

MATTHEW G. GIRARD

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Department of Ecology and Evolutionary Biology
Biodiversity Institute
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EDUCATION

- 2014–Present Doctoral Candidate, Department of Ecology and Evolutionary Biology,
University of Kansas.
- 2014 Bachelor of Science (B.S.), Biology with an Ecology Emphasis,
Loyola University Chicago

RESEARCH INTERESTS

- ✦ Patterns of morphological novelty and convergence in the evolution of fishes
- ✦ Phylogenetics and systematics of fishes based on phenotypic and genotypic data
- ✦ Macroevolutionary patterns and processes of habitat transitions in fishes

PUBLICATIONS

6. Smith, W. Leo, Chesney A. Buck, Gregory S. Ornaty, Matthew P. Davis, Rene P. Martin, Sarah Z. Gibson, **Matthew G. Girard**. 2018. Improving vertebrate skeleton images: fluorescence and the non-permanent mounting of cleared-and-stained specimens. *Copeia* 106:427–435.
<https://doi.org/10.1643/CG-18-047>
5. Strotz, Luke C., Marianna Simões, **Matthew G. Girard**, Laura Breitzkreuz, Julien Kimmig, Bruce S. Lieberman. 2018. Getting somewhere with the red queen. *Biology Letters* 14:20170734.
<https://doi.org/10.1098/rsbl.2017.0734>
4. Martin, Rene P., Emily E. Olson, **Matthew G. Girard**, W. Leo Smith, Matthew 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>
3. De Silva, Thilina, A. Townsend Peterson, John M. Bates, Sumudu W. Fernando, **Matthew 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>
2. **Girard, Matthew G.**, W. Leo Smith. 2016. The phylogeny of marine sculpins of the genus *Icelinus* with comments on the evolution and biogeography of the Pseudoblenninae. *Zootaxa* 4171:549–561.
<http://doi.org/10.11646/zootaxa.4171.3.9>
1. Smith, W. Leo, Jennifer H. Stern, **Matthew G. Girard**, Matthew P. Davis. 2016. Evolution of venomous cartilaginous and ray-finned fishes. *Integrative and Comparative Biology* 56:950–961.
<http://doi.org/10.1093/icb/icw070>

RESEARCH SUPPORT

- 2017 Doctoral Student Research Fund, University of Kansas, **\$2,000**. Taking aim at archerfishes: an anatomical investigation of Toxotidae.

- 2017 Raney Research Award, American Society of Ichthyologists and Herpetologists, **\$1,000**. Taking a shot at archerfishes: relationships and anatomical investigation of Toxotidae.
- 2016 Panorama Grant, University of Kansas Biodiversity Institute, **\$1000**. Exploring dorsal fin evolution in carangiform fishes.
- 2016 Lerner-Gray Grant for Marine Research, American Museum of Natural History, **\$1,600**. Carangiformes: relationships and anatomical investigation.

FELLOWSHIPS AND OTHER FUNDING

- 2019 Department of Ecology and Evolutionary Biology Summer Fellowship, University of Kansas, **\$2,000**. The first anatomical assessment for the relationships among of carangiform fishes.
- 2019 Graduate Student Organization Scholarship, Department of Ecology and Evolutionary Biology, University of Kansas, **\$250**. Morphological support for the relationships among carangiform fishes
- 2018 Department of Ecology and Evolutionary Biology Summer Fellowship, University of Kansas, **\$3,000**. Unraveling the threadfins: the inter- and intrarelationshps of Polynemidae.
- 2017 Biodiversity Institute Summer Fellowship, University of Kansas, **\$1,750**. Taking a shot at archerfishes: relationships and anatomical investigation of Toxotidae.
- 2017 Department of Ecology and Evolutionary Biology Summer Fellowship, University of Kansas, **\$1,750**. Relationships and anatomical investigation of Toxotidae.
- 2016 Department of Graduate Studies Research Fellowship, University of Kansas, **\$5,000**. Exploring the relationships of the Carangiformes - an anatomical investigation.
- 2016 Clark Hubbs Fund, American Society of Ichthyologists and Herpetologists, **\$600**. Carangiformes: relationships and anatomical investigation.
- 2016 Department of Ecology and Evolutionary Biology Summer Fellowship, University of Kansas, **\$3,500**. Exploring dorsal fin evolution in carangiform fishes.
- 2015 Species-Tree Grant, Society for Systematic Biology, **\$500**.

AWARDS AND HONORS

- 2019 Frederick H. Stoye Award (Best Student Oral Presentation): General Ichthyology, American Society of Ichthyologists and Herpetologists.
- 2017 Advance to candidacy with honors, Department of Ecology and Evolutionary Biology, University of Kansas.
- 2017 Kenneth B. Armitage Award for Excellence in Teaching, Department of Ecology and Evolutionary Biology, University of Kansas.

POPULAR PRESS AND MEDIA BASED ON RESEARCH

- ✦ February 1–July 19, 2020. Skeletal photography featured in exhibition “[Under the Skin](#),” Bruce Museum, Greenwich, CT.
- ✦ April, 2019. Earnie Mastroanni, “Shrew in a New Light,” *Discover Magazine*.
- ✦ December 13, 2018. Mićo Tatalović, “[The best science images of the year: 2018 in pictures – X-ray vision](#),” *Nature* 564:318–323.

- ✦ September 21, 2018. Rachel Becker, “How scientists captured a stunning, hellish menagerie of half-dissolved creatures,” *The Verge*.
- ✦ September 10, 2018. Lakshmi Supirya, “These eerie new images reveal the insides of fish and snakes like never before,” *Science Magazine*.
- ✦ September 5, 2018. Amanda Kooser, “Skeletons shine under eerie new imaging techniques,” *CNET*.
- ✦ April 19, 2017. Amber Dance, “Venomous fish have evolved many ways to inflict pain,” *Science News*.

ORAL PRESENTATIONS (“*” Denotes Presenter)

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| July 26, 2019 | Girard, Matthew G.* Morphological support for the relationships among carangiform fishes. Joint Meeting of Ichthyologists and Herpetologists, Snowbird, UT. |
| February 8, 2019 | Smith, W. Leo*, Matthew G. Girard* . Skeletons reimaged. Invited presentation to the Board of Directors of the Biodiversity Institute, Lawrence, KS. |
| August 13, 2018 | Girard, Matthew G.* Approachability and professionalism in the classroom. Invited presentation at the Center for Teaching Excellence Conference for New GTAs, Lawrence, KS. |
| July 12, 2018 | Girard, Matthew G.* Untangling threadfins: relationships of Polynemidae using a total evidence approach. Joint Meeting of Ichthyologists and Herpetologists, Rochester, NY. |
| August 14, 2017 | Girard, Matthew G.* Teaching an audience of a similar age. Invited presentation at the Center for Teaching Excellence Conference for New GTAs, Lawrence, KS. |
| July 13, 2017 | Girard, Matthew G.* , W. Leo Smith. Relationships of carangiform fishes: a total evidence approach. Joint Meeting of Ichthyologists and Herpetologists, Austin, TX. |
| July 9, 2016 | Smith, W. Leo*, Matthew G. Girard , Jennifer H. Stern, Matthew P. Davis. Phylogenetic and anatomical diversity of venomous, cartilaginous and ray-finned fishes. Joint Meeting of Ichthyologists and Herpetologists, Reno, NV. |
| January 6, 2016 | Smith, W. Leo*, Matthew G. Girard , Jennifer H. Stern. Phylogenetic and anatomical diversity of venomous, cartilaginous and ray-finned fishes. Society for Integrative and Comparative Biology, Portland, OR. |

POSTER PRESENTATIONS (“*” Denotes Presenter)

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| July 27, 2019 | Smith, W. Leo*, Kathleen R. Smith*, Matthew G. Girard* . <i>Copeia</i> improvements: open access, publication time, and other changes. Joint Meeting of Ichthyologists and Herpetologists, Snowbird, UT. |
| July 14, 2017 | Smith, W. Leo*, Chesney A. Buck, Sarah Z. Gibson, Matthew P. Davis, Rene P. Martin, Matthew G. Girard . Techniques for the improved visualization of vertebrate anatomy. Joint Meeting of Ichthyologists and Herpetologists, Rochester, NY. |
| July 8, 2016 | Girard, Matthew G.* , W. Leo Smith. Carangiformes: relationships and anatomical investigation. Joint Meeting of Ichthyologists and Herpetologists, New Orleans, LA. |
| January 6, 2016 | Girard, Matthew G.* , W. Leo Smith. Intra- and interspecific relationships of sculpins in genus <i>Icelinus</i> . Society for Integrative and Comparative Biology, Portland, OR. |
| July 17, 2015 | Girard, Matthew G.* , W. Leo Smith. Intra- and interspecific relationships of sculpins in genus <i>Icelinus</i> . Joint Meeting of Ichthyologists and Herpetologists, Reno, NV. |

CONFERENCES AND WORKSHOPS ATTENDED

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| July 24–28, 2019 | Joint Meeting of Ichthyologists and Herpetologists, Snow Bird, UT. |
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July 11–15, 2018	Joint Meeting of Ichthyologists and Herpetologists, Rochester, NY.
July 12–16, 2017	Joint Meeting of Ichthyologists and Herpetologists, Austin, TX.
September 9, 2016	Frontiers in Phylogenetics, Washington, D.C.
July 6–10, 2016	Joint Meeting of Ichthyologists and Herpetologists, New Orleans, LA.
June 6–17, 2016	Larval Fishes Workshop, Gloucester Point, VA.
January 3–7, 2016	Society for Integrative and Comparative Biology, Portland, OR.
July 15–19, 2015	Joint Meeting of Ichthyologists and Herpetologists, Reno, NV.
May 20–22, 2015	Society for Systematic Biology, Ann Arbor, MI.
July 30–August 3, 2014	Joint Meeting of Ichthyologists and Herpetologists, Chattanooga, TN.
July 10–15, 2013	Joint Meeting of Ichthyologists and Herpetologists, Albuquerque, NM.

SERVICE

Manuscript Review: Total Reviews: 13
Copeia (9); *Genome Biology and Evolution* (1); *Zootaxa* (3)

American Society of Ichthyologists and Herpetologists:

2018–Present Board of Governors – Elected Position
2018–Present Illustration Editor of *Copeia* – Elected Position
2018–Present Editorial Policy Committee – Elected Position
2018–2019 Long Range Planning and Policy Committee – Elected Position, Student Representative
2018 Committee on Student Participation: Executive Board, **Chair** – Elected Position
2017 Committee on Graduate Student Participation: Executive Board, **Acting Chair** – Elected Position
2016 Committee on Graduate Student Participation: Travel Award and Book Raffle Board, **Chair** – Elected Position

Biodiversity Institute, University of Kansas:

2016–2017 Research Planning Committee, Student Representative
2016–2017 Panorama Grant Review Committee, Student Representative

Department of Ecology and Evolutionary Biology, University of Kansas:

2018–2019 Graduate Student Organization, **President** – Elected Position
2018–2019 Executive Committee, Student Representative
2018–2019 Strategic Planning Committee, Student Representative
2017–2018 Graduate Student Organization, **Vice President** – Elected Position
2017–2018 Self-Study and External Review Committee for Department of Ecology and Evolutionary Biology, Student Representative
2015–2016 Graduate Student Organization Social Committee

MENTORSHIP (“*” Denotes shared mentoring responsibilities with W. L. Smith)

- ✦ University of Kansas Undergraduate Students:
 - David Wolf* (2019–Present) – Interrelationships of ponyfishes (Leiognathidae).
 - Xavier Urbina* (2018–2019) – Morphometrics of mail-cheeked fishes.

- ✦ Biodiversity Institute Volunteer:
 - Chesney Buck* (2016–2018) – Re-imagination of wet and dry skeleton photography.
- ✦ Field Museum of Natural History Intern:
 - Nicole Gracias (2013–2014) – Digitization of Palauan fishes.

OUTREACH ACTIVITIES

- Discovery Day: Marine Life, University of Kansas Natural History Museum. Approximately 350 Museum patrons discovered life under the sea with researchers from the Ichthyology Division through exhibition of museum specimens and hands-on activities about the marine realm. May 24, 2019.
- Stand Up for Science, University of Kansas Natural History Museum. Approximately 600 Museum patrons learned about research conducted at the Biodiversity Institute through exhibitions of Museum specimens and hands-on activities. April 13, 2018.
- Marine Biology Modules, Girl Scouts of America. Approximately 300 Girl Scouts from across Kansas and Missouri learned about life in a marine environment, marine organismal diversity, the value of organismal collections, conservation of natural resources, and types of research that can be conducted in an aquatic environment. This module contributes to the Scout's requirements for the "Water Badge." March 2016–Present.
- Carnival of Chemistry, University of Kansas. Approximately 500 families learned about the evolution of venomous fishes through exhibition of Museum specimens. November 20, 2016.
- DNA Day, University of Kansas. Approximately 50 students from Basehor-Linwood High School learned about biogeography, phylogeny, and how these subjects can be used to explore evolutionary history of birds, fishes, and beetles. May 11, 2016.
- Party in the Panorama, University of Kansas Natural History Museum. A one-night fundraising event that allows Museum patrons to learn about research at the Biodiversity Institute through demonstrations and hands-on activities. October 2014.
- Members' Night, Field Museum of Natural History. Approximately 10,000 Museum members per year learned about the value of organismal collections and how museums are active places for research. Members also gained a behind-the-scenes look the Fishes Division. April 18–19, 2013; March 6–7, 2014; May 14–15, 2015.

COLLECTION ACTIVITIES AND FIELD WORK ("*" Denotes collections made by M. G. Girard)

- May 2016, San Diego Trough and coastal California, United States. Five-day survey in and around the San Diego Trough and coastal California aboard R/V *Robert Gordon Sproul*. Surveys were purposed towards expanding the Ichthyology Voucher and Tissue Collections of deep-sea fishes from the mesopelagic and deep scattering layer at the University of Kansas.
- May 2015–December 2018, Florida, United States*. Four one-day surveys in and around the Ten Thousand Islands Wildlife Refuge and coastal southern Florida. Surveys were purposed towards expanding the Ichthyology Voucher and Tissue Collections of coastal marine and euryhaline fishes at the University of Kansas.
- November 2014, Taiwan. Ten-day survey to multiple locations along the coasts of Taiwan. Surveys were purposed towards expanding the Ichthyology Voucher and Tissue Collections of fishes from all Taiwanese marine habitats at the University of Kansas. Over 2,400 specimens were collected.
- August 2012–September 2013, Illinois, United States. Two two-day surveys to Piscasaw and Nippersink creeks in McHenry County, IL. Surveys were purposed towards identifying established fish communities within the creeks.

NATURAL HISTORY COLLECTION ACTIVITIES

- January 2015–May 2015 Collections Assistant, Ichthyology Division, Biodiversity Institute, University of Kansas. Primary responsibility of performing collection duties, collection maintenance, and identification of recent Taiwanese fish collections.
- October 2012–July 2014 Collections Intern and Volunteer, Division of Fishes, Field Museum of Natural History. Primary responsibility of identification of collected specimens from deep-sea fish collections, eastern Pacific collections, and coral reef collections from Palau.

TEACHING

- Fall 2019 Laboratory Assistant, BIOL 150: Introductory Biology, Department of Undergraduate Biology, University of Kansas, with Julie Campbell. Enrollment: 613 students.
- Fall 2019 Laboratory Assistant, BIOL 152: Principles of Organismal Biology, Department of Undergraduate Biology, University of Kansas, with Julie Campbell. Enrollment: 152 students.
- Spring 2019 Lecture Assistant, BIOL 152: Principles of Organismal Biology, Department of Undergraduate Biology, University of Kansas, with Jenny Archibald and Leo Smith. Enrollment: 462 students.
- Spring 2018 Lecture and Laboratory Assistant, BIOL 592: Ichthyology, Department of Undergraduate Biology, University of Kansas, with Leo Smith. Enrollment: 24 students.
- Fall 2017 Lecture Assistant and Laboratory Instructor, BIOL 413: History and Diversity of Organisms, Department of Undergraduate Biology, University of Kansas, with Chris Haufler and Rich Glor. Enrollment: 36 students.
- Spring 2017 Lecture Assistant, BIOL 428: Introduction to Systematics, Department of Undergraduate Biology, University of Kansas, with Kirsten Jensen and Michael Engel. Enrollment: 40 students.
- Spring 2017 Lecture Assistant, BIOL 152: Principles of Organismal Biology, Department of Undergraduate Biology, University of Kansas, with Mark Mort and Leo Smith. Enrollment: 369 students.
- Fall 2016 Guest lecture in BIOL 122 Principles of Organismal Biology, Haskell Indian Nations University, Lawrence, KS.
- Fall 2016 Lecture Assistant and Laboratory Instructor, BIOL 413: History and Diversity of Organisms, Department of Undergraduate Biology, University of Kansas, with Chris Haufler and Bob Timm. Enrollment: 65 students.
- Spring 2016 Lecture and Laboratory Assistant, BIOL 592: Ichthyology, Department of Undergraduate Biology, University of Kansas, with Leo Smith. Enrollment: 17 students.
- Fall 2014 Laboratory Instructor, BIOL 150: Introductory Biology, Department of Undergraduate Biology, University of Kansas. Enrollment: 127 students.

MISCELLANEOUS SKILLS

- PADI certified Open Water Diver - Certified July 29, 2004.