

**Department of Ecology, Evolution, and Natural Resources
and
Ecology and Evolution Graduate Program Newsletter**

November 2012



Previous newsletters may be found at:
<http://www-rci.rutgers.edu/~deenr/news.html>

Presentations:

Josh Caplan, a post-doc working with Jason Grabosky, gave the following presentation:

- “The role of nutrient foraging in understory shrub invasions of northeastern North America.” Caplan JS, Grabosky JC, Ehrenfeld JG. at the 8th Congress of the International Society of Root Research. Dundee, Scotland.

Siobain Duffy reports the following presentations:

- “Fast evolution in ssDNA viruses: causes and consequences” Biological Physics seminar series, Rutgers, Invited:
- “The relative contribution of recombination and mutation to begomovirus population diversity”. A.T.M. Lima, Y.M. Seah, F.M. Zerbini and S. Duffy. at the 5th Plant Virus Ecology Network Workshop, Lawrence KS.
- “Developing a New Method to Evaluate Drivers of Codon Usage Bias”. DIMACS Workshop on Bio-computing, Genomics and Epigenomics at Rutgers University, D.J. Cardinale and S. Duffy. (Poster)



- “Evolutionary analysis of the loss of pre-coat protein in begomoviruses.” DIMACS Workshop on Bio-computing, Genomics and Epigenomics at Rutgers University, E. Ho, J. Kuchie and S. Duffy. (Poster)

Andrea Egizi, a Ph.D. candidate in Dina Fonseca’s lab gave the following presentation:

- "A temperate mosquito on a tropical island: the introduction of *Aedes japonicus japonicus* into Hawaii” at the 1st Joint Congress on Evolutionary Biology in Ottawa, Canada,

Jeremy Feinberg, a Ph.D. candidate in Joanna Burger’s lab, reports the following presentations:

- “A new species of leopard frog from the urban northeastern United States.” Jeremy Feinberg, Catherine E. Newman, H. Bradley Shaffer, Gregory Watkins-Colwell, Brian Zarate, Brian Curry, Matthew Schlesinger, Leslie J. Rissler, and Joanna Burger. - Seventeenth Annual Pine Barrens Research Forum, Brookhaven National Laboratory, Upton, NY, October 4-5 2012. Invited Keynote.
- “A new species of leopard frog from the urban northeastern United States.” Jeremy Feinberg, Catherine E. Newman, H. Bradley Shaffer, Gregory Watkins-Colwell, Brian Zarate, Brian Curry,, Matthew Schlesinger, Leslie J. Rissler , and Joanna Burger. The Wildlife Society Annual Conference. Portland, OR, October 13-18
- “A Frog's Tale: The story of a Long Island extinction and its unexpected role in the discovery of new species of leopard frog (Anura: Ranidae) in the urban northeast.” Jeremy Feinberg, Catherine E. Newman, H. Bradley Shaffer, Gregory Watkins-Colwell, Brian Zarate, Brian Curry, Matthew Schlesinger, Leslie J. Rissler, and Joanna Burger. Long Island Natural History Conference. Brookhaven National Laboratory, Upton, NY, November 16, 2012.
- “A Novel Cryptic Leopard Frog Species (Anura: Ranidae) from the Urban Northeastern US.” Jeremy Feinberg, Catherine E. Newman, H. Bradley Shaffer, Gregory Watkins-Colwell, Brian Zarate, Brian Curry, Matthew Schlesinger, Leslie J. Rissler, and Joanna Burger. New York State Department of Environmental Conservation, Albany, NY, November 9, 2012.

On October 20, Brooke Maslo gave a talk titled "Habitat Restoration Alternatives for Piping Plovers" at the Society for Ecological Restoration - Mid-Atlantic Chapter fall field trip to Lower Cape May Meadows, Cape May, NJ.

Lauren Spitz, a Ph.D. student working with Lena Struwe, presented a poster titled, "FoRC: Flora of Rutgers Campus as an educational research project." at the Botany 2012 conference in Columbus, OH in July 2012. The poster was coauthored with Christopher Zambell, Patrick Sweeney and Lena Struwe.

Talia Young, a Ph.D. candidate in Olaf Jensen’s lab gave the following presentations:

- “Interannual trophic variability in a pristine north temperate lake. From field trips to Facebook: A low-cost model for conducting ecology outreach with urban minority high school youth” at the American Fisheries Society, 142nd Annual Meeting, St. Paul, MN August 2012
- “Interannual trophic variability in a pristine north temperate lake: From field trips to Facebook. A low-cost model for conducting ecology outreach with urban minority high school youth” at the Ecological Society of America, 97th Annual Meeting, Portland, OR August 2012

Publications:

Josh Caplan, a post-doc working with Jason Grabosky, reports the following publication:

- Semenza JC, Caplan JS, Buescher G, Das T, Brinks MV, Gershunov A (2012). Climate change and microbiological water quality at California beaches. *EcoHealth* 9:293-297.

Siobain Duffy reports the following papers:

- K. Rosario, S. Duffy and M. Breitbart. A field guide to eukaryotic circular single-stranded DNA viruses: Insights gained from metagenomics. *Archives of Virology*, 157:1851-1871.
- P.E. Turner, R.C. McBride, S. Duffy, R. Montville, L.S. Wang, Y. Yang, S.J. Lee and J. Kim Evolutionary genomics of host-use in bifurcating demes of RNA virus phi-6. *BMC Evolutionary Biology*. 12:153.

David Ehrenfeld reports that his article on "Biodiversity and its Values" is now in press for the first edition of the Encyclopedia of Natural Resources published by Taylor and Francis.

Frank Gallagher, Ph.D. 2008 and Visiting Scholar in the Jason Grabosky lab, reports the following publication:

- Renninger, H.J. Wadhwa, S., Schäfer, V.R., Gallagher, F.J. Allometry and photosynthetic capacity of Poplar (*Populus deltoides*) along a metal contamination gradient in an urban brownfield. *Urban Ecosystems*. DOI 10.1007/s11252-012-0259-y

Mike Gallagher, a Masters student working with Jason Grabosky reports a book chapter:

- Clark, K. L., N. Skowronski, and M. Gallagher. History of the Fire Research Program at the Silas Little Experimental Forest, New Lisbon, New Jersey. D. Hayes, S. Stout, R. Crawford, and A. Hoover, eds, "Research for the Long-Term: The interplay of societal need and research on USDA Forest Service Experimental Forests and Ranges." Springer.

Mike Gallagher also reports the following publication:

- Clark, K. L., N. Skowronski, M. Gallagher, H. Renninger, K. Schafer. 2012. Effects of invasive insects and fire on forest energy exchange and evapotranspiration in the New Jersey Pinelands. *Agricultural and Forest Meteorology*, 166-167: 50-61.

Julie Lockwood reports the following publications:



- Baiser, B., J.D. Olden, S. Record, J.L. Lockwood and M.L. McKinney. In Press. Pattern and process of biotic homogenization in the New Pangea. *Proceedings of the Royal Society London, B*.
- Brooks, W.R. J.L. Lockwood, R.C. Jordan. In Press. Tropical paradox: a multi-scale analysis of the invasion paradox within Caribbean hardwood hammocks. *Biological Invasions*.
- Virzi, T., R.L. Boulton, M.J. Davis, J.J. Gilroy and J.L. Lockwood. In Press. Effectiveness of artificial song playback on the settlement decisions of an endangered resident grassland bird. *The Condor*.
- Gilroy J.J. and J.L. Lockwood. 2012. Mate-Finding as an overlooked critical determinant of dispersal variation in sexually-reproducing animals. *PLoS ONE* 7(5):e38091. doi:10.1371/journal.pone.0038091
- Gilroy, J.J., T. Virzi, R.L. Boulton and J.L. Lockwood. 2012. Too few data and not enough time: approaches to detecting Allee effects in threatened species. *Conservation Letters*. 5: 313-322.

- Gilroy, J.J., T. Virzi, R.L. Boulton, and J.L. Lockwood. 2012. A new approach to the 'apparent survival' problem: estimating true survival rates from capture-recapture studies. *Ecology*. 93: 1509-1516.

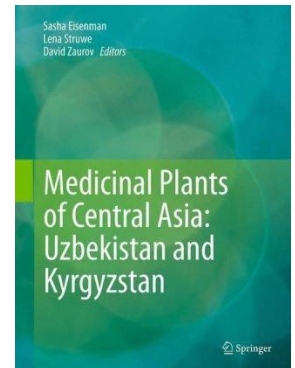
Marci Meixler reports the following

- Arend, K., M. S. Meixler, K. Mills, and B. A. Knuth. Obituary: Mark A. Bain 1955–2012: A commemoration by his students and colleague. *Bulletin of the Ecological Society of America* 93:113–114.

Lena Struwe, Sasha Eisenman and David Zurov published their book Medicinal Plants of Central Asia: Uzbekistan and Kyrgyzstan with Springer Verlag on Sept 13, 2012. This unique book is a collaborative effort between researchers at Rutgers University and colleagues from numerous institutions in Uzbekistan and Kyrgyzstan. It will be the first book to document more than 200 of the most important medicinal plants of Central Asia, many whose medicinal uses and activities are being described in English for the first time.

- Struwe, Lena, Sasha Eisenman, and David Zurov, eds. 2012. *Medicinal Plants of Central Asia: Uzbekistan and Kyrgyzstan*. New York, New York: Springer. DOI:10.1007/978-1-4614-3912-7.

<http://www.amazon.com/Medicinal-Plants-Central-Asia-Uzbekistan/dp/1461439116>)



Lena Struwe also has the following publication:

- Eisenman, S. W., A. O. Tucker, & L. Struwe. 2012. Voucher specimens are essential for documenting source material used in medicinal plant investigations. *Journal of Medicinally Active Plants* 1(1):30-43. <http://scholarworks.umass.edu/jmap/vol1/iss1/8>



Judy Weis, Federated Department of Biology Newark-NJIT, has a new book, Walking Sideways, The remarkable world of crabs

<http://www.cornellpress.cornell.edu/book/?GCOI=80140100864250>

Faculty Achievements and Activities:

Andrew "Pete" Vayda, professor emeritus in Human Ecology, has been in Indonesia for most of his time since late May in connection with interdisciplinary research on causes of the peat fires that produce a major part of Indonesia's carbon emissions. This work has been part of the "Indonesia Australia Forest Carbon Partnership" program (IAFCP). Pete will spend the month of November in Australia to give a series of seminars on interdisciplinary research and causal explanation at the Australian National University in Canberra and Monash University in Melbourne.

Student Awards, Achievements, and Activities:

Lauren Spitz, a Ph.D. student in Lena Struwe's lab, received a Graduate School-New Brunswick Special Study award to attend the Workshop on Molecular Evolution at the Marine Biological Laboratory in Woods Hole from July 22 - Aug 1, 2012.

Transitions:

Congratulations to Wes Brooks on the successful defense of his Ph.D. dissertation on October 12, 2012. Wes' advisor is Rebecca Jordan.

Congratulations to the following on the successful completion of their Qualifying Exam:

- Margaret Conroy, advisor Rick Lathrop, October 24, 2012
- James Vasslides, advisor Olaf Jensen, November 13, 2012

Alumni:

Ben Baiser, PhD 2010, advisor Julie Lockwood, reports the following publications:

- Baiser, B., Olden, J. D., Record, S., Lockwood, J. L., McKinney, M. L. (*In press*). Pattern and process of biotic homogenization in the New Pangaea. *Proceedings of the Royal Society B: Biological Sciences*.
- Baiser, B., Buckley, H. L., Gotelli, N. J., and Ellison, A. M. (*In press*). Predicting food web structure with metacommunity models. *Oikos*.
- Ellison, A. M., Orwig, D. A., and Baiser, B. (*In press*). Hemlock as a foundation species. *Hemlock: A Forest Giant's Life in the Shade and on the Edge* (ed D.R. Foster). Yale University Press, New Haven, CT.

Heather Bowman Cutway (PhD 2004, advisor Joan Ehrenfeld), and her conservation ecology class are monitoring an endangered fringed campion in Macon, Georgia.

<http://www.macon.com/2012/10/21/2221398/mercer-students-monitoring-endangered.html>

Chris Martine (MS 2001, John Kuser) has released the second episode of his YouTube series, "Plants Are Cool, Too!" In this episode, his team visits a fossil bed in Idaho where researchers are attempting to extract DNA from leaves sealed in 15-million-year-old rocks. Plants Are Cool, Too is also the name of Chris' new blog on The Huffington

Post. http://www.huffingtonpost.com/dr-chris-martine/leaf-fossils-preserved-leaves_b_1967427.html