

Ben R. Hopkins

Department of Evolution & Ecology, University of California – Davis

Appointments

2026-	Assistant Professor, Dept. of Molecular Genetics & Microbiology, University of Florida.
2019-25	Postdoctoral Research Fellow, Dept. of Evolution & Ecology, University of California—Davis.
2017-18	Stipendiary Lecturer in Biological Sciences, Merton College, University of Oxford.

Education

2014-19	University of Oxford D.Phil in Interdisciplinary Biosciences Thesis: 'The Sexually Selected Ejaculate' (<i>No corrections, Divisional commendation</i>) Advisors: Dr. Stuart Wigby, Dr. Tommaso Pizzari, & Dr. Irem Sepil
2011-14	University of Oxford BA in Biological Sciences (<i>First Class Honours, ZSL's Charles Darwin Award & Marsh Prize</i>)

Research Funding

2020-24	Long-Term Fellowship, <i>Human Frontier Science Program</i>	\$225,000
2018	Godfrey Hewitt Memorial Award, <i>European Society for Evolutionary Biology</i>	€1,200
2017	Short-Term Research Fellowship, <i>European Molecular Biology Organization</i>	\$5,975
2014-19	Oxford-EPA Cephalosporin Graduate Scholarship, <i>University of Oxford</i>	£84,984
2013	Merton College Research Grant, <i>Merton College, University of Oxford</i>	£355
2013	David Kirby Memorial Award, <i>Dept. of Zoology, University of Oxford</i>	£500
2010	Nuffield Bursary, <i>Nuffield Foundation</i>	£400

Awards & Prizes

2024	<i>DeLill Nasser Award</i> Awarded by the Genetics Society of America (\$1000).
2024	<i>UW-Madison Evolution Seminar Series Early Career Award</i> Awarded by the J. F. Crow Institute at UW-Madison. Invited to give a seminar and lead a discussion class with undergraduate evolution majors (\$150).
2024	<i>UC Davis Postdoctoral Scholars Association Travel Grant</i> (\$400)
2017	<i>Associate Fellow of the Higher Education Academy</i> In recognition of attainment against the UK Professional Standards framework for teaching and learning support in higher education.
2015	<i>Charles Darwin Award and Marsh Prize for Outstanding Work in Zoology</i> Awarded by the Zoological Society of London in recognition of outstanding undergraduate research carried out at a UK university (£800).
2015	<i>Student Writing Prize</i> Awarded by the Royal Entomological Society (£250).
2014	<i>Wilder-Penfield Prize in Medicine and Biology</i> Awarded by Merton College, University of Oxford, to the top performing biologist or medic.
2012-14	<i>Five Fowler Prizes and two College Prizes</i> Awarded by Merton College, University of Oxford, for excellence in examination performance.

Preprints

1. Goldman, O.V., DeFoe, A.E., Qi, Y., Jiao, Y., Weng, S., Houri-Zeevi, L., Lakhiani, P., Morita, T., Razzauti, J., Rosas-Villegas, A., Tsitohay, Y.N., Walker, M. M., **Hopkins, B.R.**, Mosquito Cell Atlas Consortium, Akbari, O.S., Duvall, L.B., White-Cooper, H., Sorrells, T.R., Sharma, R., Li, H., Vosshall, L.B., Shai, N. Mosquito Cell Atlas: A single-nucleus transcriptomic atlas of the adult *Aedes aegypti* mosquito. *bioRxiv* (<https://doi.org/10.1101/2025.02.25.639765>). Under review at *Cell*.

Publications

1. Thompson, A., May, M., **Hopkins, B.R.**, Riedl, N., Barmina, O., Liebeskind, B., Zhao, L., Begun, D., Kopp, A. (2025). Quantifying transcriptome turnover on phylogenies by modeling gene expression as a binary trait. *Molecular Biology & Evolution*. **42** (5), msaf106.
2. Luo, Y., Takau, A., Li, J., Fan, T., **Hopkins, B.R.**, Le, Y., Ramirez, S., Matsuo, T., Kopp, A. (2025). Regulatory changes in the fatty acid elongase *eloF* underlie the evolution of sex-specific pheromone profiles in *Drosophila prolongata*. *BMC Biology*. **23**, 117.
3. **Hopkins, B.R.**, Allen, S., Avila, F.W., Wolfner, M.F. (2024). Male reproductive glands and their secretions in insects, in: *Encyclopedia of Reproduction*. 3rd edition. Elsevier.
4. **Hopkins, B.R.**, Angus-Henry, A., Kim, B.Y., Carlisle, J.A., Thompson, A., Kopp, A. (2024). Decoupled evolution of the *Sex Peptide* gene family and *Sex Peptide Receptor* in Drosophilidae. *PNAS*. **121**, e2312380120.
5. **Hopkins, B.R.**, Barmina, O., Kopp, A. (2023). A single-cell atlas of the sexually dimorphic *Drosophila* foreleg and its sensory organs during development. *PLOS Biology*. **21** (6), e3002148.
6. **Hopkins, B.R.** & Perry, J.C. (2022). The evolution of sex peptide: sexual conflict, cooperation, and coevolution. *Biological Reviews*. **97**, 1426-1448.
7. Perry, J.C. & **Hopkins, B.R.** (2021). Escaping the choosiness trap. *Nature Ecology & Evolution*. **5**, 1066-1067.
8. **Hopkins, B.R.** & Kopp, A. (2021). Evolution of sexual development and sexual dimorphism in insects. *Current Opinion in Genetics & Development*. **69**, 129–139.
9. Wainwright, M.S., **Hopkins, B.R.**, Mendes, C.C., Sekar, A., Kroeger, B., Hellberg, J.E.E.U., Fan, S.J., Pavay, A., Marie, P.P., Leiblich, A., Sepil, I., Charles, P.D., Thézénas, M.L., Fischer, R., Kessler, B.M., Gandy, C., Corrigan, L., Patel, R., Wigby, S., Morris, J.F., Goberdhan, D.C.I., Wilson, C. (2021). *Drosophila* Sex Peptide controls the assembly of lipid microcarriers in seminal fluid. *PNAS*. **118**, e2019622118.
10. Sepil, I., **Hopkins, B.R.**, Dean, R., Bath, E., Friedman, S., Swanson, B., Ostridge, H.J., Harper, L., Buehner, N.A., Wolfner, M.F., Konietzny, R., Thézénas, M.L., Sandham, E., Charles, P.D., Fischer, R., Steinhauer, J., Wigby, S. (2020). Male reproductive aging arises via multifaceted mating-dependent sperm and seminal proteome declines, but is postponable in *Drosophila*. *PNAS*. **117**, 17094–17103.
11. **Hopkins, B.R.**, Sepil, I., Wigby, S. (2020). Structural variation in *Drosophila melanogaster* spermathecal ducts and its association with sperm competition dynamics. *Royal Society Open Science*. **7**(3). 200130.

12. **Hopkins, B.R.**, Sepil, I., Bonham, S., Miller, T., Charles, P.D., Fischer, R., Kessler, B.M., Wilson, C., Wigby, S. (2019a). BMP-signaling inhibition in *Drosophila* secondary cells remodels the seminal proteome, and self and rival ejaculate functions. *PNAS*. 116 (49), 24719-24728.
13. **Hopkins, B.R.**, Sepil, I., Thézénas, M.-L., Craig, J.F., Miller, T., Charles, P.D., Fischer, R., Kessler, B.M., Bretman, A., Pizzari, T., Wigby, S. (2019b). Divergent allocation of sperm and the seminal proteome along a competition gradient in *Drosophila melanogaster*. *PNAS*. 116 (36), 17925–17933.
14. Sepil, I., **Hopkins, B.R.**, Dean, R., Thézénas, M.-L., Charles, P.D., Konietzny, R., Fischer, R., Kessler, B.M., Wigby, S. (2019). Quantitative proteomics identification of seminal fluid proteins in male *Drosophila melanogaster*. *Molecular & Cellular Proteomics*. 18, S46–S58.
15. **Hopkins, B.R.**, Avila, F.W., Wolfner, M.F. (2018). Insect male reproductive glands and their products, in: *Encyclopedia of Reproduction*. 2nd edition. Elsevier, pp. 137–144.
16. **Hopkins, B.R.**, Sepil, I., Wigby, S. (2017). Seminal fluid. *Current Biology*. 27, R404–R405.
17. Reed, K.R., Korobko, I. V., Ninkina, N., Korobko, E. V., **Hopkins, B.R.**, Platt, J.L., Buchman, V., Clarke, A.R. (2015). Hunk/Mak-v is a negative regulator of intestinal cell proliferation. *BMC Cancer*. 15, 1–9.

Invited Presentations

2025	University of Chicago (Department of Organismal Biology & Anatomy)	Chicago, IL, USA
2025	University of Arizona (Department of Ecology & Evolutionary Biology)	Tucson, AZ, USA
2025	Harvard University (Department of Organismic & Evolutionary Biology)	Cambridge, MA, USA
2025	Penn State University (Department of Biochemistry & Molecular Biology)	State College, PA, USA
2024	University of Florida (Department of Molecular Genetics & Microbiology)	Gainesville, FL, USA
2024	University of Wisconsin, Madison (J.F. Crow Institute, Early Career Award)	Madison, WI, USA
2024	Utah State University (Department of Biology)	Logan, UT, USA
2024	College of the Holy Cross (Genome Evolution seminar series)	Online
2023	University of California – Davis (<i>Drosophila</i> seminar series)	Davis, CA, USA
2022	Insect Reproductive Molecules Monthly Seminar Series	Online
2020	University of California – Davis (<i>Drosophila</i> seminar series)	Davis, CA, USA
2019	University of California – Davis (ad-hoc seminar)	Davis, CA, USA

Contributed Presentations

‡ Talk, †Poster, ^{S.O.} Symposium Organizer

2025	GSA <i>Drosophila</i> Conference † ^{S.O.}	San Diego, CA, USA
2024	Insect Reproductive Molecules Conference ‡ (Dec. '24)	Rydal, UK
2024	Joint Congress in Evolutionary Biology ^{S.O.}	Montreal, Canada
2024	EuroEvoDevo ‡	Helsinki, Finland
2024	The Allied Genetics Conference ‡	Washington DC, USA
2023	GSA <i>Drosophila</i> Conference †	Chicago, IL, USA
2022	GSA <i>Drosophila</i> Conference ‡ †	San Diego, CA, USA
2019	GSA <i>Drosophila</i> Conference ‡ †	Dallas, TX, USA
2018	International Society of Behavioural Ecology ‡	Minneapolis, MN, USA
2018	Insect Reproductive Molecules Conference ‡	Groningen, Netherlands
2017	Gordon Research Seminar on Fertilization and Development ‡	Holderness, NH, USA
2017	Gordon Research Conference on Fertilization and Development †	Holderness, NH, USA
2017	Evolution †	Portland, OR, USA
2017	Doctoral Training Center Conference †	Oxford, UK
2016	Insect Reproductive Molecules Conference ‡	Münster, Germany
2016	European Congress for Behavioural Biology Conference †	Vienna, Austria

Peer Review Duties

Development (1x)	PNAS (1x)	Journal of Insect Physiology (3x)
Evolution Letters (3x)	Behavioural Ecology and Sociobiology (2x)	Behavioural Ecology (2x)
Evolution (4x)	PLoS One (1x)	Journal of Evo. Biology (2x)
Proc. Roy. Soc. B (5x)	Mol. Bio. and Evolution (2x)	Insect Molecular Biology (1x)
Phys. and Behaviour (1x)	Ecology and Evolution (1x)	Curr. Res. in Insect Science (1x)
Genes & Gen. Systems (1x)	The American Naturalist (2x)	Frontiers in Eco. and Evo. (1x)
eLife (1x)	Communications Biology (1x)	PLoS Genetics (1x)
The EMBO Journal (1x)	Scientific Reports (3x)	

Grant Review Duties

2023	UC Davis Summer Student Fellowships Study Section
2022	John R. Evans Leader Fund (Canada Foundation for Innovation)

Mentorship

Undergraduate research assistant mentees

(Ox – University of Oxford; UCD – UC Davis; UCDGAP – UCD Graduate Admissions Pathways)

**manuscript co-author; § honours thesis mentees

Avery Adelseck (UCD)	John Larue (UCD)	Priya Ram (UCD)
Aidan Angus-Henry (UCD)**	Xinying ‘Shay’ Wang (UCD)	Shizhan Nie (UCD)
Mandy Situ (UCD)	Haley Bolanos (UCD)	Matthew Ajin (UCDGAP)
Thomas Miller (Ox)**	Georgia Molloy (Ox) §	James Craig (Ox)** §

Community Service

2025	Co-organiser of the ‘ <i>Everything you wanted to know about sex</i> ’ workshop at the GSA Drosophila Conference.
2024	Co-organiser of ‘ <i>The Evolution of Reproductive Fluids</i> ’ symposium at Evolution 2024.
2023	Mentor in the UCDGAP program, an 8-week research placement for historically marginalised students enrolled at Cal State University campuses.
2023-	Participant in the ‘ <i>Letters to a Pre-Scientist</i> ’ program.
2023-	Organizer of SuperFly, a cross-department seminar series for <i>Drosophila</i> research at UC Davis.
2022-	Member of the English Language Support editorial team for the journal <i>Evolution</i> .
2017	Wayflete Tutor at Magdalen College School (Oxford, UK); supervision of high school student project.