## MATTHEW G. GIRARD

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#### **E**DUCATION

2021	Ph.D.	Ecology and Evolutionary Biology with Honors, University of Kansas
2014	B.S.	Biology with an Ecology Emphasis, Loyola University Chicago

#### **CURRENT APPOINTMENTS**

2024–	Zoologist, Division of Fishes, Department of Vertebrate Zoology, National Museum of
	Natural History, Smithsonian Institution
2021–	Research Affiliate, Ichthyology, Biodiversity Institute and Natural History Museum,
	University of Kansas

#### **PREVIOUS APPOINTMENTS**

2021–2024	Postdoctoral Fellow, Division of Fishes, Department of Vertebrate Zoology, National
	Museum of Natural History, Smithsonian Institution; Supervisor: Carole C. Baldwin
2016–2021	Graduate Teaching Assistant, University of Kansas; Supervisor(s): see Teaching section
2015–2016	Graduate Research Assistant, Ichthyology, Biodiversity Institute and Natural History
	Museum, University of Kansas; Supervisor: W. Leo Smith
2015	Graduate Collections Assistant, Ichthyology, Biodiversity Institute and Natural History
	Museum, University of Kansas, Supervisor; Andrew C. Bentley
2014	Graduate Teaching Assistant, University of Kansas; Supervisor(s): see Teaching section
2013–2014	Collections Intern, Fishes Division, Field Museum of Natural History; Supervisors: Susan
	Mochel and Mark Westneat
2012–2013	Collections Volunteer, Fishes Division, Field Museum of Natural History; Supervisor:
	Susan Mochel

## **RESEARCH QUESTIONS**

- What are the relationships among teleost fishes?
- How do we integrate and arbitrate genotypic and phenotypic data in phylogenetics?
- How do morphological characters evolve in fishes?
- How do we leverage modern genomic methods to understand larval- and adult-fish biodiversity?
- What are the macroevolutionary patterns behind spatial distributions?

# **CONTRACTS, FELLOWSHIPS, AND GRANTS** (Total = \$207,387; Stipends = \$181,600; Research funds as PI = \$25,787)

EXTERNAL FUNDING:	
2022	Postdoctoral Fellowship, National Museum of Natural History, Smithsonian Institution. Stipend—\$56,000; Research funds as PI—\$4,000.
2022	Contract, National Oceanic and Atmospheric Administration/Food and Drug
	Administration. Stipend—\$20,100.

2021	Postdoctoral Fellowship, National Museum of Natural History, Smithsonian Institution. Stipend—\$56,000; Research funds as PI—\$4,000.
2017	Raney Research Award, American Society of Ichthyologists and Herpetologists. Research funds as PI—\$1,000.
2016	Lerner-Gray Grant for Marine Research, American Museum of Natural History. Research funds as PI—\$1,600.

## EXTERNAL APPLICATIONS:

2024	

2024 OAR Office of Ocean Exploration and Research, National Oceanic and Atmospheric Administration. Proposal estimated budget—\$89,630 (Co-PI: Katherine E. Bemis). Not funded first round. To be resubmitted.

INTERNAL FUNDING:	
2023	Postdoctoral Fellowship Extension, National Museum of Natural History, Smithsonian Institution. Stipend—\$31,000; Research funds as PI—\$2,500.
2022	Smithsonian Institution Barcode Network Grant, National Museum of Natural History, Smithsonian Institution. Research funds as PI—\$8,687 (Co-PIs: Carole C. Baldwin and Katherine E. Bemis).
2020	Panorama Small Grant Program, Biodiversity Institute, University of Kansas. Research funds as PI—\$1,000.
2020	Summer Fellowship, Department of Ecology and Evolutionary Biology, University of Kansas. Stipend—\$3,500.
2019	Summer Fellowship, Department of Ecology and Evolutionary Biology, University of Kansas. Stipend—\$2,000.
2018	Summer Fellowship, Department of Ecology and Evolutionary Biology, University of Kansas. Stipend—\$3,000.
2017	Doctoral Student Research Fund, University of Kansas. Research funds as PI—\$2,000.
2016	Panorama Small Grant Program, Biodiversity Institute, University of Kansas. Research funds as PI—\$1,000.
2017	Summer Fellowship, Biodiversity Institute, University of Kansas. Stipend—\$1,750.
2017	Summer Fellowship, Department of Ecology and Evolutionary Biology, University of Kansas. Stipend—\$1,750.
2016	Research Fellowship, Department of Graduate Studies, University of Kansas. Stipend—\$5,000.
2016	Summer Fellowship, Department of Ecology and Evolutionary Biology, University of Kansas. Stipend—\$3,500.

#### **AWARDS AND HONORS**

2024	Header image for main webpage of Global Biodiversity Information Facility (gbif.org).
2024	April 2024 edition of Top & Trending Research in BioOne journals: Girard, M. G.
	2024. Convergent evolution and the Red Sea rover: Emmelichthys marisrubri
	(Teleostei: Emmelichthyidae) is a species of fusilier (Lutjanidae: Dipterygonotus).
	Ichthyology & Herpetology 112:41–52.
2024	Cover images for NOAA Professional Paper NMFS volume 24: Early Life History and Biology
	of Marine Fishes: Research inspired by the work of H Geoffrey Moser.
2024	Cover image for Ichthyology & Herpetology volume 112 issue 1.

2023	Editor's Choice Award: <b>Girard, M. G.</b> , et al. 2023. Cusk-eel confusion: revisions of larval <i>Luciobrotula</i> and <i>Pycnocraspedum</i> and re-descriptions of two bythitid larvae (Ophidiiformes). <i>Ichthyological Research</i> 70:474–489.
2021	Tracy I. Storer Award (Best Student Poster Presentation), Ichthyology: <b>Girard, M. G.</b> Evolution of the Archerfishes (Toxotidae). Joint Meeting of Ichthyologists and Herpetologists.
2021	Honors distinction for dissertation research, Department of Ecology and Evolutionary Biology, University of Kansas.
2020	Carlin Graduate Teaching Assistant Award (University Level), Department of Graduate Studies, University of Kansas.
2019	Frederick H. Stoye Award (Best Student Oral Presentation), Ichthyology: <b>Girard, M. G.</b> Morphological support for the relationships among carangiform fishes. Joint Meeting of Ichthyologists and Herpetologists.
2018	Image chosen as one of <i>Nature</i> 's "Best Science Images of the Year: 2018" [Roosterfish] X-ray vision. <i>Nature</i> 564:318–323.
2017	Honors distinction for advancement to candidacy, Department of Ecology and Evolutionary Biology, University of Kansas.
2017	Kenneth B. Armitage Award for Excellence in Teaching (Department Level), Department of Ecology and Evolutionary Biology, University of Kansas.

**PUBLICATIONS** (See Google Scholar for citation information; see Altmetric for online attention and activity; "\*" denotes equal-authorship contributions; <sup>[M]</sup> denotes mentee coauthor; 10 first authored, 19 total).

INVITED PUBLICATIONS:

- Girard, M. G., A. Nonaka, C. C. Baldwin, and G. D. Johnson. 2024. Discovery and description of elaborate larval cusk-eels and the relationships among *Acanthonus, Tauredophidium*, and *Xyelacyba* (Teleostei: Ophidiidae), p. 20–42. *In*: Early Life History and Biology of Marine Fishes: Research inspired by the work of H Geoffrey Moser. J. M. Leis, W. Watson, B. C. Mundy, and P. Konstantinidis (eds.). *NOAA Professional Paper NMFS* 24. <u>Gedenkschrift contribution</u>. https://doi.org/10.7755/PP.24.3 [link to PDF]
- Girard, M. G., M. P. Davis, and W. L. Smith. 2020. The phylogeny of carangiform fishes: morphological and genomic investigations of new fish clades. *Copeia* 108:265–298. <u>"Stoye Award" contribution.</u> https://doi.org/10.1643/CI-19-320 [link to PDF]
- Smith, W. L., J. H. Stern, M. G. Girard, and M. P. Davis. 2016. Evolution of venomous cartilaginous and rayfinned fishes. Integrative and Comparative Biology 56:950–961. <u>"Integrative and Comparative</u> Biology of Venom" symposium contribution. http://doi.org/10.1093/icb/icw070 [link to PDF]

PUBLICATIONS:

- Girard, M. G. and G. D. Johnson. 2024. Novel neurocranial fenestrae and expansions in *Monomitopus* and *Selachophidium* (Teleostei: Ophidiidae), with comments on the morphology, taxonomy and evolution of the genera. *Journal of Morphology* 285:e21753. https://doi.org/10.1002/jmor.21753
- Girard, M. G., M. D. Santos, and K. E. Bemis. 2024. New species of redbait from the Philippines (Teleostei: Emmelichthyidae: *Emmelichthys*). *ZooKeys* 1196:95–109. https://doi.org/10.3897/zookeys.1196.111161 [link to PDF]



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**Girard, M. G.** 2024. Convergent evolution and the Red Sea rover: *Emmelichthys marisrubri* (Teleostei: Emmelichthyidae) is a species of fusilier (Lutjanidae: *Dipterygonotus*). *Ichthyology & Herpetology* 112:41–52.

https://doi.org/10.1643/i2023048 [link to PDF]

- Girard, M. G., H. J. Carter, and G. D. Johnson. 2023. New species of *Monomitopus* (Ophidiidae) from Hawai<sup>4</sup>i, with the description of a larval coiling behavior. *Zootaxa* 5330:265–279. https://doi.org/10.11646/zootaxa.5330.2.5 [link to PDF]
- Bemis, K. E.\*, M. G. Girard\*, M. D. Santos, K. E. Carpenter, J. R. Deeds, D. E. Pitassy, N. A. L. Flores, E. S. Hunter, A. Driskell, K. MacDonald, L. A. Weigt, and J. T. Williams. 2023. A DNA barcode reference library of Philippine market fishes based on ten years of biodiversity sampling. *Scientific Data* 10.

https://doi.org/10.1038/s41597-023-02306-9 [link to PDF]

- Bemis, K. E., J. C. Tyler, A. Kaneko, K. Matsuura, K. Murakumo, V. C. Espíndola, J.-L. Justine, D. M. Tyler, M. G. Girard, and W. E. Bemis. 2023. Pelvic-fan flaring and inflation in the Three-Tooth Puffer, *Triodon macropterus* (Tetraodontiformes: Triodontidae). *Ichthyology & Herpetology* 111:222–240. https://doi.org/10.1643/i2022022 [link to PDF]
- Girard, M. G., B. C. Mundy, A. Nonaka, and G. D. Johnson. 2023. Cusk-eel confusion: revisions of larval Luciobrotula and Pycnocraspedum and re-descriptions of two bythitid larvae (Ophidiiformes). Ichthyological Research 70: 474–489.

https://doi.org/10.1007/s10228-023-00906-4 [link to PDF]

Pastana, M. N.L., **M. G. Girard**, M. Bartick, and G. D. Johnson. 2022. A novel association between *Erythrocles schlegelii* (Teleostei: Emmelichthyidae) and pelagic tunicates. *Ichthyology & Herpetology* 110:675–679.

https://doi.org/10.1643/i2022008 [link to PDF]

- Smith, W. L., M. J. Ghedotti, O. Domínguez-Domínguez, C. D. McMahan, E. Espinoza, R. P. Martin, M. G. Girard, and M. P. Davis. 2022. Investigations into the ancestry of the Grape-eye Seabass (*Hemilutjanus macrophthalmos*) reveal novel limits and relationships for the Acropomatiformes (Teleostei: Percomorpha). *Neotropical Ichthyology* 20:e210160. https://doi.org/10.1590/1982-0224-2021-0160 [link to PDF]
- Girard, M. G., M. P. Davis, Tan H. H., D. J. Wedd, P. Chakrabarty, W. B. Ludt, A. P. Summers, and W. L. Smith. 2022. Phylogenetics of archerfishes (Toxotidae) and the evolution of the toxotid shooting apparatus. *Integrative Organismal Biology* 4:obac013. https://doi.org/10.1093/iob/obac013 [link to PDF]
- Girard, M. G., M. P. Davis, C. C. Baldwin, A. Dettaï, R. P. Martin, and W. L. Smith. 2022. Molecular phylogeny of the threadfin fishes (Polynemidae) using ultraconserved elements. *Journal of Fish Biology* 100:793–810.

https://doi.org/10.1111/jfb.14997 [link to PDF]

- Smith, W. L., C. A. Buck<sup>[M]</sup>, G. S. Ornay, M. P. Davis, R. P. Martin, S. Z. Gibson, and **M. G. Girard**. 2018. Improving vertebrate skeleton images: fluorescence and the non-permanent mounting of clearedand-stained specimens. *Copeia* 106:427–435. https://doi.org/10.1643/CG-18-047 [link to PDF]
- Strotz, L. C., M. Simões, M. G. Girard, L. Breitkreuz, J. Kimmig, and B. S. Lieberman. 2018. Getting somewhere with the red queen. *Biology Letters* 14:20170734. https://doi.org/10.1098/rsbl.2017.0734 [link to PDF]

52

10

- Martin, R. P., E. E. Olson, M. G. Girard, W. L. Smith, and M. P. Davis. 2018. Light in the darkness: new perspective on lanternfish relationships and classification using genomic and morphological data. *Molecular Phylogenetics and Evolution* 121:71–85. https://doi.org/10.1016/j.ympev.2017.12.029 [link to PDF]
- De Silva, T., A. T. Peterson, J. M. Bates, S. W. Fernando, and M. G. Girard. 2017. Phylogenetic relationships of weaverbirds (Aves: Ploceidae): a first robust phylogeny based on mitochondrial and nuclear markers. *Molecular Phylogenetics and Evolution* 109:21–32. https://doi.org/10.1016/j.ympev.2016.12.013 [link to PDF]
- Girard, M. G. and W. L. Smith. 2016. The phylogeny of marine sculpins of the genus *lcelinus* with comments on the evolution and biogeography of the Pseudoblenninae. *Zootaxa* 4171:549–561. http://doi.org/10.11646/zootaxa.4171.3.9 [link to PDF]

## MEDIA

PRESS HIGHLIGHTING RESEARCH (Representative but not exhaustive):

Ocean Portal, "Revealing the family ties of cusk-eels," by Danielle Hall.

Seafood Source, "US FDA, NOAA release DNA barcode library to identify fish," by Nathan Strout.

NOAA Fisheries, "Raising the bar(codes): New dataset will help fight seafood fraud and protect consumer safety," by Haley Randall.

Discover Magazine, "Hit me with your best shot," by Samantha Hill.

NBC News, "How did archerfish learn to shoot down their prey? A new study has an idea," by Tom Metcalfe. SYFY WIRE, "Robin Hood of the river! How archerfish evolved to shoot insects out of the air," by Cassidy Ward. Popular Science, "An archerfish family tree is the best shot yet at the evolution of sniper fish," by Ella Weaver. Phys.org, "Researchers publish most thorough study yet of 'smart,' spitting archerfishes," by Brendan Lynch. ScienceShots, "Inner 'blowpipe' explains how archerfish spit water with such deadly force," by Devin Reese. Smithsonian Magazine, "Meet the expert studying fishes that spit water to hunt," by Abigail Eisenstadt. National Geographic, "Skeleton photos are getting a boost with the help of gelatin," by Misha Jones. Discover Magazine, "New Way to Image Skeletons Helps Research, Looks Creepy," by Earnie Mastroanni.

The Verge, "How scientists captured a stunning, hellish menagerie of half-dissolved creatures," by Rachel Becker.

Science Magazine, "These eerie new images reveal the insides of fish and snakes like never before," by Lakshmi Supirya.

CNET, "Skeletons shine under eerie new imaging techniques," by Amanda Kooser.

Science News, "Venomous fish have evolved many ways to inflict pain," by Amber Dance.

#### **INTERVIEW:**

Live Science, contributed to editorial on Pearlfishes by Melissa Hobson. June 24, 2024.

## TELEVISION:

PBS NOVA, participated in television special Ocean Invaders: Lionfish. First aired October 26, 2022.

## **PRESENTATIONS** ("\*" Denotes presenter[s]; [M] denotes mentee author)

INVITED ORAL PRESENTATIONS:

2021 **Girard, M. G.\***. Evolution and morphology of the archerfish water-shooting apparatus. Smithsonian Vertebrate Zoology Seminar, Washington, DC (virtual).

2021	<b>Girard, M. G.*</b> . Evolution of the archerfishes (Toxotidae). Smithsonian Virtual Ichthyology Seminar, Washington, DC (virtual).
2019	Smith, W. L.* and <b>M. G. Girard</b> *. Skeletons reimagined. Board of Directors of Biodiversity Institute, Lawrence, KS.
2018	<b>Girard, M. G.*</b> . Approachability and professionalism in the classroom. Invited presentation at the Center for Teaching Excellence Conference for New GTAs, Lawrence, KS.
2017	<b>Girard, M. G.*</b> . Teaching an audience of a similar age. Invited presentation at the Center for Teaching Excellence Conference for New GTAs, Lawrence, KS.

## ORAL PRESENTATIONS:

2024	<b>Girard, M. G.*</b> and G. D. Johnson. Hole-y moly: Morphology and evolution of the genus <i>Monomitopus</i> (Ophidiidae). Joint Meeting of Ichthyologists and Herpetologists, Pittsburgh, PA.
2023	<b>Girard, M. G.*</b> , C. C. Baldwin, and K. E. Bemis. Evolution of the Rovers, Redbaits, and Bonnetmouths. Joint Meeting of Ichthyologists and Herpetologists, Norfolk, VA.
2023	<b>Girard, M. G.</b> , J. H. Carter*, and G. D. Johnson. New Species of <i>Monomitopus</i> from Hawai'i, with the description of a larval coiling behavior. Joint Meeting of Ichthyologists and Herpetologists, Norfolk, VA.
2022	<b>Girard, M. G.*</b> , A. Nonaka, C. C. Baldwin, and G. D. Johnson. Larva of the Gargoyle cusk ( <i>Xyelacyba myersi</i> ) and its relationship with the Bony-eared assfish ( <i>Acanthonus armatus</i> ). Joint Meeting of Ichthyologists and Herpetologists, Spokane, WA.
2019	<b>Girard, M. G.*</b> . Morphological support for the relationships among carangiform fishes. Joint Meeting of Ichthyologists and Herpetologists, Snowbird, UT.
2018	<b>Girard, M. G.*</b> . Untangling threadfins: Relationships of Polynemidae using a total evidence approach. Joint Meeting of Ichthyologists and Herpetologists, Rochester, NY.
2017	<b>Girard, M. G.*</b> and W. L. Smith. Relationships of carangiform fishes: a total evidence approach. Joint Meeting of Ichthyologists and Herpetologists, Austin, TX.
2016	Smith, W. L.*, <b>M. G. Girard</b> , J. H. Stern, and M. P. Davis. Phylogenetic and anatomical diversity of venomous, cartilaginous and ray-finned fishes. Joint Meeting of Ichthyologists and Herpetologists, Reno, NV.
2016	Smith, W. L.* and <b>M. G. Girard</b> , and J. H. Stern. Phylogenetic and anatomical diversity of venomous, cartilaginous and ray-finned fishes. Society for Integrative and Comparative Biology, Portland, OR.
Poster Present	TATIONS:

2024	Tang, K. L.*, R. Farr, S. Ingersoll, and <b>M. G. Girard*</b> . Phylogeny of Ophidiiformes. Joint Meeting of Ichthyologists and Herpetologists, Pittsburgh, PA.
2024	MacLeod, L. M. F.* <sup>[M]</sup> , <b>M. G. Girard</b> , and K.E. Bemis. The deep-water Freckled Stargazer, <i>Xenocephalus egregius</i> (Uranoscopidae): New records, photographs, and mitochondrial genome. Joint Meeting of Ichthyologists and Herpetologists, Pittsburgh, PA.
2024	Rose, N. E.* <sup>[M]</sup> , K. Labrador, M. Fortaleza, J. Cabasan, C. Nañolat, <b>M. G. Girard</b> , and K. E. Bemis. New species of flathead (Platycephalidae: <i>Elates</i> ) from the Philippines, with notes on the biology of the genus. Joint Meeting of Ichthyologists and Herpetologists, Pittsburgh, PA.

2023	<ul> <li>Bemis, K. E., M. G. Girard, Mudjekeewis D. S., K. E. Carpenter, J. R. Deeds, D. E.</li> <li>Pitassy*, N. A. L. Flores, E. S. Hunter, A. Driskell, K. MacDonald, L. A. Weigt, N.</li> <li>Rose*<sup>[M]</sup>, and J. T. Williams. Biodiversity of Philippine Fishes: A DNA barcode reference library based on voucher specimens highlights remaining taxonomic questions in the region. Joint Meeting of Ichthyologists and Herpetologists, Norfolk, VA.</li> </ul>
2022	Smith, W. L.*, H. J. Walker, <b>M. G. Girard</b> , and M. P. Davis. The phylogeny and taxonomy of the stomiiform bristlemouths and portholefishes. Joint Meeting of Ichthyologists and Herpetologists, Spokane, WA.
2021	<b>Girard, M. G.*</b> . Evolution of the Archerfishes (Toxotidae). Joint Meeting of Ichthyologists and Herpetologists, Phoenix, AZ (virtual).
2019	Smith, W. L.*, K. R. Smith*, and <b>M. G. Girard</b> *. <i>Copeia</i> improvements: open access, publication time, and other changes. Joint Meeting of Ichthyologists and Herpetologists, Snowbird, UT.
2017	Smith, W. L.*, C. A. Buck <sup>[M]</sup> , S. Z. Gibson, M. P. Davis, R. P. Martin, and M. G. Girard. Techniques for the improved visualization of vertebrate anatomy. Joint Meeting of Ichthyologists and Herpetologists, Rochester, NY.
2016	<b>Girard, M. G.*</b> and W. L. Smith. Carangiformes: relationships and anatomical investigation. Joint Meeting of Ichthyologists and Herpetologists, New Orleans, LA.
2016	<b>Girard, M. G.*</b> and W. L. Smith. Intra- and interspecific relationships of sculpins in genus <i>Icelinus</i> . Society for Integrative and Comparative Biology, Portland, OR.
2015	<b>Girard, M. G.*</b> and W. L. Smith. Intra- and interspecific relationships of sculpins in genus <i>Icelinus.</i> Joint Meeting of Ichthyologists and Herpetologists, Reno, NV.

## CERTIFICATIONS

SCUBA DIVING:	
30 December 2023	Advanced Open Water Diver, Professional Association of Diving Instructors (PADI).
15 April 2023	Nitrox Diver (EAN-40), Technical Diving International (TDI).
22 March 2023	Diving First Aid for Professional Divers Version 3.0, Divers Alert Network (DAN).
6 March 2023	Prepared Diver, Divers Alert Network (DAN).
29 July 2004	Open Water Diver, Professional Association of Diving Instructors (PADI).

#### **RESEARCH INSTRUMENTS:**

17 February 2023	Operator, General Electric Phoenix V tomelx M 240/180kV Dual Tube µCT Scanner,
	Scientific Imaging, National Museum of Natural History, Smithsonian Institution.
16 March 2019	Operator, Bruker SkyScan 1173 High-Energy Spiral Scan Micro-CT scanner, Friday
	Harbor Laboratories, University of Washington.

# MUSEUM COLLECTION CARE AND MAINTENANCE:

19 October 2023	Respirator certification, Office of Safety, Health and Environmental Management,
	Occupational Health Services Center, Smithsonian Institution.
18 October 2023	Introduction to EMu collections database, Information Technology Office, National
	Museum of Natural History, Smithsonian Institution.

## BUILDING MUSEUM COLLECTIONS

Permitting and Project Administration:		
2024–	Co-PI, Identification of the Marine Fish Larvae of Florida: Linking Voucher Specimens to Blackwater Photographs, Florida Fish and Wildlife Conservation Commission permit SAL-21-2155A-SR and SAL-24-2155-SR (PI: Carole C. Baldwin).	
<u>EXPEDITIONS:</u> (19 total information)	expeditions; 148 total field days; see Bionomia for additional collection and specimen	
Est. December 2024	Curaçao: deep reefs of the southern Caribbean using conventional scuba diving and human-occupied submersible <i>Curasub</i> .	
Est. September 2024	Atlantic Ocean: Mid-Atlantic Bight aboard NOAA Ship Henry B. Bigelow.	
May 2024	Florida: Atlantic coast blackwater diving. Duration:5 days. Specimens and tissues of fishes accessioned and cataloged by National Museum of Natural History, Smithsonian Institution.	
January 2024	Vietnam: eastern coast. Duration: 17 days. Specimens and tissues of fishes accessioned by National Museum of Natural History, Smithsonian Institution.	
December 2023	Curaçao: deep reefs of the southern Caribbean using conventional scuba diving and human-occupied submersible <i>Curasub</i> . Duration: 7 days. Specimens and tissues of fishes to be accessioned by National Museum of Natural History, Smithsonian Institution. Eleven temperature loggers retrieved and re-deployed.	
September 2023	Atlantic Ocean: Mid-Atlantic Bight aboard NOAA Ship <i>Henry B. Bigelow</i> . Duration: 23 days. Specimens and tissues of fishes accessioned and cataloged by National Museum of Natural History, Smithsonian Institution.	
August 2023	Florida: Atlantic coast blackwater diving. Duration: 7 days. Specimens and tissues of fishes accessioned and cataloged by National Museum of Natural History, Smithsonian Institution.	
June 2023	Curaçao: deep reefs of the southern Caribbean using conventional scuba diving and human-occupied submersible <i>Curasub</i> . Duration: 8 days.	
April 2023	Panama: Scientific Diving training at Smithsonian Tropical Research Institute (STRI), Bocas del Toro Research Station. Duration: 8 days.	
December 2022	Curaçao: deep reefs of the southern Caribbean aboard human-occupied submersible <i>Curasub</i> . Duration: 7 days. Specimens and tissues of fishes accessioned and cataloged by Burke Museum of Natural History and Culture, University of Washington and National Museum of Natural History, Smithsonian Institution. Eleven temperature loggers retrieved and re-deployed.	
September 2022	Atlantic Ocean: Mid-Atlantic Bight aboard NOAA Ship <i>Henry B. Bigelow</i> . Duration: 26 days. Specimens and tissues of fishes accessioned and cataloged by National Museum of Natural History, Smithsonian Institution, and Biodiversity Institute, University of Kansas.	
May 2022	Florida: Atlantic coast blackwater diving. Duration: 4 days. Specimens and tissues of fishes accessioned and cataloged by National Museum of Natural History, Smithsonian Institution.	
April 2022	Curaçao: deep reefs of the southern Caribbean aboard human-occupied submersible <i>Curasub</i> . Duration: 7 days. Specimens and tissues of fishes accessioned and cataloged by Burke Museum of Natural History and Culture, University of Washington and National Museum of Natural History, Smithsonian Institution. Eleven temperature loggers retrieved and re-deployed.	

June 2018	Florida: Gulf coast and mangrove forests. Duration: 2 days. Specimens and tissues of fishes accessioned and cataloged by Biodiversity Institute, University of Kansas.
June 2017	Florida: Gulf coast and mangrove forests. Duration: 2 days. Specimens of fishes accessioned and cataloged by Biodiversity Institute, University of Kansas.
May 2016	California: San Diego Trough deep-sea trawling aboard R/V <i>Robert Gordon Sproul.</i> Duration: 5 days. Specimens and tissues of fishes accessioned and cataloged by Biodiversity Institute, University of Kansas.
December 2016	Florida: Gulf coast and mangrove forests. Duration: 2 days. Specimens of fishes accessioned and cataloged by Biodiversity Institute, University of Kansas.
December 2015	Florida: Gulf coast and mangrove forests. Duration: 2 days. Specimens of fishes accessioned and cataloged by Biodiversity Institute, University of Kansas.
November 2014	Taiwan: eastern and southern coasts. Duration: 10 days. Specimens and tissues of fishes accessioned and cataloged by Biodiversity Institute, University of Kansas.
September 2013	Illinois: Piscasaw and Nippersink creeks. Duration: 3 days. Specimens of fishes and invertebrates housed by Loyola University Chicago.
September 2012	Illinois: Piscasaw and Nippersink creeks. Duration: 3 days. Specimens of fishes and invertebrates housed by Loyola University Chicago.

EXPERIENCE GAINED FROM ASSISTANTSHIPS, INTERNSHIPS, AND VOLUNTEER ACTIVITIES

2017–2020	Dermestid-Beetle Colony Assistant, Biodiversity Institute, University of Kansas. Responsible for preparing skeletal specimens in and performing maintenance of KU dermestid beetle colony.
2015	Collections Assistant, Ichthyology Division, Biodiversity Institute, University of Kansas. Responsible for curating KU Ichthyology Teaching Collection, performing collection maintenance, and identification of recent Taiwanese fish collections.
2013–2014	Collections Intern, Division of Fishes, Field Museum of Natural History. Responsible for identification and digitization of deep-sea fishes, Eastern Pacific fishes, and coral reef fishes from Palau.
2012–2013	Collections Volunteer, Division of Fishes, Field Museum of Natural History. Responsible for processing skeletal material of specimens from Gulf of Mexico and Eastern Pacific.

## INSTITUTIONAL SERVICE AND OUTREACH

NATIONAL MUSEUM OF	NATURAL HISTORY, SMITHSONIAN INSTITUTION:	
2024	Vertebrate Zoology Speaker, Smithsonian Congressional Night (Members of the U.S.	
	Congress, Congressional statt, and their tamilies).	
2024	Vertebrate Zoology Speaker, Science Snacks (Museum Advisory Board and Staff).	
2024	Vertebrate Zoology Selection Committee, Natural History Research Experiences (NHRE).	
2022	Speaker and Instructor, Albert Einstein Distinguished Educator Fellows from U.S. Department of Energy (18 Fellows).	
Smithsonian Tropical Research Institute, Smithsonian Institution:		
2023	Review Committee, D. Ross Robertson Research Award Fellowship for Field Studies on Neotropical Deep-reef Fishes.	
2023	Review Committee, D. Ross Robertson Research Award Fellowship for Field Studies on Neotropical Shore Fishes.	

2023	Review Committee, D. Ross Robertson Research Award Fellowship for Field Studies on
	Neotropical Deep-reef Fishes.

BIODIVERSITY INSTITUTE, UNIVERSITY OF KANSAS:

2019	Videography Team, One-Day-One-KU Fund Raising Event.	
2019	Speaker, Discovery Day: Marine Life (~350 Museum patrons).	
2018	Speaker, Stand Up for Science (~600 Museum patrons).	
2016–2017	Student Representative (Elected), Research Planning Committee.	
2016–2017	Selection Committee, Panorama Grant.	
2014	Speaker, Party in the Panorama.	
2016	Speaker, Carnival of Chemistry, University of Kansas.(~500 Museum patrons).	
2016	Speaker, DNA Day, Basehor-Linwood High School, KS. (~50 students).	

	DEPARTMENT OF ECOLOGY AND EVOLUTIONARY BIOLOGY	, UNIVERSITY OF KANSAS:
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2018–2019	President (Elected), Graduate Student Organization.
2018–2019	Student Representative ( <i>ex officio</i> , without voting rights), Executive Committee.
2018–2019	Student Representative (Elected, with voting rights), Strategic Planning Committee
2017–2018	Vice President (Elected), Graduate Student Organization.
2017–2018	Student Representative (with voting rights), Self-Study and External Review Committee.
2016–2018	Speaker, Marine Biology Modules, Girl Scouts of America. (~200 Girl Scouts).
2015–2016	Social Committee (Elected), Graduate Student Organization.

## FIELD MUSEUM OF NATURAL HISTORY:

2015	Speaker, Members' Night (~8,000 Museum members).
2014	Speaker, Members' Night (~7,000 Museum members).
2013	Speaker, Members' Night (~10,000 Museum members).

## MUSEUM EXHIBITS AND DIGITAL CONTENT

CONTENT ADVISOR:	
2022	<i>The Complicated Tale of Salmon and Trout</i> (virtual), Ocean Portal, National Museum of Natural History, Smithsonian Institution.
2020	<i>Under the Skin</i> (hybrid), Bruce Museum (Greenwich, CT).
2019	Deep-Scattering Layer: Daily Migration of Ocean Animals (in person), University of Kansas
	Natural History Museum.

# **OBJECT PREPARATOR:**

Forthcoming	<i>Objects of Wonder</i> (contributions from Division of Fishes; in person), National Museum
	of Natural History, Smithsonian Institution.
2020	Under the Skin (hybrid), Bruce Museum (Greenwich, CT).
2013	The Machine Inside: Biomechanics (in person), Field Museum of Natural History.
2013	<i>Opening the Vaults: Wonders of the 1893 World's Fair</i> (in person), Field Museum of Natural History.

# SOCIETAL MEMBERSHIPS

2023–	Scientific Diver, American Association of Underwater Scientist (AAUS).
2023–	American Fisheries Society (AFS).
2016–	Member, The Society for Integrative & Comparative Biology (SICB).
2013–	Member, American Society of Ichthyologists and Herpetologists (ASIH).

## SOCIETAL SERVICE

<b>AMERICAN FISHERIES SO</b>	DCIETY / AMERICAN SOCIETY OF ICHTHYOLOGISTS AND HERPETOLOGISTS:
2023–	Names of Fishes Committee.

AMERICAN SOCIETY	OF ICHTHYOLOGISTS AND HERPETOI	<u>.OGISTS:</u>
2023–	Ichthyological and Herpetolog	ical Collections Committee.
2021–	Illustration Editor (Elected), <i>Icl</i>	ithyology & Herpetology.
2018–	Board of Governors (ex officio	with voting rights).
2018–	Publication Policy Committee	(ex officio with voting rights).
2025	Chair, Selection Committee, Jo Award in Comparative and	hn G. Lundberg and Lucinda McDade Dissertation Phylogenetic Ichthyology.
2024	Selection Committee, John G. Comparative and Phyloger	Lundberg and Lucinda McDade Dissertation Award in letic Ichthyology.
2024	Selection Committee, Best Pap	er in Ichthyology & Herpetology 2023.
2023	Selection Committee, Best Ich	hyological Paper in Ichthyology & Herpetology 2022.
2022–2023	Inaugural Selection Committe Award in Comparative and	e, John G. Lundberg and Lucinda McDade Dissertation Phylogenetic Ichthyology.
2022	Judge, Frederick H. Stoye Awa	rd in Genetics, Development, and Morphology.
2021	Selection Committee, Best Ich	hyological Paper in Co <i>peia</i> 2020.
2020	Selection Committee, Best Ich	hyological Paper in C <i>opeia</i> 2019.
2018–2020	Illustration Editor (Elected), Co	ppeia.
2018–2020	Student Representative (Electe Committee.	d, with voting rights), Long Range Planning and Policy
2018	Chair (Elected), Committee or	1 Student Participation.
2017	Acting Chair (Elected), Comm	ittee on Graduate Student Participation.
2016	Chair (Elected) Clark Hubbs' <sup>-</sup> Graduate Student Participe	ravel Award and Book Raffle Board, Committee on ation.
JOURNAL SERVICE		
2015–	Referee for 55 manuscripts in t	he following 16 journals:
	Acta Zoologica (2)	Journal of Fish Biology (6)
	Copeia (11)	Mitochondrial DNA Part B: Resources (3)

Evolution

iScience

Fisheries Research

Ichthyological Research

Genome Biology and Evolution

Ichthyology & Herpetology (13)

NOAA Professional Paper NMFS (2)

PLoS ONE

ZooKeys Zootaxa (8)

Scientific Reports (2)

Species Diversity

ADVISING AND MENTORING (<sup>[P]</sup> Denotes coauthored presentation; <sup>[U]</sup> denotes coauthored publication) NATIONAL MUSEUM OF NATURAL HISTORY, SMITHSONIAN INSTITUTION:

NATIONAL MUSEU	M OF NATURAL HISTORY, SMITHSONIAN INSTITUTION:
2024	Victor Tang, Masters Student, National Taiwan University. Project: Species diversity of the genus <i>Plectranthia</i> s (Anthiadidae).
2023–	Leo MacLeod, Doctoral Student, Howard University. Project: Evolution of stargazers (Uranoscopidae) <sup>[P]</sup> .
2023–	Ned Rose, Undergraduate Student, Virginia Polytechnic Institute and State University. Project: Species diversity of the genus <i>Elates</i> <sup>[P, P]</sup> .
<b>BIODIVERSITY</b> INST	ITUTE, UNIVERSITY OF KANSAS:
2020	Eric Fuqua, Undergraduate Student, University of Kansas. Project: Identification of North American freshwater fishes.
2019–2020	David Wolf, Undergraduate Student, University of Kansas. Project: Interrelationships of bristlemouth fishes (Gonostomatidae).
2018–2019	Xavier Urbina, Undergraduate Student, University of Kansas. Project: Morphometrics of mail-cheeked fishes.
2016–2018	Chesney Buck, Student, Van-Go Inc. Project: Re-imagination of wet- and dry-skeleton photography <sup>[P, U]</sup> .
FIELD MUSEUM OF	NATURAL HISTORY:
2013–2014	Nicole Gracias, Undergraduate Student, Loyola University Chicago. Project: Digitization of Palauan fishes.
PEDAGOGICAL TRA	
Spring 2017	BIOL 601: Scientific Teaching in Biology, University of Kansas.
DEVELOPMENT OF	COURSE CONTENT:
Spring 2021	BIOL 150: Introductory Biology, University of Kansas. Development of Biology of SARS- CoV-2 lab activities (virtual).
Fall 2020	BIOL 152: Introductory Biology, University of Kansas. Development of Biology of SARS- CoV-2 lab activities (virtual).
Spring 2020	BIOL 592: Ichthyology, University of Kansas. Development of 11 lab lectures and anatomy lab activity (partially virtual due to COVID-19 pandemic).
Spring 2018	BIOL 592: Ichthyology, University of Kansas. Development of 11 lab lectures, anatomy lab activity, and study tools.
Fall 2017	BIOL 413: History and Diversity of Organisms, University of Kansas. Development of six lab lectures and activities on opisthokonts.
Fall 2016	BIOL 413: History and Diversity of Organisms, University of Kansas. Development of five lab lectures and activities on metazoans.
Spring 2016	BIOL 592: Ichthyology, University of Kansas. Development of six lab lectures and study tools.
GUEST LECTURES:	
Spring 2022	BIOL 412: Evolution and Diversity of Fishes, Professor Jacqueline F. Webb, University of Rhode Island. Title: Phylogeny and function of archerfishes (virtual).

Fall 2021	BIOL 102: Introductory Zoology, Professor Lukas B. Klicka, Peru State College. Title: The diversity of fishes (virtual).
Spring 2021	BIOL 153: Principles of Organismal Biology Honors, Professor Mark E. Mort, University of Kansas. Title: Did you know you are a fish? (virtual).
Spring 2019	BIOL 152: Principles of Organismal Biology, Professors Jenny Archibald and W. Leo Smith, University of Kansas. Title: Animal skeletal and muscular systems.
Spring 2018	BIOL 592: Ichthyology, Professor W. Leo Smith, University of Kansas. Title: Dichotomy of predators and prey.
Fall 2017	BIOL 413: History and Diversity of Organisms, Professors Christopher H. Haufler and Richard E. Glor, University of Kansas. Title: There's no such thing as a jellyfish: evolution and diversity of Cnidaria and Ctenophora.
Fall 2016	BIOL 122: Principles of Organismal Biology, Professor Lukas B. Klicka, Haskell Indian Nations University. Title: Your sarcopterygian self: how phylogeny helps us understand life.
Spring 2016	BIOL 592: Ichthyology, Professor W. Leo Smith, University of Kansas. Title: Fishes as predators and prey.
GRADUATE TEACHI	ING POSITIONS ("*" Denotes M. G. Girard listed as an instructor of record; 4,194 students):
Spring 2021	Laboratory Assistant*, BIOL 150: Introductory Biology, University of Kansas, Supervisor: Julie A. Campbell. Enrollment: 235 students.
Spring 2021	Laboratory Assistant*, BIOL 152: Principles of Organismal Biology, University of Kansas, Supervisor: Julie A. Campbell. Enrollment: 409 students.
Spring 2021	Laboratory Assistant*, BIOL 153: Principles of Organismal Biology Honors, University of Kansas, Supervisor: Julie A. Campbell. Enrollment: 42 students.
Fall 2020	Laboratory Assistant*, BIOL 150: Introductory Biology, University of Kansas, Supervisor: Julie A. Campbell. Enrollment: 620 students.
Fall 2020	Laboratory Assistant*, BIOL 151: Introductory Biology Honors, University of Kansas, Supervisor: Julie A. Campbell. Enrollment: 36 students.
Fall 2020	Laboratory Assistant*, BIOL 152: Principles of Organismal Biology, University of Kansas, Supervisor: Julie A. Campbell. Enrollment: 223 students.
Spring 2020	Laboratory Assistant*, BIOL 150: Introductory Biology, University of Kansas, Supervisor: Julie A. Campbell. Enrollment: 239 students.
Spring 2020	Laboratory Assistant*, BIOL 152: Principles of Organismal Biology, University of Kansas, Supervisor: Julie A. Campbell. Enrollment: 414 students.
Spring 2020	Laboratory Assistant*, BIOL 153: Principles of Organismal Biology Honors, University of Kansas, Supervisor: Julie A. Campbell. Enrollment: 54 students.
Spring 2020	Lecture and Laboratory Assistant, BIOL 592: Ichthyology, University of Kansas, Supervisor: W. Leo Smith. Enrollment: 17 students.
Fall 2019	Laboratory Assistant*, BIOL 150: Introductory Biology, University of Kansas, Supervisor: Julie A. Campbell. Enrollment: 613 students.
Fall 2019	Laboratory Assistant*, BIOL 152: Principles of Organismal Biology, University of Kansas, Supervisor: Julie A. Campbell. Enrollment: 152 students.
Spring 2019	Lecture Assistant, BIOL 152: Principles of Organismal Biology, University of Kansas, Supervisors: Jenny Archibald and W. Leo Smith. Enrollment: 462 students.
Spring 2018	Lecture and Laboratory Assistant, BIOL 592: Ichthyology, University of Kansas, Supervisor: W. Leo Smith. Enrollment: 24 students.

Fall 2017	Lecture Assistant and Laboratory Instructor*, BIOL 413: History and Diversity of Organisms, University of Kansas, Supervisors: Christopher H. Haufler and Richard E. Glor. Enrollment: 36 students.
Spring 2017	Lecture Assistant, BIOL 428: Introduction to Systematics, University of Kansas, Supervisors: Kirsten Jensen and Michael S. Engel. Enrollment: 40 students.
Spring 2017	Lecture Assistant, BIOL 152: Principles of Organismal Biology, University of Kansas, Supervisors: Mark E. Mort and W. Leo Smith. Enrollment: 369 students.
Fall 2016	Lecture Assistant and Laboratory Instructor*, BIOL 413: History and Diversity of Organisms, University of Kansas, Supervisors: Christopher H. Haufler and Robert M. Timm. Enrollment: 65 students.
Spring 2016	Lecture and Laboratory Assistant, BIOL 592: Ichthyology, University of Kansas, Supervisor: W. Leo Smith. Enrollment: 17 students.
Fall 2014	Laboratory Instructor*, BIOL 150: Introductory Biology, University of Kansas, Supervisor: Julie A. Campbell. Enrollment: 127 students.

LEARNING MANAGEMENT SYSTEMS AND SOFTWARE:

Proficient with: Blackboard, Canvas, Gradescope, iClicker, Launchpad, Moodle, and ZipGrade.