

Curriculum Vitae: Elizabeth Tapanes, Ph.D.
Post-doctoral Researcher

UC San Diego
Biology Department, Ecology & Evolutionary Biology section
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RESEARCH INTERESTS

Evolutionary genomics • Phenotype-Genotype • Eco-evolutionary dynamics • Trait evolution • Hair
• The integument • Conservation genomics

EDUCATION

2021

Doctor of Philosophy, Human Paleobiology, The George Washington University
Supervisor: Brenda J. Bradley; Committee Members: Jason M. Kamilar, Timothy H. Webster, Mitchell T. Irwin, Richard R. Lawler, Chet C. Sherwood
Dissertation: The impact of ecology, demography, and genetics on the evolution of primate pelage

2020

Master of Philosophy, Human Paleobiology, The George Washington University
Supervisor: Brenda J. Bradley

2016

Master of Arts, Anthropology, Florida Atlantic University (Hispanic Serving Institute)
Supervisor: Kate M. Detwiler
Thesis: Coat color variation between red-tailed monkeys (*Cercopithecus ascanius*), blue monkeys (*Cercopithecus mitis*), and hybrids (*C. ascanius* x *C. mitis*) in Gombe National Park, Tanzania

2012

Bachelor of Science, Biological Sciences, Florida International University (Hispanic Serving Institute)
Supervisor: Sian Evans

OTHER RESEARCH TRAINING

Molecular and Computational Genomics

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| 2019-pres. | University of Utah's Primate Evolutionary Genomics Laboratory (PI: Tim Webster) Affiliated Post-doctoral researcher (Ph.D. student affiliation, 2019-2021) Work on: Computational genomics, Python, Snakemake, Exome-seq, positive selection Analyses |
| 2016-2021 | GWU's Primate Genomics Laboratory (PI: Brenda Bradley) Graduate Research Assistant Work on: DNA & RNA extractions, qrt-PCR, gel electrophoresis, quantification, etc. |
| 2020 | Summer Institute in Statistical Genetics , University of Washington |

- Classes: Non-model organisms and endangered populations, Population genetics, and Quantitative genetics
- 2019 **De-Novo Genome Assembly Workshop**, American Society of Mammologists
- 2018 **Applied Genomics in Anthropological Research Workshop**,
American Association of Anthropological Genetics
- 2017 **Introduction to Genomics & Bioinformatics Workshop**
University of Maryland, Institute for Genome Sciences
- 2017 **Training in RNA-seq and Exome-seq**
The George Washington University, with Dr. Anelia Horvath

PEER-REVIEWED PUBLICATIONS

*Denotes mentee co-author

Published

5. **Tapanes, E.**, J. M. Kamilar, & Bradley, B.J. (2021). Molecular and cellular processes underlying hair pigmentation and growth in primate evolution. *In: Evolutionary Cell Processes in Primates: Genes, Skin, Energetics, Breathing, and Feeding; Volume II.* Pitirri, M.K., & Richtsmeier, J.T. (Eds.) CRC Press.
4. **Tapanes, E.**, T., Anestis, S., Kamilar, J.M., & Bradley, B.J. (2020). Does hair greying in chimpanzees provide a salient progressive cue of ageing? *PLOS ONE*, 15(7): e0235610.
3. Wolovich, C.K., **Tapanes, E.**, & Evans, S. (2017). Allogrooming in male-female pairs of captive owl monkeys (*Aotus nancymaae*). *Folia Primatologica*, 88, 483-496.
2. **Tapanes, E.**, Cords, M., Detwiler, K.M. (2016). Predation on bats by *Cercopithecus* monkeys: implications for zoonotic disease transmission. *EcoHealth*, 13, 405-409.
1. Jefferson, J.P., **Tapanes, E.**, & Evans, S. (2014). Owl monkeys (*Aotus* spp.) socially anoint in captivity. *Folia Primatologica*, 85, 119-134.

In Preparation

- Tapanes, E.**, Jacobs, R.L., Harryman, I. *, Louis Jr., E.E., Irwin, M.T., Kamilar, J.M., Bradley, B.J.
Hair phenotype diversity across Indriidae lemurs.
- Tapanes, E.**, Kamilar, J.M., Nukala, M. *, Irwin, M.T., Bradley, B.J. Adherence to Bogert's Rule across a wild population of sifakas – isolation by distance or local adaptation?

ABSTRACTS and PRESENTATIONS

14. **Tapanes, E.**, Jacobs, R.L., Harryman, I. *, Louis Jr., E.E., Irwin, M.T., Kamilar, J.M., Bradley, B.J., (2021). Ecology and opsin variation underscore the evolution of hair phenotypes across Indriidae lemurs – implications for human evolution. American Association of Biological Anthropologists 90th Annual Meeting. [podium]
13. **Tapanes, E.**, Kamilar, J.M., Nukala, M. *, Irwin, M.T., Bradley, B.J. (2021). Ecological and social

- factors underlying pelage pigmentation in a wild sifaka (*Propithecus diadema*) population. Virtual Asilomar of the American Society of Naturalists. [podium]
12. **Tapanes, E.**, Jacobs, R.L., Harryman, I. *, Louis Jr., E.E., Irwin, M.T., Kamilar, J.M., Bradley, B.J., (2020). Ecology and opsin variation underscore the evolution of hair phenotypes across Indriidae lemurs – implications for human evolution. Northeast Evolutionary Primatologists Conference. [podium; unpublished]
 11. **Tapanes, E.**, Kamilar, J.M., Irwin, M.T., Mundy, N.I., Bradley, B.J. (2020). Understanding convergent phenotypes in mammalian pelage: insights from natural primate populations. The Allied Genetics Conference. [accepted poster] **not presented due to COVID19**
 10. **Tapanes, E.**, Irwin, M.T., Kamilar, J.M., & Bradley, B.J. (2019). Evolution of pelage in a wild lemur population. Northeast Evolutionary Primatologists Conference. [podium, not published]
 9. **Tapanes, E.**, Kamilar, J.M., & Bradley, B.J. (2019). Pigmentation changes are (sort of) related to ageing in chimpanzees. American Journal of Mammalogy. [podium]
 8. **Tapanes, E.**, Irwin, M.T., Spriggs, A.N., Kamilar, J.M., Bradley, & B.J. (2017). Subtle sexual dichromatism and dimorphism detected in wild *Propithecus diadema*. American Journal of Physical Anthropology. [poster]
 7. Bradley, B.J., Kamilar, J.M., Spriggs, A.N., **Tapanes, E.**, Wilhelm, B.C., & Walsh, S. (2017). Pigmentation in a comparative context: Factors shaping variation and convergence in primate pelage patterns. American Association of Physical Anthropologists 86th Annual Meeting. [poster]
 6. **Tapanes, E.**, & Detwiler, K.M. (2016). Phenotypic diversity and mating in Gombe National Park's *Cercopithecus* hybrid zone: implications for conservation. International Journal of Primatology. [podium]
 5. Wolovich, C.K., **Tapanes, E.**, & Evans, S. (2016). Patterns of allogrooming in male-female pairs of captive owl monkeys (*Aotus nancymaae*). International Society of Primatologists. [podium]
 4. **Tapanes, E.**, & Evans, S. (2015). The significance of allogrooming to pair-bonded owl monkeys (*Aotus* spp.). American Journal of Physical Anthropology 160: S60. [poster]
 3. **Tapanes, E.**, & Detwiler, K.M. (2015). Testing methods for studying color objectively in wild arboreal primates. South Florida Primate Group. [podium, not published]
 2. Jefferson, J.P., **Tapanes, E.**, & Evans, S. (2012). Owl monkeys (*Aotus* spp.) socially anoint. American Journal of Primatology 74: S1. [poster]
 1. **Tapanes, E.**, Wolovich, C.K., & Evans, S. (2007). Leaping into the night: when owl monkeys (*Aotus* spp.) awake. American Journal of Primatology 72: S1. [poster]

DISTINCTIONS and AWARDS

Fellowships

- 2016-2021 **Provost's Diversity Fellowship**, The George Washington University (~\$26,000/year)
- 2019 **GW Pre-Dissertation Fellowship**, The George Washington University (\$4,000.00)
- 2014 **Morrow Fellowship in Anthropology**, Florida Atlantic University (\$1,500.00)

Research Grants

- 2019 **Leakey Foundation Dissertation Research Grant**, The Leakey Foundation, "Hair evolution in a comparative context" (\$15,000)
- 2018 **The Lewis N. Cotlow Award**, The George Washington University, "Evolution of the 'naked ape': hair evolution in a comparative framework" (\$1,800.00)
- 2018 **William Warren Graduate Research Grant**, The George Washington University, "Evolution of the 'naked ape': hair evolution in a comparative framework" (\$800.00)
- 2018 **Explorer's Club**, Washington Group, "The how and why of diversification and innovation: a study of unusual pelage diversity in a lemur species" (\$1,665.00)
- 2017 **International Primate Society**, "Diversity of pelage patterning and function in wild sifaka lemurs (*Propithecus diadema*) at the Tsinjoarivo Forest in Madagascar" (\$1,500.00)
- 2017 **Lewis N. Cotlow Award**, The George Washington University, "Diversity of pelage Patterning and function in wild sifaka lemurs (*Propithecus diadema*) at the Tsinjoarivo Forest in Madagascar" (\$1,800.00)
- 2015 **Graduate Research and Inquiry Program**, Florida Atlantic University, "Coat color variation within and between red-tailed monkeys (*Cercopithecus ascanius*), blue monkeys (*C. mitis*), and hybrids (*C. ascanius x C. mitis*)" (\$480.00)
- 2014 **Technology Fee Grant**, Florida Atlantic University, "Using modern technology to Monitor and study wild primate populations" (\$4,840.00)
- 2013 **Sigma Xi Grants-in-Aid of Research**, "A study of female mate-recognition in a social group of red-tailed monkeys (*Cercopithecus ascanius*), blue monkeys (*C. mitis*), and hybrids at Gombe National Park" (\$1,000.00)

Other Competitive Awards and Scholarships

- 2021 Journal of Human Evolution prize for best student presentation in primate and/or human evolution, American Association of Biological Anthropologists (\$500)
- 2021 1st Place Podium Presentation Prize, Northeast Evolutionary Primatologists Conference (\$100)
- 2021 Two-year Membership Award, Society for the Study of Evolution (\$200+ value)
- 2020 Summer Institute in Statistical Genetics Scholarship, University of Washington (\$900)
- 2018 Student Travel Award, American Association of Anthropological Genetics (AAG), Applied Genomics in Anthropological Research (AGAR) Workshop (\$250.00)

COLLABORATE RESEARCH INITIATIVES

2021-pres **Integumentary+ Evolution Consortium**
Function: A research group created for sharing protocols with the public and across labs to study ectoderm derived structures (e.g., hair, skin, sweat glands, teeth, mammary glands) in primates and other organisms comparatively

INVITED TALKS

2019 Penn State University, Department of Anthropology, by Dr. P.J. Perry
 “The evolution of primate pelage: from genome to phenome”

2019 The George Washington University, Department of Biology, by Dr. Arnaud Martin
 “The evolution of mammalian pelage: from genome to phenome”

TEACHING and EDUCATIONAL EXPERIENCE

2021 Science Curriculum Specialist, **John Hopkins University, Center for Talented Youth**
 2019 Lecturer, **The George Washington University**
 2016-18 Graduate Teaching Assistant, **The George Washington University**
 2016 Instructor, **Duke University, Talent Identification Program**
 2013-16 Graduate Teaching Assistant, **Florida Atlantic University**
 2012 Teaching Assistant, **Duke University, Talent Identification Program**
 2011 Co-Instructor, **Upward Bound Math and Science at the Miami Science Museum**

MENTORSHIP EXPERIENCE

--*within the last five years*

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|---|------|------|
| Mentor for undergraduate student, Alejandra Paredes Marin | 2020 | 2021 |
| Current Position: Research Associate, Mount Sinai (starts May 2021) | | |
| Mentor for research assistant, Ian Harryman | 2019 | 2020 |
| Current Position: Ph.D. student, Stanford University, Earth Systems Science | | |
| Mentor for undergraduate student, Maanas Nukala | 2016 | 2019 |
| Current Position: Data Specialist, World Resources Institute | | |
| Mentor for undergraduate student, Lauren Anderson | 2017 | 2018 |
| Current Position: Ph.D. student, Rockefeller University, Molecular Biology | | |

PROFESSIONAL ACTIVITIES

- Invited reviewer for six manuscripts: *Ecology & Evolution* (2-2020), *Data in Brief* (1-202), *African Journal of Ecology* (1-2019), *Evolutionary Anthropology* (2-2019,2020)
- Student Liaison on Steering Committee of The George Washington University’s Primate Conservation Earth Day symposium (2019; cancelled due to Covid19)
- Student Representative to The George Washington University’s Human Paleobiology program Curriculum Committee (2017-2021)
- Steering Committee member of the Diversity in Science group in The George Washington University’s Human Paleobiology program (2016-2019)
- Peer Advocate to The George Washington University’s Anthropology Department’s Title IX Peer Advocates (2019-2021)

EDUCATIONAL OUTREACH

- 2020 NGSS Curriculum Testing, Weller Road Elementary (*bi-lingual class/outreach*)
- 2019 NGSS Curriculum Testing, Kemp Mill Elementary (*bi-lingual class/outreach*)
- 2019 Lives of Scientists, Shutesbury Elementary School (MA)
- 2019 Scientist-Is-In, “Evolution of hair” at the Smithsonian Natural History Museum
- 2019 NGSS Curriculum Development, (*bi-lingual class/outreach*)
Collaboration with Christine Ramirez (at Discovery)
Lesson Plan: Biological and genomic diversity, a lesson with lemurs
- 2019 Skype-A-Scientist, Shutesbury Elementary School (MA)
- 2019 Build A Lemur, Hall of Mammals, Smithsonian Natural History Museum
- 2018 ‘What’s Your ‘Ology?’, STEM for Her, Panelist
- 2018 Scientist-Is-In, “Evolution of hair” at the Smithsonian Natural History Museum
- 2018 USA Science and Engineering Festival, NSF Pavilion, Washington, D.C.
- 2017 World Lemur Festival, at the Yale Peabody Museum of Natural History
- 2017 Scientist-Is-In, “Evolution of hair” at the Smithsonian Natural History Museum
- 2016 BePolished, Educational Visit to CASHP Facilities, Volunteer

PROFESSIONAL AFFILIATIONS

SACNAS

- Edward A. Bouchet Graduate Honors Society
- Lambda Alpha National Honor Society (Anthropology)
- Society for the Study of Evolution
- American Society of Naturalists
- Genetics Society of America
- American Association of Anthropological Genetics
- American Association of Physical Anthropologists
- Northeastern Evolutionary Primatologists

LANGUAGE FLUENCIES

English (fluent), Spanish (fluent), Malagasy (working)

REFERENCES

--on request