

# S. LUKE FLORY

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## PROFESSIONAL EXPERIENCE

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2008 Postdoctoral Research Associate, Department of Biology, Indiana University, and Big Oaks National Wildlife Refuge, Madison, Indiana. Funded by the Joint Fire Science Program, a federal interagency partnership between the USDA and the Department of the Interior.

## EDUCATION

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2008 Ph.D., Ecology and Evolutionary Biology, Department of Biology, Indiana University, Bloomington, Indiana. Advisor: Keith Clay

2003 M.S., Environmental Science: Applied Ecology, School of Public and Environmental Affairs, Indiana University, Bloomington, Indiana. Advisor: Vicky Meretsky

2001 B.A., Biological Sciences, DePauw University, Greencastle, Indiana.

## PUBLICATIONS

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Kleczewski, N. and **S.L. Flory**. 2010. Leaf blight disease on the invasive grass *Microstegium vimineum* (Japanese stiltgrass) caused by a *Bipolaris* sp. *Plant Disease*. *In press*.

Simao, M.C., **S.L. Flory**, and J.A. Rudgers. 2010. Experimental plant invasion reduces arthropod abundance and richness across multiple trophic levels. *Oikos*. *In press*.

**Flory, S.L.** and K. Clay. 2010. Non-native grass invasion alters native plant composition in experimental communities. *Biological Invasions* 12:1285-1294.

\*Droste, T., **S.L. Flory**, and K. Clay. 2010. Variation for phenotypic plasticity among populations of an invasive exotic grass. *Plant Ecology* 207:297-206. \*undergraduate advisee, received 2008 Honors Thesis Award

**Flory, S.L.** 2010. Management of *Microstegium vimineum* invasions and recovery of resident plant communities. *Restoration Ecology*. 18:103-112.

**Flory, S.L.** and J. Lewis. 2009. Non-chemical methods for managing Japanese stiltgrass (*Microstegium vimineum*). *Invasive Plant Science and Management*. 2:301-309.

**Flory, S.L.** and K. Clay. 2009. Effects of roads and forest successional age on experimental plant invasions. *Biological Conservation* 142:2531-2537.

**Flory, S.L.** and K. Clay. 2009. Invasive plant removal method determines native plant community responses. *Journal of Applied Ecology* 4:434-442.

Civitello, D.J., **S.L. Flory**, and K. Clay. 2008. Exotic grass invasion reduces survival of *Amblyomma americanum* and *Dermacentor variabilis* ticks. *Journal of Medical Entomology* 45:867-872.

**Flory, S.L.** and W.B. Mattingly. 2008. Response of host plants to periodical cicada oviposition damage. *Oecologia* 156:649-656.

Clay, K., Reinhart, K., Rudgers, J., Tintjer, T., Koslow, J. and **S. L. Flory**. 2008. Red queen communities. Pp. 145-178, In *Ecology of Infectious Diseases: Interactions between diseases and ecosystems*. (V. Eviner, F. Keesing and R. Ostfeld, Eds.). Princeton University Press, Princeton.

**Flory, S.L.**, J.A. Rudgers, and K. Clay. 2007. Experimental light treatments affect invasion success and the impact of *Microstegium vimineum* on the resident community. *Natural Areas Journal* 27:124-132.

**Flory, S.L.** and K. Clay. 2006. Invasive shrub distribution varies with distance to roads and stand age in eastern deciduous forests in Indiana, USA. *Plant Ecology* 184:131-141.

Cianciolo, J., **S.L. Flory**, and J. Atwell. 2006. Evaluating the use of Inquiry-based activities: Does student and teacher behavior really change? *Journal of College Science Teaching* 36:50-55.

**Flory, S.L.**, E.L. Ingram, B.J. Heidinger, and T. Tintjer. 2005. Hands-On in the Non-Laboratory Classroom: Reconstructing Plant Phylogenies Using Morphological Characters. *The American Biology Teacher* 67:542-549.

#### **In Revision**

Bauer, J.T. and **S.L. Flory**. Suppression of the woodland herb *Senna hebecarpa* by the invasive grass *Microstegium vimineum*.

#### **In Review**

**Flory, S.L.** and K. Clay. Non-native grass invasion suppresses forest succession.

Mattingly, W.B. and **S.L. Flory**. Host plant architecture affects oviposition site selection of periodical cicadas.

#### **RESEARCH GRANTS**

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\$20,000 – (Co-PI) Center for Research in Environmental Science, Indiana University, “Red Queen Communities: Is the escape from enemies by invasive species only temporary?”

\$239,866 – (PI) Joint Fire Science Program, “Fire and the invasive annual grass *Microstegium vimineum* in eastern deciduous forests,” 2008-2011. Collaborators: Dr. Sarah Emery, University of Louisville; Dr. Joseph Robb, Big Oaks National Wildlife Refuge; and Dr. Keith Clay, Indiana University.

\$75,375 – (Co-PI) USDA Forest Service, Northern Research Station, “Dynamics, impacts, and predictive modeling of *Microstegium vimineum* (Japanese stiltgrass) invasions in eastern deciduous forests,” 2007-2010

\$30,000 – (PI) USDA Forest Service, Hoosier National Forest, Ecology and Management of *Microstegium vimineum* (Japanese stiltgrass) Invasions in Eastern Deciduous Forests, 2005-2008.

\$12,500 – (PI) The Nature Conservancy, Ecology and Management of *Microstegium vimineum* (Japanese stiltgrass) Invasions in Eastern Deciduous Forests, 2005-2013.

\$4,744 – Various small grants from the National Science Foundation, Indiana Academy of

Science, National Wild Turkey Federation, Indiana University Research and Teach Preserve, Blatchley Nature Study Club, Townsend Chemical Division, and the Indiana University Graduate and Professional Student Organization.

### **FELLOWSHIPS AND AWARDS**

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- 2008 – Smithsonian Institution Postdoctoral Fellowship, Smithsonian Environmental Research Center (declined in favor of JFSP grant)
- 2007 – 2008 Floyd/Ogg Final Year Fellowship, Department of Biology, Indiana University.
- 2007 – USDA Forest Service, Hoosier National Forest, Forest Supervisor's award for excellence in development of partnerships.
- 2007, 2006, 2005, 2004, 2003 – Floyd Summer Fellowship in Plant Sciences, Indiana University.

### **TEACHING AND MENTORING EXPERIENCE**

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- 2009 – 2010 Advisor for visiting researcher Marissa Lee. Collaborative project “Non-native grass invasion alters N-cycling processes in eastern forests.”
- 2009 – 2010 Advisor for graduate researcher Carmen Blubaugh. “Does apparent competition with an invasive plant accelerate seed removal rates?”
- 2009 Mentored and trained visiting researcher Furong Long, Xiping County Forestry Bureau, Forest Pest and Disease Control Station, Yunnan Province, China (6 mo period).
- 2006 – 2008 Advisor for undergraduate researcher Tyler Droste. Received 2008 Undergraduate Honors Thesis award as a junior. Received \$1300 in Capstone Grants from the Howard Hughes Medical Institute.
- 2005 – 2008 Associate Instructor (Indiana University): Advanced Field Biology, Environmental Biology, Evolution and Society
- 2007 Invited Lectures – Environmental Biology, Natural History  
Senior Associate Instructor – Vascular Plants, Indiana University.
- 2006 Advisor for undergraduate researcher Benjamin Eddy. Received \$4500 total funding in summer and fall Capstone Grants from the Howard Hughes Medical Institute. Collaborators: Jennifer Rudgers, Rice University and Alan Cady, Miami University, Ohio
- 2006 Research Associate –Department of Biology, Indiana University.  
Invited Lecture – Environmental Biology
- 2003 – 2005 Inquiry-Based Curriculum Enhancement (ICE) Team (Indiana University)
- 2001 – 2003 Associate Instructor – Introduction to Biology: Laboratory
- 2002 Graduate Intern – The Sycamore Land Trust, Bloomington, Indiana.  
Research Associate – Indiana University Research and Teaching Preserve, Bloomington, Indiana.
- 2000 Ecologist Aide – Division of Nature Preserves, Indiana Department of Natural Resources, Kankakee Region.

### **INVITED SEMINARS**

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- USDA Interagency Research Forum on Invasive Species  
Eastern Kentucky University  
University of Louisville – Department of Biology  
Rutgers University – School of Environmental and Biological Sciences

**PRESENTATIONS AND MEETINGS**

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- Flory, S.L., S. Emery, K. Clay, and J. Robb. 2009. Invasive grass (*Microstegium vimineum*) increases fire intensity in eastern forests. Association for Fire Ecology, 4<sup>th</sup> International Congress 2009 Fire Ecology & Management: Fire as a Global Process. Dec 1-4 2009.
- Flory, S.L., S. Emery, K. Clay, and J. Robb. 2009. Fire and *Microstegium* invasions in eastern forests. Ecological Society of America annual meeting.
- Flory, S.L. 2008. Fire and the invasive annual grass *Microstegium vimineum* in eastern deciduous forests. Midwest Invasive Plant Network Symposium.
- Flory, S.L. and K. Clay. 2008. Experimental exotic grass invasion impacts native trees through direct and indirect mechanisms. Ecological Society of America annual meeting.
- Flory, S.L. and K. Clay. 2007. Invasion by the exotic grass *Microstegium vimineum* (Japanese stiltgrass) negatively impacts native tree regeneration and herbaceous species. Ecological Society of America annual meeting.
- Flory, S.L. 2006. Effectiveness of management techniques for *Microstegium vimineum* (Japanese stiltgrass) invasions and their impacts on native species diversity and abundance. North Central Weed Science Society annual meeting.
- Flory, S.L. and K. Clay. 2006. Impacts of the invasive annual grass *Microstegium vimineum* (Japanese stiltgrass) on native trees and herbaceous species: some preliminary results. North Central Weed Science Society annual meeting.
- Flory, S.L. and K. Clay. 2006. Patterns and mechanisms of exotic shrub invasion at roadside forest edges. Ecological Society of America annual meeting.
- Flory, S.L. and K. Clay. 2004. Distance to road and forest age affect invasive exotic shrub distribution in eastern deciduous forests. Blatchley Nature Study Club meeting. Presented.
- American Institute of Biological Sciences annual meeting: "Invasive Species: The Search for Solutions." 2004. Washington, D.C.
- Flory, S.L. and K. Clay. 2004. Distance to road and forest age affect invasive exotic shrub distribution in eastern deciduous forests. Midwest Ecology and Evolution Conference.
- Flory, S.L., H. Reynolds, A. Davis, and M. Selby. 2003. Biodiversity and nutrient influences on growth of the invasive exotic *Centaurea maculosa* (spotted knapweed). Invasive Plants in Natural and Managed Systems: Linking Science and Management in conjunction with 7<sup>th</sup> International Conference on the Ecology and Management of Alien Plant Invasions. Ft. Lauderdale, FL.

## PROFESSIONAL ACTIVITIES AND SERVICE

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Organized and hosted the session “Fire and Plant Invasions in the Midwest” at the Midwest Invasive Plant Network Symposium, Dec. 2008, Indianapolis, Indiana.

Organized and presented a workshop on Japanese stiltgrass (*Microstegium vimineum*) management with Bonnie Wolf (The Nature Conservancy) at the Midwest Invasive Plant Network Symposium, Dec. 2008, Indianapolis, Indiana

Organized and hosted a three day workshop, “Invasive Plants: Practical Problems & Research Opportunities.” April 21-22, 2006. Sponsored by the National Science Foundation Field Stations and Marine Laboratories Program (FSML) and the Indiana University Research and Teaching Preserve, Bloomington, Indiana.

Invited panel on invasive species policy and management, City of Bloomington Parks and Recreation, Bloomington, Indiana, July 2008.

Expert panel on invasive species. Yellowwood Lake Watershed Planning Group meeting. Yellowwood/Morgan-Monroe State Forest. October 18, 2005. Brown County, Indiana.

## REVIEWING ACTIVITIES

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Federal Grant Review Panel, Joint Fire Science Program, 2010.

Expert review of administrative rules for the monitoring and management of *Microstegium vimineum*. Wisconsin Department of Natural Resources, 2007.

External reviewer: *American Journal of Botany*  
*Biological Conservation*  
*Biological Invasions*  
*Biotropica*  
*Diversity and Distributions*  
*Ecology Letters*  
*Journal of Applied Ecology*  
*Natural Areas Journal*  
*Oikos*  
*Plant and Soil*  
*Southeastern Naturalist*