

# JORGE DAVID CARBALLO MORALES

Curriculum Vitae

Master's student in Biology

Department of Biological Science, Towson University

Towson, MD 21252

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Last updated: July, 2024

## EDUCATION

- 2023 - present Master's degree in Biology, Towson University, United States. GPA: 3.9/4  
Specialized on: Organismal Biology and Ecology
  - PI: Dr. Daniel S. Caetano.
  - Thesis: Evolution of diet and diversification of bats (Order Chiroptera)
- 2022 Licenciante's (Post-bachelor) degree in Biology, Universidad Nacional de Costa Rica (UNA), Costa Rica. GPA: 9.2/10  
Specialized on: Natural Resource Management *summa cum laude*
  - PI: Dr. Federico Villalobos
  - Thesis: "Amplitud de hábitat y su relación con la masa corporal, gremio trófico y riesgo de extinción en murciélagos filostómidos (Chiroptera: Phyllostomidae) de distribución continental." Co-supervised by: Dr. Romeo Saldaña Vázquez and Dr. Leonel Herrera Alsina [[Link](#)]
- 2020 Bachelor's degree in Biology, Universidad Nacional de Costa Rica (UNA), Costa Rica. GPA: 8.4/10  
Specialized on: Tropical Biology
  - PI: Dr. Federico Villalobos
  - Undergrad project: "Meta-análisis: Variación de la abundancia de murciélagos como respuesta al cambio de uso de suelo." Co-supervised by: Dr. Romeo Saldaña Vázquez

## PUBLICATIONS (\*corresponding author)

Medina-Bello, K.I.\*, **Carballo-Morales, J.D.**, Saldaña-Vázquez, R.A., Villalobos, F., Ayala-Berdon, J. (*In prep.*) Thermal energetics of bats of the family Vespertilionidae: an evolutionary approach.

Saldaña-Vázquez, R.A.\*, **Carballo-Morales, J.D.**, Hernández-Montero, J. R., Ríos-Chelén, A. A., Vázquez-Domínguez, G., Aguilar-Cucurachi, S., Avila-Flores, R., Mella-Mendez, I., Sandoval-Ruiz, C. A., Silva-Rivera, E., Schondube, J. E., Spaan, D. (*Accepted*) Bats in tropical cities: a view since the ecology *in, of and for* cities. In: Angeletto, F., Tryjanowski, P., Fellowes, M. (eds) *Ecology of Tropical Cities: Natural and Social Sciences Applied to the Conservation of Urban Biodiversity*. Springer.

**Carballo-Morales, J.D.\***, Villalobos, F., Saldaña-Vázquez, R.A., Herrera-Alsina, L. (2024) The habitat breadth of phyllostomid bats is partially determined by their diet and could be used as a predictor of extinction risk. *Biodiversity and Conservation*. 33 (8-9) <https://doi.org/10.1007/s10531-024-02905-x>

**Carballo-Morales, J. D.\***, Saldaña-Vázquez, R. A., Villalobos, F., Herrera-Alsina, L. (2023) Thermal niche breadth in *Sturnira* bats and their relation with species diversification. *Journal of Thermal Biology*. 117, 103697. <https://doi.org/10.1016/j.jtherbio.2023.103697>

**Carballo-Morales, J. D.\***, Delgado-Montes, C., Aucausi-Choque, L. V., Reyes-Ortiz, M., Aisenberg, A. (2022) Niche partitioning and intraspecific shared webs in two species of *Modisimus* Simon, 1893 (Pholcidae, Araneae). *Journal of Arachnology*. 50(1):43-46. <https://doi.org/10.1636/JoA-S-21-020>

Cabrera-Campos, I., **Carballo-Morales, J. D.**, Saldaña-Vázquez, R. A., Villalobos, F., Ayala-Berdon, J.\* (2021). Body mass explains digestive traits in small vespertilionid bats. *Journal of Comparative Physiology B*. 191(2):427-438. <https://doi.org/10.1007/s00360-021-01348-y>

**Carballo-Morales, J. D.**, Saldaña-Vázquez, R. A.\*, & Villalobos, F. (2021). Trophic guild and forest type explain phyllostomid bat abundance variation from human habitat disturbance. *Global Ecology and Conservation*. e01425. <https://doi.org/10.1016/j.gecco.2020.e01425>

## PRESENTATIONS

Saldaña-Vázquez, R. A., Carballo-Morales, J. D., Hernández-Montero, J. R., Ríos-Chelén, A. A., Vázquez-Domínguez, G., Aguilar-Cucurachi, S., Avila-Flores, R., Mella-Mendez, I., Sandoval-Ruiz, C. A., Silva-Rivera, E., Schondube, J. E., Spaan, D., Pellón, J. J., Angeletto, F. *Interacciones biológicas de murciélagos en ciudades tropicales: conocimiento actual y perspectivas futuras. VIII Congreso Mexicano de Ecología (Mexico. 2022)* - Oral presentation

Carballo-Morales, J.D., Villalobos, F., Saldaña Vázquez, R., & Herrera-Alsina, L. *Amplitud de hábitat en murciélagos filostómidos (Chiroptera: Phyllostomidae): relevancia ecológica e implicaciones en conservación. V Simposio de Biología Tropical (UNA, Costa Rica. 2021)* - Oral presentation

Carballo-Morales, J. D., Delgado-Montes, C., Auccacusi-Choque. L. V., M. Reyes-Ortiz, M., & Aisenberg, A. *Dimensiones de telas y captura de presa en dos especies del género Modisimus Simon, 1893 (Pholcidae, Araneae). IV Simposio de Biología Tropical (UNA, Costa Rica 2020)* - Oral presentation

Carballo-Morales, J. D., Saldaña-Vázquez, R., & Villalobos, F. *El gremio trófico y tipo de bosque explican la abundancia de murciélagos filostómidos en hábitats perturbados por acción humana.. VII Congreso Mexicano de Ecología (Mexico. 2019)* - Oral presentation

## REVIEWS PROVIDED FOR

2023 Mammalia

## TEACHING EXPERIENCE

2023-24 Instructor - Principles of Biology Lab, Towson University, MD. Semester course for students not majoring in biology, taught in English.

2022-24 Teacher Assistant - Tropical Biology: an ecological approach, Organization for tropical studies, Costa Rica. A 4 to 6-week field course taught in English for graduate students.

2022 Co-instructor - Recycling and organic waste management, Itarär Ecological Park and IPICIM school, Costa Rica. A 3-day workshop taught in Spanish for elementary school students.

2021 Co-instructor - Introduction to Phylogenetic Comparative Methods and data visualization in R. A 14-hour virtual workshop taught in Spanish to students at Latin American universities.

2021 Co-instructor - Scientific literature synthesis and data visualization in R. A 14-hour virtual workshop taught in Spanish for university students. 24-hour virtual workshop taught in Spanish to graduate students at Mexican universities.

2019 Co-instructor - Animal behavior with BORIS. A 4-hour workshop taught in Spanish to Universidad Latina's students, Costa Rica.

## FELLOWSHIPS AND AWARDS

2021 Organization for Tropical Studies's scholarship to attend a field course - \$1,500

2019 Organization for Tropical Studies's scholarship to attend a field course - \$1,000

2018-19 Travel grant from the Vicerrectoría de Vida Estudiantil (UNA) to attend a conference in Mexico - \$950

2018 Luis Felipe González Flores [Renewal] socioeconomic scholarship by UNA (Approx. \$2,400, ~\$100/month)

2018 Travel grant by Vicerrectoría de Vida Estudiantil UNA to attend a research internship in Mexico (\$1,650)

2018 Financial assistance by *Asociación de Estudiantes de Ciencias Biológicas* UNA to attend a research internship in Mexico (\$200)

2014-17 Luis Felipe González Flores socioeconomic scholarship by UNA (Approx. \$4,800, ~\$100/month)

## ADDITIONAL EDUCATION

2021 Quantitative and Computational Methods in Animal Behavior, Organization for Tropical Studies.

2019 Statistical analysis with R, Centro Nacional de Alta Tecnología.

2019 Tropical ecology and conservation, Organization for Tropical Studies.

2018 Scientific writing - Escuela de Ciencias Biológicas, UNA.

2018 Ecology and behavior of tropical vertebrates - Leibniz Universität Hannover and UNA.

2018 Ecology and conservation of coastal ecosystems - California State University CI and UNA.

2017 Ecology and conservation of the tropical dry forest, UNA, UCR, and UNAM.

2017 Meta-analysis and phylogenetics, Escuela de Ciencias Biológicas, UNA.

## PROFESSIONAL DEVELOPMENT AND RELATED EXPERIENCES

2022 Research assistant - Intraspecific interaction in damselflies (Odonata). Dr. Greg Grether and Dr. Fernando Soley.

2022 Volunteer - 59th Animal Behavior Society Conference.

2020 Research assistant - Social behavior of *Thyroptera tricolor* (Chiroptera). M.Sc. Silvia Chaves Ramirez.

2018 - 2019 Student research assistant - Laboratorio de Biología Tropical, UNA. Lab PI: M.Sc. Carolina Esquivel.

2018 Research internship - UNAM, UMSNH, and UATx, México. Dr. Romeo Saldaña Vázquez and Dr. Jorge Ayala Berdon.

2017-2018 Student representative - Asociación de Estudiantes de Ciencias Biológicas (Biology Students Association, UNA)

2016 - 2019 Student research assistant - Laboratorio de Sistemática, Genética y Evolución, UNA. Lab PI: Dr. Federico Villalobos

## RESEARCH SKILLS

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- Project design.
- General fieldwork skills.
- Mist nets placement and handling bats and birds.
- Teamwork (national and international experience).
- Systematic literature review and research weaving.
- Statistical analysis, including phylogenetic comparative methods.
- Data management and visualization including spatial, environmental, and phylogenetic data.

## SOFTWARE COMPETENCIES

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|--------------------------------|----------------------------|------------------------------------|
| ○ R and Rstudio (competent)    | ○ Quantum GIS (competent)  | ○ Linux OS – Ubuntu (intermediate) |
| ○ Microsoft Office (competent) | ○ Rmarkdown (intermediate) | ○ Mesquite (beginner)              |
| ○ BORIS (competent)            | ○ ImageJ (intermediate)    | ○ GitHub (beginner)                |

## LANGUAGE SKILLS

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Spanish (native), English\* (Full professional proficiency/Advanced), and Portuguese (limited working proficiency/beginner)

\*English Test certificate 2023 [[certs.duolingo.com/ad87dd333e1d5cd395cb9d7403a381bb/](https://certs.duolingo.com/ad87dd333e1d5cd395cb9d7403a381bb/)]

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