

**Daniel L. Powell**  
(he/him/his)  
Postdoctoral Scholar

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**Education**

- 2019 Ph.D. Summer 2019. Texas A&M University, College Station, Texas.  
**Dissertation Research:** The causes and consequences of hybridization in two northern swordtail fishes. **Mentor:** Dr. Gil Rosenthal (Texas A&M University Dept. of Biology) College Station, Texas
- 2012 B.S. Biology, *summa cum laude*, Summer 2012. Southeastern Louisiana University, Hammond, Louisiana.

**Positions**

- 2019-Present **Postdoctoral Research:** Shared genetic architecture of hybrid incompatibilities across species pairs. **Mentor:** Molly Schumer (Stanford University Dept of Biology) Stanford, California

**Publications**

*Google scholar profile*

<https://scholar.google.com/citations?user=pwRRRDMAAAAJ&hl=en>

*Peer reviewed*

**13.** Q.K. Langdon, **D.L. Powell**, B. Kim, S.M. Banerjee, C. Payne, T. O. Dodge, B.M. Moran, P. Fascinetto-Zago, M. Schumer, (*in press*). Predictability and parallelism in the contemporary evolution of hybrid genomes. *Plos Genetics*.

Preprint version: *bioRxiv*. doi: <https://doi.org/10.1101/2021.07.06.451368>

**12.** **D.L. Powell**, B.M. Moran, B. Kim, S.M. Banerjee, S.M. Aguillon, P. Fascinetto-Zago, Q.K. Langdon and M. Schumer, (2021). Two new hybrid zones expand the swordtail hybridization model system. *Evolution*.

**11.** B.M. Moran, C. Payne, Q. Langdon, **D.L. Powell**, Y. Brandvain and M. Schumer, (2021). The genomic consequences of hybridization. *eLife*.

10. **D.L. Powell**, C. Payne, S.M. Banerjee, M. Keegan, E. Bashkirova, R. Cui, P. Andolfatto, G.G. Rosenthal and M. Schumer, (2021). The Genetic Architecture of Variation in the Sexually Selected Sword Ornament and Its Evolution in Hybrid Populations. *Current Biology*.
9. **D.L. Powell**, M. Garcia, M. Keegan, P. Reilly, K. Du, A. Diaz-Loyo, S. Banerjee, D. Blakkan, D. Reich, P. Andolfatto, G.G. Rosenthal, M. Scharl, M. Schumer, (2020). Natural hybridization reveals incompatible alleles causing melanoma in swordtail fish. *Science*.
8. M. Schumer, **D.L. Powell**, R. Corbett-Detig, (2020). Versatile simulations of admixture and accurate local ancestry inference with *mixnmatch* and *ancestryinfer*. *Mol. Ecol. Res.*
7. M. Schumer, C. Xu, **D.L. Powell**, C. Holland, P. Andolfatto, G. G. Rosenthal, M. Przeworski, (2018). Natural selection interacts with local recombination rates to shape the evolution of hybrid genomes. *Science*.
6. T.H. Pires, E.A. Borghezan, V. N. Machado, **D.L. Powell**, C.P. Röpke, C. Oliveira, J. Zuanon, I.P. Farias, (2018). Testing Wallace's intuition: water type, reproductive isolation, and divergence in an Amazonian fish. *J. Evol. Biol.*
5. M. Schumer, **D.L. Powell**, P. Delclós, M. Squire, R. Cui, P. Andolfatto, G.G. Rosenthal, (2017). Assortative mating explains persistent reproductive isolation in hybrids. *PNAS*.
4. **D.L. Powell** and G.G. Rosenthal, (2016). What artifice can and cannot tell us about animal behavior. *Curr. Zool.* 62:5.
3. M. Schumer, R. Cui, **D.L. Powell**, G.G. Rosenthal, and P. Andolfatto, (2016). Ancient hybridization and genomic stabilization in a swordtail fish. *Mol. Ecol.* 25: 2661–2679.
2. N. Mercado-Silva, J. Lyons, R. Moncayo-Estrada, P. Gesundheit, T. J. Krabbenhoft, **D.L. Powell** and K. R. Piller, (2015). Stable isotope evidence for trophic overlap of sympatric Mexican Lake Chapala silversides (Teleostei: Atherinopsidae: Chirostoma spp.) *Neotropical Ichthyology* 13:389-400.
1. M. Schumer, R. Cui, **D.L. Powell**, R. Dresner, G.G. Rosenthal and P. Andolfatto, (2014). High-resolution mapping reveals hundreds of genetic incompatibilities in hybridizing fish species. *eLife* 2014:10.7554/eLife.02535.

*Preprints and manuscripts in prep*

3. **Powell, D.L.**, Rose, A. and Rosenthal, G.G. (*in prep*). A widely-used pollutant causes reversal of conspecific mate preference in a freshwater fish.
2. Payne, C., Bovio, S., **Powell, D.L.**, Gunn, T., Banerjee, S., Grant, V., Rosenthal, G. G. and Schumer, M., 2021. Genomic insights into variation in thermotolerance between hybridizing swordtail fishes. *bioRxiv*. doi: <https://doi.org/10.1101/2021.10.22.465484>

1. B.M. Moran, C.Y. Payne, **D.L. Powell**, E.N.K. Iverson, S.M. Banerjee, Q.K. Langdon, T.R. Gunn, F. Liu, R. Matney, K. Singhal, R.D. Leib, O. Hernandez-Perez, R. Corbett-Detig, M. Scharl, J.C. Havird, M. Schumer, (2021). A Lethal Genetic Incompatibility between Naturally Hybridizing Species in Mitochondrial Complex I. *bioRxiv*.  
doi: <https://doi.org/10.1101/2021.07.13.452279>

### **Awards and Grants**

- Texas A&M Department of Biology Travel Grant, 2017.
- Vern Parish Award, American Livebearer Association. 2017.
- **NSF Graduate Research Fellowship Program Fellowship, 2014.**
- Doctoral Graduate Merit Fellowship, Texas A&M University, 2012.
- Outstanding Senior Award, Dept. of Biological Sciences, Southeastern Louisiana University, 2011-2012.
- President's List, Southeastern Louisiana University, Fall 2010-Summer 2012.

### **Research Experience**

- 2012            **K-12 Educational Outreach**  
**Mentor:** Dr. Robert Moreau, Turtle Cove Environmental Research Station,  
(Southeastern Louisiana University) Manchac, Louisiana.
- 2012            **NSF REU Student Researcher** (Summer 2012)  
Taxonomic review of the Ouachita highlands green-sided darter, *Etheostoma blennioides newmanni*. **Mentor:** Dr. Kyle Piller (Southeastern Louisiana University) Hammond, Louisiana.
- 2010-2012    **Student Researcher**  
Morphological variation and trophic partitioning among central Mexican lake silversides. **Mentor:** Dr. Kyle Piller (Southeastern Louisiana University) Hammond, Louisiana.

### **Posters and Presentations**

**Powell, D.L.**, Payne, C.Y., Schumer, M., Rosenthal, G.G.  
The genetic architecture of the sword and its evolution in hybrid swordtail fish populations. Oral presentation. Evolution Conference, 2021.

**Powell, D.L.** Insights into the causes and consequences of hybridization: with evidence from swordtail fish. **Invited speaker.** Austin Peay State University, Department of Biology Spring Seminar Series, 2021.

**Powell, D.L.**, Schumer, M., Rosenthal, G.G.

Genetic architecture of sexually selected traits in two northern swordtail fishes. Poster presentation. 8th Conference of Poeciliid Biologists. 2019

**Powell, D.L.**, Rosenthal, G.G.

Mate-choice dynamics of early generation hybrids. Oral Presentation. TAMU Ecological Integration Symposium, 2018.

**Powell, D.L.**, Rosenthal, G.G.

Mate-choice in early generation swordtail fish hybrids. **Invited speaker**. TAMU EEB Fall Seminar Series, 2017.

**Powell, D.L.**, Rosenthal, G.G.

Mate-choice in early generation swordtail hybrids. Oral Presentation. Evolution Conference, 2017.

**Powell, D.L.**, Rosenthal, G.G.

Mate-choice mechanisms and the dynamics of reproductive isolation: a simulation study. Oral Presentation. Evolution Conference, 2016.

**Powell, D.L.**, Rosenthal, G.G.

Early generation hybridization in two northern swordtails. Oral presentation. 2<sup>nd</sup> annual Jornada de la Ciencia y Desarrollo Sustentable, 2015.

**Powell, D.L.**, Rosenthal, G.G.

Fitness effects of early generation hybridization in two northern swordtails. Poster presentation. SICB annual meeting, 2014.

**Powell, D.L.**, Rosenthal, G.G.

Fitness effects of early generation hybridization in two northern swordtails. Poster presentation. TAMU annual Biology Student/Post-Doc Research Conference, 2014.

**Powell, D.L.**, Rosenthal, G.G.

Fitness consequences of early generation hybridization in two northern swordtails. Poster presentation. American Livebearer Association annual convention, 2013.

**Powell, D. L.**, Piller, K. R.

Morphological variation and trophic partitioning among central Mexican lake silversides. Poster presentation. University of Louisiana System Academic Summit, 2012.

### **Teaching Experience**

BIOL 107, Zoology Laboratory

BIOL 112, Introductory Biology II for biology majors Laboratory.

BIOL 358, Ecology Laboratory.

BIOL 491, Big Bend Natural History, Field Course.

BIOL 440, Marine Biology, Field TA.

### **Service**

**Peer reviewed articles** for *Evolution*, *Current Zoology*, *G3: Genes|Genomes|Genetics*, *Journal of Heredity*, *Revista Mexicana de Biodiversidad*.

2013-2019                      Secretary – Texas A&M Ecology and Evolutionary Biology  
Interdisciplinary Student Organization (EEBISO).

2014                              Organizing committee – 2014 Texas A&M Ecological Integration  
Symposium.

### **Outreach**

- 6<sup>th</sup> Annual Jornada de la Ciencia y Desarrollo Sustentable, CICHAZ, Calnali, MX. 2019.
- 5<sup>th</sup> Annual Jornada de la Ciencia y Desarrollo Sustentable, CICHAZ, Calnali, MX. 2018.
- Darwin Day, TAMU EEB K-12 outreach event, 2017-2018.
- 4<sup>th</sup> Annual Jornada de la Ciencia y Desarrollo Sustentable, CICHAZ, Calnali, MX. 2017.
- Destruction and creation via hybridization: swordtails and beyond. Oral presentation to Columbus Area Fish Enthusiasts Aquarium Society. 2016.
- Girl Scouts of America, STEMfest, Texas A&M Ecology and Evolutionary Biology Interdisciplinary Student Organization (EEBISO) booth, 2016.
- 3<sup>rd</sup> Annual Jornada de la Ciencia y Desarrollo Sustentable, CICHAZ, Calnali, MX. 2016.
- 2<sup>nd</sup> Annual Jornada de la Ciencia y Desarrollo Sustentable, CICHAZ, Calnali, MX. 2015.
- 1<sup>st</sup> Annual Jornada de la Ciencia y Desarrollo Sustentable, CICHAZ, Calnali, MX. 2014.
- Mate-choice and the fitness consequences of hybridization in two northern swordtails (What the Rosenthal lab is up to). Oral presentation to the Brazos Valley Aquarium Society. 2013.

### **Professional Organizations**

American Society of Naturalists, 2020-present.

Genetics Society of America, 2020-present.

Society for the Study of Evolution, 2012-present.

American Society of Ichthyologists and Herpetologists, 2013-present.  
Society for Integrative and Comparative Biology, 2013-2015.  
Animal Behaviour Society, 2013-present.