

**Waldir Miron**

Assistant Professor,

Department of Biology, Hal Marcus College of Science and Engineering,

University of West Florida,

Pensacola, FL 32514, USA

Email: [waldirmiron@uwf.edu](mailto:waldirmiron@uwf.edu)

Phone: 1-405-384-0442 (mobile)

[Website](#) | [Google Scholar](#) | [ORCID](#) | [ResearchGate](#) | [Publons](#) | [GitHub](#)**EDUCATION AND APPOINTMENTS**

---

Aug/2024 – Present	<b>Assistant Professor</b> , University of West Florida, Pensacola. FL. USA
Mar/2020 – Aug/2024	<b>NSF-funded Postdoctoral Researcher</b> , University of Oklahoma, USA. The origin of reproductive parasitism in the Amazon Molly. Mentor: Dr. Ingo Schlupp.
Oct/2015 – Jan/2020	<b>Ph.D., Evolutionary Biology</b> . Swansea University, Wales, UK. Relative role of genetics and epigenetic variation on the ecology and evolution of mangrove killifishes ( <i>Kryptolebias</i> spp.). Advisors: Dr. Sofia Consuegra, Dr. Carlos Garcia de Leaniz.
Sep/2013 – Apr/2014	<b>Visiting Researcher</b> , Dalhousie University, Canada. Advisor: Dr. Daniel Ruzzante.
Apr/2012 – Apr/2014	<b>M.S., Systematics and Evolution</b> . Universidade Federal do Rio Grande do Norte, RN, Brazil. Integrative systematics of two cichlids from Northeast Brazil. Advisor: Dr. Sergio Lima.
Apr/2012 – May/2014	<b>B.S., Biological Sciences</b> . Universidade Federal do Rio Grande do Norte, Brazil. Cytogenetics characterization of <i>Crenicichla menezesi</i> and <i>Dimidiochromis compressiceps</i> (Cichlidae). Advisor: Dr. Sergio Lima.

**PEER-REVIEWED PUBLICATIONS**

---

(Asterisks\* indicate undergraduate and graduate students mentored)

32. Tiedemann R, Riesch R, Towoski M, Havenstein K, Schlupp J, **Berbel-Filho WM**, Schlupp I. 2024. [Genetic and phenotypic diversification in a widespread fish, the Sailfin molly \(\*Poecilia latipinna\*\)](https://doi.org/10.1186/s12862-024-02270-x). *BMC Ecology and Evolution* 24:87. <https://doi.org/10.1186/s12862-024-02270-x>
30. Anka I, Uren Webster T, **Berbel-Filho WM**, Hitchings M, Overland B, Weller S, de Leaniz CG, Consuegra S. 2024. [Microbiome and epigenetic variation in wild fish with low genetic diversity](#). *Nature Communications*. 15:4725
29. Fyon F, **Berbel-Filho WM**. 2023. [Influence of the mutation load on the genomic composition of hybrids between outcrossing and self-fertilizing species](#). *Ecology and Evolution*. 13:e10538
28. Fyon F, **Berbel-Filho WM**, Schlupp I, Wild G, Ubeda F. 2023. [Why do hybrids turn down sex?](#) *Evolution*. 77:2186-2199.
27. **Berbel-Filho WM**, Pacheco G, Tatarenkov A, Lira MG, de Leaniz CG, Rodríguez-López C, Lima SMQ, Consuegra S. 2022. [Phylogenomics reveals extensive introgression and a case of mitochondrial discordance in the killifish genus \*Kryptolebias\*](#). *Molecular Phylogenetics and Evolution* 177: 107617. [Data](#) | [Code](#)
26. **Berbel-Filho WM**, Tatarenkov A, Pacheco G, Espírito-Santo HMV, Lira MG, Garcia de Leaniz C, Avise JC, Lima SMQ, Rodríguez-López C, Consuegra S. 2021. [Against the odds: hybrid](#)

- [zones between mangrove killifish species with different mating systems](#). *Genes* 12:1486. [Data](#) | [Code](#)
25. **Berbel-Filho WM**, Berry N\*, Rodríguez-Barreto D, Teixeira SR, Garcia de Leaniz C, Consuegra S. 2020. [Environmental enrichment induces intergenerational behavioural and epigenetics effects on fish](#). *Molecular Ecology* 29: 2288-2299. [Data](#) | [Code](#)
  24. **Berbel-Filho WM**, Rodríguez-Barreto D, Berry N\*, de Leaniz CG, Consuegra S. 2019. [Contrasting DNA methylation responses of inbred fish lines to different rearing environments](#). *Epigenetics* 14: 938-949. [Data](#)
  23. Domínguez-Castanedo O, **Berbel-Filho WM**, Pirro S, Valdez-Carbajal S. 2024. [The complete genome sequence of the protogynous hermaphrodite North American annual killifish \*Millerichthys robustus\* \(Rivulidae, Cyprinodontiformes\)](#). *Biodiversity Genomes*. <https://doi.org/10.56179/001c.116895>.
  22. Smith C, **Berbel-Filho WM**, Spikes M, Fyon F, Ubeda F, Schlupp I. [Absence of female preference and the origin of a unisexual species, the Amazon molly \(\*Poecilia formosa\*\)](#). *Ethology* <https://doi.org/10.1111/eth.13469>
  21. **Berbel-Filho WM**, Pirro S, Thompson A, Lima SMQ, Consuegra S, Betancur R. 2023. [The complete genome sequences of three species from the killifish genus \*Kryptolebias\* \(Rivulidae, Cyprinodontiformes\)](#). *Biodiversity Genomes*. <https://doi.org/10.56179/001c.77448>.
  20. **Berbel-Filho WM**, Pacheco G, Lira MG, de Leaniz CG, Lima SMQ, Rodríguez-López C, Consuegra S. 2022. [Additive and non-additive epigenetic signatures of natural hybridization between fish species with different mating systems](#). *Epigenetics* 17:2356-2365. [Data](#) | [Code](#)
  19. **Berbel-Filho WM**, Tatarenkov A, Espírito-Santo HVM, Lira MG, Garcia de Leaniz C, Lima SMQ, Consuegra S. 2020. [More than meets the eye: syntopic and morphologically similar mangrove killifish species show different mating systems and patterns of genetic structure along the Brazilian coast](#). *Heredity* 125: 340-352. Featured in [Heredity's podcast](#)
  18. **Berbel-Filho WM**, de Leaniz CG, Mórán P, Cable J, Lima SMQ, Consuegra S. 2019. [Local parasite pressures and host genotype modulate epigenetic diversity in a mixed-mating fish](#). *Ecology and Evolution* 9: 8736-8749. [Data](#)
  17. Costa TLA, Petean FF, **Berbel-Filho WM**, Solé-Cava AM, Mendes LF, Lima SMQ. 2022. [Molecular testing of the São Francisco River as an ecological filter for the Brazilian large-eyed stingray \*Hypanus marianae\* \(Dasyatidae, Myliobatiformes\)](#). *Hydrobiologia* 849:2435-2248.
  16. Lima, SMQ, **Berbel-Filho WM**, Vilasboas A, Lazoski CR, Volpi TA, Lazzaroto H, Russo CAM, Tatarenkov A, Avise JC, Solé-Cava A. 2021. [Rio de Janeiro and other palaeodrainages evidenced by the genetic structure of an Atlantic Forest catfish](#). *Journal of Biogeography* 48:11475-1488. [Data and Code](#)
  15. Lira MG\*<sup>§</sup>, **Berbel-Filho WM**<sup>§</sup>, Espírito-Santo HVM, Tatarenkov A, Avise JC, de Leaniz CG, Consuegra S, Lima SMQ. 2021. [Filling the gaps: phylogeography of the self-fertilizing \*Kryptolebias\* species \(Cyprinodontiformes: Rivulidae\) along South American mangroves](#). *Journal of Fish Biology* 99:644-655. <sup>§</sup> *equal contribution*. [Data](#)
  14. Godeiro NNG, Pacheco G, Liu S, Cipola NG, **Berbel-Filho WM**, Zhang F, Gilbert MTP, Bellini BC. 2019. [Phylogeny of Neotropical \*Seirinae\* \(Collembola, Entomobryidae\) based on mitochondrial genomes](#). *Zoologica Scripta* 49: 329-339.
  13. **Berbel-Filho WM**, Ramos TPA, Jacobina UP, Maia DJG, Lima SMQ. 2018. [Updated checklist and DNA barcode-based species delimitations reveal taxonomic uncertainties among freshwater fishes from the Mid-north-eastern Caatinga ecoregion, north-eastern Brazil](#). *Journal of Fish Biology* 93: 311-323. [Data](#)
  12. **Berbel-Filho WM**, Barros-Neto LF, Dias RM, Mendes LF, Figueiredo CAA, Torres RA, Lima SMQ. 2018. [Poecilia vivipara Bloch and Schneider 1801 \(Cyprinodontiformes, Poeciliidae\)](#), a

- [guppy in an oceanic archipelago: from where did it come?](#) *ZooKeys* 746: 91-104.  
Featured in [EurekAlert!](#) Featured in [National Geographic News](#)
11. Barton H, **Berbel-Filho WM**, Consuegra S, Francis L, Tizaoui C, Conlan RS, Teixeira SR. 2018. [Ultrasensitive environmental assessment of xeno-estrogens in water samples using label-free graphene immunosensors](#). *Analytical Biochemistry* 54:102-108.
  10. Lima SMQ, **Berbel-Filho WM**, Araújo TFP, Lazzarotto H, Tatarenkov A., Avise JC. 2017. [Headwater capture evidenced by paleo-rivers reconstruction and population genetic structure of the armored catfish \(\*Pareiorhaphis garbei\*\) in the Serra do Mar mountains of southeastern Brazil](#). *Frontiers in Genetics*, 8:199.
  9. Tatarenkov A, Lima SMQ, Earley RL, **Berbel-Filho WM**, Vermeulen FBM, Taylor DS, Marson K, Turner B, Avise JC. 2017. [Deep and concordant subdivisions in the self-fertilizing mangrove killifishes \(\*Kryptolebias\*\) revealed by nuclear and mtDNA markers](#). *Biological Journal of the Linnean Society* 122:558-578.
  8. Lima FD, **Berbel-Filho WM**, Leite TS, Rosas C, Lima SMQ. 2017. [Occurrence of \*Octopus insularis\* Leite and Haimovici, 2008 in the Tropical Northwestern Atlantic and implications of species misidentification to octopus fisheries management](#). *Marine Biodiversity* 47:723-724.
  7. **Berbel-Filho WM**, Espírito-Santo HMV, Lima SMQ. 2016. [First record of a male of \*Kryptolebias hermaphroditus\* Costa, 2011 \(Cyprinodontiformes: Cynolebiidae\)](#). *Neotropical Ichthyology* 14: e160024.
  6. **Berbel-Filho WM**, Martinez PA, Ramos TPA, Torres RA, Lima SMQ. 2016. [Inter- and intra-basin phenotypic variation in two riverine cichlids from northeastern Brazil: potential eco-evolutionary damages of São Francisco interbasin water transfer](#). *Hydrobiologia* 1:43-56.
  5. Lima, SMQ, Vansconcellos AV, **Berbel-Filho WM**, Lazoski CR, Russo CAM, Sazima I, Solé-Cava AM. 2016. [Effects of Pleistocene climatic and geomorphological changes on the population structure of the restricted-range catfish \*Trichogenes longipinnis\* \(Siluriformes: Trichomycteridae\)](#). *Systematics and Biodiversity* 14:155-170.
  4. Molina WF, Pacheco GA, **Berbel-Filho WM**. 2014. [Padrões citogenéticos de duas espécies de ciclídeos de bacias do semi-árido do Brasil: \*Crenicichla menezesi\* e \*Cichlasoma orientale\*](#). *Biota Amazônia* 4:33-39.
  3. Brito MGF, Lima SMQ, **Berbel-Filho WM**, Torres RA. 2014. [New records and distribution extension of \*Hyphessobrycon itaparicensis\* Lima & Costa, 2001 \(Characiformes: Characidae\) in coastal drainages of Sergipe State, northeastern Brazil](#). *Checklist* 10:1156-1160.
  2. **Berbel-Filho WM**, Jacobina UP, Martinez PA. 2013. [Preservation effects in geometric morphometric approaches: freezing and alcohol in a freshwater fish](#). *Ichthyological Research* 60:268-271.
  1. Martinez PA, **Berbel-Filho WM**, Jacobina UP. 2013. [Is formalin fixation and ethanol preservation able to influence in geometric morphometric analysis? Fishes as a case study](#). *Zoomorphology* 132:87-93.

## INVITED TALKS

---

Feb/2024	ECOmunch Seminars, University of Oklahoma, USA. <i>In person</i>
Dec/2023	Systematics and Evolution Seminar Series, UFRN, Brazil. <i>In person</i>
Nov/2023	Brazilian National Museum Seminar Series, UFRJ, Brazil. <i>In person</i>
Oct/2023	EEOB Special Seminar. UC Riverside Department of Biology, UC Riverside, USA. <i>In person</i>
Oct/2021	Reproductive Endocrinology and Infertility group, University of Oklahoma Health Sciences Center, USA. <i>Online</i>
Oct/2021	CobitisLab meeting, Czech Academy of Sciences, Czech Republic. <i>Online</i>

Mar/2021	Vertebrate Genomics and Evolution group, Michigan State University, USA. <i>Online</i>
Dec/2020	Biology Department seminar series, University of Oklahoma, USA. <i>Online</i>
Sep/2020	Biologist week, Univille, SC, Brazil. <i>Online</i>
Jul/2020	Earley lab meeting, University of Alabama, USA. <i>Online</i>
Dec/2019	XIV Taller de Genética para la Conservacion, REGENEC, RN, Brazil. <i>In person</i>

#### *Selected Contributed talks and posters*

Jul/2023	Evolution 2023, Society for the Study of Evolution. <i>Poster.</i>
Jul/2022	Amazon Molly Workshop, University of Oklahoma in Puebla, Puebla. Oral presentation. <i>In person</i>
Jul/2021	Virtual Evolution Conference, Society for the Study of Evolution. Oral presentation. <i>Online</i>
Jan/2021	Virtual ASILOMAR Conference, American Society of Naturalists. Oral presentation. <i>Online</i>
Jul/2019	College of Science Postgraduate Research Student Conference, Swansea University. Oral presentation. <i>In person.</i> <b>Awarded best oral presentation.</b>
Nov/2018	Genotype to Phenotype to Fitness Meeting, The Genetics Society, Oral presentation. <i>In person.</i>
Feb/2018	Wales Ecology and Evolution Network, Wales, UK. Oral presentation. <i>In person.</i> <b>Awarded best oral presentation.</b>
Jan/2018	51 <sup>st</sup> Population Genetics group meeting. The Genetics Society, England, UK. Oral presentation. <i>In person</i>
Jul/2017	50 <sup>th</sup> FSBI meeting, Exeter, England, UK. Two oral presentations and one poster. <i>In person.</i> <b>Awarded best poster with undergraduate N. Berry as first author.</b>
Jul/2016	European Meeting of PhD students in Evolutionary Biology (EMPSEB22). Oral presentation. <i>In person.</i>

#### **RESEARCH FUNDING & FELLOWSHIPS**

---

2024	School of Biological Sciences funding. OU. PI. \$1,500
2023	Fisheries of the British Isles (FSBI). <b>PI.</b> \$5,158.
2023	Oklahoma Center for the Advancement of Science and Technology. <b>Co-PI.</b> \$128,838
2020	Fisheries of the British Isles (FSBI). <b>PI.</b> \$6,200.
2018	National Geographic Foundation, Collaborator. \$10,000.
2016	Waitt Foundation/National Geographic Foundation. <b>Co-PI.</b> \$14,760.
2015	PhD fellowship. Science without Borders program. CNPq, Government of Brazil.
2015	PhD fellowship. Science without Borders program. CAPES, Government of Brazil.
2014	Emerging Leaders in the Americas (ELAP). Government of Canada.

#### **TEACHING EXPERIENCE**

---

2023 Spring	Guest lecturer - Evolution of sex and sexual selection – Evolution (BIOL-3013)
2022 Fall	Guest lecturer – Gene trees, species trees, and introgression – Molecular Phylogenetics and Evolution (BIOL-5753)
2022 Spring	Guest lecturer - Evolution of sex and sexual selection – Evolution (BIOL-3013)
2021 Summer	Guest lecturer – Experiments in Animal Behavior – Animal Behavior (BIOL-4970)
2020 Spring	Teaching Assistant at Computer Science in Modern Biology workshop, University of Oklahoma, OK, USA.
2016-18	Teaching Assistant at several modules of Molecular Biology (BIO235), Evolution (BIO108), and Ichthyology (BIO224) courses for the Biosciences Department of Swansea University, Swansea, UK.

2012-13 Training lecturer for Botany I, as part of teaching requirement for Masters' scholarship (REUNI/Capes), UFRN, Brazil.

## STUDENT MENTORSHIP

---

(\* with resulting publication)

2022-Present Yuri Abrantes – UFRN, Brazil.  
 2021-Present Tyler Reich, University of Oklahoma, USA.  
 2022-2023 Chance Powell, University of Oklahoma, USA.  
 2021- 2022 Alex Grimsley, University of Oklahoma, USA.  
 2020-21 Kayla Sitton (undergraduate) – University of Oklahoma, USA.  
 2020 Mateus G. Lira\* (M.S. student) – UFRN, Brazil  
 2019 Dylan Rudling – Swansea University, UK.  
 2019 Jasmine Weedon – Swansea University, UK.  
 2018-2019 Kirei Hankins (M.S. student) – Swansea University, UK.  
 2017 Edward Miller – Swansea University, UK.  
 2017 Charlotte Bryan (undergraduate) – Swansea University, UK.  
 2016-18 Nikita Berry\* (undergraduate) – Swansea University, UK.

## PROFESSIONAL DEVELOPMENT, SERVICE, AND OUTREACH

---

### *Relevant courses*

2022 Whole-Genome sequencing analysis (*online*, 16h). Physalia courses.  
 2020 NSF workshop for ECR (*online*, 3h). Society for the Study of Evolution.  
 2019 Evolutionary Genomics Training on the Caribbean Coast of Colombia (64h). Universidad de los Andes, Cartagena, Colombia.  
 2019 Programming for Evolutionary Biology (180h). Freie University, Berlin, Germany.  
 2015 Animal Welfare Charles River training, Fish modules 1-3 (12h). Home Office, London, UK.  
 2013 IX Taller de Genetica para la Conservacion (100h). REGENEC, Misiones, Argentina.  
 2013 Computational Molecular Evolution (*online*, 30h). Technical University of Denmark.

### *Reviewer* (full details [here](#))

*Annual Research & Review in Biology; Biological Journal of the Linnean Society; Evolution; Evolutionary Ecology; Ecology and Evolution; Ecological Informatics; Frontiers in Ecology and Evolution; Frontiers in Genetics; Frontiers in Plant Science; Frontiers in Marine Science; Gene Reports; Genomics; Hydrobiologia; Journal of Anatomy; Molecular Ecology; Plos One; Proceedings of the Royal Society B; Scientific Reports; Zoological Journal of the Linnean Society.*

### *Event organization*

2022 Organizing of the 1<sup>st</sup> Amazon Molly International Conference in Puebla, Mexico  
 2016-18 Founded and managed biweekly meetings of the Wallace's Biosciences Journal Club.

### *Outreach*

2022 Founded and managed '[Ler Com Ciência](#)' Youtube Channel for discussion of popular science books written in English but that are not translated to Portuguese (for Portuguese-speaker audience).  
 2021 Associate Faculty Member at [Faculty Opinions](#)  
 2016 Participation in the two-day workshop on Invasive Species, Swansea University.

### *Podcasts/Blogs/Youtube participation*

[Heredity Podcast](#) | [71% Podcast](#) | [PhDetails](#) | [Rios de Ciência](#) | [Ler Com Ciência](#) | [NatureEcoEvoCommunity blog](#)

## PROFESSIONAL SOCIETIES

---

2020-Present Member, Society for the Study of Evolution (SSE)  
 2017-Present Member, Fisheries Society of the British Isles (FSBI)

2016-18      Member, The Genetics Society

## REFERENCES

---

***Prof. Ingo Schlupp***

*University of Oklahoma, OK, USA.*

[schlupp@ou.edu](mailto:schlupp@ou.edu)

***Prof. Sofia Consuegra***

*Swansea University, Swansea, UK.*

[s.consuegra@swansea.ac.uk](mailto:s.consuegra@swansea.ac.uk)

***Prof. Ricardo Betancur-R.***

*Scripps Institution of Oceanography, University of California San Diego, CA, USA.*

[ricardo.betancur@ucsd.edu](mailto:ricardo.betancur@ucsd.edu)