Maya M. Juman

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ACADEMIC POSITIONS

Drapers' Research Fellow, Pembroke College, University of Cambridge 2026 –
Affiliate Lecturer, University Museum of Zoology, Department of Zoology, University of Cambridge 2026 –

EDUCATION

Ph.D. in Biological Sciences, Gates Cambridge Scholar, University of Cambridge 2026
Prediction, discovery, and monitoring of pteropodid bat viruses
B.S. in Ecology & Evolutionary Biology, *magna cum laude*, Yale University 2020

PEER-REVIEWED PUBLICATIONS (*EQUAL CONTRIBUTION, †UNDERGRADUATE MENTEE)

17. Cunningham, A.A., Trugman, T., Gibson, L., Superfine, J., **Juman, M.M.**, Broder, C.C., Yan, L., Yovel, Y., Wood, J.L.N., Weinberg, M. (*in review at Journal of Wildlife Diseases*) Paramyxovirus and filovirus serology in a population of Israeli Egyptian fruit bats.

16. Cronin, C.E.*, **Juman, M.M.***, Richardson, A.J., Whittier, C.A., Becker, D.J., Ferguson, A.W. (*in review at PLOS Neglected Tropical Diseases*) Biodiversity databases as underutilized resources for pathogen discovery: a quantitative synthesis of bat and rodent tissue collections in natural history museums. Preprint: https://doi.org/10.1101/2025.11.28.691153

15. **Juman, M.M.***, Riesle-Sbarbaro, S.A.*, Amponsah-Mensah, K.*, Gibson, L., Mannerings, A., Ntiamoa-Baidu, Y., Fooks, A.R., Ziekah, M., Jephcott, F.L., Languon, S., Drummond, L.†, Yan, L., Broder, C.C., Laing, E.D., Drosten, C., Suu-Ire, R.D., Quaye, O., Wood, J.L.N., Cunningham, A.A., Restif, O. (*in revision at Nature Communications*) Serological evidence of exposure to filoviruses in bats and humans in Ghana. Preprint: https://doi.org/10.64898/2026.06.30.26356960

14. **Juman, M.M.***, Doty, J.B.*, Morgan, C.N., Matheny, A., Caudle, A., Breslin, M., Hamilton, N.M., Gunderson, A., Newell, K., Rogers, J., Balta, V.A., Zecca, I.B., Whitehill, F., Minhaj, F.S., McDonough, M.M., Ferguson, AW., Li, Y., Gigante, C., Nakazawa, Y., McLaughlin, J., Olson, L.E. (*in revision at Nature Communications*) Historic and contemporary museum specimens implicate Northern Red-backed Vole (*Clethrionomys rutilus*) as borealpox host as early as 1990s. Preprint: https://doi.org/10.64898/2026.03.22.713527

13. **Juman, M.M.**, McDonough, M.M., Ferguson, A.W., Han, B.A., Andemwana, F.B., Cisirika, B.M., Kahindo, C., Ceríaco, L.M.P., Goodman, S.M., Patterson, B.D., Albery, G.F., Carlson, C.J., Becker, D.J. (*in press at Nature Communications*) Model-guided discovery of bat coronaviruses and paramyxoviruses in contemporary natural history collections. Preprint: https://doi.org/10.1101/2025.09.11.675601

12. Kettenburg, G., Simonis, M.C., Ferretti, P., Sánchez, C.A., Gaucherand, L., Williams, K.M., Islam, S., Lutz, H.L., Frank, L.E., Huntington, C.A., **Juman, M.M.**, Mols, V.C., Quintela-Tizon, R.M., Voirin, C.J., Ansil, B.R., Vicente-Santos, A.C., Víquez-R, L., Lelli, D., Phelps, K.L., Weinberg, M., Woodson, S.E., Barker, B.R., Dávalos, L.M., Kingston, T., Schmidt, A.G., Streicker, D.G., Uelmen, J., Banerjee, A., Frank, H.K., Seifert, S.N., Becker, D.J., Brook, C.E. (2026) Prioritizing the next decade of research in bat infectious disease (batID). *Nature Communications* 17:11919.

11. Lindsley, I.*, **Juman, M.M.***, Seifert, S.N., Gibb, R., Albery, G.F., Jephcott, F.L., Restif, O. (2026) Host-virus association databases as tools for understanding viral spillover at varying scales. *PLOS Neglected Tropical Diseases* 20:e0013343.

10. Betke, B.A., **Juman, M.M.**, O'Shea, M., Fagre, A., Frank, H., Becker, D.J., Poisot, T. (2026) Do bats get sick from the viruses they carry? *Frontiers for Young Minds* 14:1591982.

9. **Juman, M.M.**, Restif, O., Becker, D.J. (2025) Paramyxoviruses in Old World fruit bats (Pteropodidae): An open database and synthesis of sampling effort, viral positivity, and coevolution. *PLOS Neglected Tropical Diseases* 19:e0013698.

8. **Juman, M.M.**, Gibson, L., Suu-Ire, R.D., Languon, S., Quaye, O., Fleischer, G., Asumah, S., Jolma, E.R., Gautam, A., Sterling, S.L., Yan, L., Broder, C.C., Laing, E., Wood, J.L.N., Cunningham, A.A., Restif, O. (2024) Ecological and reproductive cycles drive henipavirus seroprevalence in the African Straw-Coloured Fruit Bat (*Eidolon helvum*). *Ecology and Evolution* 14:e70555.

7. Olson, L.E., **Juman, M.M.** (2024) Host taxonomy is critical in zoonotic disease surveillance and reporting. *Journal of Wildlife Diseases* 60:554-555.

6. **Juman, M.M.**, Olson, L.E., Sargis, E.J. (2024) Craniometric variation and taxonomic boundaries in the Madras Treeshrew (Scandentia, Tupaiidae: *Anathana ellioi* Waterhouse, 1850) from India. *Journal of Mammalian Evolution* 31:4.

5. **Juman, M.M.**, Woodman, N., Miller-Murthy, A., Olson, L.E., Sargis, E.J. (2022) Taxonomic boundaries in Lesser Treeshrews (Scandentia, Tupaiidae: *Tupaia minor* Günther, 1876). *Journal of Mammalogy* 103:1431-1440.

4. **Juman, M.M.**, Millien, V., Olson, L.E., Sargis, E.J. (2022) Recent and rapid ecogeographical rule reversals in Northern Treeshrews. *Scientific Reports* 12:19689.

3. **Juman, M.M.**, Olson, L.E., Sargis, E.J. (2021) Skeletal variation and taxonomic boundaries in the Pen-tailed Treeshrew (Scandentia, Ptilocercidae: *Ptilocercus lowii* Gray, 1848). *Journal of Mammalian Evolution* 28:1193-1203.

2. **Juman, M.M.**, Woodman, N., Olson, L.E., Sargis, E.J. (2021) Ecogeographic variation and taxonomic boundaries in Large Treeshrews (Scandentia, Tupaiidae: *Tupaia tana* Raffles, 1821) from Southeast Asia. *Journal of Mammalogy* 102:1054-1066.

1. Ruane, S., Myers, E.A., Lo, K., Yuen, S., Welt, R.S., **Juman, M.M.**, Futterman, I., Nussbaum, R.A., Schneider, G., Burbrink, F.T., Raxworthy, C.J. (2018) Unrecognized species diversity and new insights into colour pattern polymorphism within the widespread Malagasy snake *Mimophis* (Serpentes: Lamprophiidae). *Systematics and Biodiversity* 16:229-244.

RESEARCH PRESENTATIONS (*TRAVEL AWARD RECIPIENT)

10. **Juman, M.M.** Integrating machine learning, museum collections, and serology to disentangle bat–virus relationships. Plenary talk, American Society of Mammalogists, Norfolk, Virginia (2026).

9. **Juman, M.M.**, McDonough, M.M., Ferguson, A.W., Han, B.A., Becker, D.J. Model-guided paramyxovirus discovery in museum bat collections. BatID: International Symposium on Bat Infectious Diseases, Chicago (2025).

8. **Juman, M.M.***, McDonough, M.M., Ferguson, A.W., Han, B.A., Becker, D.J. Model-guided paramyxovirus discovery in museum bat collections. American Society of Mammalogists, West Lafayette, Indiana (2025).

7. **Juman, M.M.***, Han, B.A., Becker, D.J. Model-guided henipavirus discovery in museum bat collections. Hendra@30: Henipavirus International Conference, Geelong, Australia (2024).

6. **Juman, M.M.** Museums, Microbes, and the Machine: AI-driven pathogen surveillance in natural history collections. "Zoonotic Collecting": The Fourth Annual Conference of The Global War Against the Rat and the Epistemic Emergence of Zoonosis, St Andrews, Scotland (2024).

5. **Juman, M.M.**, Restif, O. Seasonal and spatial patterns of henipavirus seroprevalence in Straw-Coloured Fruit Bats (*Eidolon helvum*). British Ecological Society Annual Meeting, Belfast, Northern Ireland (2023).

4. **Juman, M.M.***, Millien, V., Olson, L.E., Sargis, E.J. Recent and rapid ecogeographical rule reversals in Northern Treeshrews. International Mammalogical Congress 13, Anchorage, AK (2023).

3. **Juman, M.M.***, Woodman, N., Miller-Murthy, A., Olson, L.E., Sargis, E.J. Taxonomic boundaries in Lesser Treeshrews. American Society of Mammalogists, virtual (2022).

2. **Juman, M.M.***, Olson, L.E., Sargis, E.J. Skeletal variation and taxonomic boundaries in the Pen-tailed Treeshrew. American Society of Mammalogists, virtual (2021).

1. **Juman, M.M.**, Woodman, N., Olson, L.E., Sargis, E.J. Hand proportions and taxonomic boundaries among Large Treeshrews. American Society of Mammalogists, Washington, D.C. (/2019).

FELLOWSHIPS AND RESEARCH GRANTS

ASM Fellowship, American Society of Mammalogists ($20,000)	2025
Collaborative Graduate Research Grant, Department of Veterinary Medicine, University of Cambridge (£5,000)	2025
Accelerate-C2D3 (Cambridge Centre for Data-Driven Discovery) Extension Grant (£10,000)	2025
Graduate Field Work Grant, Department of Veterinary Medicine, University of Cambridge (£2,600)	2024
James L. Patton Award for Museum-Based Research, American Society of Mammalogists ($5,000)	2024
Verena (Viral Emergence Research Initiative) Fellow-in-Residence Award ($5,000)	2024
Accelerate-C2D3 (Cambridge Centre for Data-Driven Discovery) Research and Innovation Grant (£9,303)	2023
Gates Cambridge Scholarship (full PhD tuition + £22,050/year stipend)	2022 – 2026
NSF Graduate Research Fellowship ($138,000, *declined*)	2022 – 2027
Fulbright U.S. Student Research Fellowship to Malaysia ($18,000, *postponed due to COVID-19*)	2021– 2022
Dean's Research Fellowship in the Sciences, Yale University ($4,300)	2019
Alan S. Tetelman Fellowship for International Research in the Sciences, Yale University ($3,600)	2019
Yale Summer Environmental Fellowship, Yale School of the Environment ($2,000)	2019
Richter Summer Fellowship, Saybrook College, Yale University ($1,000)	2019
Karen L. Von Damm Undergraduate Research Fellowship, Yale Earth & Planetary Sciences ($3,784)	2017

HONORS AND AWARDS

Best Flash Talk, Wolfson Annual Global Health Research Conference 2026
Abcam Research Prize, Department of Veterinary Medicine, University of Cambridge (£250) 2025
Best Flash Talk, Department of Veterinary Medicine Research Day, University of Cambridge 2025
Best Poster, Department of Veterinary Medicine Research Day, University of Cambridge 2025
Best Poster, Cambridge Infectious Diseases Annual Symposium 2025
Travel Awards, American Society of Mammalogists ($200, $400, $600, $800) 2021, 2022, 2023, 2025
Y-Work Award for Outstanding Student Employees, Yale University 2020
Undergraduate Research Honorarium, American Society of Mammalogists ($1,200) 2019

IUCN RED LIST ASSESSMENTS

Juman, M.M., Sargis, E.J., Talmale, S.S. (2024) *Anathana ellioti*. The IUCN Red List of Threatened Species.
Juman, M.M., Sargis, E.J. (2023) *Tupaia belangeri*. The IUCN Red List of Threatened Species.
Juman, M.M., Sargis, E.J. (2023) *Tupaia minor*. The IUCN Red List of Threatened Species.
Juman, M.M., Sargis, E.J. (2023) *Ptilocercus lowii*. The IUCN Red List of Threatened Species.
Juman, M.M., Sargis, E.J. (2023) *Tupaia tana*. The IUCN Red List of Threatened Species.

TEACHING

Part II Pathology, Infectious Diseases: a One Health Approach, University of Cambridge January 2027
Lecturer (two scheduled lectures on emerging infectious disease and bat virus spillover)
Part II Zoology, Mammal Evolution and Comparative Anatomy, University of Cambridge February 2027
Lecturer (three scheduled lectures on Chiroptera, Carnivora, domestication, and mammalian disease ecology)
Part II Zoology: Mammal Evolution and Comparative Anatomy, University of Cambridge 2023–2027
Supervisor (lead specimen-based and essay-based small group teaching for third-year undergraduates)
Part I Pathology: Mathematical Biology and MPhil in Plant Sciences, University of Cambridge 2025–2026, 2026–2027
Demonstrator (help troubleshoot R code with undergraduate and master's students during practical assignments)
Pegasus Bridging Programme, Robinson College, University of Cambridge September 2024, 2025
Supervisor (led personalized museum tours for incoming undergraduates in university preparation program)
S&DS S230: Data Analysis and Exploration, Yale University Summer 2020
Teaching Assistant (held office hours, graded assignments, demonstrated R code)
Yale College Writing Center, Yale University 2017 – 2020
ESL-Certified Writing Partner (held weekly drop-in hours and provided feedback to non-native English writers)

UNDERGRADUATE RESEARCH STUDENTS MENTORED

Alice Patton, Princeton University *(provided training in R-based mathematical modeling for research internship)* 2024
Lewis Drummond, University of Cambridge *(direct supervisor for Part II Pathology dissertation project)* 2023 – 2024
Gabrielle Roman, Yale University *(provided training in R-based multivariate analyses for research internship)* 2023
Katie Handler, Yale University *(provided training in R-based multivariate analyses for senior thesis)* 2022

INVITED TALKS

Departmental Seminar, Department of Zoology, University of Cambridge 2026
Museums and Emerging Pathogens in the Americas (MEPA) Network 2026
Kerala Agricultural University, Thrissur, India 2026
AI for Science Summit, University of Cambridge 2025
Accelerate Lunchtime Seminar Series, Department of Computer Science, University of Cambridge 2025
Cabinet of Natural History Research Seminar, History and Philosophy of Science, University of Cambridge 2025
Holleley Lab, Australian National Wildlife Collection (CSIRO) 2025
Peel Lab, Griffith University, Queensland, Australia 2024
Brook Lab, University of Chicago, USA 2024
Olson Lab, University of Alaska Fairbanks, USA 2022
Division of COVID-19 Containment, Philadelphia Department of Public Health, USA 2022
Yale Peabody Museum of Natural History (first undergraduate to deliver a public gallery talk), USA 2020

EMPLOYMENT

COVID-19 Response Coordinator, Philadelphia Department of Public Health (full-time job) 2020 – 2022

- *Supervised a team of contact tracers and investigated high-risk COVID-19 clusters.*
- *Designed monthly software updates to streamline the collection and management of epidemiological data.*
- *Synthesized and presented weekly patterns to Chief of Operations and Philadelphia Health Commissioner.*

Tour Guide and Collections Assistant, Yale Peabody Museum of Natural History (part-time job) 2016 – 2020

- *Led weekly behind-the-scenes tours to encourage public engagement with the museum's collections and research.*
- *Digitized 6,573 invertebrate and vertebrate fossils for the NSF Cretaceous World Project.*

SCIENCE COMMUNICATION AND OUTREACH

Cambridge Science Festival March 2023, 2024, 2025, 2026
Activity organizer (designed and ran a "bat virus hunting" activity for families visiting the veterinary school)

Skype a Scientist 2023 – Present
Guest scientist (discuss research and STEM careers with K-12 science students in the U.S., Ireland, and Europe)

Women of Color in Ecology and Evolutionary Biology Mentor Match (*wocineeb.org*) 2023 – Present
Mentor (run quarterly check-in meetings with undergraduate and graduate students from Singapore and Brazil)

Letters to a Pre-Scientist 2021 – Present
STEM pen pal (write bilingual science-themed letters to middle schoolers in underserved U.S. school districts)

Yale Ecology & Evolutionary Biology Undergraduate Group 2019 – 2020
Co-President and Peer Mentor (organized research panels, social events, and workshops for students)

"Inkredible: A Cephalopodcast," published on Spotify (*inkrediblepod.wordpress.com)* 2019
Hosted and produced an original podcast episode about biological ink, accompanied by a website.

"The Taming of the Treeshrew" (*tamingofthetreeshrew.wordpress.com*) 2018
Maintained a blog documenting collections-based research experiences at Yale and the Smithsonian.

PROFESSIONAL SERVICE

Reviewer**:** *Biological Conservation, Biological Journal of the Linnean Society, Frontiers in Bioinformatics, Frontiers in Zoology, F1000Research, Health Science Reports, iScience, Journal of Mammalogy, Nature Communications, Philippine Journal of Science, PLoS ONE, PLoS Pathogens, Proceedings of the Royal Society B, Scientific Reports*

Member: IUCN Species Survival Commission Small Mammal Specialist Group (2024–); *Journal of Mammalogy* Instructions to Authors/Style Guide Committee (2024–); Viral Emergence Research Initiative (2024–); Cambridge Collections Connections Communities (CCC) Consortium (2025–)

Team Leader, Bat Pathogen Spillover Compendium, Johns Hopkins University 2023 – Present

- Work with a consortium of disease ecologists to review scientific papers on bat virus spillover for a publicly available, expert-curated database to be launched 2026. Team lead for Bangladesh Nipah virus papers.

Species Page Contributor, India Biodiversity Portal (*indiabiodiversity.org*) 2022 – Present

- Validate and identify observations of Scandentia (treeshrews) in an open citizen science database.
- Founder and administrator of the Small Mammals of India microsite.

OTHER SKILLS AND EXPERIENCE

Museum work:

- *Research internships*: American Museum of Natural History (2014-2016, Herpetology); Smithsonian National Museum of Natural History (2018, Mammalogy); Yale Peabody Museum of Natural History (2018, Mammalogy)
- *Collection visits*: Smithsonian National Museum of Natural History (2019); Harvard Museum of Comparative Zoology (2019); Yale Peabody Museum of Natural History (2019); Field Museum of Natural History (2019, 2024, 2025); Natural History Museum, London (2019, 2023); American Museum of Natural History (2019)
- *Employment*: Yale Peabody Museum of Natural History (2016-2020, Invertebrate and Vertebrate Paleontology Collections Assistant); University of Alaska Museum (2022–, Mammalogy Research Technician)

Field work:

- *Queensland and New South Wales, Australia*: Under-roost urine and fecal sampling of flying foxes for seasonal Hendra virus surveillance (November 2024).
- *Chicago, USA*: Mark-release-recapture urban ecology study of deer mice bacterial pathogens (September 2024).
- *Southeast Alaska, USA*: Collected hoary marmots and bumble bees from remote alpine regions for the University of Alaska Museum. Conducted orthopoxvirus surveillance in small mammal populations in collaboration with the Alaska State Department of Public Health and U.S. Centers for Disease Control (July 2022, July 2023).

Editorial work:

- *Editor-in-Chief*, The Scholar (*thescholar.online* and Spotify): Oversaw the production of the Gates Cambridge annual magazine, featuring articles, photos, videos, and podcasts by current students and alumni (2022–2023).
- *Content and Copy Editor*, BlueSci (*bluesci.co.uk*): Provided first- and second-round edits for articles spanning scientific disciplines at the longest running science magazine at the University of Cambridge (2025–2026).

Languages: English, Spanish (proficient), Hindi (read/write), Malayalam (read/write)

Software: R, Python, ArcGIS, EMu, FileMaker, ImageJ, Adobe InDesign, and Photoshop

Professional affiliations: American Society of Mammalogists (2019–); British Ecological Society (2022–)