

**SOLOMON R. DAVID**  
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## EDUCATION

- Ph.D. 2012 University of Michigan, Ann Arbor**  
Resource Ecology and Management  
Dissertation title: Life history, growth, and genetic diversity of the spotted gar (*Lepisosteus oculatus*) from peripheral and core populations  
  
Dissertation Committee: Michael Wiley (chair), James Diana, Edward Rutherford, Barry OConnor
- M.S. 2008 University of Michigan, Ann Arbor**  
Aquatic Sciences: Research and Management  
Thesis title: The Influence of physical habitat factors on a near-shore fish community in the lower Muskegon River, Michigan
- B.S. 2000 Ohio Northern University, Ada**  
Biology  
Thesis title: A survey of the salamanders of genus *Ambystoma* and macroinvertebrate species in two woodland vernal pools, Hardin County, Ohio

## RESEARCH INTERESTS

- Aquatic biodiversity and conservation
- Fish biology and ecology
- Evolutionary ecology and conservation genetics
- Sustainable aquaculture
- Ecology and systematics of primitive fishes (gars, bowfin, lungfishes, sturgeons, bichirs)

## TEACHING INTERESTS

- Field biology and ecology
- Conservation ecology
- Vertebrate systematics and natural history
- Parasitology, entomology, invertebrate zoology

## RESEARCH EXPERIENCE

- 2012-present Postdoctoral Research Fellow, University of Michigan School of Natural Resources & Environment (Dr. James Diana; Aquaculture & Aquatic Ecology Research)
- 2010-2012 Research Analyst, University of Michigan School of Natural Resources & Environment (Dr. James Diana; Aquaculture & Aquatic Ecology Research)
- 2010 Research Associate, Michigan Sea Grant – University of Michigan (Dr. James Diana; Asian carp, Michigan native species & habitat conservation fact sheet publications & web content)
- 2010 Research Assistant, USGS Great Lakes Science Center (Dr. Charles Madenjian; Lake Trout Bioenergetics Modeling)
- 2009 Research Assistant, University of Michigan (Dr. David Jude; Great Lakes Larval Fishes Analyses)
- 2008 Research Assistant, USGS Great Lakes Science Center (Dr. Kurt Kowalski; DIDSON Analysis of Fishes Movement in Crane Creek, high-resolution acoustics)
- 2007 Research Assistant, NOAA Great Lakes Environmental Research Laboratories (Dr. Carlo DeMarchi; Water Quality Modeling)
- 2006 Research Assistant, USGS Great Lakes Science Center (Dr. David Bunnell; Bloater Condition & Fecundity Project)
- 2005 Research Assistant (Crew Leader), University of Michigan (Dr. Michael Wiley; Muskegon River Project, Crane Creek Wetlands Project)
- 2003-2004 Research Assistant (Crew Leader), University of Michigan (Dr. Michael Wiley; Muskegon River Project, fish community and habitat assessment)
- 2001-2002 Research Assistant (Crew Leader), University of Michigan (Dr. Edward Rutherford; Muskegon River Salmonids Assessment)
- 2000 Research Assistant, University of Michigan (Dr. Edward Rutherford; Muskegon River Steelhead Parr Assessment)

## TEACHING EXPERIENCE

- Fall 2011 Adjunct Faculty (Ichthyology – Biology of Fishes), Eastern Michigan University
- Winter 2001-2008 Graduate Student Instructor (Parasitology, Dr. Barry OConnor), University of Michigan
- Winter 2005 Invited Guest Lecturer (Ecology of Fishes, Dr. James Diana), University of Michigan
- Fall 2003-2004 Graduate Student Instructor (Biology of Fishes, Dr. Kevin Wehrly), University of Michigan
- Winter 2003-2004 Invited Guest Lecturer (Ecology of Fishes, Dr. Edward Rutherford), University of Michigan

## PROFESSIONAL MEMBERSHIPS

American Fisheries Society  
American Society of Ichthyologists and Herpetologists  
International Network for Lepisosteid Fish Research and Management  
Lepisosteid Research and Management Committee  
North American Native Fishes Association

## SELECTED PRESENTATIONS AND SEMINARS

- David, S.R.**, R.S. Kik IV, M.J. Wiley, J.S. Diana, and E.S. Rutherford. 2010. Countergradient variation in growth of spotted gar (*Lepisosteus oculatus*) from different latitudes, with implications for conservation. 2010 Meeting of the International Network for Lepisosteid Fish Research and Management, Thibodaux, LA. (**invited presentation**)
- David, S.R.** 2010. Conservation of the spotted gar: one of Michigan's primitive fishes. Stewardship Network January Webcast, Ann Arbor, MI. (**invited presentation**)
- David, S.R.**, R.S. Kik IV, M.J. Wiley, J.S. Diana, and E.S. Rutherford. 2008. Ecology, biogeography, and conservation of the spotted gar (*Lepisosteus oculatus*) in Michigan, USA. Second International Meeting on Lepisosteid Research and Management, Heredia, Costa Rica. (**invited presentation**)
- David, S.R.** 2008. Ecology, aquaculture, and conservation of gars (Lepisosteidae). University of Michigan Hooper Aquatics Seminar Series, Ann Arbor, MI. (**invited seminar speaker**)

**David, S.R.** 2007. Primitive fishes: diversity, natural history, and husbandry. Motor City Aquarium Society, Detroit, MI. (**invited presentation**)

**David, S.R.**, E.S. Rutherford, and J.S. Diana. 2006. Ecological factors influencing fish communities in a Lake Michigan tributary. International Association for Great Lakes Research, Windsor, ON. (contributed presentation)

## **PUBLICATIONS**

Wright, J.J., **S.R. David**, and T.J. Near. 2012. Gene trees, species trees, and morphology converge on a similar phylogeny of living gars (Actinopterygii: Holostei: Lepisosteidae), an ancient clade of ray-finned fishes. *Molecular Phylogenetics and Evolution* 63: 848-856.

Madenjian, C.P., **S.R. David**, and D.P. Krabbenhoft. 2012. Trophic transfer efficiency of methylmercury and inorganic mercury to lake trout *Salvelinus namaycush* from its prey. *Archives of Environmental Contamination and Toxicology*. DOI: 10.1007/s00244-012-9767-2.

Kwon, S.Y., J.D. Blum, M.J. Carvan, N. Basu, J.A. Head, C.P. Madenjian, and **S.R. David**. 2012. Absence of fractionation of mercury isotopes during trophic transfer of methylmercury to freshwater fish in captivity. *Environmental Science and Technology*. DOI: 10.1021/es300794q.

Madenjian, C.P., **S.R. David**, R.R. Rediske, and J.P. O'Keefe. 2012. Net trophic transfer efficiencies of polychlorinated biphenyl congeners to lake trout (*Salvelinus namaycush*) from its prey. *Environmental Toxicology and Chemistry*. [In Press].

Madenjian, C.P., **S.R. David**, and S.A. Pothoven. 2012. Effects of activity and energy budget balancing algorithm on laboratory performance of fish bioenergetics models. *Transactions of the American Fisheries Society*. [In Press].

**David, S.R.** 2011. [Review of] An empirical synthetic pattern study of gars (Lepisosteiformes) and closely related species, based mostly on skeletal anatomy. The resurrection of holostei. Grande, L. *Copeia* 4: 612-613.

Bunnell, D.B., **S.R. David**, and C.P. Madenjian. 2009. A decline in bloater fecundity between 1981 and 2006: the role of adult condition. *Journal of Great Lakes Research* 35: 45-49.

**David, S.R.**, R.S. Kik IV, A.M. Ferrara, J.S. Diana, and M.J. Wiley. [In Preparation]. Countergradient variation in growth of the spotted gar *Lepisosteus oculatus* from core and peripheral populations.

- David, S.R.**, R.S. Kik IV, A.M. Ferrara, W.R. Glass, J.M. Roos, J.S. Diana, and M.J. Wiley. [In Preparation]. Variation in life history patterns of the spotted gar *Lepisosteus oculatus* from core and peripheral populations.
- David, S.R.** and J.J. Wright. [In Preparation]. Genetic variation and biogeography of the spotted gar *Lepisosteus oculatus* from core and peripheral populations.
- David, S.R.**, and E.S. Rutherford. [In Preparation]. The Influence of physical habitat factors on a near-shore fish community in the lower Muskegon River, MI.
- David, S.R.** 2005. The Elusive tropical gar. *Tropical Fish Hobbyist* 54: 84-92.
- David, S.R.** 2000. "*Anguilla rostrata*" (On-line), Animal Diversity Web. Available at [http://animaldiversity.ummz.umich.edu/site/accounts/information/Anguilla\\_rostrata.html](http://animaldiversity.ummz.umich.edu/site/accounts/information/Anguilla_rostrata.html).

### **Biological Photography (Fish Identification)**

- David, S.R.** 2011. Spotted gar (cover). *In* A. Amores, J. Catchen, A. Ferrara, Q. Fontenot, and J.H. Postlethwait, authors. Genome evolution and meiotic maps by massively parallel DNA sequencing: spotted gar, an outgroup for the teleost genome duplication. *Genetics* 188: 799-808.
- David, S.R.** 2010. Spotted gar, longnose gar. *In* L.D. Corkum, author. Fishes of Essex County and surrounding waters. Essex County Field Naturalists' Club. Windsor.
- David, S.R.** 2009. Spotted gar, Florida gar, bowfin. *In* E. Holm, N. Mandrak, and M. Burrige, authors. The Royal Ontario Museum Field Guide to Freshwater Fishes of Ontario. Royal Ontario Museum. Toronto.
- David, S.R.** 2007. Rope fish series. *In* P. Purser, author. Understanding the reedfish (*Erpetoichthys calabaricus*). *Tropical Fish Hobbyist* 55: 118-125.
- David, S.R.** 2007. Australian lungfish, *Polypterus endlicheri congicus*, crocodile gar, alligator gar, bowfin, African lungfish. *In* A. Kwasniak, author. Ancient fishes: how have they survived? *Nasze Akwarium (Poland)* 85: 5-12.
- David, S.R.** 2007. South American lungfish series. *In* J. Topfer, author. Sir John Graham Kerr and the South American lungfish (*Lepidosiren paradoxa*). *Der Makropode (Germany)* 29: 5-24.
- David, S.R.** 2006. South American lungfish. *In* D. Rojat and J. Perol, editors. Fishes with lungs? *Sciences de la Vie et de la Terre*. Editions Nathan, Paris.

## **RESEARCH SUPPORT**

- 2011-2012 Air-breathing Fishes Aquaculture Research Grant (\$61,400)  
AquaFish Collaborative Research Support Program. Authored with J.S. Diana (co-PI's).
- 2010 Rackham Graduate School Spring/Summer Research Grant (\$6,000)
- 2009 School of Natural Resources & Environment Research Grant (\$4,000)
- 2009 Rackham Graduate Student Research Grant (\$3,000)
- 2009 Conservation Research Grant (\$750)  
North American Native Fishes Association
- 2008-2010 Travel Grant (\$2,950)  
Awarded for presentations at research meetings such as 2<sup>nd</sup> and 3<sup>rd</sup> International Meetings on Lepisosteid Research & Management (2008 & 2010), Midwest Fish & Wildlife Meeting (2008), Southern Division American Fisheries Society (2009), American Fisheries Society Annual Meeting (2010).

## **ACTIVITIES, OUTREACH, AND AWARDS**

- 2011 Alumni War Memorial Award  
School of Natural Resources & Environment,  
Michigan Natural Resources Society
- 2011-present Reviewer, American Midland Naturalist, Copeia, Fisheries, Journal of Great Lakes Research
- 2010 James S. Diana Aquatic Ecology Scholarship  
School of Natural Resources & Environment
- 2010 Reviewer, Fishes of the greater Mekong River ecosystem, University of Michigan Museum of Zoology, Miscellaneous Publications.
- 2009-2012 Student Mentor in Scientific Research  
Jayme Wagner, AquaFish Collaborative Research Support Program  
Eastern Michigan University  
Madison Schaeffer, Howard Hughes Medical Foundation Fellow  
Bryn Mawr College  
Amy Poopat, Creative Scientific Inquiry Experience Program (CSIE)  
Eastern Michigan University

- 2009 Graduate Student Representative on Conservation Ecology Faculty Search Committee, School of Natural Resources & Environment
- 2009 Karl F. Lagler Award for Outstanding Scholar in Aquatic Sciences  
School of Natural Resources & Environment
- 2009-2010 Doctoral Student Representative  
School of Natural Resources & Environment Student Government
- 2009-present Co-founder, Co-editor, Writer for School of Natural Resources & Environment Aquatics Student Newsletter “The Water Column”  
[http://sitemaker.umich.edu/srdauid/files/thewatercolumn\\_vol2\\_issue1.pdf](http://sitemaker.umich.edu/srdauid/files/thewatercolumn_vol2_issue1.pdf)
- 2009-present Founder, Creator, Designer of Lepisosteid Research & Resource Website  
<http://lepisosteidae.net>
- 2008-2012 Primary Consultant & Guest Lecturer  
Great Lakes Ecology and Habitat display for Saline Elementary Schools
- 2008-2011 Student Representative for the Aquatics Field of Study  
School of Natural Resources & Environment
- 2008-present Orientation Leader, Aquatics Representative  
School of Natural Resources & Environment new student orientation
- 2007-2011 Aquatic Sciences Track Leader  
School of Natural Resources & Environment
- 2007 SNRE Representative  
Recruitment event at Howard University, Washington DC.
- 2004-2009 Co-Founder and Executive Member  
Aquarium Society of Ann Arbor
- 2003-present Founder, Creator, and Designer  
<http://primitivefishes.com>
- 2003 Editor of Parasite Species Profiles  
University of Michigan Museum of Zoology Animal Diversity Web

## REFERENCES

**Dr. Michael J. Wiley**

University of Michigan  
School of Natural Resources & Environment  
440 Church Street  
Ann Arbor, MI 48109-1041  
(734) 764-6286  
mjwiley@umich.edu

*Capacity Known: Dissertation chair and research supervisor (Muskegon River Project)*

**Dr. James S. Diana**

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School of Natural Resources & Environment  
440 Church Street  
Ann Arbor, MI 48109-1041  
(734) 763-5834  
jimd@umich.edu

*Capacity Known: Committee member for MS and PhD theses and postdoc supervisor*

**Dr. Edward R. Rutherford**

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4840 S. State Road  
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*Capacity Known: Committee member for PhD program and chair of MS committee; research supervisor (Muskegon River Project)*

**Dr. Charles P. Madenjian**

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Great Lakes Science Center  
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*Capacity Known: Research supervisor (Great Lakes fishes bioenergetics research)*