

Curriculum Vitae (Updated July 2023)

JORGE DAVID CARBALLO MORALES

EDUCATION

Universidad Nacional de Costa Rica (UNA).

2022

- Post-bachelor's (Licentiate) degree in Biology with a specialization in Natural Resource Management (2 years; GPA 9.2/10).
 - Thesis title: "Amplitud de hábitat y su relación con la masa corporal, gremio trófico y riesgo de extinción en murciélagos filostómidos (Chiroptera: Phyllostomidae) de distribución continental." [[Link](#)]
 - Supervisors: Dr. Federico Villalobos Brenes, Dr. Romeo Saldaña Vázquez, and Dr. Leonel Herrera Alsina.
 - Honors received: *summa cum laude*.

Universidad Nacional de Costa Rica (UNA).

2020

- Bachelor's degree in Biology with a specialization in Tropical biology (4 years; GPA 8.4/10).

PUBLICATIONS (*corresponding author)

Scientific articles

- 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.
- Carballo-Morales, J. D.***, Villalobos, F., Saldaña-Vázquez, R. A., Herrera-Alsina, L. (in prep) Habitat breadth and its relation to functional traits and extinction risk in phyllostomid bats.
- Carballo-Morales, J. D.***, Saldaña-Vázquez, R. A., Villalobos, F., Herrera-Alsina, L. (under review) Thermal niche breadth in *Sturnira* bats and their relation with species diversification. *Journal of Thermal Biology*.
- Carballo-Morales, J. D.***, Delgado-Montes, C., Auccacusi-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*. 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*. 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

Book chapter

- 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. (in review) Bats in tropical cities: a view since the ecology *in, of and for* cities. In: Angeoletto, F., Tryjanowski, P., Fellowes, M. (eds) *Ecology of Tropical Cities: Natural and Social Sciences Applied to the Conservation of Urban Biodiversity*. Springer.

RESEARCH EXPERIENCE

Independent projects

Post-bachelor research (thesis project) - Habitat niche breadth in phyllostomid bats.

2020-2021

- Responsible for the project design, data collection, and statistical analysis: macroecological, multivariable, and phylogenetic comparative methods.

Undergraduate research - Meta-analysis of the response of neotropical bats to habitat disturbance.

2018-2020

- Responsible for the project design, literature search and review, and statistical analysis.

Research assistance and work experience

Field research assistant - Interspecific interaction in damselflies (Odonata).

2022

A project of Dr. Greg Grether from the University of California, LA; in Costa Rica for 6 weeks.

- Capture and mark individuals, and collect behavior data.

Field research assistant - Social behavior of *Thyroptera tricolor* (Chiroptera: Thyropteridae).

2020

A project of master's student, Silvia Chaves-Ramirez from Universidad de Costa Rica, for 2 weeks.

- Capture and tag bats in the field.

Research collaborator - Several collaborations with national and international researchers.

2019-present

Collaboration with researchers mainly from Mexico, but also from Uruguay and other South-American countries, mainly using bats as biological models, and focused on their ecology and physiology, with a macroecological approach.

- Collaborate with statistical analysis and data visualization, spatial data analysis, design of the project, and writing, with the result of two papers published and three manuscripts in preparation.

Student research assistant - Laboratorio de Biología Tropical, UNA.

2018-2019

Supervised by M. Sc. Carolina Esquivel.

- Responsible for a student's group of Animal Behavior.

Research internship - UNAM and UMSNH, Morelia; and UATx, Tlaxcala, México.

2018

Supervised by Dr. Romeo Saldana-Vázquez.

- Placement of camera traps in urban parks to record the activity of mammals, and assist master and doctoral students in their projects about the effect of artificial light on bats and the thermal tolerance of bats in highlands.

Student research assistant - Laboratorio de Sistemática, Genética y Evolución, UNA

2016–2019

Supervised by Dr. Federico Villalobos Brenes

- Perform a phylogenetic analysis for neotropical bats and collaborate in research about bats ecology with national and international researchers.

TEACHING EXPERIENCE

Tropical Biology: an ecological approach - Teacher Assistant

2022-2023

A 5-week (June and July) field course taught in English in the biological stations of the Organization for Tropical Studies in Costa Rica for U.S. graduate students.

- Actively participate in the organization of the course's activities; and provide students with information, material, and the necessary equipment to support their projects along the course.

Recycling and organic waste management - Instructor

2022

In collaboration with the Itarär Ecological Park and IPICIM school, San Jose, Costa Rica. A 3-day workshop taught in Spanish for elementary students (from 6 to 12 years old).

- Promote ecologically responsible practices in kids.

Phylogenetic comparative methods - Instructor

2021

In collaboration with: Dr. Federico Villalobos Brenes, Dr. Romeo Saldaña Vázquez, and Dr. Leonel Herrera Alsina. A 14-hour virtual workshop taught in Spanish to UNA students and international students.

- Teach about PGLS models, model selection with Akaike's information criterion, and reconstruction of ancestral states using R; and instructed on visualizing phylogenetic and spatial data with R.

Scientific literature synthesis - Instructor

2021

In collaboration with: Dr. Romeo Saldaña Vázquez, and Dr. Christian Rodríguez Enríquez, C. L. A 24-hour virtual workshop taught in Spanish to Universidad Iberoamericana Puebla's students and students from other Mexican universities.

- Teach about systematic literature search to perform literature review and mapping, as well as bibliometric analysis; and instructed on visualizing phylogenetic data with R.

Animal behavior with BORIS - Instructor

2019

In collaboration with M.Sc. Carolina Esquivel. A 4-hour workshop taught in Spanish to Universidad Latina's students, Costa Rica.

- Teach animal behavior research methods; and data collection using videos and BORIS software.

CONFERENCES

VIII Congreso Mexicano de Ecología - Oral presentation

2022

Interacciones biológicas de murciélagos en ciudades tropicales: conocimiento actual y perspectivas futuras. 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., Angeoletto, F.

V Simposio de Biología Tropical - UNA - Oral presentation

2021

Amplitud de hábitat en murciélagos filostómidos (Chiroptera: Phyllostomidae): relevancia ecológica e implicaciones en conservación. **Carballo-Morales, J.D.***, Villalobos, F., Saldaña Vázquez, R., & Herrera-Alsina, L.

IV Simposio de Biología Tropical - UNA - Oral presentation

2020

Dimensiones de telas y captura de presa en dos especies del género *Modisimus* Simon, 1893 (Pholcidae, Araneae).

Carballo-Morales, J. D.*, Delgado-Montes, C., Auccacusi-Choque, L. V., M. Reyes-Ortiz, M., & Aisenberg, A.

VII Congreso Mexicano de Ecología - Oral presentation

2019

El gremio trófico y tipo de bosque explican la abundancia de murciélagos filostómidos en hábitats perturbados por acción humana. **Carballo-Morales, J. D.***, Saldaña-Vázquez, R., & Villalobos, F.

SCHOLARSHIPS AND FUNDING

Partial economic exemption (\$1,500) by the Organization for Tropical Studies to attend a course.

2021

Partial economic exemption (\$1,000) by the Organization for Tropical Studies to attend a course.

2019

Travel grant (\$950) by Vicerrectoría de Vida Estudiantil UNA to attend a conference in Mexico.

2019

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

2018–2019

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

2018

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

2018

Luis Felipe González Flores socioeconomic scholarship (~\$100/month) by UNA.

2014–2017

ADDITIONAL EDUCATION

Quantitative and Computational Methods in Animal Behavior - Organization for Tropical Studies. [1-week field course; English]	2021
Statistical analysis with R - Centro Nacional de Alta Tecnología. [20-hour classroom course; Spanish]	2019
Tropical ecology and conservation - Organization for Tropical Studies. [2-month field course; Spanish]	2019
Scientific writing - Escuela de Ciencias Biológicas, UNA. [7-hour classroom course; Spanish]	2018
Ecology and behavior of tropical vertebrates - Leibniz Universität Hannover and UNA. [2-week field course; English]	2018
Ecology and conservation of coastal ecosystems - California State University CI and UNA. [3-day field course; English]	2018
Ecology and conservation of the tropical dry forest - UNA, UCR, and UNAM. [2-week field course; Spanish]	2017
Meta-analysis and phylogenetics - Escuela de Ciencias Biológicas, UNA. [35-hour classroom course; Spanish]	2017

VOLUNTEERING AND RELATED EXPERIENCE

Volunteer - 59th Animal Behavior Society Conference.	2022
Virtual assistance - 57th Animal Behavior Society Congress.	2020
Laboratory assistant - Laboratorio de Biología Tropical, UNA.	2018-2019
<ul style="list-style-type: none"> Organize periodic talks on animal behavior with national researchers. 	
Member of Asociación de Estudiantes de Ciencias Biológicas (UNA) - Student organization.	2017-2018
<ul style="list-style-type: none"> Co-organize activities for first-year students in biological sciences and outreach activities in coastal communities. 	
Laboratory assistant - Laboratorio de Sistemática, Genética y Evolución, UNA.	2016
<ul style="list-style-type: none"> Managed a digital inventory of chemical reagents, glassware, and laboratory equipment. 	

RESEARCH SKILLS

- 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

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

LANGUAGE SKILLS

Spanish (native), **English*** (professional working/advanced), and **Portuguese** (limited working proficiency/beginner)

*English Test certificate [certs.duolingo.com/ad87dd333e1d5cd395cb9d7403a381bb/]