peterson, Klaus S., Ugelvig, Line V., Pedersen, Dorthe, Thomsen, Lene, Poulsen, Michael, and **Boomsma, Jacobus J. Koos**. 2004. "[Density-dependence and within-host competition in a semelparous parasite of leaf-cutting ants.](#)" *BMC Evolutionary Biology* 4:45–56.
- Jiggins, Chris D.**, Estrada, Catalina, and Rodrigues, A. 2004. "[Mimicry and the Evolution of Premating Isolation in *Heliconius Melpomene* Linnaeus.](#)" *Journal of Evolutionary Biology* (3): 680–691.
- Keller, Gwen P., **Windsor, Donald M.**, Saucedo, Jennifer M., and Werren, John H. 2004. "[Reproductive Effects and Geographical Distributions of Two *Wolbachia* Strains Infecting the Neotropical Beetle, *Chelymorpha Alternans* Boh. \(Chrysomelidae, Cassidinae\).](#)" *Molecular Ecology* (8): 2405–2420.
- Logue, David M. and Gammon, David E. 2004. "[Duet Song and Sex Roles During Territory Defence in a Tropical Bird, the Black-Bellied Wren, *Thryothorus fasciatoventris*.](#)" *Animal Behaviour* 68 (4):721–731.
- Mabuchi, K., Nakabo, T., and Nishida, M. 2004. "Molecular Phylogeny of the Antitropical Genus *Pseudolabrus* (Perciformes: Labridae): Evidence for a Southern Hemisphere Origin." *Molecular Phylogenetics and Evolution* (1): 375–382.
- Pasteels, Jacques M., Daloz, Desire, de Biseau, Jean-Christophe, Termonia, Arnaud, and **Windsor, Donald M.** 2004. "Patterns in Host-Plant Association and Defensive Toxins Produced by Neotropical Chrysomeline Beetles." in *New Developments in the Biology of Chrysomelidae*, edited by Jolivet, Pierre H., Santiago-Blay, Jorge A., and Schmitt, M., 669. SPB Academic Publications.
- Phillips, Pamela L., Welch, John H., and Kramer, Matthew. 2004. "[Seasonal and Spatial Distributions of Adult Screwworms \(Diptera: Calliphoridae\) in the Panamá Canal Area, Republic of Panamá.](#)" *Journal of Medical Entomology* 41 (1):121–129.
- Ronhede, Stig, **Boomsma, Jacobus J. Koos**, and Rosendahl, Soren. 2004. "[Fungal Enzymes Transferred by Leaf-Cutting Ants in Their Fungus Gardens.](#)" *Mycological Research* (1): 101–106.
- Rosenthal, Gil G., **Rand, Austin Stanley**, and **Ryan, Michael J.** 2004. "[The Vocal Sac As a Visual Cue in Anuran Communication: an Experimental Analysis Using Video Playback.](#)" *Animal Behaviour* (1): 55–58.
- Smithsonian Tropical Research Institute**. 2004. [Report] *Biennial Report of the Smithsonian Tropical Research Institute. Informe Bienal Del Instituto Smithsonian De Investigaciones Tropicales.*
- Sumner, Seirian, Hughes, William O. H.**, Pedersen, Jes S., and **Boomsma, Jacobus J. Koos**. 2004. "Ant Parasite Queens Revert to Mating Singly." *Nature* (6978): 35–36.

- Uy, J. Albert C. and Endler, John A. 2004. "[Modification of the Visual Background Increases the Conspicuousness of Golden-Collared Manakin Displays.](#)" *Behavioral Ecology* (6): 1003–1010.
- Villelsen, Palle, **Mueller, Ulrich Gerhard**, Schultz, Ted R., Adams, Rachele M. M., and Bouck, Amy C. 2004. "[Evolution of Ant-Cultivar Specialization and Cultivar Switching in Apterostigma Fungus-Growing Ants.](#)" *Evolution* 58 (10):2252-2265.
- Wcislo, William T., Fernandez-Marin, Hermogenes**, and Di Trani, Juan Carlos. 2004. "[Use of Communal Nests by Male and Female Trachypus Petiolatus \(Hymenoptera: Sphecidae\).](#)" *Journal of the Kansas Entomological Society* (4): 323–331.
- 2003**
- Aiello, Annette** and Solis, M. Alma. 2003. "[Defense Mechanisms in Pyralidae and Choreutidae: Fecal Stalactites and Escape Holes, With Remarks About Cocoons, Camouflage and Aposematism.](#)" *Journal of The Lepidopterists' Society* 57 (3):168–175.
- Currie, Cameron Robert, Bot, Adriane N. M., and **Boomsma, Jacobus J. Koos**. 2003. "[Experimental Evidence of a Tripartite Mutualism: Bacteria Protect Ant Fungus Gardens From Specialized Parasites.](#)" *Oikos* (1): 91–102.
- Dijkstra, Michiel B.** and **Boomsma, Jacobus J. Koos**. 2003. "[Gnamptogenys hartmani Wheeler \(Ponerinae: Ectatommini\): an Agro-Predator of Trachymyrmex and Sericomymex Fungus-Growing Ants.](#)" *Naturwissenschaften* 90 (12):568–571.
- Fernandez-Marin, Hermogenes**, Zimmerman, Jess K., and **Wcislo, William T.** 2003. "[Nest-Founding in Acromyrmex Octospinosus \(Hymenoptera, Formicidae, Attini\): Demography and Putative Prophylactic Behaviors.](#)" *Insectes Sociaux* (4): 304-308.
- Gill, Sharon A. 2003. "[Timing and Duration of Egg Laying in Duetting Buff-Breasted Wrens.](#)" *Journal of Field Ornithology* (1): 31–36.
- González, Maribel A., Eberhard, Jessica R., Lovette, Irby J., Olson, Storrs L., and **Bermingham, Eldredge**. 2003. "[Mitochondrial DNA phylogeography of the Bay Wren \(Thryothorus nigricapillus\) complex.](#)" *The Condor* 105 (2):228–238.
- Hughes, William O. H., Sumner, Seirian**, Van Borm, Steven, and **Boomsma, Jacobus J. Koos**. 2003. "[Worker Caste Polymorphism Has a Genetic Basis in Acromyrmex Leaf-Cutting Ants.](#)" *Proceedings of the National Academy of Sciences of the United States of America* (16): 9394–9397.
- Lampert, Kathrin P., **Rand, Austin Stanley, Mueller, Ulrich Gerhard**, and **Ryan, Michael J.** 2003. "[Fine-Scale Genetic Pattern and Evidence for Sex-Biased Dispersal in the Túngara Frog, Physalaemus Pustulosus.](#)" *Molecular Ecology* (12): 3325–3334.
- Naisbit, Rusell E., Jiggins, Chris D.**, and Mallet, James. 2003. "[Mimicry: Developmental Genes That Contribute to Speciation.](#)" *Evolution & Development* 5 (3):269–280.

- Ortius-Lechner, Diethelma, Maile, Roland, Morgan, E. David, Petersen, H. C., and **Boomsma, Jacobus J. Koos**. 2003. "[Lack of Patriline-Specific Differences in Chemical Composition of the Metapleural Gland Secretion in *Acromyrmex octospinosus*](#)." *Insectes Sociaux* 50 (2):113–119.
- Poulsen, Michael, Bot, Adriane N. M., and **Boomsma, Jacobus J. Koos**. 2003. "The Effect of Metapleural Gland Secretion on the Growth of a Mutualistic Bacterium on the Cuticle of Leaf-Cutting Ants." *Naturwissenschaften* (9): 406–409.
- Poulsen, Michael, Bot, Adriane N. M., Currie, Cameron Robert, Nielsen, Mogens G., and **Boomsma, Jacobus J. Koos**. 2003. "[Within-Colony Transmission and the Cost of a Mutualistic Bacterium in the Leaf-Cutting Ant *Acromyrmex octospinosus*](#)." *Functional Ecology* 17 (2):260–269.
- Ryan, Michael J.** and **Rand, Austin Stanley**. 2003. "[Sexual Selection in Female Perceptual Space: How Female Túngara Frogs Perceive and Respond to Complex Population Variation in Acoustic Mating Signals](#)." *Evolution* (1): 2608-2618.
- Sumner, Seirian, Hughes, William O. H.,** and **Boomsma, Jacobus J. Koos**. 2003. "[Evidence for Differential Selection and Potential Adaptive Evolution in the Worker Caste of an Inquiline Social Parasite](#)." *Behavioral Ecology and Sociobiology* (3): 256–263.
- Sumner, Seirian, Nash, David R.,** and **Boomsma, Jacobus J. Koos**. 2003. "[The Adaptive Significance of Inquiline Parasite Workers](#)." *Proceedings of the Royal Society B: Biological Sciences* (1521): 1315–1322.
- Van Borm, Steven, Wenseleers, T., Billen, Johan, and **Boomsma, Jacobus J. Koos**. 2003. "[Cloning and Sequencing of *Wsp* Encoding Gene Fragments Reveals a Diversity of Co-Infecting *Wolbachia* Strains in *Acromyrmex* Leafcutter Ants](#)." *Molecular Phylogenetics and Evolution* 26 (1):102–109.

2002

- Aparicio Gonzalez, Keyla Lineth and Vega de Castillo, Ana Lorena. 2002. "Histología Del Tracto Digestivo De *Orexita Wagneri*, *Coptocyclus Leprosus* y *Botanochara Impresus* (Coleóptera: Chrysomelidae: Cassidinae)."
- Bosch, Jaime, **Rand, Austin Stanley,** and **Ryan, Michael J.** 2002. "Response to Variation in Chuck Frequency by Male and Female Túngara Frogs." *Herpetologica* (1): 95–103.
- Bot, Adriane N. M., Ortius-Lechner, Diethelma, Finster, K., Maile, Roland, and **Boomsma, Jacobus J. Koos**. 2002. "[Variable Sensitivity of Fungi and Bacteria to Compounds Produced by the Metapleural Glands of Leaf-Cutting Ants](#)." *Insectes Sociaux* (4): 363–370.
- Green, A. M., **Mueller, Ulrich Gerhard,** and Adams, Rachelle M. M. 2002. "Extensive Exchange of Fungal Cultivars Between Sympatric Species of Fungus-Growing Ants." *Molecular Ecology* (2): 191.

- Hart, Adam G. and Ratnieks, Francis L. W. 2002. "[Waste Management in the Leaf-Cutting Ant *Atta Colombica*](#)." *Behavioral Ecology* (2): 224–231.
- Hart, Adam G., Bot, Adriane N. M., and Brown, Mark J. F. 2002. "[A Colony-Level Response to Disease Control in a Leaf-Cutting Ant](#)." *Naturwissenschaften* (6): 275–277.
- Hughes, William O. H.**, Eilenberg, Jorgen, and **Boomsma, Jacobus J. Koos**. 2002. "[Trade-Offs in Group Living: Transmission and Disease Resistance in Leaf-Cutting Ants](#)." *Proceedings of the Royal Society B: Biological Sciences* (1502): 1811–1819.
- Ibáñez, Roberto, Condit, Richard S., Angehr, George R., Aguilar, Salomón**, Garcia, Tomas, Martinez, Raul, Sanjur, Amelia, **Stallard, Robert F., Wright, S. Joseph, Rand, Austin Stanley**, and **Heckadon-Moreno, Stanley**. 2002. "[An Ecosystem Report on the Panamá Canal: Monitoring the Status of the Forest Communities and the Watershed](#)." *Environmental monitoring and assessment* (1): 65–95.
- Naisbit, Russell E., Jiggins, Chris D., Linares, Mauricio**, Salazar, Camilo A., and Mallet, James. 2002. "Hybrid Sterility, Haldane's Rule and Speciation in *Heliconius Cydno* and *H. Melpomene*." *Genetics* (4): 1517–1526.
- Poulsen, Michael, Bot, Adriane N. M., Currie, Cameron Robert, and **Boomsma, Jacobus J. Koos**. 2002. "[Mutualistic Bacteria and a Possible Trade-Off Between Alternative Defence Mechanisms in *Acromyrmex* Leaf-Cutting Ants](#)." *Insectes Sociaux* (1): 15–19.
- Poulsen, Michael, Bot, Adriane N. M., Nielsen, Mogens G., and **Boomsma, Jacobus J. Koos**. 2002. "[Experimental evidence for the costs and hygienic significance of the antibiotic metapleural gland secretion in leaf-cutting ants](#)." *Behavioral Ecology and Sociobiology* 52 (2):151–157.
- Svenning, Jens-Christian. 2002. "[Non-Native Ornamental Palms Invade a Secondary Tropical Forest in Panamá](#)." *Palms* (2): 81–86.
- Van Borm, Steven, Billen, Johan, and **Boomsma, Jacobus J. Koos**. 2002. "[The Diversity of Microorganisms Associated With *Acromyrmex* Leaf-Cutting Ants](#)." *BMC Evolutionary Biology* 2:9. <https://doi.org/10.1186/1471-2148-2-9>
- Villesen, Palle, Schultz, Ted R., and **Boomsma, Jacobus J. Koos**. 2002. "[Identifying the Transition Between Single and Multiple Mating in Attine Ants](#)." *Proceedings of the Royal Society B: Biological Sciences* (1500): 1541–1548. <https://doi.org/10.1098/rspb.2002.2044>
- Warkentin, Karen M.** 2002. "Hatching Timing, Oxygen Availability, and External Gill Regression in the Tree Frog, *Agalychnis Callidryas*." *Physiological and Biochemical Zoology* (2): 155–164.

2001

- Bot, Adriane N. M., Currie, Cameron Robert, Hart, Adam G., and **Boomsma, Jacobus J. Koos**. 2001. "[Waste management in leaf-cutting ants](#)." *Ethology Ecology & Evolution* 13 (3):225–237.

- Bot, Adriane N. M., Obermayer, M. L., Hölldobler, B., and **Boomsma, Jacobus J. Koos**. 2001. "[Functional morphology of the metapleural gland in the leaf-cutting ant *Acromyrmex octospinosus*](#)." *Insectes Sociaux* 48 (1):63–66.
- Bot, Adriane N. M., Rehner, Stephen A., and **Boomsma, Jacobus J. Koos**. 2001. "[Partial Incompatibility Between Ants and Symbiotic Fungi in Two Sympatric Species of *Acromyrmex* Leaf-Cutting Ants](#)." *Evolution* (10): 1980–1991.
- Currie, Cameron Robert. 2001. "[Prevalence and Impact of a Virulent Parasite on a Tripartite Mutualism](#)." *Oecologia* (1): 99–106.
- Currie, Cameron Robert and Stuart, Alison E. 2001. "[Weeding and grooming of pathogens in agriculture by ants](#)." *Proceedings of the Royal Society B: Biological Sciences* 268 (1471):1033–1039.
- Graf, Barbara and Nentwig, Wolfgang. 2001. "[Ontogenetic change in coloration and web-building behavior in the tropical spider *Eriophora fuliginea* \(Araneae, Araneidae\)](#)." *Journal of Arachnology* 29 (1):104–110.
- Hart, Adam G. 2001. "[I Am Just Going Outside and May Be Some Time - a Note on Pre-Death Behaviour of Leafcutting Ant Queens and Some Speculation As to Its Meaning](#)." *Entomologist's Monthly Magazine* 236.
- Hart, Adam G. and Ratnieks, Francis L. W. 2001. "[Leaf caching in the leafcutting ant *Atta colombica*: organizational shift, task partitioning and making the best of a bad job](#)." *Animal Behaviour* 62 (2):227–234.
- Jiggins, Chris D., Linares, Mauricio, Naisbit, Russell E., Salazar, Camilo A., Yang, Ziheng H., and Mallet, James**. 2001. "[Sex-Linked Hybrid Sterility in a Butterfly](#)." *Evolution* (8): 1631–1638.
- Naisbit, Russell E., Jiggins, Chris D., and Mallet, James**. 2001. "[Disruptive Sexual Selection Against Hybrids Contributes to Speciation Between *Heliconius Cydno* and *Heliconius Melpomene*](#)." *Proceedings of the Royal Society B: Biological Sciences* (1478): 1849–1854.
- Phelps, Steven M., **Ryan, Michael J., and Rand, Austin Stanley**. 2001. "[Vestigial Preference Functions in Neural Networks and *Túngara* Frogs](#)." *Proceedings of the National Academy of Sciences of the United States of America* (23): 1361–13166.
- Pierce, Simon, Maxwell, Kate, Griffiths, Howard, and **Winter, Klaus**. 2001. "[Hydrophobic Trichome Layers and Epicuticular Wax Powders in Bromeliaceae](#)." *American Journal of Botany* 88 (8):1371–1389. <https://doi.org/10.2307/3558444>
- Ryan, Michael J. and Rand, Austin Stanley**. 2001. "Feature Weighting in Signal Recognition and Discrimination by *Túngara* Frogs." in *Anuran Communication*, edited by **Ryan, Michael J.**, 86. Smithsonian Institution Press.

- Van Borm, Steven, Wenseleers, T., Billen, Johan, and **Boomsma, Jacobus J. Koos**. 2001. "[Wolbachia in Leafcutter Ants: a Widespread Symbiont That May Induce Male Killing or Incompatible Matings.](#)" *Journal of Evolutionary Biology* (5): 805–814.
- Warkentin, Karen M.** and Wassersug, Richard J. 2001. "Do Prostaglandins Regulate External Gill Regression in Anurans?." *Journal of Experimental Zoology* (6): 366–373.
- Warkentin, Karen M.**, Currie, Cameron Robert, and Rehner, Stephen A. 2001. "[Egg-Killing Fungus Induces Early Hatching of Red-Eyed Tree Frog Eggs.](#)" *Ecology* (10): 2860–2869.
- 2000**
- Bekkevold, Dorte and **Boomsma, Jacobus J. Koos**. 2000. "[Evolutionary Transition to a Semelparous Life History in the Socially Parasitic Ant Acromyrmex Insinuator.](#)" *Journal of Evolutionary Biology* (4): 615–623.
- Bosch, Jaime, **Rand, Austin Stanley**, and **Ryan, Michael J.** 2000. "Acoustic Competition in *Physalaemus Pustulosus*, a Differential Response to Calls of Relative Frequency." *Ethology* (10): 865–871.
- Bosch, Jaime, **Rand, Austin Stanley**, and **Ryan, Michael J.** 2000. "[Signal Variation and Call Preferences for Whine Frequency in the Tungara Frog, *Physalaemus Pustulosus*.](#)" *Behavioral Ecology and Sociobiology* (1): 62–66.
- Dillon, Michael E. and Fiano, Javier. 2000. "[Oviposition Site Selection by the Túngara Frog \(*Physalaemus Pustulosus*\).](#)" *Copeia* (3): 883–885.
- Greenfield, Michael D. and **Rand, Austin Stanley**. 2000. "Frogs Have Rules: Selective Attention Algorithms Regulate Chorusing in *Physalaemus Pustulosus* (Leptodactylidae)." *Ethology* (4): 331–347.
- Hart, Adam G. and Ratnieks, Francis L. W. 2000. "[Leaf caching in *Atta* leafcutting ants: discrete cache formation through positive feedback.](#)" *Animal Behaviour* 59 (3):587–591.
- Hau, Michaela, **Wikelski, Martin C.**, and Wingfield, John C. 2000. "Visual and nutritional food cues fine-tune timing of reproduction in a neotropical rainforest bird." *Journal of Experimental Zoology* 286 (5):494–504.
- Hau, Michaela, **Wikelski, Martin C.**, Soma, Kiran K., and Wingfield, John C. 2000. "Testosterone and Year-Round Territorial Aggression in a Tropical Bird." *General and Comparative Endocrinology* 117 (1):20–33.
- Orellana B., Andres M. 2000. "Palatabilidad, Mimetismo y Defensas Químicas En Polillas Dioprinae (Lepidoptera: Notodontidae)."
- Ortius-Lechner, Diethel, Gertsch, Pia J., and **Boomsma, Jacobus J. Koos**. 2000. "[Variable Microsatellite Loci for the Leafcutter Ant *Acromyrmex Echinator* and Their Applicability to Related Species.](#)" *Molecular Ecology* (1): 114–116.

Ortius-Lechner, Diethelma, Roland, Morgan, E. David, and **Boomsma, Jacobus J. Koos**. 2000. "[Metapleural Gland Secretion of the Leaf-Cutter Ant *Acromyrmex Octospinosus*: New Compounds and Their Functional Significance.](#)" *Journal of Chemical Ecology* (7): 1667-1683.

Plasman, V., Braekman, J. C., Daloz, D., **Windsor, Donald M.**, and Pasteels, Jacques M. 2000. "Triterpene Saponins, Quaternary Ammonium Compounds, Phosphatidyl Cholines, and Amino Acids in the Pronotal and Elytral Secretions of *Platyphora Opima* and *Desmogramma Subtropica*." *Journal of Natural Products* (9): 1261-1264.

Srygley, Robert B. and Kingsolver, Joel G. 2000. "[Effects of Weight Loading on Flight Performance and Survival of Palatable Neotropical *Anartia Fatima* Butterflies.](#)" *Biological Journal of the Linnean Society* (4): 707-725.

Sun, Lixing, Wilczynski, Walter, **Rand, Austin Stanley**, and **Ryan, Michael J.** 2000. "[Trade-Off and Long-Distance Communication in *Túngara* \(*Physalaemus Pustulosus*\) and Cricket \(*Acris Crepitans*\) Frogs.](#)" *Behavioral Ecology* (1): 102-109.

1999

Bagla, Pallava. 1999. "[Behaviorists Listen in As Animals Call and Croak.](#)" *Science* 285 (5433):1480-1481.

Bekkevold, Dorte, Frydenberg, Jane, and **Boomsma, Jacobus J. Koos**. 1999. "[Multiple Mating and Facultative Polygyny in the Panamanian Leafcutter Ant *Acromyrmex Echinator*.](#)" *Behavioral Ecology and Sociobiology* (2): 103-109.

Boomsma, Jacobus J. Koos, Fjerdingstad, else J., and Frydenberg, Jane. 1999. "[Multiple Paternity, Relatedness and Genetic Diversity in *Acromyrmex* Leaf-Cutter Ants.](#)" *Proceedings of the Royal Society B: Biological Sciences* 249-254.

Currie, Cameron Robert, **Mueller, Ulrich Gerhard**, and Malloch, David. 1999. "The Agricultural Pathology of Ant Fungus Gardens." *Proceedings of the National Academy of Sciences of the United States of America* (14): 7998-8002.

Currie, Cameron Robert, Scott, James A., Summerbell, Richard C., and Malloch, David. 1999. "Fungus-Growing Ants Use Antibiotic-Producing Bacteria to Control Garden Parasites." *Nature* 398 (6729):701-704.

Ryan, Michael J. and **Rand, Austin Stanley**. 1999. "Phylogenetic Influence on Mating Call Preferences in Female *Tungara* Frogs, *Physalaemus Pustulosus*." *Animal Behaviour* (4): 945-956.

Wilczynski, Walter, **Rand, Austin Stanley**, and **Ryan, Michael J.** 1999. "Female Preferences for Temporal Order of Call Components in the *Tungara* Frog: A Bayesian Analysis." *Animal Behaviour* (4): 841-851.

1998

Arosemena Diaz, Graciela. 1998. "Complejo Científico-Educativo En Gamboa."

- Condit, Richard S.** 1998. "[Ecological Implications of Changes in Drought Patterns: Shifts in Forest Composition in Panamá.](#)" *Climatic Change* (2-3): 413–427.
- Fjerdingstad, else J. and **Boomsma, Jacobus J. Koos.** 1998. "[Multiple Mating Increases the Sperm Stores of Atta Colombica Leafcutter Ant Queens.](#)" *Behavioral Ecology and Sociobiology* 257–261.
- Kime, N. M., **Rand, Austin Stanley,** and **Ryan, Michael J.** 1998. "Consistency of Female Choice in the Tungara Frog: a Permissive Preference for Complex Characters." *Animal Behaviour* 641–643.
- Mueller, Ulrich Gerhard** and **Weislo, William T.** 1998. "[Nesting Biology of the Fungus-Growing Ant *Cyphomyrmex Longiscapus* Weber \(Attini, Formicidae\).](#)" *Insectes Sociaux* (2): 181–189.
- Ryan, Michael J.** and **Rand, Austin Stanley.** 1998. "Evoked Vocal Response in Male Túngara Frogs: Pre-Existing Biases in Male Responses?." *Animal Behaviour* (6): 1509–1516.
- Schimming, Thomas, Tofern, Britta, Mann, Petra, Richter, Anuschka, Jenett, Siems Kristina, Draeger, Birgit, Asano, Naoki, Gupta, Mahabir P., **Correa A., Mireya D.,** and Eich, Eckart. 1998. "Distribution and Taxonomic Significance of Calystegines in the Convolvulaceae." *Phytochemistry* (7): 1989–1995.
- Snedden, W. Andy and Greenfield, Michael D. 1998. "Females Prefer Leading Males: Relative Call Timing and Sexual Selection in Katydid Choruses." *Animal Behaviour* 1091–1098.
- Stutchbury, Bridget J. M., Morton, Eugene S., and Piper, W. H. 1998. "Extra-pair mating system of a synchronously breeding tropical songbird." *Journal of Avian Biology* 29 (1):72–78.
- 1997**
- Fjerdingstad, else J. and **Boomsma, Jacobus J. Koos.** 1997. "Variation in size and sperm content of sexuals in the leafcutter ant *Atta colombica*." *Insectes Sociaux* 44 (3):209–218.
- Jaramillo, Cesar A., Rand, Austin Stanley, Ibáñez, Roberto,** and Dudley, T. R. 1997. "Elastic structures in the vocalization apparatus of the tungara frog *Physalaemus pustulosus* (Leptodactylidae)." *Journal of Morphology* 233 (3):287–295.
- McClelland, Blinda E., Wilczynski, Walter, and **Rand, Austin Stanley.** 1997. "Sexual dimorphism and species differences in the neurophysiology and morphology of the acoustic communication system of two neotropical hylids." *Journal Of Comparative Physiology A Sensory Neural And Behavioral Physiology* 180 (5):451–462.
- Rand, Austin Stanley,** Bridarolli, Maria Elena, Dries, Laurie, and **Ryan, Michael J.** 1997. "Light levels influence female choice in Tungara frogs: Predation risk assessment?." *Copeia* 1997 (2):447–450.
- Robb, Catherine Bevier. 1997. "Utilization of energy substrates during calling activity in tropical frogs." *Behavioral Ecology and Sociobiology* 41:343–352.

1996

- Ashe, James S. and Lingafelter, Steven W. 1996. "Revision of *Gansia* sharp of Mexico and Central America (Coleoptera: Staphylinidae; Aleocharinae)." *Journal of the New York Entomological Society* 103 (3):251–280.
- Bot, Adriane N. M. and **Boomsma, Jacobus J. Koos**. 1996. "Variable metapleural gland size-allometries in *Acromyrmex* leafcutter ants (Hymenoptera: Formicidae)." *Journal of the Kansas Entomological Society* 69:375–383.
- Cocroft, Reginald B. 1996. "Insect vibrational defense signals." *Nature* 382:679–680.
- Marler, C. A. and **Ryan, Michael J.** 1996. "Energetic constraints and steroid hormone correlates of male calling behaviour in the Túngara frog." *Journal of zoology* 240 (3):397–409.
- Morton, Eugene S. and Derrickson, Kim C. 1996. "Song ranging by the dusky antbird *Cercomacra tyrannina*: ranging without song learning." *Behavioral Ecology and Sociobiology* 39:195–201.
- Poulin, Brigitte and Lefebvre, Gaetan. 1996. "Dietary relationships of migrant and resident birds from a humid forest in central Panama." *The Auk* 113 (2):277–287.

1995

- Devall, Margaret S., Parresol, Bernard R., and **Wright, S. Joseph**. 1995. "[Dendroecological analysis of *Cordia alliodora*, *Pseudobombax septenatum* and *Annona spraguei* in central Panama.](#)" *IAWA Journal* 16 (4):411–424.
- Harms, Kyle Edward** and **Dalling, James W.** 1995. "Observations on the Seasonal Consistency in Germination Timing for *Scheelea zonensis*." *Principes* 39 (2):104–106.
- Robb-Bevier, Catherine. 1995. "Biochemical Correlates of Calling Activity in Neotropical Frogs." *Physiological Zoology* 68 (6):1118–1142.
- Robb-Bevier, Catherine. 1995. "Physiological Constraints on Calling Activity in Neotropical Frogs(Ph.D. Dissertation)."
- Seutin, Gilles and Letzer, M. 1995. "The Short-Tailed Nighthawk is a Tree Nester." *Journal of Field Ornithology* 66 (1):30–36.
- Werren, John H., **Windsor, Donald M.**, and Guo, Lirong. 1995. "Distribution of *Wolbachia* among neotropical arthropods." *Proceedings of the Royal Society B: Biological Sciences* 262 (1364):197–204.
- Wilczynski, Walter, **Rand, Austin Stanley**, and **Ryan, Michael J.** 1995. "The processing of spectral cues by the call analysis system of the tungara frog, *Physalaemus pustulosus*." *Animal Behaviour* 49 (4):911–929.

1994

Farji-Brener, Alejandro and Sierra, Claudine. 1994. "Distribution of attacked plants along trails in leaf-cutting ants (Hymenoptera: Formicidae): Consequences in territorial strategies." *Revista de Biología Tropical* 41 (3):891–896.

Hardy, Sr, David L. 1994. "Bothrops asper (Viperidae) snakebite and field researchers in Middle America." *Biotropica* 26 (2):198–207.

1993

Backwell, Patricia R. Y. and Jennions, Michael D. 1993. "Mate Choice in the Neotropical Frog, *Hyla ebraccata*: Sexual Selection, Mate Recognition and Signal Selection." *Animal Behaviour* 45:1248–1250.

Greenfield, Michael D. 1993. "Inhibition of Male Calling by Heterospecific Signals: Artifact of Chorusing or Abstinence During Suppression of Female Phonotaxis?." *Naturwissenschaften* 80:570–573.

O'Donnell, Sean. 1993. "Interactions of Predaceous Katydid (Orthoptera: Tettigoniidae) with Neotropical Social Wasps (Hymenoptera: Vespidae): Are Wasps a Defense Mechanism or Prey." *Entomological News* 104 (1):39–42.

O'Donnell, Sean and Jeanne, Robert L. 1993. "Methoprene Accelerates Age Polyethism in Workers of a Social Wasp (*Polybia occidentalis*)." *Physiological Entomology* 18:189–194.

Ryan, Michael J. and **Rand, Austin Stanley.** 1993. "Species recognition and sexual selection as a unitary problem in animal communication." *Evolution* 47 (2):647–657.

Ryan, Michael J. and **Rand, Austin Stanley.** 1993. "Phylogenetic Patterns of Behavioural Mate Recognition Systems in the *Physalaemus pustulosus* Species Group (Anura: Leptodactylidae): the Role of Ancestral and Derived Characters and Sensory Exploitation." in *Evolutionary Patterns and Processes*, 251–267. The Linnean Society of London.

Sakagami, Shoichi F., **Roubik, David Ward,** and Zucchi, Ronaldo. 1993. "[Ethology of the Robber Stingless Bee, *Lestrimelitta limao* \(Hymenoptera: Apidae\)](#)." *Sociobiology* 21 (2):237–277.

Wilczynski, W., M. and **Rand, Austin Stanley.** 1993. "Acoustic, Auditory, and Morphological Divergence in Three Species of Neotropical Frog." *Journal of Comparative Physiology* 172:425–438.

1992

Aiello, Annette. 1992. "[Nocturnal Butterflies in Panama, Hedylidae \(Lepidoptera: Rhopalocera\)](#)." in *Insects of Panama and Mesoamerica - Selected Studies*, edited by Quintero A., Diomedes and **Aiello, Annette.**, 549–553. Oxford: Oxford University Press.

Enstrom, David A. 1992. "Delayed Plumage Maturation in the Orchard Oriole (*Icterus spurius*) Tests of Winter Adaptation Hypotheses." *Behavioral Ecology and Sociobiology* 30:35–42.

- Jennions, Michael D. and **Backwell, Patricia R. Y.** 1992. "Chorus Size Influences on the Anti-Predator Response of a Neotropical Frog." *Animal Behaviour* 44:990–992.
- Monge-Najera, Julian. 1992. "Clicking Butterflies, Hamadryas, of Panama. Their Biology and Identification (Lepidoptera: Nymphalidae)." in *Insects of Panama and Mesoamerica - Selected Studies*, edited by Quintero A., Diomedes and **Aiello, Annette.**, 567–572. Oxford: Oxford University Press.
- Pullin, Andrew S. and Knight, Theresa M. 1992. "Induction and Termination of Reproductive Diapause in a Neotropical beetle, *Chelymorpha alternans* (Coleoptera: Chrysomelidae)." *Journal of the Zoological Society of London* 227:509–516.
- Roper, James J. 1992. "Nest Predation Experiments with Quail Eggs: Too much to Swallow?." *Oikos* 65 (3):528–530.
- Windsor, Donald M.**, Riley, Edward G., and Stockwell, Henry P. 1992. "An Introduction to the Biology and Systematics of Panamanian Tortoise Beetles (Coleoptera:Chrysomelidae:Cassidinae)." in *Insects of Panama and Mesoamerica - Selected Studies*, edited by Quintero A., Diomedes and **Aiello, Annette.**, 372–391. Oxford: Oxford University Press.

1991

- Nelson, C. R., Jorgensen, Clive D., Black, Hal L., and Whiting, J. 1991. "Maintenance of foraging trails by the giant tropical ant *Paraponera clavata* (Insecta: Formicidae: Ponerinae)." *Insectes Sociaux* 38 (3):221–228.
- Schwartz, Joshua J. 1991. "Why Stop Calling? A Study of Unison bout Singing in a Neotropical Treefrog." *Animal Behaviour* 42:565–577.
- Schwartz, Joshua J. and **Rand, Austin Stanley.** 1991. "The Consequences for Communication of Call Overlap in the Tungara Frog, a Neotropical Anuran with a Frequency-Modulated Call." *Ethology* 89:73–83.
- Wiley Jr., John,P. 1991. "Phenomena, Comment and Notes." *Smithsonian* 22 (3):29–32.
- Zelick, R., Rose, G., and **Rand, Austin Stanley.** 1991. "Differential Response to Frequency Modulation Rate and Direction by the Neotropical Frog, *Physalaemus pustulosus*." *Animal Behaviour* 42:413–421.

1990

- Karr, James R., **Schemske, Douglas W.**, and **Brokaw, Nicholas V. L.** 1990. "Variaciones Temporales de la Comunidad de Aves del Sotobosque de un Bosque Tropical." in *Ecología de un bosque tropical: ciclos estacionales y cambios a largo plazo*, edited by **Rand, Austin Stanley, Windsor, Donald M.**, and **Leigh, Egbert Giles, Jr.**, 509–522. Balboa, Republic of Panama: Smithsonian Tropical Research Institute.

Rubinoff, Ira and **Leigh, Egbert Giles, Jr.** 1990. "Dealing with Diversity: The Smithsonian Tropical Research Institute and Tropical Biology." *Trends in Ecology and Evolution* 5 (4):115–118.

Ryan, Michael J. and **Rand, Austin Stanley.** 1990. "The Sensory Basis of Sexual Selection for Complex Calls in the Túngara Frog, *Physalaemus pustulosus* (Sexual Selection for Sensory Exploitation)." *Evolution* 44 (2):305–314..

Zeh, Jeanne A. and **Zeh, David W.** 1990. "Cooperative foraging for large prey by *Paratemnus elongatus* (Pseudoscorpionida, Atemnidae)." *Journal of Arachnology* 18 (3):307–312.

1989

Emlen, Stephen T., Demong, Natalie J., and Emlen, Douglas J. 1989. "Experimental Induction of Infanticide in Female Wattled Jacanas." *The Auk* 106 (1):1–7.

Fraga, Rosendo M. 1989. "Interactions between nectarivorous birds and the flowers of *Aphelandra sicclairiana* in Panama." *Journal of Tropical Ecology* 5 (1):19–26.

Wells, Kentwood D. 1989. "Vocal Communication in a Neotropical Treefrog, *Hyla ebraccata*: Responses of Males to Graded Aggressive Calls." *Copeia* 1989 (2):461–466.

Wells, Kentwood D. and Taigen, Theodore L. 1989. "Calling Energetics of a Neotropical Treefrog, *Hyla microcephala*." *Behavioral Ecology and Sociobiology* 25:13–22.

Wilczynski, Walter, **Ryan, Michael J.**, and Brenowitz, Eliot A. 1989. "The Display of the Blue-black Grassquit: The Acoustic Advantage of Getting High." *Ethology* 80:218–222.

1988

Aiello, Annette and Brown Jr., Keith S. 1988. "[Mimicry by Illusion in a Sexually Dimorphic, Day-Flying Moth, *Dysschema jansonis* \(Lepidoptera: Arctiidae: Pericopinae\)](#)." *Journal of Research on the Lepidoptera* 26 (1-4):173–176.

Fleishman, Leo J. 1988. "Sensory and Environmental Influences on Display Form in *Anolis auratus*, a Grass Anole from Panama." *Behavioral Ecology and Sociobiology* 22 (5):309–316.

Greenfield, Michael D. 1988. "Interspecific Acoustic Interactions Among Katydid *Neoconocephalus*: Inhibition-Induced Shifts in Diel Periodicity." *Animal Behaviour* 36 (3):684–695.

Rose, Gary B., Zellick, Randy D., and **Rand, Austin Stanley.** 1988. "Auditory Processing of Temporal Information in a Neotropical Frog is Independent of Signal Intensity." *Ethology* 77:330–336.

Wells, Kentwood D. and Bard, Kathleen M. 1988. "Parental Behavior of an Aquatic-Breeding Tropical Frog, *Leptodactylus bolivianus*." *Journal of Herpetology* 22 (3):361–364.

1987

Aiello, Annette. 1987. "Genuchinus muzo Krikken (Coleoptera: Scarabaeidae) Larvae Reared from a Bird's Nest in Panama." *The Coleopterists Bulletin* 41 (3):259–262.

Decae, Arthur E. 1987. "Dispersal: Ballooning and other Organisms." in *Ecophysiology of Spiders*, edited by Nentwig, Wolfgang., 345–356. Berlin: Springer Verlag.

Elliott, Nancy B. and Elliott, William M. 1987. "Nest Usurpation by Females of *Cerceris cibrosa* (Hymenoptera: Sohecidae)." *Journal of the Kansas Entomological Society* 60 (3):397–402.

Roubik, David Ward and Ackerman, James D. 1987. "Long Term Ecology of Euglosine Orchid-Bees in Panamá." *Oecologia* 73 (3):321–333.

Schwartz, Joshua J. 1987. "The Function of Call Alternation in Anuran Amphibians: A Test of Three Hypothesis." *Evolution* 41 (3):461–471.

Schwartz, Joshua J. 1987. "The Importance of Spectral and Temporal Properties in Species and Call Recognition in a Neotropical Treefrog with a Complex Vocal Repertoire." *Animal Behaviour* 35:340–347.

Snow, Alison A. and **Roubik, David Ward.** 1987. "Pollen Deposition and Removal by Bees Visiting Two Tree Species in Panamá." *Biotropica* 19 (1):57–63.

Troyer, Katherine. 1987. "Small Differences in Daytime Body Temperature Affect Digestion of Natural Food in a Herbivorous Lizard (*Iguana iguana*)." *Comparative biochemistry and physiology* 87A (3):623–626.

Wells, Kentwood D. and Bard, Kathleen M. 1987. "Vocal Communication in a Neotropical Treefrog, *Hyla ebraccata*: Responses of Females to Advertisement and Aggressive Calls." *Behaviour* 101 (1):200–210.

1986

Fleishman, Leo J. 1986. "Motion Detection in the Presence and Absence of Background Motion in an *Anolis* Lizard." *Journal of Comparative Physiology A* 159:711–720.

Schulz, William G. 1986. "Habitat Study Nets Data on Panama's Migratory Birds." *Smithsonian Institution Research Reports* 47:5,8.

Schwartz, Joshua J. 1986. "Male Calling Behavior and Female Choice in the Neotropical Treefrog *Hyla microcephala*." *Ethology* 73 (2):116–127.

1985

Graham, Jeffrey B. 1985. "Seasonal and environmental effects on the blood hemoglobin concentrations of some Panamanian air-breathing fishes." *Environmental Biology of Fishes* 12 (4):291–301.

Nentwig, Wolfgang. 1985. "A Tropical Caterpillar that Mimics Faeces, Leaves and a Snake (Lepidoptera: Oxytenidae: *Oxytenis naemia*)." *Journal of Research on the Lepidoptera* 24 (2):135–141.

- Nentwig, Wolfgang. 1985. "Feeding ecology of the tropical spitting spider *Syctodes longipes* (Araneae, Scytodidae)." *Oecologia* 65 (2):284–288.
- Nentwig, Wolfgang. 1985. "Prey analysis of four species of tropical orb-weaving spiders (Araneae: Araneidae) and a comparison with araneids of the temperate zones." *Oecologia* 66 (4):580–594.
- Schwartz, Joshua J. and Wells, Kentwood D. 1985. "Intraand interspecific vocal behavior of the neotropical treefrog *Hyla microcephala*." *Copeia* 1985 (1):27–38.
- Windsor, Donald M. and Rand, Austin Stanley.** 1985. "Cambios climáticos en los registros de lluvias en Panamá y Costa Rica." in *Agonía de la Naturaleza Ensayos sobre el costo ambiental del desarrollo Panameño*, edited by **Heckadon-Moreno, Stanley** and Espinosa González, Jaime., 147–164. Panamá: Instituto de Investigación Agropecuaria de Panamá and Smithsonian Tropical Research Institute.

1984

- McDade, Lucinda A. and Davidar, Priya. 1984. "Determinants of fruit and seed set in *Pavonia dasypetala* (Malvaceae)." *Oecologia* 64 (1):61–67.
- Power, Mary W. 1984. "The importance of sediment in the grazing ecology and size class interactions of an armored catfish, *Ancistrus spinosus*." *Environmental Biology of Fishes* 10 (3):173–181.
- Roubik, David Ward,** Schmalzel, Robert J., and **Moreno, Jorge Enrique.** 1984. *Estudio apibotánico de Panamá: Cosecha y fuentes de polen y nectar usados por Apis mellifera y sus patrones estacionales y anuales.* Boletín Técnico. Panamá: Organismo Internacional Regional de Sanidad Agropecuaria - OIRSA.
- Schwartz, Joshua J. and Wells, Kentwood D. 1984. "Interspecific acoustic interactions of the neotropical treefrog *Hyla ebraccata*." *Behavioral Ecology and Sociobiology* 14 (3):211–224.
- Schwartz, Joshua J. and Wells, Kentwood D. 1984. "Vocal behavior of the neotropical treefrog *Hyla phlepododes*." *Herpetologica* 40 (4):452–463.
- Wells, Kentwood D. and Schwartz, Joshua J. 1984. "Vocal communication in a neotropical treefrog, *Hyla ebraccata*: advertisement calls." *Animal Behaviour* 32 (2):405–420.

1983

- Angermeier, Paul L. and Karr, James R. 1983. "Fish communities along environmental gradients in a system of tropical streams." *Environmental Biology of Fishes* 9 (2):117–135.
- Brown, Patricia E., Brown, Timothy W., and Grinnell, Alan D. 1983. "Echolocation, development, and vocal communication in the lesser bulldog bat, *Noctilio albiventris*." *Behavioral Ecology and Sociobiology* 13 (4):287–298.
- Dyrce, Andrzej. 1983. "Breeding ecology of the clay-coloured Robin *Turdus grayi* in lowland Panama." *Ibis* 125 (3):287–304.

- Graham, Jeffrey B. 1983. "The transition to air breathing in fishes. II. Effects of hypoxia acclimation on the bimodal gas exchange of *Ancistrus chagresi* (Loricaridae)." *Journal of Experimental Biology* 102:157–173.
- Greenfield, Michael D. 1983. "Reproductive isolation in clearwing moths (Lepidoptera: Sesiidae): a tropical-temperate comparison." *Ecology* 64 (2):362–375.
- McDade, Lucinda A. 1983. "Long-tailed hermit hummingbird visits to inflorescence color morphs of *Heliconia irrasa*." *The Condor* 85 (4):360–364.
- McDade, Lucinda A. 1983. "Pollination intensity and seed set in *Trichanthera gigantea*." *Biotropica* 15 (2):122–124.
- Schwartz, Joshua and Wells, Kentwood D. 1983. "An experimental study of acoustic interference between two species of neotropical treefrogs." *Animal Behaviour* 31 (1):181–190.
- Schwartz, Joshua and Wells, Kentwood D. 1983. "The influence of background noise on the behavior of a neotropical treefrog, *Hyla ebraccata*." *Herpetologica* 39 (2):121–129.
- Smith, B. H. and **Roubik, David Ward**. 1983. "Mandibular glands of stingless bees (Hymenoptera: Apidae): chemical analysis of their contents and biological function in two species of *Melipona*." *Journal of chemical ecology* 9 (11):1465–1472.
- Taigen, Theodore L. and Pough, F. H. 1983. "Prey preference, foraging behavior, and metabolic characteristics of frogs." *American Naturalist* 122 (4):509–520.

1982

- de Alba, Georgina A. and Rubinoff, Roberta Wolf. 1982. *Evolucion en los Tropicos Publicaciones Selectas del Smithsonian Tropical Research Institute*. Panamá: Smithsonian Tropical Research Institute and Editorial Universitaria.
- Graham, Jeffrey B. and Baird, Troy A. 1982. "The transition to air breathing in fishes. I. Environmental effects on the facultative air breathing of *Ancistrus chagresi* and *Hypostomus plecostomus* (Loricariidae)." *Journal of Experimental Biology* 96:53–67.
- Montgomery, G. Gene, Gale, N. B., and Murdoch Jr., W. P. 1982. "Have manatee entered the eastern Pacific Ocean?" *Mammalia* 46 (2):257–258.
- Roubik, David Ward** and Wheeler, Quentin D. 1982. "Flightless beetles and stingless bees: phoresy of scotocryptine beetles (Leiodidae) on their meliponine (Apidae)." *Journal of the Kansas Entomological Society* 55 (1):125–135.
- Roubik, David Ward**, Ackerman, James D., Copenhaver, Christine, and Smith, Brian H. 1982. "[Stratum, tree, and flower selection by tropical bees: implications for the reproductive biology of outcrossing *Cochlospermum vitifolium* in Panama.](#)" *Ecology* 63 (3):712–720.

1981

Wells, Kentwood D. and Greer, Beverly J. 1981. "Vocal responses to conspecific calls in a neotropical hyliid frog, *Hyla ebraccata*." *Copeia* 1981 (3):615–624.

1980

Toft, Catherine A. 1980. "Seasonal variation in populations of Panamanian litter frogs and their prey: a comparison of wetter and drier sites." *Oecologia* 47 (1):34–38.

1979

Zug, George R. and Zug, P. B. 1979. "The marine toad, *Bufo marinus*: a natural history resume of native populations." *Smithsonian Contributions to Zoology* 284:

1978

Graham, Jeffrey B., Kramer, Donald L., and Pineda, Elpidio. 1978. "Comparative respiration of an air-breathing and a non-air-breathing characoid fish and the evolution of aerial respiration in characins." *Physiological Zoology* 51 (3):279–288.

Haines, Bruce L. 1978. "Element and energy flows through colonies of the leaf-cutting ant, *Atta colombica*, in Panama." *Biotropica* 10 (4):270–277.

1977

May, Michael L. 1977. "Thermoregulation and reproductive activity in tropical dragonflies of the genus *Micrathyria*." *Ecology* 58 (4):787–798.

Robinson, Michael H. and Robinson, Barbara C. 1977. "Association between flies and spiders: bibliocomensalism and dipsoparasitism?." *Psyche* 84 (2):150–157.

Robinson, Michael H. and Valerio, Carlos E. 1977. "Attacks on large or heavily defended prey by tropical salticid spiders." *Psyche* 84 (1):1–10.

1976

Boyden, Thomas C. 1976. "Butterfly palatability and mimicry: experiments with *Ameiva* lizards." *Evolution* 30 (1):73–81.

Jenssen, Thomas A. and Hover, Edward L. 1976. "Display analysis of the signature display of *Anolis limifrons* (Sauria: Iguanidae)." *Behaviour* 57 (3-4):227–240.

Morton, Eugene S. 1976. "Vocal mimicry in the Thick-billed Euphonia." *Wilson Bulletin* 88 (3):485–487.

1971

Edwards, Ernest P. and Loftin, Horac. 1971. *Finding birds in Panama*.

Karr, James R. 1971. "Ecological, behavioral, and distributional notes on some Central Panama birds." *The Condor* 73 (1):107–111.

Karr, James R. 1971. "Structure of avian communities in selected Panama and Illinois habitats." *Ecological Monographs* 41 (3):207–233.

Wilson, Don E. and Findley, James S. 1971. "Spermatogenesis in some Neotropical species of *Myotis*." *Journal of mammalogy* 52 (2):420–426.

1955

Levi, Herbert W. 1955. "The spider genera *Chryso* and *Tidarren* in America (Araneae: Theridiidae)." *New York Entomological Society* 63:

1949

Arnett, Ross H., Jr. 1949. "Notes on the distribution, habits and habitats of some Panama Culicines (Diptera: Culicidae). Part III." *Journal of the New York Entomological Society* 57 (4):233–251.

1948

Arnett, Ross H., Jr. 1948. "Notes on the distribution, habits and habitats of some Panamanian culicines (Diptera: Culicidae). Part II." *Journal of the New York Entomological Society* 56 (3):175–193.

1947

Arnett, Ross H., Jr. 1947. "Notes on the distribution, habits and habitats of some Panamanian culicines (Diptera: Culicidae).Part I." *Journal of the New York Entomological Society* 55 (3):185–220.

1934

Bequaert, J. C. 1934. "Color Variation in the South American Social Wasp, *Polistes versicolor* (Oliver) (Hymenoptera, Vesipidae)." *Revista de Entomologia (Brazil)* 4:2.

1929

Banks, Nathan. 1929. "Spiders from Panama." *Bulletin of the Museum of Comparative Zoology* 69 (3):53–96.

1924

Hallinan, Thomas. 1924. "Notes on some Panama Canal Zone birds with special reference to their food." *The Auk* 41:304–326.