

Yuki Haba, Ph.D.

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Education

Ph.D.	Princeton University	Advisor: Carolyn (Lindy) McBride	2023
	Dissertation: Origin and evolutionary history of <i>Culex pipiens</i> complex mosquitoes Awarded Princeton Centennial Fellowship and Masason Foundation Fellowship		
M.A.	Columbia University	Advisor: Dustin Rubenstein	2017
	Master's thesis: The genomics of behavioral adaptation to photoperiodism in an Asian burying beetle Awarded Alfred Russel Wallace Prize for the best MA thesis		
B.A.	The University of Tokyo		2015

Employment

Leon Levy Scholar	Columbia University Zuckerman Inst.	Advisor: Ishmail Abdus-Saboor	2024 –
	Leon Levy Scholar in Neuroscience, the New York Academy of Sciences and Leon Levy Foundation		
Postdoc	Harvard University	Advisor: Hopi Hoekstra	2023–24
Research Assistant	Columbia University	Advisor: Molly Przeworski	2016–17
	Evolutionary genomics of PRDM9-directed recombination across vertebrates		
Visiting Scholar	SOKENDAI	Advisor: Nobuyuki Kutsukake	2015
	Development of a new phylogenetic comparative method to understand social evolution		

Publications ([Google Scholar](#)) *corresponding author(s) †equal contribution

Highlighted publications

1. **Haba Y***, PipPop Consortium, Korlević P, McAlister E, Lawniczak MKN, Schumer M, Rose NH, McBride CS*. (2025) Ancient origin of an urban belowground mosquito. *Science* 390(6771):eady4515 ([bioRxiv](#))
Selected media coverage: [Nature](#), [The Independent](#), [New Scientist](#), [Phys.org](#), [Pour la Science](#), [Princeton University](#), [ScienceNews](#)
2. **Haba Y***, McBride CS*. (2022) Origin and status of *Culex pipiens* mosquito ecotypes. *Current Biology* 32:237–246.
3. **Haba Y†**, Herbert R†, Yang L†. (2019) An undescribed relationship between the knobthorn tree (*Senegalia nigrescens*), ants, and a lac scale insect in South Africa. *African Journal of Ecology* 2019:00:1-4.
4. **Haba Y***, Kutsukake N*. (2019) A multivariate phylogenetic comparative method incorporating a flexible function between discrete and continuous traits. *Evolutionary Ecology* 33:751. ([bioRxiv](#))

Other publications

5. Hesson J, **Haba Y**, McBride CS, ..., Makunin A. (2025) A chromosomal reference genome sequence for the northern house mosquito, *Culex pipiens*, Linnaeus, 1758. *Wellcome Open Research* 10:107
6. Yang Q, Wang B, Lemey P, ..., **Haba Y**, ..., Grenfell B. (2024) Synchrony of Bird Migration with Global Dispersal of Avian Influenza Reveals Exposed Bird Orders. *Nature Communications* 15, 1126. ([bioRxiv](#))
7. Ryazansky SS, Chen C, ..., **Haba Y**, ..., Sharakhova MV. (2024) The chromosome-scale genome assembly for the West Nile vector *Culex quinquefasciatus* uncovers patterns of genome evolution in mosquitoes. *BMC Biology* 22, 16
8. Arich S, **Haba Y**, Assaid N, Fritz ML, McBride CS, Weill M, Taki H, Sarih M, Labbé P. (2022) No association between habitat, autogeny, and genetics in Moroccan *Culex pipiens* populations. *Parasites & Vectors* 15, 405.
9. **Haba Y** & Kutsukake N. (2018) Social behavior in vertebrates. In Encyclopedia of Zoology, 1st Ed. Tokyo, Japan. Maruzen. (Book chapter in Japanese)
10. Baker Z, Schumer M†, **Haba Y**, Holland C, Rosenthal GG, Przeworski M. (2017) Repeated losses of PRDM9-directed recombination despite the conservation of PRDM9 across vertebrates. *eLife* 6:e24133.

Forthcoming

11. **Haba Y***, PipPop Consortium, Schumer M, Rose NH, McBride CS*. Evolutionary genomics of *Culex pipiens* complex mosquitoes.

Awards, Fellowships, and Grants

Awards & Fellowships

NY Hideyo Noguchi Memorial Scholarship	The New York Hideyo Noguchi Memorial Society	(2025)
Leon Levy Scholarship in Neuroscience	The New York Academy of Sciences and Leon Levy Foundation	(2025 - 2028)
W.D. Hamilton Award, Finalist/Runner-up	The Society for the Study of Evolution <i>top 3 out of 15 finalists</i>	(2024)
PIIRS Dissertation Fellowship	Princeton Institute for International and Regional Studies	(2022 - 2023)
Best Talk Prize in Evolution	Princeton-Columbia-Yale-Penn-Rutgers Inter-School Symposium	(2021)
Walbridge Fund Graduate Award	High Meadows Environmental Institute	(2021)
Rosemary Grant Advanced Award	The Society for the Study of Evolution	(2020)
Lewis and Clark Field Scholar	American Philosophical Society	(2019)
Honjo International Fellowship	Honjo International Scholarship Foundation	(2018 - 2023)
Centennial Fellowship	Princeton University <i>for the top incoming PhD students</i>	(2017 - 2022)
Masayoshi Son Fellowship	Masayoshi Son Foundation	(2017 - 2022)
Alfred Russel Wallace Prize	Columbia University <i>for the best MA Thesis</i>	(2017)
James Mills Peirce Fellowship	Harvard University <i>for the top incoming PhD students. dclnd.</i>	(2017)
Dean's Fellowship	Columbia University <i>for the top incoming PhD students. dclnd.</i>	(2017)
Recruitment Fellowship	U Texas at Austin <i>for the top incoming PhD students. dclnd.</i>	(2017)
Global Leadership Award	Friends of University of Tokyo Inc.	(2015)
Grants		
PacVec Training Grant	Pacific Southwest Center of Excellence	(2018 - 2019)
Masayoshi Son Research Grant	Masayoshi Son Foundation	(2017 - 2022)
PhD Seed Grant	Princeton University	(2018)
Sigma Xi Grant-in-Aid of Research	Sigma Xi	(2017)
Earth Institute Student Travel Grant	The Earth Institute	(2016)
E3B MA Grant	Columbia University	(2016)
E3B Travel Grant	Columbia University	(2016)

Presentations

Invited Departmental Seminars

National Institute of Genetics	Biological Symposium Seminar	(2025)
RIKEN	Center for Interdisciplinary Theoretical and Mathematical Sciences	(2025)
Bard College	Dept. Biology	(2025)
New York University	NYU Global Urban Summit / Dept. Biology	(2025)
University of Illinois Urbana-Champaign	Dept. Evolution, Ecology, and Behavior	(2025)
National Institute for Basic Biology	Director-General Invited Seminar Series	(2024)
Rutgers University	Dept. Entomology/Ecology & Evolution	(2022)
Kennesaw State University	Dept. Ecology, Evolution, and Organismal Biology	(2021)
University of Tokyo	Dept. Applied Entomological Science	(2017)
University of Tokyo	Atmosphere & Ocean Research Institute	(2017)
SOKENDAI	Dept. Evolutionary Studies & Biosystems	(2017)

Conferences (§ - talk, ¶ - poster)

Evolution 2024 § <u>*W. D. Hamilton Award finalist talk, runner-up</u> (SSE)	Virtual	(2024)
Biology of Genomes 2024 §	Cold Spring Harbor, NY	(2024)
Mosquito Kolymbari Meeting §¶	Crete, Greece	(2022)
Population, Evolutionary, and Quantitative Genetics Conference (PEQG) ¶	Pacific Grove, CA	(2022)
Evolution 2021 §	Virtual	(2021)
Biology of Genomes 2021 ¶	Virtual	(2021)
Princeton-Columbia-Yale-Penn-Rutgers Inter-School Symposium §	Virtual	(2021)
<u>*Best Talk Prize</u> in the Evolution section		
Sahel Mosquito Network Meeting §	Virtual	(2021)
PacVec Annual Meeting §	Davis, CA	(2019)
SMBE 2018 (Society of Molecular Biology and Evolution) §	Yokohama, Japan	(2018)
Princeton-Columbia-Yale-Penn-Rutgers Inter-School Symposium §	Princeton, NJ	(2018)
NJ Mosquito Control Association §	Atlantic City, NJ	(2018)
Evolution 2017 (Society for the Study of Evolution) §	Portland, OR	(2017)
18 th Annual meeting of Society of Evolutionary Studies, Japan ¶	Tokyo, Japan	(2016)
Earth Institute Research Showcase ¶	New York, NY	(2016)
The Japanese Society of Applied Entomology and Zoology ¶	Yamagata, Japan	(2015)

Mentorship and Teaching

Mentoring philosophy

Mentoring is one of the most important contributions a scientist could do to the society, and one of the greatest joys I see in my job. I leverage the beauty and complexity of life as an inspiration to help mentees become active and educated citizens who can think critically and challenge status quo when facts contradict it. I welcome and encourage students from all backgrounds regardless of nationality, gender, race, religion, or creed, to develop their own interest and motivation.

Undergraduate Mentees

Jerry Lyu	(2025) Columbia undergraduate internship
Sheldon Garrick II	(2025) Columbia/Fordham University undergraduate internship / HHMI SURP student
Aryan Jakhar	(2021-22) Princeton EEB Scholar. IISER, India. Currently pursuing PhD at Brown University
Sean Crites	(2021-22) Princeton EEB Honors thesis mentee
Lucia X. A. Caballero	(2020-21) Princeton EEB Scholar. National University of Trujillo, Peru
Joevy Sum	(2020-21) Princeton EEB Scholar. University of Nebraska-Lincoln
Vitor Dos Anjos	(2020) Princeton summer internship, Swarthmore College
Alexandra Colón	(2019-20) Princeton EEB Honors thesis mentee
Jaskiran Kaur	(2019-20) Princeton EEB Honors thesis mentee
Alexandra Hohmann	(2018-19) Princeton Neuroscience Honors thesis mentee

XPLANE Mentor Program Mentees

Fang Chen	(2021-23) University of Tokyo/U Michigan. Currently pursuing PhD at Virginia Tech
Naoto Yamaguchi	(2020-21) University of Tokyo. Currently pursuing PhD at U Washington St. Louis
Yu Yu Phua	(2020-21) University of Tokyo. Currently pursuing PhD at Caltech

International Scholar Mentees

Dr. Enas Ghallab	(2022-23) Ain Shams University, Egypt. Trained for large scale genomic and bioinformatic analyses
Adugna Belew	(2022) Addis Ababa University, Ethiopia. Trained for molecular genetics methods to ID vectors

Teaching Assistantship / Guest lecture

Evolution (2021-2024) led by Profs. Molly Schumer and Dmitri Petrov, Stanford University.

Guest lecture “*Mechanistic Basis of Behavioral Evolution*” at the intro-level Evolutionary Biology undergraduate course.

Genomics in the Wild (2020) led by Profs. Julien Ayroles and Sarah Kocher, Princeton University.

A 3-week advanced (for juniors and seniors) field class in Mpala Research Center, Kenya, on the use of genomic tools to answer ecological and evolutionary questions. Helped coordinate the program including local field sampling, molecular experiments, and gave a lecture on genomic data analysis.

Neurogenetics and Evolution of Behavior (2018) led by Prof. Carolyn McBride, Princeton University.

An advanced (for juniors and seniors), discussion-based class on the recent publications of the genetics and neurobiology of behavioral evolution. Designed and led weekly review/discussion sessions.

Environmental Biology I (2016) led by Prof. Dustin Rubenstein, Columbia University.

An introductory course of biology for students from any backgrounds with emphasis on ecology and evolutionary biology. Led weekly review/discussion sessions, wrote and graded exams.

The Behavioral Biology of the Living Primates (2016) led by Prof. Marina Cords, Columbia University.

An introductory course of behavioral ecology, with emphasis on the behavioral ecology of primates. Designed and graded exams.

Service, Outreach, and Capacity Building

Columbia Zuckerman Institute Neuroethology Club: Organizer (2024 - present)

Organizing Zuckerman Institute Neuroethology Club (ZINC). We invite internal and external speakers for monthly seminar series and occasional special events with a focus on current topics in neuroethology.

Mobile Mosquito Lab @ Martin Luther King Junior Middle School, Trenton, NJ (2023)

As the McBride lab, we designed a fun and informative program aimed at teaching local middle-school students basic biology of mosquitoes. Working with both English- and Spanish-speaking students, I took charge of a microscope module in which we compare Aedes and Culex mosquitoes and discuss their morphological and ecological differences.

EEB Scholars Program, Princeton University: Mentor (2020-2022)

Mentored students from underrepresented backgrounds and/or with limited resources to apply for Ecology and Evolutionary Biology graduate programs in the United States and Europe. Mentoring includes: 1-on-1 meetings to help clarify their research interests, essay writing and revisions, mock-interviews throughout the application season (from early fall to late winter the next year).

EEB Open House: Graduate Student Panelist (2021)

Participated as a graduate student panelist in the session with aims to demystify the application processes and life as a PhD student for the potential applicants to the Ecology and Evolutionary Biology PhD program at Princeton University.

Evolution 2021 Bilingual Mentoring Program: Mentor (2021)

Mentored a non-native mentee to help with translation, grammar, and spelling on presentation, provided presentation advice for recording, and advised the mentee on how to make the most of their participation in social events.

XPLANE: Founder and Board Member (2019-present)

Co-founded a Non-Profit Organization XPLANE funded by US Department of State and US Embassy in Tokyo. We designed and implemented a community-based knowledge platform for Japanese students who would like to apply for overseas graduate schools with limited resources. Currently a community of 2,500+ users. Website [here](#) (Japanese).

Reference *main advisors

Postdoc

Dr. Ishmail Abdus-Saboor*	Columbia University	ia2458@columbia.edu
Ph.D.		
Dr. Carolyn (Lindy) McBride*	Princeton University	csm7@princeton.edu
Dr. Molly Schumer	Stanford University	schumer@stanford.edu
Dr. Sarah Kocher	Princeton University	skocher@princeton.edu
Dr. Noah Rose	UC San Diego	nhrose@ucsd.edu
M.A.		
Dr. Dustin Rubenstein*	Columbia University	dr2497@columbia.edu
Dr. Molly Przeworski	Columbia University	mp3284@columbia.edu
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B.A.		
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Dr. Masakazu Shimada	The University of Tokyo	mshimada0707@gmail.com