

Julian Rowe Dupuis

Department of Entomology, University of Kentucky
1100 South Limestone, Lexington, Kentucky, USA, 40546
Office: S307C Agriculture Science Center North

julian.dupuis@uky.edu
Tel: (+1 859) 562-2544
ORCID: 0000-0002-6989-9179
Website: julianrdupuis.com

Professional Experience

- 2025-present **Associate Professor**, University of Kentucky, Department of Entomology
2019-present **Curator**, University of Kentucky Insect Museum
2019-2025 **Assistant Professor**, University of Kentucky, Department of Entomology
2016-2019 **Junior Faculty**, University of Hawai'i at Mānoa & USDA-ARS Daniel K. Inouye U.S. Pacific Basin Agricultural Research Center
Associate Curator, University of Hawai'i Insect Museum

Education

- 2009-2016 **PhD**, Systematics & Evolution, Department of Biological Sciences, University of Alberta, Edmonton, AB. (defended January 2016)
2005-2009 **BSc**, Biology, Northern Michigan University, Marquette, MI, *Summa cum laude*

Awards & Scholarships

- 2024 Martin-Gatton College of Agriculture, Food and Environment, Master Teacher Award (\$1,000)
2017 USDA Certificate of Appreciation award (AD-141A) for contribution to the successful eradication of New World screwworm during the 2016 Florida outbreak
2015 Top Reviewer for *Molecular Ecology*
2014 Entomological Society of America, President's prize runner-up, oral presentation (\$50)
2014 Mary Louise Imrie Graduate Student Award, University of Alberta Faculty of Graduate Studies and Research (for international travel: \$1,300)
2014 Harry K. Clench Memorial Award for Outstanding Student Paper, The Lepidopterist Society (\$500)
2014 Bill Samuel Graduate Student Service Award, University of Alberta (\$350)
2014 Department of Biological Sciences Teaching Award, University of Alberta (\$500)
2013 University of Alberta R.E. Peter, second place oral competition (\$75)
2013 Cover photograph for the *The Canadian Entomologist* for the 2013 calendar year
2012 American Genetics Association, student travel grant (\$175)
2012 Entomological Society of Canada President's Prize – Oral Presentation (\$150)
2012 University of Alberta Entomological Society JAM Bursary (\$125)
2012 University of Alberta Interdisciplinary Science Students' Society Inspirational Instructor award
2011 Faculty of Graduate Studies and Research Graduate Student Teaching Award (\$500)
2010,12,13,14 Commendation for Teaching Excellence, Department of Biological Sciences, University of Alberta
2009 Graduated Summa Cum Laude, Northern Michigan University (NMU)
2009 Nominated as the Outstanding Graduating Senior in the Biology Dept., NMU
2009 Undergraduate poster awarded Best in Show, Celebration of Student Research, NMU
2005-2009 NMU Faculty of Science Dean's Honor Roll
2005 NMU Merit Award, Freshman Fellowship Award, Honor's Program

RESEARCH

Research Funding

- 2025 Brazilian National Institutes of Science and Technology, Instituto Nacional de Ciência e Tecnologia dos Hymenoptera Parasitoides/Inova - INCT-HYMPAR-INOVA (\$X; collaborator, my portion: \$0)

- 2025 Austrian Science Fund, *The potential of hybridization to adapt to climate change* (\$356,385 USD; collaborator, my portion: \$0)
- 2024 Canola Council of Canada (SaskCanola, Alberta Canola, & Manitoba Canola Growers Association), Canola Agronomic Research Program, *Tracking the movement of flea beetles across the Canadian Prairies* (\$212,614 CAD; co-Investigator, my portion: \$0)
- 2023 University of Kentucky, Igniting Research Collaborations, *Insects, informatics, and illustrations: A new approach to visually representing anatomical knowledge in ecological and taxonomic databases* (\$26,410; co-PI, shared funding)
- 2023 NSF, *iDigBees Network, Towards Complete Digitization of US Bee Collections to Promote Ecological and Evolutionary Research in a Keystone Clade* (\$948,871; co-PI, my portion: \$19,924)
- 2022 USDA APHIS Plant Protection Act, *Population genomics, diagnostic strain determination, and SIT characterization for the Mexican fruit fly Anastrepha ludens* (PI, \$141,119)
- 2021 Results Driven Agricultural Research, Western Grains Research Foundation, & Alberta Canola Producers Commission, Agricultural Funding Consortium, *Insecticide susceptibility and resistance monitoring of flea beetles in canola* (\$356,440 CAD; collaborator, my portion \$0)
- 2021 USDA APHIS Plant Protection Act, *Population genomics, diagnostic strain determination, and SIT characterization for the Mexican fruit fly Anastrepha ludens* (PI, \$130,009)
- 2020 USDA APHIS Plant Protection Act, *Population genomics, diagnostic strain determination, and SIT characterization for the Mexican fruit fly Anastrepha ludens* (PI, \$146,505)
- 2020 USDA NIFA AFRI Foundational and Applied Sciences Grant, *Developing phylogenomic-based diagnostic tools for species identification across Diptera* (PI, \$500,000)
- 2019 College of Agriculture, Food and Environment *Start-up Funds* (PI, \$540,000)
- 2019 National Institute of Food and Agriculture, Agriculture and Food Research Initiative Postdoctoral Fellowship (NIFA-AFRI): *Developing phylogenomic resources and diagnostic tools for species identification for tephritid fruit flies* (PI, \$164,152, declined)
- 2011 Alberta Conservation Association Grants in Biodiversity: *Landscape as a determinant of population structure, hybridization, and conservation in a species complex of charismatic butterflies in Alberta* (PI, \$6,960)
- 2011 Canadian Circumpolar Institute, Circumpolar/Boreal Alberta Research Grant: *The relationship of landscape type and population structure in butterflies of the Papilio machaon species group in Alberta and British Columbia* (PI, \$1,600)

Refereed Journal Articles (50, H-index = 17) Highly Qualified Personnel

59. Elske LMK*, Glasier J, Burns L, **Dupuis JR**, Haines L, Hébert L, Henault J, Heron J, Linton J, MacDonald Z, Sperling F, Sissons R (2026) Using constructed value of information to identify key uncertainties for a decision tree analysis in iterative structured decision making. *Conservation Science and Practice* **8**(2):e70228 doi: <https://doi.org/10.1111/csp2.70228>
58. de Brito RA, Moraes dos Santos E, de Freitas PD, **Dupuis JR**, Congrains C (2025) Identifying sets of phylogenetically informative markers for *Anastrepha* (Diptera: Tephritidae). *Scientific Reports* **15**:34258. doi: <https://doi.org/10.1038/s41598-025-16399-2>
57. Nazari V, **Dupuis JR**, Habel JC, Bollino M, Schönberger D, Chapman EG, Todisco V. Peering into the past and predicting the future of the threatened southern swallowtail, *Papilio alexanor* Esper, 1799 (Lepidoptera: Papilionidae). *Biological Journal of the Linnaen Society* **146**:blaf078, doi: <https://doi.org/10.1093/biolinnean/blaf078>

56. Arnold HE, **Dupuis JR**, Rubinoff D, Haines WP, Geib SM, Sim SB. Genomic analysis of *Vanessa tameamea*, the threatened Hawaiian endemic butterfly, reveals population genetic structure relevant to conservation efforts. *Conservation Genetics* **26**:1097-1111 doi: <https://doi.org/10.1007/s10592-025-01718-x>
55. Thongjued K, Garcia K, Halmos V, Fiske KR, Gonthier DJ, **Dupuis JR** (2025). Increasing pasture diet diversity in broiler chickens: insights from DNA metabarcoding. *Renewable Agritculture and Food Systems*, **40**:e13. doi.org/10.1017/S1742170525000092
54. Congrains, C, Bremer F, **Dupuis JR**, Barr N, Garzón-Orduña I, Rubinoff D, Doorenweerd C, San Jose M, Morris K, Kauwe A, Geib SM (2025) CCS-consensuser: A haplotype-aware consensus generator for PacBio amplicon sequences. *Molecular Ecology Resources*, **4**:e14113. doi: 10.1111/1755-0998.14113
53. MacDonald Z*, **Dupuis JR***, Glasier JRN, Sissons R, Moehrensclager A, Shaffer HB, Sperling FAH (2025) Genomic and ecological differentiation support taxonomic recognition of a new subspecies of *Satyrrium semiluna* (Lepidoptera: Lycaenidae). *ZooKeys*, **1234**:291-304. doi: 10.3897/zookeys.1234.143893 (*co-first authors)
52. DeRoller CJ*, Wang X, **Dupuis JR**, Schmidt BC (2025) A cryptic new species of tiger swallowtail from eastern North America. *ZooKeys*, **1228**:69-97. doi: 10.3897/zookeys.1228.142202
51. MacDonald Z*, **Dupuis JR***, Glasier J, Sissons R, Moehrensclager A, Shaffer HB, Sperling FAH (2025) Whole-genome evaluation of genetic rescue: The case of a curiously isolated and endangered butterfly. *Molecular Ecology*, **34**(4): e17657. doi: 10.1111/mec.17657 (*co-first authors)
50. Doorenweerd C. *, San Jose M., Leblanc L., Barr N., Geib S., Chung A. Y. C., **Dupuis J. R.**, Ekayanti A., Fiegalan E., Hemachandra K. S., Hossain M. A., Huang C. L., Hsu Y. F., Morris K .Y., Mustapeng A. M., Niogret J., Pham T. H., Nguyen N. T., Sirisena U. G. A. I., Todd T., Rubinoff D. (2024) Towards a better future for DNA barcoding: monophyly- and distance-based species identification using COI gene fragments of Dacini fruit flies. *Molecular Ecology Resources*, **24**(6), e13987. doi: 10.1111/1755-0998.13987
49. Vertacnik K. L.‡*, Vernygora O. V.‡, **Dupuis J. R.** (2024) snpAIMeR: R package for evaluating ancestry informative markers and diagnostic panels. *Bioinformatics*, **40**(6), btae377. doi: 10.1093/bioinformatics/btae377
48. Thongjued J, Garcia K, Scott D, Gonthier DJ, **Dupuis JR** (2024) DNA metabarcoding diet analysis in a generalist omnivore: feeding trials reveal the efficiency of extraction kits and a multi-locus approach for identifying diverse diets. *Integrative Zoology* **19**:790-806. doi: 10.1111/1749-4877.12806
47. Rahnama M, Condon B, Ascari JP, **Dupuis JR**, Del Ponte E, Pedley KF, Martinez S, Valent B, Farman ML (2023). Recent co-evolution of two pandemic plant diseases in a multi-hybrid swarm. *Nature Ecology and Evolution* **7**:2055-2066. doi: 10.1038/s41559-023-02237-z
46. Vernygora OV, Sperling FAH, **Dupuis JR** (2023) Toward transparent taxonomy: an interactive web-tool for evaluating competing taxonomic arrangements. *Cladistics* **40**:181-191. doi: 10.1111/cla.12563
45. Kyre BR, **Dupuis JR**, Zúñiga G, Rieske LK (2024) Variation in RNAi sensitivity in the southern pine beetle (SPB), *Dendroctonus frontalis*. *Biological Journal of the Linnean Society* **142**:147-154. doi:10.1093/biolinnean/blad126
44. Congrains C, **Dupuis JR**, Rodriguez EJ, Norrbom AL, Steck G, Sutton B, Nolzco N, de Brito RA, Geib SM (2023) Phylogenomic analysis provides diagnostic tools for identification of *Anastrepha fraterculus* (Diptera: Tephritidae) species complex. *Evolutionary Applications* **16**:1598-1618. doi: 10.1111/eva.13589
43. San Jose M, Doorenweerd C, Geib S, Barr N, **Dupuis JR**, Leblanc L, Kauwe A, Morris KY, Rubinoff D (2023) Interspecific gene flow obscures phylogenetic relationships in an important insect pest species complex. *Molecular Phylogenetics and Evolution* **188**:107892. doi: 10.1016/j.ympev.2023.107892

42. Hussain A, Mittapelly P, Blake A, **Dupuis JR**, Bouchard P, Skolrud T, Keddie B, Vankosky M, Carcamo H, Mori B (2023) Biology and management of *Ceutorhynchus obstrictus* (Coleoptera: Curculionidae) in spring-planted canola on the Northern Great Plains. *Journal of Integrated Pest Management* **14**:17. doi: 10.1093/jipm/pmad015.
41. Garcia K, Halmos V, Thongjued K, **Dupuis JR**, Gonthier DJ (2023) Net effects of pasture-raised poultry on arthropod communities driven by top-down and bottom-up forces in a mixed-cover crop system. *Frontiers in Sustainable Food Systems* **7**:1162753. doi: 10.3389/fsufs.2023.1162753
40. Condamine FL, Allio R, Reboud EL, **Dupuis JR**, Toussaint EFA, Mazet N, Hu SJ, Lewis DS, Kunte K, Cotton AM, Sperling FAH (2023) A comprehensive phylogeny and revised taxonomy illuminate the origin and diversification of the global radiation of *Papilio* (Lepidoptera: Papilionidae). *Molecular Phylogenetics and Evolution* **183**:107758. doi: 10.1016/j.ympev.2023.107758
39. Vernygora OV, Congrains C, Geib SM, **Dupuis JR** (2023) HiMAP2: Identifying phylogenetically informative genetic markers from diverse genomic resources. *Molecular Ecology Resources* **23**:1155-1167. doi: 10.1111/1755-0998.13762
38. Chapman EG, Richards AB, **Dupuis JR** (2023) The longhorn beetles (Coleoptera: Cerambycidae) of Kentucky with notes on larval hosts, adult nectar use, and semiochemical attraction. *Zootaxa* **5229**:1-89. doi: 10.11646/zootaxa.5229.1.1
37. Doorenweerd C, San Jose M, Geib S, **Dupuis JR**, Leblanc L, Barr N, Fiegalan E, Morris KY, Rubinoff D (2022) A phylogenomic approach to species delimitation in the mango fruit fly (*Bactrocera frauenfeldi*) complex: A new synonym of an important pest species with variable morphotypes (Diptera: Tephritidae). *Systematic Entomology* **48**:10-22. doi: 10.1111/syen.12559
36. Devlin J, Thomas RJ, Long SE, Boardman P, **Dupuis JR** (2022) Impact of climate change on the elevational and latitudinal distributions of populations of Tipulidae (Diptera) in Wales, United Kingdom. *Biological Journal of the Linnaean Society* **137**:30-46. doi: 10.1093/biolinnean/blac079
35. Vernygora OV, Campbell EO, Grishin NV, Sperling FAH, **Dupuis JR** (2022) Gauging ages of tiger swallowtail butterflies using alternative SNP analyses. *Molecular Phylogenetics and Evolution* **171**:107465. doi: 10.1016/j.ympev.2022.107465
34. Rubinoff D, Longcore T, **Dupuis JR**, Osborne KH (2021) Genomic data support the elevation of the federally listed El Segundo blue (*Euphilotes bernardino/battoides allyni*) to species status. *Journal of the Lepidopterist Society* **75**:161-164. doi: 10.18473/lepi.75i2.a10
33. Mori BA, Coutu C, Chen Y, Campbell E, **Dupuis JR**, Erlandson M, Hegedus D (*early access*) De novo whole genome assembly of the swede midge (*Contarinia nasturtii*), a specialist of Brassicaceae, using linked-read sequencing. *Genome Biology and Evolution* **13**:evab036. doi: 10.1093/gbe/evab036
32. Campbell EO, **Dupuis JR**, Holowachuk J, Hladun S, Vankosky MA, Mori BA (2020) Disjunction between canola distribution and the genetic structure of its recently described pest, the canola flower midge (*Contarinia brassicola*). *Ecology and Evolution* **10**:13284-13296. doi: 10.1002/ece3.6927
31. **Dupuis JR**, Sperling FAH (2020) Phylogenomic test of mitochondrial clues to archaic ancestors in a group of hybridizing swallowtail butterflies. *Molecular Phylogenetics and Evolution* **152**:106921. doi: 10.1016/j.ympev.2020.106921
30. MacDonald ZG, **Dupuis JR**, Davis CS, Acorn JH, Nielsen SE, Sperling FAH (2020) Gene flow and climate-associated genetic variation within a vagile habitat specialist. *Molecular Ecology* **29**:3889-3906. doi: 10.1111/mec.15604
29. **Dupuis JR**, Geib SM, Schmidt C, Rubinoff D (2020) Genomic-wide sequencing reveals remarkable connection between widely disjunct populations of the internationally threatened bog buck moth. *Insect Conservation and Diversity* **13**:495-500. doi: 10.1111/icad.12432

28. **Dupuis JR**, Judge KA, Brunet BM, Ohlmann S, Sperling FAH (2020) Does hunger lead to hybridization in a genus of sexually cannibalistic insects? *Biological Journal of the Linnean Society* **131**:434-448. doi: 10.1093/biolinnean/blaa094
27. Rubinoff D, Reil JB, Osborne K, Gregory C, Geib SM, **Dupuis JR** (2020) Phylogenomics of an endangered beetle reveals challenges and opportunities for broader conservation planning in a rapidly disappearing desert ecosystem. *Biodiversity and Conservation* **29**:2185-2200. doi: 10.1007/s10531-020-01968-w
26. **Dupuis JR**, Geib SM, Osborne KH, Rubinoff D (2020) Genomics confirms surprising ecological divergence and isolation in an endangered butterfly. *Biodiversity and Conservation* **29**:1897-1921. doi:10.1007/s10531-020-01950-6
25. Cullingham CI, Miller JM, Peery RM, **Dupuis JR**, Malenfant RM, Gorrell JC, Janes JK (2020) Confidently identifying the correct K value using the ΔK method: when does $K = 2?$. *Molecular Ecology* **29**:862-869. doi:10.1111/mec.15374
24. Koch JB, **Dupuis JR**, Jardeleza MK, Ouedraogo N, Geib SM, Follett PA, Price DK (2020) Population genomic and phenotype diversity of invasive *Drosophila suzukii* in Hawai'i. *Biological Invasions* **22**:1752-1770. doi:10.1007/s10530-020-02217-5
23. **Dupuis JR**, Pillon Y, Sakishima T, Gemmill C, Chamala S, Barbazuk WB, Lucas E, Geib SM, Stacy EA (2019) Targeted amplicon sequencing of 40 nuclear genes supports a single introduction and rapid radiation of Hawaiian *Metrosideros* (Myrtaceae). *Plant Systematics and Evolution* **305**:961-974. doi:10.1007/s00606-019-01615-0
22. **Dupuis JR**, Ruiz-Arce R, Barr NB, Thomas DB, Geib SM (2019) Range-wide population genomics of the Mexican fruit fly: towards development of pathway analysis tools. *Evolutionary Applications* **12**:1641-1660. doi:10.1111/eva.12824
21. **Dupuis JR**, Cullingham CI, Nielsen, SE, Sperling FAH (2019) Environmental effects on gene flow in a species complex of vagile, hilltopping butterflies. *Biological Journal of the Linnean Society* **127**:417-428. doi:10.1093/biolinnean/blz043
20. Mori BA, Andreassen L, Heal JD, **Dupuis JR**, Soroka J, Sinclair BJ (2019) A new species of *Contarinia* Rondani (Diptera: Cecidomyiidae) that induces flower galls on canola in the Canadian Prairies. *The Canadian Entomologist* **151**:131-148. <https://doi.org/10.4039/tce.2018.63>
19. **Dupuis JR**, Peigler RS, Geib SM, Rubinoff D (2018) Phylogenomics supports incongruence between ecological specialization and taxonomy in a charismatic clade of buck moths. *Molecular Ecology* **27**:4417-4429. <https://doi.org/10.1111/mec.14883>
18. **Dupuis JR** and Oliver JC, Brunet BMT, Longcore T, Johnson J, Sperling FAH (2018) Genomic data indicate ubiquitous evolutionary distinctiveness among populations of California metalmark butterflies. *Conservation Genetics* **19**:1097-1108. <https://doi.org/10.1007/s10592-018-1081-8>
17. Campbell EO, Brunet BMT, **Dupuis JR**, Sperling FAH (2018) Would an RRS by any other name sound as RAD? *Methods in Ecology and Evolution* **9**:1920-1927. <https://doi.org/10.1111/2041-210X.13038>
16. **Dupuis JR**, Guerrero FD, Skoda SR, Phillips PL, Welch JB, Schlater JL, Azeredo-Espin AM, Pérez de León AA, Geib SM (2018) Molecular characterization of the 2016 New World screwworm fly outbreak in the Florida Keys. *Journal of Medical Entomology* **55**:938-946. doi:10.1093/jme/tjy078
15. **Dupuis JR**, Bremer FT, Kauwe A, San Jose M, Leblanc L, Rubinoff D, Geib SM (2018) HiMAP: robust phylogenomics from highly multiplexed amplicon sequencing. *Molecular Ecology Resources* **18**:1000-1019. <https://doi.org/10.1111/1755-0998.12783>
14. Condamine FL, Nabholz B, Clamens AL, **Dupuis JR**, Sperling FAH (2018) Mitochondrial phylogenomics, the origin of swallowtail butterflies, and the impact of the number of clocks in Bayesian molecular dating. *Systematic Entomology* **43**:460-480. <https://doi.org/10.1111/syen.12284>

13. **Dupuis JR**, McDonald CM, Sperling FAH (2018) Genomics-informed species delimitation to support morphological identification of anglewing butterflies (Lepidoptera: Nymphalidae). *Zoological Journal of the Linnean Society* **183**:372-389. <https://doi.org/10.1093/zoolinnean/zlx081>
12. **Dupuis JR**, Sim SB, San Jose M, Leblanc L, Hoassain MA, Rubinoff D, Geib SM (2018) Population genomics and comparisons of selective signatures in two invasions of melon fly, *Bactrocera cucurbitae* (Diptera: Tephritidae). *Biological Invasions* **20**:1211-1228. <https://doi.org/10.1007/s10530-017-1621-z>
11. **Dupuis JR**, Bremer FT, Jombart T, Sim SB, Geib SM (2018) mvMapper: statistical and geographical data exploration and visualization of multivariate analyses of population structure. *Molecular Ecology Resources* **18**:362-367. <https://doi.org/10.1111/1755-0998.12724>
10. Owens HL, Lewis DS, **Dupuis JR**, Clamens AL, Sperling FAH, Kawahara AY, Guralnick R, Condamine FL (2017) The latitudinal diversity gradient in New World swallowtail butterflies is caused by contrasting patterns of out-of- and into-the-tropics dispersal. *Global Ecology and Biogeography* **26**:1447-1458. <https://doi.org/10.1111/geb.12672>
9. Campbell EO, Davis CS, **Dupuis JR**, Muirhead K, Sperling FAH (2017) Cross-platform compatibility of *de novo* SNPs in a non-model butterfly genus. *Molecular Ecology Resources* **17**:e84-e93. <https://doi.org/10.1111/1755-0998.12695>
8. Janes JK, Miller JM, **Dupuis JR**, Malenfant RM, Gorrell JC, Cullingham CI, Andrew RL (2017) The $K=2$ conundrum. *Molecular Ecology* **26**:3594-3602. <https://doi.org/10.1111/mec.14187> *One of the top 20 downloaded articles from *Molecular Ecology* October 2017-October 2018
7. **Dupuis JR**, Brunet BM, Bird HM, Lumley LM, Fagua G, Boyle B, Levesque R, Cusson M, Powell JA, Sperling FA (2017) Genome-wide SNPs resolve phylogenetic relationships in the North American spruce budworm (*Choristoneura fumiferana*) species complex. *Molecular Phylogenetics and Evolution* **111**:158-168. <https://doi.org/10.1016/j.ympev.2017.04.001>
6. **Dupuis JR**, Sperling FAH (2016) Speciation, hybridization, and conservation quandaries: what are we protecting anyway? *News of the Lepidopterists Society* **58**:202-204. *Peer reviewed by the Lepidopterist Society Conservation Committee
5. **Dupuis JR**, Sperling FAH (2016) Hybrid dynamics in a species group of swallowtail butterflies. *Journal of Evolutionary Biology* **29**:1932-1951 <https://doi.org/10.1111/jeb.12931> *Featured on the cover of volume 29, issue 10
4. **Dupuis JR**, Mori BA, Sperling FAH (2016) *Trogus* parasitoids of *Papilio* butterflies undergo extended diapause in western Canada (Hymenoptera, Ichneumonidae). *Journal of Hymenoptera Research* **50**:179-190. <https://doi.org/10.3897/JHR.50.9158>
3. **Dupuis JR**, Sperling FAH (2015) Repeated reticulate evolution in North American *Papilio machaon* group swallowtail butterflies. *PLoS One* **10**:e0141882. <https://doi.org/10.1371/journal.pone.0141882>
2. Proshek B, **Dupuis JR***, Engberg A, Davenport K, Opler PA, Powell JA, Sperling FAH (2015) Genetic evaluation of the evolutionary distinctness of a federally endangered butterfly, Lange's Metalmark. *BMC Evolutionary Biology* **15**:73. doi:10.1186/s12862-015-0354-9. *Corresponding Author
1. **Dupuis JR**, Roe ADR, Sperling FAH (2012) Multi-locus species delimitation in closely related animals and fungi: one marker is not enough. *Molecular Ecology* **21**:4422-4436. <https://doi.org/10.1111/j.1365-294X.2012.05642.x>

Submitted Refereed Journal Articles (4) Highly Qualified Personnel

1. MacDonald ZG, Beninde J, Dupuis JR, Gillespie TW, Shaffer HB, Grether GF. Lineage formation and genomic imperilment across landscapes in a model damselfly complex. **Molecular Ecology**, January 2025. *In review*. Manuscript ID ac6a08ff-cdb5-45cd-8190-72068f2e55d0

2. Brito RA*, Schmidt KJ*, Congrains C, Norrbom AL, Zucchi R, Steck GJ, Geib S, Alvarenga CD, Barreto MR, Chahad-Ehlers S, Santos EM, Gangadin A, Gomes BM, Paranhos BAJ, Keil C, Monteiro LB, Muller A, Nava DE, Nolzco N, Villacis A, de Souza Pinto I, Clavijo PAR, Rodriguez EJ, Ruiz-Arce R, Savaris M, Sobrinho IdS, Filho MFdS, Sutton BD, Troya H, Wiegmann B, **Dupuis JR**. Using highly variable exons to assess phylogenetic relationships among *Anastrepha* (Diptera: Tephritidae) species. **Systematic Entomology**, February 2026. *In review*. Manuscript ID SYEN-2026-02-042.

Refereed Books (1)

Dupuis JR, Rajora OP (eds) (2025) Population Genomics: Insects. Springer Nature, Switzerland.
<https://doi.org/10.1007/978-3-032-10103-7>

Refereed Book Chapters (1)

Roe ADR, **Dupuis JR**, Sperling FAH (2017) Molecular dimensions of insect taxonomy in the genomics era. In Footitt RG, Adler PH eds. *Insect Biodiversity: Science and Society 2nd Edition*. Wiley Blackwell Publishing. <https://doi.org/10.1002/9781118945568.ch16>

Theses (1)

Dupuis JR (2016) Speciation and hybridization in the Old World swallowtail butterfly (*Papilio machaon*) species complex. Doctoral Thesis, Systematics and Evolution, University of Alberta. Advisor: Dr. Felix AH Sperling

Presentations

Invited Scientific Conference and Seminar Presentations (20) Presenter*, Highly Qualified Personnel

28. **Dupuis JR** (2025) Multifaceted molecular diagnostic tools for managing recurrently invading pests. University of Alberta Entomology Seminar Series, Edmonton, Alberta
27. Thongjued K*, Gonthier D, **Dupuis JR** (2024) Peck, poop, and PCR: Unveiling entomological and applied insights of pastured poultry systems via DNA metabarcoding. Entomological Society of America annual meeting, Arthropod Metabarcoding symposium, Phoenix, AZ
26. **Dupuis JR*** (2024) Genomic insights into baffling buck moths. The Thomas C. Emmel Seminar Series: Expanding Horizons in Lepidoptera Research, McGuire Center for Lepidoptera and Biodiversity, Gainesville, FL
25. **Dupuis JR*** (2024) The University of Kentucky Insect Collection. Spring MG-CAFE Faculty Meeting, Lexington, KY
24. Vernygora O, Sperling FAH*, **Dupuis JR** (2023) Towards transparent taxonomy: Evaluating classifications and why it matters. University of Alberta Entomology Seminar Series, Edmonton, Alberta
23. **Dupuis JR*** (2023) A genomics perspective on insect diversity: from basics to applied. Federal University of São Carlos Department of Genetics and Evolution Seminar Series, São Carlos, Brazil
22. **Dupuis JR*** (2023) Biodiversity through the lens of DNA. University of Kentucky, Department of Entomology Seminar Series. Lexington, KY
21. Reid M, Campbell EO, **Dupuis JR**, Cárcamo HA, Wanner K, Sim S, Geib S, Mori BA* (2023) Combating the weevil empire: Insights into alfalfa weevil insecticide resistance, biological control, and population structure. University of Alberta, Entomology Seminar Series. Edmonton, Alberta
20. Glasier J*, MacDonald Z, **Dupuis JR**, Sissons R, Lloyd N, Moehrenschrager A, Shaffer H, Sperling FAH (2023) Using life history, habitat suitability modeling, and genetics to inform conservation actions of an isolated subpopulation of endangered Canadian butterfly. 3rd International Conservation Translocation Conference. Fremantle, Western Australia

19. **Dupuis JR*** (2023) Fighting invasive flies with genomics-fueled fire: multifaceted molecular diagnostic tools for tephritid pests. University of Louisville, Department of Biology Seminar Series. Louisville, KY
18. **Dupuis JR***, Vernygora OV, Vertacnik K, Barr N (2023) Comparing population genomic strategies for developing diagnostic markers in *Anastrepha ludens*. 10th International Congress on Dipterology, Invited symposium speaker: Tephritoidea of Economic Importance, Reno, NV
17. Mori BA*, Campbell EO, **Dupuis JR**, Carcamo H (2023) Resistance is futile: Determining the mechanisms of pyrethroid resistance in alfalfa weevil, *Hypera postica*. Entomological Society of America Pacific Branch Meeting, Invited symposium speaker: Insect Functional Genomics: Impacts Across Disciplines. Seattle, WA
16. **Dupuis JR*** (2022) Developing genomics-based molecular diagnostic tools for recurrently invading tephritid pests. University of California Davis Entomology Seminar Series. Davis, CA
15. **Dupuis JR*** (2022) Genomic insights into ecological diversification of the charismatic *Hemileuca maia* complex in North America. Congress of Societas Europaea Lepidopterologica, **Invited Plenary Speaker**. Laulasmaa, Estonia
14. **Dupuis JR*** (2020) Boisterous buckmoths, seductive swallowtails, and diagnostic DNA: fun with challenging lepidopteran species complexes. Society for Kentucky Lepidopterists Annual Meeting, **Invited Plenary Speaker**. Virtual, Lexington, KY
13. Vernygora OV*, Geib S, Barr N, **Dupuis JR** (2022) Genomics-based diagnostic tools for managing the Mexican fruit fly, *Anastrepha ludens* (Diptera: Tephritidae). Plant Animal Genome Conference, invited symposium: Population and Conservation Genomics. San Diego, CA
12. **Dupuis JR***, Geib SM, Rubinoff D (2019) Genomic insights into Hawai'i's most ecologically diverse adaptive radiation, the fancy case caterpillars (Cosmopterigidae: *Hyposmocoma*). Entomological Society of America, invited symposium: Preparing to Sequence the Planet – Starting with our insect friends. St. Louis, MO
11. **Dupuis JR***, Sim SB, Rubinoff D, Geib SM (2019) Genomic approaches for diagnostic phylogenetics of invasive pests. Plant Animal Genome conference, invited symposium: Beyond Drosophila: Genomic Advances in Non-model Diptera. San Diego, CA
10. Geib SM*, **Dupuis JR**, Sim S (2019) Genetics, new technologies on the horizon for detection and surveillance of invasive species. USDA-APHIS/USDA-ARS invited research symposium, Antigua, Guatemala
9. **Dupuis JR***, Geib SM (2018) A universal genomic framework for species identification and source determination for invasive pests. Entomological Society of America, invited symposium: Genomic approaches to biosurveillance of invasive insects. Vancouver, BC
8. **Dupuis JR***, Geib SM (2018) Diagnostic population genomics for economical and efficient source determination of tephritid fruit fly pests. Plant Animal Genome Conference, invited symposium: Population and Conservation Genomics. San Diego, CA
7. **Dupuis JR***, Geib SM (2018) Highly multiplexed amplicon-based phylogenomics using CleanPlex technology. Plant Animal Genome Conference, invited workshop: Paragon Genomics: How does reducing library complexity through a targeted sequencing approach translate into reality? San Diego, CA
6. **Dupuis JR***, Bremer FT, San Jose M, Rubinoff D, Geib SM (2017) Diagnostic phylogenomics for food security. Entomological Society of America, invited symposium: Applying Emerging Genomic Techniques to Control Invasive Species. Denver, CO

5. **Dupuis JR***, Sim S, Geib SM (2017) Population genomics of tephritid fruit fly pests: towards economical and efficient source determination. Pacific Branch Entomology Society of America, invited symposium: Population Genetics of Herbivorous Insects. Portland, OR
4. **Dupuis JR***, Bremer FT, Geib SM (2017) Integrating diverse genomic resources for cost-effective phylogenomics. Pacific Branch Entomology Society of America, invited symposium: Molecular Biology. Portland, OR
3. **Dupuis JR*** (2016) Methodological and analytical considerations for phylogenomics. Invited webinar for the USDA-ARS Arthropod Genomics Working Group
2. **Dupuis JR*** (2016) Speciation, hybridization, and conservation quandaries in North American butterfly systems. University of Hawaii at Hilo, Tropical Conservation Biology and Environmental Science public seminar series. Hilo, HI
1. **Dupuis JR*** (2016) Chasing butterflies through space and time: hybrid dynamics in the Old World swallowtail butterfly species complex. USDA-ARS DKI PBARC Invited seminar. Hilo, HI

Submitted Scientific Conference Presentations (36) Presenter* Highly Qualified Personnel

55. Senevirathna KM, **Dupuis JR**, Mori BA (2025) Whole-genome insights into the population genomics and connectivity of diamondback moth (*Plutella xylostella*) on the Canadian Prairies. Joint Annual Meeting of the Entomological Society of Canada and the Entomological Society of Alberta, Calgary, Alberta, Canada
54. **Dupuis JR***, Vernygora OV, Vertacnik K, Barr N (2025) Leveraging population genomics and phylogenomics in invasive species management. Evolution Annual Conference, Athens, GA
53. Schönberger D, **Dupuis JR** (2025) Beyond iterative: Towards fully integrative species delimitation using Super-SOM. Evolution Annual Conference, Athens, GA
52. Schönberger D, Pyron A, **Dupuis JR** (2025) Using environmental clustering as a novel approach for ecological species delimitation. Virtual Evolution Annual Conference
51. Schanding T, Dupuis JR, Jones B (2025) A century of specimens in the University of Kentucky Insect Collection reveals morphological evolution in local eastern carpenter bees. University of Kentucky Office of Undergraduate Research, 19th Annual Showcase of Undergraduate Scholars, Lexington, KY
50. **Dupuis JR***, MacDonald Z, Glasier J, Sissons R, Moehrensclager A, Shaffer HB, Sperling F (2024) Rescuing rare rhopalocerans or reintroducing recessive rotneness to regionally adapted residents? Society for Kentucky Lepidopterists Annual Meeting, Lexington, KY
49. MacDonald Z*, **Dupuis JR**, Glasier J, Sissons R, Moehrensclager A, Shaffer HB, Sperling F (2024) Using genomic data to inform genetic rescue of endangered butterflies. Ecological Society of America Annual Meeting, Long Beach, CA
48. Balingit TA*, Raszick TJ, **Dupuis JR**, Sim S (2024) Development toward new methods for the rapid distinction of wild-type and lab-reared *Anastrepha ludens*. Entomological Society of America Annual Meeting, Pheonix, AZ
47. Senevirathna KM*, Campbell EO, **Dupuis JR**, Mori B (2024) Tracing genetic diversity and population structure of wheat midge (*Stiodiplosis mosellana*) in North America. Joint Annual Meeting of the Entomological Societies of Québec and Canada, Québec, Canada
46. Arnold H*, Haines WP, **Dupuis JR**, San Jose M, Rubinoff D, Geib SM, Sim S (2024) Population structure of the Kamehameha butterfly, a threatened Hawaiian endemic, may show early signs of early allopatric divergence. XXVII International Congress of Entomology, Kyoto, Japan
45. Schönberger D*, **Dupuis JR** (2024) Genomic patterns of ecological diversification. 3rd Joint Congress on Evolutionary Biology, Monteval, Quebec, Canada

44. Raszick TJ, Sim SB, Vertacnik KL, Vernygora OV, Paulo DF, Congrains C, Arnold H, Geib SM, **Dupuis JR** (2024) New molecular tools for the rapid identification of lab-reared and wild-type *Anastrepha ludens*. 11th Tephritid Workers of the Western Hemisphere (TWWH) Meeting, Montego Bay, Jamaica
43. de Brito RA*, Schmidt K, Moraes E, Congrains C, Geib S, Barreto M, Alvarenga C, Machado L, Peripato A, Rodriguez EJ, Steck GJ, Ruiz-Arce R, Silva J, Paranhos B, Nolzco N, Weigmann BM, Norrbom AL, Savaris M, Zucchi R, Barr N, Sutton B, **Dupuis JR** (2024) Phylogenomic analysis as a diagnostic tool for the identification of species complexes. 11th Tephritid Workers of the Western Hemisphere (TWWH) Meeting, Montego Bay, Jamaica
42. Vernygora O, Sperling FAH, **Dupuis JR*** (2023) TaxonomR: A tool toward transparent taxonomy or a trial in tantalizing taxonomists' trepidations? Society for Kentucky Lepidopterists Annual Meeting Lexington, KY
41. **Dupuis JR*** (2023) The case of the baffling buck moths: Can genomics and chemical ecology solve the mystery? Entomological Society of America Annual Meeting, National Harbor, MD
40. Thongjued K*, Garcia K, Halmos V, Gonthier S, **Dupuis JR** (2023) DNA metabarcoding diet analysis in pastured poultry systems. Entomological Society of America Annual Meeting, National Harbor, MD
39. Schmidt K*, de Brito R, **Dupuis JR** (2023) Using phylogenomics to identify introgression among *Anastrepha* fruit flies (Diptera: Tephritidae). Entomological Society of America Annual Meeting, National Harbor, MD
38. Vertacnik K*, Vernygora O, Ruiz R, **Dupuis JR** (2023) Comparing genomic techniques for developing diagnostic SNP markers. Entomological Society of America Annual Meeting, National Harbor, MD
37. Mori BA*, Cárcamo HA, Wanner KW, Vernygora OV, Sim SB, Geib SM, **Dupuis JR** (2023) Population genomics reveals insights into the alfalfa weevil strains in North America. Joint Annual Meeting of the Entomological Society of Saskatchewan and Entomological Society of Canada, Saskatoon, SK
36. **Dupuis JR*** (2023) Beguiled by buck moths: combining genomics and chemical ecology to elucidate a charismatic species group. The Lepidopterist Society Annual meeting, Billings, MT
35. Falcon-Brindis A*, **Dupuis JR**, Villaneuva RT (2023) Biology and ecology of *Tipula paterifera* (Diptera: Tipulidae) in western Kentucky. Entomological Society of America, North Central/Southwest Branch Joint Annual Meeting, Oklahoma City, OK
34. Schmidt KJ*, de Brito R, **Dupuis JR** (2023) Everything but the lab sink: Using 1,000 phylogenomically informative markers to resolve historically messy species groups in *Anastrepha* fruit flies (Diptera: Tephritidae). Midwest Ecology and Evolution Conference, Louisville, KY
33. Thongjued K*, Hicks DS, Gonthier D, **Dupuis JR** (2023) Assessing the performance of DNA extraction kits and loci for DNA metabarcoding diet analysis of pastured chickens. Midwest Ecology and Evolution Conference, Louisville, KY
32. **Dupuis JR*** (2022) Tiger by the tail: ongoing genomic adventures with the *Papilio glaucus* species group . Society for Kentucky Lepidopterists Annual Meeting, Lexington, KY
31. **Dupuis JR*** (2021) Digitizing and databasing the University of Kentucky Insect Collection: Progress & prospects. Society for Kentucky Lepidopterists Annual Meeting, Lexington, KY
30. Judge K*, McFadyen D, Blacher K, Cauoette AE, **Dupuis JR** (2021) Tracking an invader: Roesel's katydid in Alberta. Entomological Society of Canada and Entomological Society of Ontario's Joint Annual Meeting, virtual
29. Rubinoff D*, San Jose M, Doorenweerd C, **Dupuis JR**, Geib S (2021). Can genomics solve an intractable mystery about the evolution of fancy case caterpillars (Hyposmocoma : Cosmopterigidae), Hawaii's most diverse radiation? Entomological Society of America annual meeting, virtual

28. Cobb N*, et al. (66 coauthors total including **Dupuis JR**) (2020) iDigBees Network, Towards Complete Digitization of Bee Collections to Promote Ecological and Evolutionary Research in a Keystone Clade. Entomological Collections Network Annual meeting, virtual
27. McGowan KG*, **Dupuis JR** (2020) Population locations of the Ozark Woodland Swallowtail (*Papilio joanae*). National Association County Agricultural Agents Annual Meeting, Virginia Beach, VA
26. Sim S*, **Dupuis JR**, Haines WP, Rubinoff D, Geib SM (2019) Genome assembly and population genomic analysis of *Vanessa tameamea*, the island endemic Kamehameha butterfly. Eighth International Symposium on Molecular Insect Science, Sitges, Spain
25. MacDonald ZG*, **Dupuis JR**, Acorn JK, Nielsen SE, Sperling FAH (2019) Gene flow within a butterfly (*Papilio machaon dodii*) metapopulation persisting in a dendritic ecological network of riverine corridors. Entomological Society of Canada/Canadian Society of Ecology and Evolution Joint Meeting, Fredericton, New Brunswick, Canada
24. Geib SM*, Garzon I, Bremer FT, **Dupuis JR**, Barr NB (2019) Generating high quality consensus sequences of amplicons using high-fidelity single molecular reads. Arthropod Genomics Symposium, Manhattan, KS
23. **Dupuis JR***, Bremer FT, Rubinoff D, Geib SM (2018) Highly-multiplexed amplicon sequencing for phylogenomics. American Genetics Association Symposium on Adaptive Radiations, Waimea, HI
22. **Dupuis JR***, Bremer FT, Geib SM (2017) Integrating diverse genomic resources for cost-effective phylogenomics. Biodiversity Genomics, Washington DC
21. **Dupuis JR*** (2016) Speciation and hybridization in the Old World swallowtail butterfly species complex. Thesis defense seminar, University of Alberta, Edmonton, AB
20. Sperling FAH*, **Dupuis JR**, Fagua G, Brunet B, Blackburn G, Leibel H, Lumley L, Boyle B, Levesque R, Cusson M (2016) Phylogeny and species delimitation of the spruce budworm group: a historical perspective. International Congress of Entomology, Orlando, FL
19. **Dupuis JR***, Sperling FAH (2015) Hybrid dynamics of the *Papilio machaon* group of swallowtail butterflies in western Canada. Canadian Society for Ecology and Evolution annual meeting, Saskatoon, SK
18. Sperling FAH*, **Dupuis JR**, Proshek B (2015) Conflicted conservation rankings in the *Apodemia mormo* complex. Entomological Society of Alberta annual meeting, Banff, AB
17. Sperling FAH*, **Dupuis JR**, Proshek B (2015) Butterflies and operational species in conservation biology: conflicted rankings in the *Apodemia mormo* complex. Entomological Society of Canada annual meeting, Montreal, QC
16. **Dupuis JR***, Sperling FAH (2014) Resolving complex phylogenies with genome-wide single nucleotide polymorphisms. 9th International Conference on Molecular Biology and Genetics of the Lepidoptera, Kolybari, Crete
15. **Dupuis JR***, Sperling FAH (2014) Temporal hybrid dynamics in the *Papilio machaon* species group in western Canada, poster, 7th International Conference on Butterfly Biology, Turku, Finland
14. **Dupuis JR***, Sperling FAH (2014) Characterizing hybrids across the *Papilio machaon* group of swallowtail butterflies in North America. The Entomological Society of America annual meeting, Portland, OR and The Lepidopterists' Society annual meeting, Park City, UT
13. Campbell E*, **Dupuis JR**, Sperling FAH (2014) Species delimitation of the Silverspot Fritillaries (Lepidoptera: *Speyeria*). Canadian Society for Ecology & Evolution annual meeting, Saskatoon, SK
12. Sperling FAH*, **Dupuis JR**, Proshek B (2014) Butterfly biodiversity and operational species. International Congress on Butterfly Biology, Turku, Finland.

11. Campbell E*, **Dupuis JR**, Sperling FAH (2014) Silverspot butterfly species delimitation. The Lepidopterists' Society annual meeting, Park City, UT
10. **Dupuis JR***, Sperling FAH (2014) Hybrid zone dynamics of the *Papilio machaon* species group in western Canada. R.E. Peter Conference, University of Alberta, Edmonton, AB
9. **Dupuis JR***, Sperling FAH* (2014) Hybrid zone dynamics of the *Papilio machaon* species group in western Canada. Canadian Society for Ecology and Evolution annual meeting, Montreal, QC
8. **Dupuis JR***, Sperling FAH* (2014) Characterizing hybrids across the *Papilio machaon* group of swallowtail butterflies in North America. Entomological Society of Canada annual meeting, Saskatoon, SK
7. **Dupuis JR***, Sperling FAH (2013) Molecular analysis of putative hybridization in the *Papilio machaon* species group in North America, poster. American Genetics Association, symposium on speciation, Cornell University, Ithaca, NY
6. **Dupuis JR***, Sperling FAH (2013) Molecular analysis of putative hybridization in the *Papilio machaon* species group in North America. Canadian Society for Ecology and Evolution annual meeting, Kelowna, BC & R.E. Peter Biology Conference, Edmonton, AB
5. **Dupuis JR***, Sperling FAH (2012) Molecular analysis of putative hybridization in the *Papilio machaon* species complex (Lepidoptera: Papilionidae) in North America. Entomological Society of Canada annual meeting, Edmonton, AB
4. **Dupuis JR***, Roe ADR, Sperling FAH (2011) Species delimitation and mitochondrial DNA: one marker is not enough. Entomological Society of Alberta annual meeting, Kananaskis Country, AB
3. **Dupuis JR*** (2009) From Livingstone to light traps: Field studies in Zambia. Entomology 601 Seminar Series, University of Alberta, Edmonton, AB
2. **Dupuis JR***, Lindsay AR (2009) Common loon (*Gavia immer*) inbreeding assessment from analysis of a single nucleotide polymorphism, poster. Celebration of Student Research, Northern Michigan University.
1. **Dupuis JR***, Roe ADR, Sperling FAH* (2011) Species boundaries and molecular markers: one is not enough. Canadian Society for Ecology and Evolution annual meeting, Banff, AB

TEACHING & TRAINING

Teaching funding and opportunities

2025	University of Kentucky, Gaines Center for the Humanities, Teaching Faculty Affiliate (invited teaching position for HMN301 in the Gaines Fellows Program, \$1,000 honorarium)
2025	University of Michigan Biological Station, Guest Lectureship, Field Studies of Insects (Room and board, \$300 stipend)
2024, 2025	University of Kentucky, Martin-Gatton College of Agriculture, Food and Environment Educators Sharing Pedagogical Research and Effective Strategies for Student Outcomes Program (\$500 budget for sustainable improvements to classes)
2024	University of Kentucky, Martin-Gatton College of Agriculture, Food and Environment Curriculum Innovation and Instructional Training Institute, <i>Growing Graduates from the Ground Up Program</i> (\$1,500; stipend. \$1,000 budget for sustainable improvements to classes)
2023	Federal University of São Carlos Foundation Institutional Internalization Program/Brazilian Federal Foundation for Support and Evaluation of Graduate Education, <i>Visiting Professor of Biodiversity, Ecosystem Functions, and Sustainability; teaching graduate course in "Integrative Taxonomy Using Population Genomics And Phylogenomics"</i> (~\$4,470 (Brazilian R\$21,650); stipend, travel allowance, insurance)

- 2021 University of Kentucky, Center for the Enhancement of Learning and Teaching, *Teaching Innovation Institute* (\$4,000; stipend)
- 2021 University of Kentucky, College of Agriculture, Food and Environment Research Activity Award. *Funding for undergraduate research education in molecular barcoding* (\$3,000; co-PI, shared funding)

Table 1. Courses taught since appointment at University of Kentucky

Year	Semester	Course #	Course Name	Students*	Evaluations**
2025	Fall	HMN 301	Gaines Seminar in the Humanities	12	4.8/4.6
2025	Fall	ENT 770	Insect Evolution (online, asynchronous)	9	4.7/4.3
2025	Fall	ABT 310	Introduction to Biotechnology for New Majors and Transfer Students	8	4.7/4.3
2025	Spring	ABT 461G	Introduction to Population Genetics	28/2	4.6/4.5
2025	Spring	ABT 310	Introduction to Biotechnology for New Majors and Transfer Students	9	5/5
2024	Fall	ENT 564	Insect Taxonomy	9/13	4.9/4.8
2024	Fall	ENT 770	Insect Evolution (online, asynchronous)	1	NA
2024	Fall	ENT 770/ ENT 595	Insect Evolution	3/10	4.8/4.7
2024	Fall	ABT 310	Introduction to Biotechnology for New Majors and Transfer Students	18	4.8/4.5
2024	Spring	ABT 461G	Introduction to Population Genetics	26	4.7/4.3
2024	Spring	ABT 310	Introduction to Biotechnology for New Majors and Transfer Students	12	5.0/4.8
2023	Fall	ABT 310	Introduction to Biotechnology for New Majors and Transfer Students	13	5.0/4.6
2023	Spring	ABT 461G	Introduction to Population Genetics	37/2	4.7/4.6
2023	Spring	BIO 395	Independent Undergraduate Research in Biology	1	NA
2022	Fall	ENT 564	Insect Taxonomy	2/8	5.0/4.9
2022	Summer	ABT 395	Independent Undergraduate Research in Agricultural & Medical Biotechnology	1	NA
2022	Spring	ABT 461G	Introduction to Population Genetics	44/9	4.9/4.8
2021	Fall	ENT 395	Independent Undergraduate Research in Entomology	1	NA
2021	Spring	ABT 461G	Introduction to Population Genetics	38/7	4.9/4.5
2020	Fall	ENT 564	Insect Taxonomy	6/12	4.6/4.3
2020	Spring	ABT 301	Writing & Presentation for the Life Sciences	13	NA

*Student number before slash represent undergraduate enrollment and after the slash graduate enrollment; **Evaluations numbers before slash represent mean answer score to “The instructor provided quality teaching” and after slash represent mean score for “I consider this to be a quality course”, both out of 5.

Additional Teaching Experience, University of Alberta

- 2015 **Lecturer** (*entire semester*), ENT 220: Insect Diversity. Enrollment: 41 Undergraduates
- 2014 **Co-lecturer and Content Developer** (*entire semester*), BIOL 633, Special Topics: Next-generation sequencing in molecular ecology. Enrollment: 6 Graduate, 2 Undergraduate, 6 auditors

2009-2015 **Teaching Assistant**, Laboratory sections: BIOL 108: Introduction to Biological Diversity (9 sections), BIOL 380: Population Genetics (3 sections), ENT 220: Insect Diversity (5 sections), ENT 380: Forest Entomology (3 sections), ENT 427/527: Terrestrial Arthropod Diversity (1 section)

Table 2. Contributions to other courses

Year	Course #	Course Name	Institution	Contribution
2025	ENT 667	Invasive Species Biology	University of Kentucky	Guest lecture
2025	EEB 405	Field Studies of Insects	University of Michigan	Guest teacher
2025	IB 504	Genomic Analysis of Insects	University of Illinois Urbana-Champaign	Guest lecture
2024-2025	ENT 770	Professional Development	University of Kentucky	Guest lecture
2024	AFE 300	Pedagogy in entomology	University of Kentucky	Teaching exercises, discussion
2023	ENT 695	Arthropod Conservation and Ecosystem Services	University of Kentucky	Guest lecture
2023	ENT 667	Invasive Species Biology	University of Kentucky	Guest lecture
2020-2025	PLS 310	Insects in Cropping Systems	University of Alberta	Guest lecture
2020-2025	ENT 595	Digital Insect Identification	University of Kentucky	Created 6 online lectures
2019	FOR 602	Renewable Natural Resources in a Global Perspective	University of Kentucky	Guest lecture, discussion
2019	ABT 201	Scientific Methods in Biotechnology	University of Kentucky	Guest lecture
2017	PEPS 662	Systematics and Phylogenetics	University of Hawai'i, Mañoa	Guest lecture
2017	NA	Bioinformatics	Universidad del Valle de Guatemala	Virtual guest lecture
2014	ENT 220	Insect Diversity	University of Alberta	Guest lecture
2014	BIOL 495	Molecular Evolution and Systematics	University of Alberta	Guest lecture
2014	BIOL 380	Population Genetics	University of Alberta	Guest lecture
2013	ENT 427/527	Terrestrial Arthropod Diversity	University of Alberta	Guest lecture
2012, 2013	ENT 380	Forest Entomology	University of Alberta	Guest lecture
2011	ENT 220	Insect Diversity	University of Alberta	Guest lecture

Table 3. Pedagogical Training

Year	Workshop/Activity Title	Organization/Host
2026	Instructor Workshop: Strategies for Teaching Core Courses	UK CELT
2026	Instructor Workshop: Teachign with Mentor Mindset	UK CELT
2025-2026	Educators Sharing Pedagogical Research and Effective Strategies for Student Outcomes (ESPRESSO) Fellows Program	UK MG-CAFE
2025	CELT Inclusive Teaching Badge (multi-semester program involving workshops, student-feedback sessions, and reflective statements)	UK CELT
2025	Instructor Workshop: Inviting Students to Reflect on their Learning: Exam Wrappers and Other Strategies	UK CELT
2024	Instructor Workshop: Impact of Instructor Mindset on Learning	UK CELT
2024-2025	Educators Sharing Pedagogical Research and Effective Strategies for Student Outcomes (ESPRESSO) Fellows Program	UK MG-CAFE

2024-2025	Growing Graduates from the Ground Up Program, competitive 2-semester program	UK MG-CAFE CIITI
2024	CAST Universal Design for Learning (UDL) Credential 1: UDL Mindset Badge, Completed June 2024	CAST
2024	Universal Design for Learning (UDL) Faculty Bootcamp, 3-day workshop	UK CELT
2023	Instructor Workshop: Designing (or redesigning) your attendance policy	UK CELT
2023	Teaching Excellence Symposium, Attended full day symposium	UK CELT
2022	Reading group/workshop: "Remembering and Forgetting in the Age of Technology", 8-week reading group	UK CELT
2021-2022	Teaching Innovation Institute, competitive (21 accepted participants out of ~150 applicants) 2-semester program	UK CELT
2022	Reading group/workshop: "Ungrading", 10-week reading group	UK CELT
2022	Instructor Workshop: Setting the Tone and Fostering Inclusion	UK CELT
2022	Instructor Workshop: Designing Multimodal and alternative assessments	UK CELT
2022	Instructor Workshop: Inclusive and Student-Centered Teaching	UK CELT
2021	Instructor Workshop: Practicing Inclusive Pedagogy	UK CELT
2021	Instructor Workshop: Access & Barriers to Learning	UK CELT
2021	Instructor Workshop: Trauma and Compassion in the Classroom	UK CELT
2021	Instructor Seminar: Working with Others in the Research/Creative Environment	UK CAFE
2021	Instructor Workshop: Communicating the impact of your research to non-scientists	UK Research
2021	Instructor Workshop: Accommodations letters and the accommodation process	UK CELT
2021	Instructor Workshop: Normalizing Inclusive and Trauma-Informed Teaching Practices	UK CELT
2021	Instructor Workshop: The Future of Assessment Across the Disciplines	UK CELT
2021	Instructor Workshop: Connection & Motivation	UK CELT
2021	Panel Discussion/Workshop: Teaching in PWI (Primarily White Institutions): A Conversation on Challenges and Opportunities; hosted by College of Arts & Sciences Passport to the World and the Martin Luther King Center	UK
2021	Instructor Workshop: Addressing Zoom fatigue in your virtual class	UK CELT
2021	Instructor Workshop: Engaging Students in Discussion	UK CELT
2020	Instructor Workshop: Fostering Community & Belonging workshop	UK CELT
2020	Instructor Workshop: Facilitating Zoom Discussions	UK CELT
2020	Instructor Workshop: Fostering Community & Belonging	UK CELT
2020	Instructor Workshop: Understanding Diversity & the Dynamics of Community	UK CELT
2020	Faculty Workshop: CAFE Template Tips & Tricks	UK CAFE
2019	Coffee and Conversation for New Faculty, 1-semester long monthly meetings to discuss teaching strategies for new faculty	UK CELT

MG-CAFE CIITI: Martin-Gatton College of Agriculture, Food and Environment, Curriculum Innovation and Instructional Training Institute; CAST: Center for Applied Special Technology; UK CELT: University of Kentucky Center for

Enhancement of Learning and Teaching; UK CAFE: UK Martin-Gatton College of Agriculture, Food and Environment; UK Research: UK Office of the Vice President of Research.

Teaching/Pedagogy Presentations

2026	Invited Presentation on “Active learning in the classroom”, UK MG-CAFE ESPRESSO Fellows Program
2025	Invited Panelist, Kentucky Network for Supporting High Impact Practices (KYnsHIP) Conference, panel discussion on “Students as Partners” program
2023	Invited Presentation on “Leveraging Technology Intentionally in the Classroom”, UK CELT Teaching Innovation Institute

Training of Highly Qualified Personnel

Table 4. Graduate Students in my research program and their projects at University of Kentucky.

Name	Degree	Dates	Project
Daniel Schönberger	PhD	2023-present	Speciation in swallowtail butterflies
Ryan Lardner	MSc	2022-2023	Genomic architecture of hybridization in swallowtail butterflies (<i>withdrew for medical reasons</i>)
Kristie Schmidt	PhD	2019-present	Phylogenomics of <i>Anastrepha</i> fruit flies
Kantima Thongjued	PhD	2019-present	DNA-based diet analysis in poultry systems

Table 5. Other trainees in my research program.

Name	Role	Dates	Project/Description
Amanda Denny	Postdoctoral researcher	2024-present	Characterizing bee pollination networks using eDNA and metagenetics
Kim Vertacnik	Postdoctoral researcher	2022-2024	Population genomics of <i>Anastrepha ludens</i>
Oksana Vernygora	Postdoctoral researcher	2020-2022	Population genomics of <i>Anastrepha ludens</i> (current: Research Leader in Genomics, Canadian Food Inspection Agency)
Jack Devlin	NA	2021-2022	Informal mentee, independent project derived from class project, which was published
Zachary MacDonald	NA	2017-2023	Mentor/informal supervisor for PhD/postdoctoral research, University of Alberta/University of California Los Angeles
Eric Chapman	Researcher	2019-present	Research Technician and Collection Manager for the University of Kentucky Insect Collection

Table 6. Undergraduate Students in my research program and their projects at University of Kentucky.

Name	Dates	Project
Makaya Brashared	2025-2026	eDNA and museum specimen genomics
Ryan Marion	2023	Digitizing coccinellids in the UKIC
Jessica Fischer	2022-2023	Digitizing <i>Bombus</i> spp. in the UKIC
Charlotte Jensen	2022	Sequencing the <i>Sternidius alpha</i> complex

Table 7. List of graduate students' supervisory committees/defense examinations and other supervisory roles.

Name	Year	Supervisor(s)	Institution/Department	Role
Faith Boa	2025-present	L Rieske-Kinney	UK, Entomology	MSc Committee
Holly Myers	2024-present	N Haan	UK, Entomology	PhD Committee
Calli Vandergriff	2024-present	R Palli	UK, Entomology	PhD Committee
Benjamin Grady	2024-present	Z DeVries	UK, Entomology	PhD Committee
Muhammad Umer Masood	2024-present	R Thum	Montana State University, Plant Sciences and Plant Pathology	PhD Committee
Jakeb Watts	2024-present	C Linnen	UK, Biology	PhD Committee
Shelly Bou Samra	2024-present	N Haan	UK, Entomology	MSc plan B Committee
Savanna Ploessl	2023-present	B Jones	UK, Entomology	PhD Committee
Rebecca Robertson	2023-present	J White	UK, Entomology	PhD Committee
Ryan Ridenbaugh	2023-present	C Linnen	UK, Biology	PhD Committee
Yuanxing Liao	2022-present	P Skipwith	UK, Biology	PhD Committee
Kanishka Senevirathna	2021-present	B Mori	University of Alberta, Agricultural, Food, and Nutritional Sciences	PhD Committee
Aldos Rios Martinez	2021-present	B Mori	University of Alberta, Agricultural, Food, and Nutritional Sciences	PhD Committee
Karina Garcia	2021-2022	D Gonthier	UK, Entomology	PhD Committee
Kenneth O'Dell	2021-2023	Z Syed	UK, Entomology	PhD Committee
Emily Bendall	2020	C Linnen	UK, Biology	Defense Examiner
Chan Liu	2020-present	X Zhou	UK, Entomology	PhD Committee
Jack Devlin	2020-2024	N Teets	UK, Entomology	PhD Committee
Mary Wallace	2020-2024	L Rieske-Kinney	UK, Entomology	PhD Committee
Ellie McCabe	2020-present	N Teets	UK, Entomology	PhD Committee
Laura Unfried	2019-present	N Teets	UK, Entomology	PhD Committee
Ashleigh Glover	2019-2024	C Linnen	UK, Biology	PhD Committee
Zachary Bragg	2020-2024	L Rieske-Kinney	UK, Entomology	PhD Committee
Hannah Hollowell	2020-2021	L Rieske-Kinney	UK, Entomology	MSc Committee
Shankar Chereddy	2019-2020	SR Palli	UK, Entomology	MSc Committee
Mary Hillary	2018	S Geib	USDA-ARS Pacific West Area "Science in Action" Intern	Project Supervisor

Table 8. Awards/Fellowships won by members in my research program at University of Kentucky

Name	Year	Award/Grant	Awarded by	Amount
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Amanda Denny	2024	Postdoctoral Fellowship	USDA National Institute of Food and Agriculture	\$224,062
Kristie Schmidt	2023	Predocctoral Fellowship	USDA National Institute of Food and Agriculture	\$180,000
Oksana Vernygora	2023	Postdoctoral Fellowship	National Sciences and Engineering Research Council of Canada	\$90,000 CAD (declined)
Kim Vertacnik	2023	Postdoctoral Fellowship	USDA National Institute of Food and Agriculture	\$145,035
Kantima Thongjued	2021	Richards Graduate Student Research Activity Award	UK College of Agriculture, Food and Environment	\$750
Kristie Schmidt	2021	Graduate School Congress Research Award	UK Graduate School Congress	\$500
Eric Chapman	2023	Professional Development Award	UK College of Agriculture, Food and Environment	\$1,000
	2020	Professional Development Award	UK College of Agriculture, Food and Environment	\$250
	2019	Professional Development Award	UK College of Agriculture, Food and Environment	\$198

Table 9. Graduate student leadership positions (alphabetical by first name)

Name	Year	Organization	Position
Kristie Schmidt	2021-2022	H. Garman Entomology Club	President
	2022-2023	H. Garman Entomology Club	Outreach Coordinator

SERVICE

University Service

Department Committees

- 2024-present **Member**, Graduate student mentorship ad hoc committee, Department of Entomology, University of Kentucky
- 2024-present **Co-Chair**, Awards Committee, Department of Entomology, University of Kentucky
- 2023 **Chair**, Insect Molecular Biology Faculty Hiring Committee
- 2021 **Member**, Insect Genomics Faculty Hiring Committee
- 2021-present **Member**, Curriculum Committee, Department of Entomology, University of Kentucky
- 2019-present **Member**, Departmental Planning Committee, Department of Entomology, University of Kentucky

College Committees

- 2025 **Member**, MG-CAFE Assistant Director of Academic Advising Hiring Committee
- 2025-present **Member**, Faculty Council, Martin-Gatton College of Agriculture, Food and Environment

University Committees

- 2026-present **Member**, University's Academic Due Process Committee, University of Kentucky

2022 **Reviewer**, Center for the Enhancement of Learning and Teaching, Teaching Innovation Institute Cohort Selection Committee

Other

2023 **Ad-hoc presenter**, Center for the Enhancement of Learning and Teaching, Teaching Innovation Institute, presentation on using technology in the classroom

2023 **Ad-hoc evaluator**, University of Kentucky Research Scholars Program Grants in Progress, evaluating grant proposals

Professional Service

External Grant Reviewer

2024 **Reviewer**, USDA-ARS Office of Scientific Quality Review Project Review

2022 **Reviewer**, Belgian programme of sustainable research cooperation between the Federal Scientific Institutions (FSI) and the Universities proposal review

2021 **Reviewer**, Czech Science Foundation proposal review

Other Reviewer/Advisor Positions

2020-present **Half-moon Hairstreak Conservation committee member**, Wilder Institute/Calgary Zoo and Parks Canada

2020-2023 **External peer-reviewer and committee member**, Bog buckmoth draft species status assessment report (for Endangered Species status proposal)

2019-2021 **External peer-reviewer and committee member**, Draft recovery criteria addendum to the recovery plan for three endangered species endemic to Antioch Dunes, California: Lange's metalmark butterfly (*Apodemia mormo langei*), *Oenothera deltoides* subsp. *howellii* (Antioch Dunes evening-primrose), and *Erysimum capitatum* var. *angustatum* (Contra Costa wallflower)

2021 **Tenure reviewer**, University of California at Los Angeles

2015-2016 **Advisory member**, EH Strickland Entomology Museum Virtual Museum Advisory Group, University of Alberta, Edmonton, AB

Editorial Activities

2023-present **Subject Editor**, Insect Systematics and Diversity

2019-2025 **Co-editor**, *Population Genomics: Insects* as part of the Springer Population Genomics Book Series (<https://doi.org/10.1007/978-3-032-10103-7>)

Societal Involvement

Meetings and Symposia Organized

2017 **Symposium co-organizer**, the Pacific Entomology Conference annual meeting, Honolulu, HI, Symposium: Utilizing Molecular Tools to Combat Invasive Species

2017 **Symposium co-organizer**, Entomological Society of America annual meeting, Denver, CO, Symposium: Applying Emerging Genomic Techniques to Control Invasive Species

2009-2010 **Planning committee member**, International Congress on the Biology of Butterflies, University of Alberta, Edmonton, AB

Committees/Executive Roles

2022-present **President**, Society for Kentucky Lepidopterists

2022-present **Committee Member**, Awards Committee, International Branch, Entomological Society of America

Competition Judge

- 2019,2023 **Judge**, Entomological Society of America Annual meeting, student presentation judge
2019,2024 **Judge**, Ohio Valley Entomological Association, student presentation judge

Community Outreach

- 2024 **Instructor**, Bluegrass Land and Nature Symposium, Floracliff Nature Sanctuary, Lexington, KY
2024 **Volunteer**, National Moth Week Moth Night at the UK Arboretum, Lexington, KY
2024 **Volunteer**, prepared material for entomology section, STEM GoStart camp/4H Teen Summit, Lexington, KY
2024 **Volunteer**, Bugs event, Child Development Center of the Bluegrass, Lexington, KY
2023,2024 **Volunteer**, Bugs and Brews outreach event, Turtleback Ridge Brewery, Ewing, KY
2020-2022 **Volunteer**, 4H tours of the University of Kentucky Insect Collection
2019 **Volunteer**, Butterfly Festival, Oak Grove, KY
2018 **Graphic Design**, Alberta Native Bee Council, Identification Guide to Bumble Bees of Southern Alberta
2013-2014 **Treasurer**, Biological Sciences Graduate Student Association, University of Alberta
2011, 2012 **Invited Referee**, Postdoctoral Research Fellow's Day, University of Alberta
2011 **Entomology presentation volunteer**, WISEST science demonstrations
2005 **Common loon behavior volunteer**, National Park Service, Glacier National Park, MT

Memberships

- 2019-present Society for Kentucky Lepidopterists
2018-present Society of Systematic Biologists, Society for the Study of Evolution
2014-present Entomological Society of America
2015-present The Lepidopterist Society
2013-2016 Entomological Society of Canada, Entomological Society of Alberta, Canadian Society for Ecology and Evolution

Media Coverage

- New Species Podcast (2025) A New Butterfly with Zac MacDonald and Julian Dupuis
<https://www.newspeciespodcast.net/all-episodes/a-new-butterfly-with-zac-macdonald-and-julian-dupuis>
[podcast interview, published 29 July 2025]
- CBC Radio (2025) As It Happens interview about the curiously isolated hairstreak, a new butterfly species.
[radio interview, aired 30 April 2025]
- Hooper B, BBC Wildlife Magazine (2025) Curious animal isolated for 40,000 years found living in Rocky Mountains. <https://www.discoverwildlife.com/animal-facts/insects-invertebrates/satyrrium-curiosolus-waterton-lakes-canada> [published online 23 April 2025]
- Blakemore E, The Washington Post (2025) Scientists identify new 'curiously isolated' butterfly species.
<https://www.washingtonpost.com/science/2025/04/26/curious-isolated-butterfly-genome-discovery/>
[published online 26 April 2025]

- Thapa A (2024) Scientists Look to a Rare Butterfly's Next of Kin. Bay Nature <https://baynature.org/article/scientists-look-to-a-rare-butterflys-next-of-kin/> [published online 14 March 2024]
- Entomology Collections Network recorded presentation (2023) The University of Kentucky Insect Collection, <https://youtu.be/qBTu2VEhm-o?si=cuRGL5zrCRqO1ZOP>
- University of Kentucky Media Depot (2022) Recorded interview for UKY iPad Initiative 2022, <https://www.youtube.com/watch?v=SMM4emvE3n0>
- Illumina Inc. (2017) Adventures in Genomics YouTube series, *The Fruits of Fruit Fly Research*. <https://youtu.be/dU2kFhI6bYI> [>55 thousand views since 28 September 2017]
- Pascoe J (2015) New research re-evaluates genetic diversity among endangered butterfly species. Available from: <https://uofa.ualberta.ca/science/science-news/2015/may/new-research-re-evaluates-genetic-diversity-among-endangered-butterfly-species> [Published online 1 May 2015]