

## MICHAEL T. BOGAN

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University of Arizona  
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### EDUCATION

Ph.D., 2012, Zoology Department, Oregon State University, Advisor: Dr. David Lytle, Thesis title:  
“Drought, dispersal, and community dynamics in arid-land streams”

M.Sc., 2005, Environmental Sciences, Oregon State University, Advisor: Dr. David Lytle, Thesis title:  
“Diversity and community structure of aquatic insects in isolated montane desert streams”

B.Sc., 2001, Earth Systems Science and Policy, California State University Monterey Bay, Advisor: Dr.  
Robert Curry, Thesis title: “Biogeography and natural history of an endemic timberline pine”

### EMPLOYMENT

2016-present Assistant professor, University of Arizona, Tucson, AZ

2013-2016 Postdoctoral researcher, University of California, Berkeley, CA.

2005-2013 Staff research associate, University of California Santa Barbara, Sierra Nevada  
Aquatic Research Lab, Mammoth Lakes, CA.

2007-2012 Graduate research and teaching assistant, Oregon State University, Corvallis, OR.

2003-2005 Graduate research and teaching assistant, Oregon State University, Corvallis, OR.

2000-2007 Scientific aide, California Department of Fish and Game, Bishop, CA.

2000-2001 Teaching assistant, California State University Monterey Bay, Seaside, CA.

### GRANTS, AWARDS, AND FELLOWSHIPS

2014 David H. Smith Conservation Research Fellowship, Society for Conservation Biology

2013 Hynes Award for New Investigators, Society for Freshwater Science

2012 Zoology Office Research Fund, Oregon State University

2011 Zoology Office Research Fund, Oregon State University

2010 P.F. & Nellie Buck Yerex Fellowship

2009 Ecological Society of America Aquatic Section travel grant

2009 Ecological Society of America Student Section travel grant

2009 T&E Inc. Conservation Biology Research Grant

2008 T&E Inc. Conservation Biology Research Grant

2007 Carl Hubbs Award: Best student paper, Desert Fishes Council.

2007 Desert Fishes Council student travel grant

2004 NSF Pre-doctoral Graduate Research Fellowship: Honorable Mention

2003 Desert Fishes Council student travel grant

2003 NSF Pre-doctoral Graduate Research Fellowship: Honorable Mention

### RECENT PEER-REVIEWED PUBLICATIONS (26 publications in total)

**Bogan, M.T.**, K.S. Boersma, and D.A. Lytle. 2015. Resistance and resilience of invertebrate communities to seasonal and suprasonal drought in arid-land headwater streams. *Freshwater Biology* 60: 2547–2558.

Phillipsen, I., E. Kirk, **M.T. Bogan**, M.C. Mims, J.D. Olden, & D.A. Lytle. 2015. Dispersal ability and habitat requirements determine landscape-level genetic patterns in desert aquatic insects. *Molecular Ecology* 24: 54-69.

**Bogan, M.T.**, N. Noriega-Felix, S.L. Vidal-Aguilar, L.T. Findley, D.A. Lytle, O.G. Gutierrez-Ruacho, J.A. Alavarado-Castro, & A. Varela-Romero. 2014. Biogeography and conservation of aquatic fauna in spring-fed tropical canyons of the southern Sonoran Desert, Mexico. *Biodiversity and Conservation* 23: 2705-2748.

## RECENT PEER-REVIEWED PUBLICATIONS *continued*

- Hammock, B.G. & **M.T. Bogan**. 2014. Black fly larvae facilitate community recovery in a mountain stream. *Freshwater Biology* 59: 2162–2171.
- Bogan, M.T.**, O.Gutiérrez, A. Alvarado, & D.A. Lytle. 2013. New records of *Martarega*, *Graptocorixa*, and *Abedus* (Heteroptera: Notonectidae, Corixidae, Belostomatidae) from northwestern Mexico and Arizona, including the first record of *Graptocorixa emburyi* in the United States. *The Southwestern Naturalist* 58: 494-497.
- Bogan, M.T.**, K.S. Boersma, and D.A. Lytle. 2013. Flow intermittency alters longitudinal patterns of invertebrate diversity and assemblage composition in an arid-land stream network. *Freshwater Biology*. 58: 1016-1028.
- Bogan, M.T.** & K.S. Boersma. 2012. Aerial dispersal of aquatic invertebrates along and away from arid-land streams. *Freshwater Science* 31: 1131-1144.
- Herbst, D.B., **M.T. Bogan**, S.K. Roll, & H.D. Safford. 2012. Effects of livestock exclusion on instream habitat and invertebrate assemblages in montane streams. *Freshwater Biology* 57: 204-217.
- Oliver, A.A., **M.T. Bogan**, D.B. Herbst, & R.A. Dahlgren. 2012. Short-term changes in stream macroinvertebrate communities following a severe fire in the Lake Tahoe basin, California. *Hydrobiologia* 694: 117-130.
- Bogan, M.T.** & D.A. Lytle. 2011. Severe drought drives novel community trajectories in desert stream pools. *Freshwater Biology* 56: 2070-2081.

## INVITED TALKS AND SEMINARS

2015. School of Natural Resources and the Environment, University of Arizona, Tucson, CA. *Disturbance, dispersal, and community dynamics in arid-land streams*.
2014. Essig Brunch Seminar, University of California, Berkeley, CA. *Rise up, Lazarus! Ecology and life history of the Arizona snowfly*.
2013. Fisheries, Wildlife, and Conservation Seminar, University of California, Berkeley, CA. *Drought, dispersal, and community dynamics in arid-land streams*.
2013. Ecology-Geology Colloquium, California State University Sacramento, CA. *Drought, dispersal, and community changes in arid-land streams*.
2013. Society for Freshwater Science annual meeting: Jacksonville, FL. Hynes Award talk: *Severe drought drives novel community trajectories in arid-land streams*.
2013. Universidad Estatal de Sonora, Hermosillo, Mexico: *El papel que juega el clima en manejar los ciclos de vida y diversidad de insectos acuáticos en Arizona y Sonora*.
2012. Centro de Investigaciones en Alimentación y Desarrollo, Guaymas, Mexico. *Biodiversidad y conservación de invertebrados y especies acuáticas en los oasis del desierto sonorense*
2012. Nature Conservancy Ramsey Canyon Preserve: Hereford, AZ. *What lies beneath: the hidden lives of aquatic insects at Ramsey Canyon*.
2011. VI Congreso Universitario de Biología: Hermosillo, Mexico. *Biodiversidad y conservación de invertebrados y especies acuáticas en los oasis frágiles del desierto sonorense*.
2011. United States Fish and Wildlife Service Native Aquatic Species Restoration Webinar Series: Shepherdstown, WV. *Drought, top-predator extirpations, and community changes in aridland streams*.
2009. Oregon State University Stream Team Seminar: Corvallis, OR. *Paradise found: a biological inventory of isolated oases in the Sierra El Aguaje, Sonora, México*.
2006. Oregon State University Stream Team Seminar: Corvallis, OR. *Biological inventory of a river unknown: The Río Aros, Sonora, México*.

## **RECENT CONTRIBUTED TALKS** (36 first author presentations in total)

2015. Society for Freshwater Science: Milwaukee, WI. *Cycles of boom and bust in coastal California intermittent streams.*
2014. Desert Fishes Council: San Jose del Cabo, Mexico. *The stoneflies of Saguaro National Park: 'drought-proof survivalists' or 'canaries in the climate-change coal mine'?*
2014. Ecological Society of America: Sacramento, CA. *Macroinvertebrate community assembly following flow resumption in an intermittent desert stream.*
2013. Society for Freshwater Science: Jacksonville, FL. *Potential contributions of aerial and overland dispersal to community recovery in disturbed and restored streams.*
2012. Desert Fishes Council: Death Valley, CA. *Diversity, biogeography, and conservation of aquatic animals in southern Sonoran Desert oases.*
2012. Society for Freshwater Science: Louisville, KY. *Distinct intermittent stream communities alter longitudinal patterns of diversity and composition in an aridland stream network.*
2012. Biodiversity and Management of the Madrean Archipelago III: Tucson, AZ. *Habitat type and permanence determine local aquatic invertebrate community structure in the Sky Islands.*
2011. Desert Fishes Council Meeting: Hermosillo, Mexico. *Drought, top-predator extirpations, and community changes in aridland streams.*
2011. North American Benthological Society: Providence, RI. *Patterns of diversity and community structure in a network of intermittent and perennial streams.*
2010. North American Benthological Society/American Society of Limnology and Oceanography: Santa Fe, NM: *Mode of colonization drives community assembly in novel habitats along arid-land streams.*

## **TEACHING EXPERIENCE**

- 2015 *Guest lecturer*, University of California Berkeley: Freshwater Ecology, Fish Ecology
- 2014 *Guest lecturer*, University of California Berkeley: Freshwater Ecology
- 2013 *Guest lecturer*, University of California Berkeley: Fish Ecology
- 2013 *Guest lecturer*, Universidad Estatal de Sonora, Hermosillo, Mexico: Climatología
- 2012 *Workshop designer and instructor*, University of California, Davis: Multivariate statistics in ecology
- 2011 *Guest lecturer*, Oregon State University: Aquatic Entomology
- 2010 *Instructor*, Oregon State University: Human Anatomy and Physiology Lab II
- 2009 *Workshop designer and instructor*, Universidad Estatal de Sonora, Hermosillo, Mexico; Estadísticas multivariadas en biología y ecología
- 2009 *Lab instructor and guest lecturer*, Oregon State University: Aquatic Entomology
- 2008-2009 *Instructor*, Oregon State University: Human Anatomy and Physiology Lab I
- 2008-2009 *Teaching assistant*, Oregon State University: Introduction to Biology 21X series
- 2005 *Instructor*, Winter Wonderings Program, Corvallis, OR: Ecology for 3<sup>rd</sup>-5<sup>th</sup> grades
- 2004-2005 *Guest lecturer*, Oregon State University: (1) Aquatic Entomology, (2) Multicultural Perspectives in Natural Resource Use
- 2004-2005 *Lab instructor*, Oregon State University: Aquatic Entomology
- 2003-2005 *Teaching assistant*, Oregon State University: Introduction to Biology 21X series
- 2000-2006 *Guest lecturer*, California State University Monterey Bay: California Transect (Summer 2000, Summer 2002, Summer 2006)

## **STUDENT MENTORING**

*Undergraduate students:* University of California: M. Gonzales (2015-present), A. Sanabria (2015-present), J. Ponce (2014-present), C. Hernandez (2014-present), K. Horton (2014-2015),

## **STUDENT MENTORING** *continued*

C. Schaaf (2014-2015), Z. Rankin (2013-2014); University of Washington: J. Hale (2012-2014); Universidad Estatal de Sonora: N. Noriega-Felix (2008-2011), S. Vidal-Aguilar (2008-2011), R. Felix-Burrueal (2005), A. Cordova (2005); Oregon State University: J. Miles (2005), F. Drake (2005), S. Helm (2003-2005).

*Graduate students*: Oregon State University: K. Boersma (2012-2013); University of California: J. Hwan (2013-2015), K. Cervantes-Yoshida (2013-2015).

## **EDUCATIONAL OUTREACH ACTIVITIES**

- 2015 Community Resources for Science, Oakland, CA: Volunteer in several elementary schools, help lead one-hour science lessons as part of the Bay Area Scientists in Schools program
- 2014 Great Smoky Mountains National Park, TN: Led 'biomonitoring' station where we had teams of Knoxville high school students learn about aquatic biodiversity and experience stream sampling.
- 2014 Berkeley, CA: Volunteer for "Kids for the Bay" program, taught biomonitoring to 3<sup>rd</sup> graders
- 2011 Saguaro National Park, AZ: Worked with teams of Bioblitz volunteers to conduct stream surveys
- 2006 Mammoth Lakes, CA: Taught middle school students about aquatic insects and biomonitoring

## **PROFESSIONAL SERVICE & SKILLS**

Scientific adviser: Los Cardones Bioblitz, Sierra de la Laguna Biosphere Reserve, Baja California Sur, Mexico (2015); The Nature Conservancy (Gila River Flow Needs Workshop: 2013-2014); Sky Island Alliance (the Madrean Archipelago Biodiversity Assessment and the Springs & Seeps Inventory programs: 2011-2013); Saguaro National Park (BioBlitz: 2011); Southwestern Research Station, American Museum of Natural History (Science Advisory panel: 2005)

Journal referee: *Biodiversity and Conservation*, *Diversity (Open Access)*, *Ecography*, *Freshwater Biology*, *Freshwater Science*, *Fundamental and Applied Limnology*, *Hydrobiologia*, *International Journal of Hydrobiology*, *Journal of Applied Ecology*, *Journal of Biogeography*, *Journal of Freshwater Ecology*, *Journal of Insect Conservation*, *Oecologia*, *Oikos*, *PLoS ONE*, *River Research and Applications*, *The Southwestern Naturalist*, *Western North American Naturalist*.

Grant referee: The National Fish and Wildlife Foundation (2014), National Geographic Society (2014), Desert Fishes Council Conservation Grant (2013-2014)

Professional membership: Society for Conservation Biology, Ecological Society of America, Society for Freshwater Science, Southwestern Association of Naturalists, American Entomological Society, Desert Fishes Council, N-Gen Sonoran Desert Researchers.

Executive committee member: Desert Fishes Council President (2016-present), Desert Fishes Council Member-at-large (2013-2014)

Conference special symposium co-organizer: [6.] (2015) *Risk & Reward: Learning from past failures and mistakes to achieve conservation success*, International Congress for Conservation Biology; [5.] (2014) *Islands in space and time: Population and community ecology of temporary aquatic habitat*, Ecological Society of America; [4.] (2014) *Advancing the science and management of temporary aquatic habitats*, Joint Aquatic Sciences Meeting; [3.] (2013) *Community-structuring processes in fragmented habitats: a synthesis across scales and systems*, Ecological Society of America; [2.] (2012) *Research advances and conservation challenges in temporary river systems*, Society for Freshwater Science; [1.] (2010) *Conservation of desert fishes: novel and traditional approaches*, Desert Fishes Council.

Proficient in written and spoken Spanish