

Leonardo Tresoldi Gonçalves (he/him/his)
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EDUCATION

- 2020–2024 **PhD in Genetics and Molecular Biology**
 Federal University of Rio Grande do Sul, Brazil
 Visiting period at the Royal Holloway, University of London, United Kingdom
 Dissertation: Mitochondrial DNA evolution in *Bombus* (Hymenoptera, Apidae):
 from DNA barcodes to complete genomes
 Supervisors: Dr. Maríndia Deprá / Dr. Elaine Françoso
- 2019–2020 **Teaching Degree in Biology**
 Claretian University Center, Brazil
- 2017–2019 **MSc in Animal Biology**
 Federal University of Rio Grande do Sul, Brazil
 Thesis: DNA Barcoding the Nematoda: an exploratory analysis using publicly
 available *cox1* sequences
 Supervisors: Dr. Cláudia Calegare-Marques / Dr. Maríndia Deprá
- 2012–2016 **BSc in Biological Sciences**
 Federal University of Rio Grande do Sul, Brazil

RESEARCH EXPERIENCE

- 2023–2024 Visiting Graduate Student, Royal Holloway University of London, United Kingdom
 Brown Lab
- 2020–2024 Research Assistant, Federal University of Rio Grande do Sul, Brazil
Drosophila Lab
- 2017–2019 Research Assistant, Federal University of Rio Grande do Sul, Brazil
 Helminthology Lab
- 2014–2016 Research Assistant, Federal University of Rio Grande do Sul, Brazil
 Helminthology Lab
- 2013–2014 Research Assistant, Federal University of Rio Grande do Sul, Brazil
 ICN Herbarium

PUBLICATIONS

Google Scholar: Citations: 167; h-index: 5 (on 13th June 2024). [[link](#)]

- 2023 **Gonçalves, L.T.**, Françoso, E., Deprá, M. Mitochondrial phylogenomics of
 bumblebees, *Bombus* (Hymenoptera: Apidae): a tale of structural variation, shifts in
 selection constraints, and tree discordance. *Zoological Journal of the Linnean
 Society*.
- 2023 Backes, A., Pezzi, P.H., **Gonçalves, L.T.**, Greppi, J.A., Freitas, L.B. Integrating
 morphology, niche modelling, and molecular data to disentangle taxonomic
 challenges in a species complex of *Calibrachoa* (Solanaceae). *Plant Ecology &
 Diversity* **16**, 165–177.
- 2023 Lindner, M.F., **Gonçalves, L.T.**, Bianchi, F.M., Ferrari, A., Cavalleri, A. Tiny

insects, big troubles: a review of BOLD's COI database for Thysanoptera (Insecta). *Bulletin of Entomological Research* **113**, 703–715.

- 2023 Pezzi, P.H.*, **Gonçalves, L.T.***, Deprá, M., Freitas, L.B. Evolution and diversification of the O-methyltransferase (OMT) gene family in Solanaceae. *Genetics and Molecular Biology* **46**, e20230121. *Joint first authors
- 2023 Françoso, E., Zuntini, A.R., Ricardo, P.C., Santos, P.K.F., Araujo, N.S., Silva, J.P.N., **Gonçalves, L.T.**, Brito, R., Gloag, R., Taylor, B.A., Harpur, B., Oldroyd, B.P., Brown, M.J.F., Arias, M.C. Rapid evolution, rearrangements and whole mitogenome duplication in the Australian stingless bees *Tetragonula* (Hymenoptera: Apidae): A steppingstone towards understanding mitochondrial function and evolution. *International Journal of Biological Macromolecules* **242**, 124568.
- 2022 **Gonçalves, L.T.**, Françoso, E., Deprá, M. Shorter, better, faster, stronger? Comparing the identification performance of full-length and mini-DNA barcodes for apid bees (Hymenoptera: Apidae). *Apidologie* **53**, 55.
- 2022 **Gonçalves, L.T.**, Pezzi, P.H., Bianchi, F.M. Four new stink bug mitogenomes corroborate the internal inconsistencies in the classification of Pentatomidae (Hemiptera). *Zootaxa* **5120**, 128–142.
- 2022 Timm, V.F., **Gonçalves, L.T.**, Valente, V.L.S., Deprá, M. The efficiency of the COI gene as a DNA barcode and an overview of Orthoptera (Caelifera and Ensifera) sequences in the BOLD System. *Canadian Journal of Zoology* **100**, 710–718.
- 2021 Bianchi, F.M., **Gonçalves, L.T.** Getting science priorities straight: how to increase the reliability of specimen identification? *Biology Letters* **17**, 20200874.
- 2021 Bianchi, F.M., **Gonçalves, L.T.** Borrowing the Pentatomomorpha tome from the DNA barcode library: scanning the overall performance of *cox1* as a tool. *Journal of Zoological Systematics and Evolutionary Research* **59**, 992–1012.
- 2021 **Gonçalves, L.T.**, Bianchi, F.M., Deprá, M. Calegario-Marques, C. Barcoding a can of worms: testing *cox1* performance as a DNA barcode of Nematoda. *Genome* **64**, 705–717.
- 2018 Almerón-Souza, F., Sperb, C., Castilho, C.L., Figueiredo, P.I.C.C., **Gonçalves, L.T.**, Machado, R., Oliveira, L.R., Valiati, V.H., Fagundes, N.J.R. Molecular identification of shark meat from local markets in Southern Brazil based on DNA barcoding: evidence for mislabeling and trade of endangered species. *Frontiers in Genetics* **9**, 138.

REVIEWER / REFEREE ACTIVITY

Apidologie (1), Arthropod Systematics and Phylogeny (2), BMC Genomic Data (1), Bulletin of Entomological Research (1), Metabarcoding and Metagenomics (1), Mitochondrial DNA Part B (1), Molecular Phylogenetics and Evolution (1), Wellcome Open Research (1)

AWARDS, GRANTS AND SCHOLARSHIPS

- 2023 **Award:** Federal University of Rio Grande do Sul, Genetics and Molecular Biology Graduate Program. Productivity award for PhD students (3rd place). R\$ 800 (approx. U\$ 170)
- 2023 **Grant:** CAPES Foundation, Brazilian Ministry of Education. Visiting PhD student

- at the Royal Holloway University of London. £ 12,890 (approx. US\$ 16,500)
- 2022 **Award:** Federal University of Rio Grande do Sul, Genetics and Molecular Biology Graduate Program. Productivity award for PhD students (1st place). R\$ 1,400 (approx. US\$ 300)
- 2022 **Grant:** European Society for Evolutionary Biology. ESEB Conference Travel Award. € 1,650 (approx. US\$ 1,800)
- 2021 **Award:** Federal University of Rio Grande do Sul, Genetics and Molecular Biology Graduate Program. Productivity award for PhD students (1st place). R\$ 1,400 (approx. US\$ 300)
- 2021 **Grant:** Society for the Study of Evolution. Emergency Degree Continuation Award. US\$ 599
- 2020 **Scholarship:** CNPq, Brazilian Ministry of Science, Technology and Innovation. Doctoral Scholarship.
- 2017 **Scholarship:** CNPq, Brazilian Ministry of Science, Technology and Innovation. Masters Scholarship.
- 2015 **Scholarship:** CNPq, Brazilian Ministry of Science, Technology and Innovation. Undergraduate Researcher Scholarship.
- 2014 **Scholarship:** CNPq, Brazilian Ministry of Science, Technology and Innovation. Undergraduate Researcher Scholarship.
- 2013 **Scholarship:** CNPq, Brazilian Ministry of Science, Technology and Innovation. Undergraduate Researcher Scholarship.

PRESENTATIONS AT SCIENTIFIC MEETINGS

- 2023 **Gonçalves, L.T.,** Deprá, M., Françoso, E. Structural variations and selection patterns in the mitochondrial genomes of bumblebees, with emphasis on social parasites. *NW European IUSSI 2023 Meeting*. Bristol, UK.
- 2023 **Gonçalves, L.T.,** Deprá, M., Françoso, E. The mitochondrial genomes of bumblebees (*Bombus*): pervasive structural variation and relaxed selection in parasitic species. *Evolution 2023*. Albuquerque, NM, USA.
- 2022 **Gonçalves, L.T.,** Deprá, M., Françoso, E. tRNA scramble: extensive gene rearrangements in the mitogenomes of bumblebees (*Bombus*). *Congress of the European Society for Evolutionary Biology 2022*. Prague, Czech Republic.
- 2022 **Gonçalves, L.T.,** Deprá, M., Françoso, E. Mitonuclear interaction and niche adaptation of bumblebees (Hymenoptera: Apidae: *Bombus*). *DrosEU/ESEB STN Summer School*. Prague, Czech Republic.
- 2021 **Gonçalves, L.T.,** Deprá, M., Françoso, E. Shorter, better, faster, stronger? Evaluating the performance of mini-DNA barcodes in Apidae bees identification. *Evolution 2021*. Online.
- 2020 **Gonçalves, L.T.,** Bianchi, F.M., Calegario-Marques, C., Deprá, M. *In silico cox1* analyses unveil operational biases and blurry species boundaries among Nematoda. *5th Brazilian Student Council Symposium*. Online.
- 2020 **Gonçalves, L.T.,** Bianchi, F.M., Calegario-Marques, C., Deprá, M. Are *cox1*

sequences useful for nematode identification? *I Meeting of Systematics, Biogeography, and Evolution (SBE)*. Online.

- 2018 **Gonçalves, L.T.**, Deprá, M., Calegari-Marques, C. Barcoding nematodes: exploring the potential of *cox1* sequences as a tool to specimen identification and species discovery. *Escola Gaúcha de Bioinformática*. Porto Alegre, RS, Brazil.

ORGANIZED SCIENTIFIC EVENTS

- 2022 **GeneOmicsRS**. Porto Alegre, RS, Brazil. (Co-organized with Anelise Silva, Bruno Veber, Henrique Antonioli, Lariane Frâncio, Ursula Matte, Márcia Margis-Pinheiro, Andreia Turchetto-Zolet)

TEACHING EXPERIENCE

- 2023-2024 Teaching Assistant, Royal Holloway, University of London
Class: Invertebrate Biology: Structure, Behaviour and Evolution
United Kingdom - Egham, Surrey
- 2021 Teaching Assistant, Federal University of Rio Grande do Sul
Class: Genetics I (Introduction to Genetics and Evolution)
Brazil - Porto Alegre, RS
- 2020 Guest Lecturer, Ritter dos Reis University Center
Inaugural Lecture: The DNA barcode of life
Brazil - Porto Alegre, RS
- 2019 Guest Lecturer, CESUCA University Center
Lecture: Fundamentals of Genetics
Brazil - Cachoeirinha, RS
- 2019 Student Teacher, State School Governador Roberto Silveira
Classes: Science (Middle School), Biology (High School for Adults)
Brazil - Cachoeirinha, RS
- 2018 Guest Lecturer, CESUCA University Center
Lecture: Science lab experiments as a tool for hands-on learning
Brazil - Cachoeirinha, RS
- 2017 Teaching Assistant, Federal University of Rio Grande do Sul
Class: Invertebrate Zoology I
Brazil - Porto Alegre, RS

STUDENTS SUPERVISED

- 2021 Beatriz Baptista Kellermann. Testing the efficiency of DNA barcoding for thorny-headed worms (Phylum Acanthocephala). Final year project. Co-supervised with Cláudia Calegari-Marques.

SERVICE

- 2021-2023 Student Representative, Genetics Department
Federal University of Rio Grande do Sul
Brazil - Porto Alegre, RS

OUTREACH ACTIVITIES

- 2021 School Outreach Project, São Francisco Institute
Title: Invisible water: how do we consume the water that we can't see?
Brazil - Cachoeirinha, RS
- 2019 School Outreach Project, São Francisco Institute
Title: Seas of plastic and their danger to marine life
Brazil - Cachoeirinha, RS
- 2018 Open Science Outreach Activity, Federal University of Rio Grande do Sul
Title: Parasites: supervillains or superheroes?
Brazil - Porto Alegre, RS
- 2016 Open Science Outreach Activity, Federal University of Rio Grande do Sul
Title: Parasite world: unveiling the secret life of parasites
Brazil - Porto Alegre, RS
- 2016 School Outreach Project, Municipal Elementary School Jardim Florido
Title: Where does your trash really go?
Brazil - Gravataí, RS
- 2013 Open Science Outreach Activity, Federal University of Rio Grande do Sul
Title: What is an herbarium?
Brazil - Porto Alegre, RS

LANGUAGE SKILLS

Portuguese: native language

Spanish: B2

English: C2

French: B1