

**William G Ryerson**

Department of Ecology and Evolutionary Biology

University of Connecticut

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**Education**

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- Current      **Ph.D. Student**, Ecology and Evolutionary Biology, University of Connecticut, Major Advisor: Dr. Kurt Schwenk  
Dissertation Title: *Biomechanics of Tongue Flicking in Snakes*
- 2008      **M.S.**, Biology, University of South Florida, Advisor: Dr. Stephen Deban  
Thesis Title: *The Role of Abiotic And Biotic Factors In Suspension Feeding Mechanics Of Xenopus Tadpoles*
- 2006      **B.S.**, Marine Science (Marine Biology Concentration) with High Honors, University of Maine, *Magna cum laude*, Advisor: Dr. Kevin Eckelbarger  
Thesis Title: *Friend or Foe: The biology and ecology of a zoanthid (Cnidaria: Anthozoa) associated with Paragorgia sp. at the New England Seamounts*

Funding:

- Wetzel Vertebrate Research Fund, University of Connecticut, 2011 (\$300)  
Wetzel Vertebrate Research Fund, University of Connecticut, 2010 (\$400)  
EEB Summer Research Fellowship, University of Connecticut, 2012 (\$2,500)  
EEB Summer Research Fellowship, University of Connecticut, 2011 (\$500)  
EEB Summer Research Fellowship, University of Connecticut, 2010 (\$1,000)  
Presidential Scholar, University of Maine 2002-2006 (\$40,000)

Teaching:

- Graduate Teaching Assistant, University of Connecticut, 2009-present:  
Principles of Biology II Lab and Guest Lecturer, Comparative Vertebrate

Anatomy Lab and Guest Lecturer, Mammalogy Lab, Principles of Biology  
for Non-majors Lab

Graduate Teaching Assistant, University of South Florida, 2006-2008:

Biology I Lab, Biology II Lab, General Physiology Lab and Lecture

Service:

Grant Reviewer:

NSERC Discovery Grant, 2012

Journal Referee:

Journal of Experimental Zoology Part A

Journal of Morphology

Journal of Comparative Psychology

Journal of Experimental Biology

Graduate Student Senator

2009-2012, University of Connecticut

EEB Graduate Student Association

President, 2010-2012

Invited Speaker/Seminars:

1. Snakes, and what is a snake scientist? E. Granby High School, East Granby, CT.  
April 8, 2010

Peer-Reviewed Publications

1. Ryerson, W.G. and S.M. Deban. 2010. Buccal pumping mechanics of *Xenopus laevis* tadpoles: effects of biotic and abiotic factors. *J. Exp. Biol.* 213, 2444-2452.
2. Ryerson, W.G. and K. Schwenk. 2012. A simple, inexpensive system for digital image particle image velocimetry (DPIV) in biomechanics. *J. Exp Zool.* 317, 127-140 (with cover).
3. Ryerson, W.G. 2013. Jumping in the salamander *Desmognathus ocoee*. *Copeia*.

2013 (3), 512-516.

4. Ryerson, W.G. and S. Horwitz. Sidewinding in the green anaconda, *Eunectes marinus* (in review). *Herp. Review*.
5. Ryerson, W., and K. Schwenk. Kinematics of chemosensory tongue-flicking in garter snakes (*Thamnophis sirtalis*) (in prep).
6. Ryerson, W., and K. Schwenk. Kinematics of terrestrial versus aquatic chemosensory tongue-flicking in water snakes (*Nerodia sipedon*) (in prep).
7. Ryerson, W., and K. Schwenk. Why snakes flick their tongues: the fluid dynamics of chemical sampling in snakes (in prep)
8. Schwenk, K., and W. Ryerson. A fluid-dynamic theory of chemical sampling during tongue-flicking in snakes. (in prep).

#### Posters and Presentations:

1. Ryerson, W.G. and Schwenk, K. The medium matters: tongue flicking in air and water in the water snake, *Nerodia sipedon*. Society of Integrative and Comparative Biology Annual Meeting, 2013.
2. Ryerson, W.G. and Schwenk, K. Why snakes flick their tongues: a fluid dynamics approach. Society of Integrative and Comparative Biology Annual Meeting, 2012.
3. Ryerson, W.G. and Schwenk, K. Kinematics of tongue flicking in the garter snake, *Thamnophis sirtalis*. Society of Integrative and Comparative Biology Annual Meeting, 2011.
4. Ryerson, W.G. Jumping in the salamander *Desmognathus ocoee*. Society of Integrative and Comparative Biology Annual Meeting, 2010.
5. Ryerson, W.G. and Deban, S.M. Scaling of suspension feeding in tadpoles. Society of Integrative and Comparative Biology Annual Meeting, 2009.

6. Ryerson, W.G. and Deban, S.M. The effects of viscosity on the buccal pumping mechanism of *Xenopus laevis* tadpoles. Society of Integrative and Comparative Biology Annual Meeting, 2008.
7. Ryerson, W.G. Modulation of prey capture behavior in two species of salamander: *Desmognathus quadramaculatus* and *Plethodon jordani*. University of South Florida Graduate Research Symposium, 2007.