

JAYNE L. JONAS
CURRICULUM VITAE

EDUCATION

KANSAS STATE UNIVERSITY, DIVISION OF BIOLOGY

Ph.D., December 2007

Graduate Certificate, Applied Statistics, December 2006

Dissertation: *Nutrient resources and stoichiometry affect the ecology of above- and belowground invertebrate consumers*

Advisor: Dr. Anthony Joern

UNIVERSITY OF NEBRASKA-LINCOLN, SCHOOL OF BIOLOGICAL SCIENCES

Ph.D. student, 2003-2004

Advisor: Dr. Anthony Joern

KANSAS STATE UNIVERSITY, DEPARTMENT OF ENTOMOLOGY

M.S., December 2000

Thesis: *Effects of land management on terrestrial invertebrates in a central Kansas grassland*

Co-advisors: Dr. Matt R. Whiles, Dr. Ralph E. Charlton

WAYNE STATE COLLEGE, DEPARTMENT OF BIOLOGY

B.S. with Honors, May 1998

Minors: Chemistry, Earth Science, and Environmental Science

Undergraduate research project: *A population description and community comparison for buckbean (Menyanthes trifoliata L.) meadows on a fen in the Nebraska Sandhills*

Advisor: Dr. Marian Borgmann-Ingwersen

RESEARCH EXPERIENCE

KANSAS STATE UNIVERSITY

Graduate Research Assistant, Division of Biology, August 2004–present

The primary objective of my doctoral research is to assess indirect interactions between above- and belowground invertebrate food webs. In particular, I am conducting field, greenhouse, and laboratory experiments to study the stoichiometric relationships and mechanisms between fungivorous soil Collembola, mycorrhizal fungi, tallgrass prairie plant communities, and acridid grasshoppers.

Graduate Research Assistant, Department of Entomology, June 1998–August 2000

I studied the composition of insect assemblages under three management regimes at the Smoky Hill Army National Guard Firing Range in central Kansas. I also assisted with various aspects of the Army's Land Condition-Trend Analysis protocol, including establishment and mapping of permanent transects, vegetation sampling, setting herpetofauna arrays, GIS management, and serving as webmaster for the Smoky Hill Bioassessment Project website.

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WAYNE STATE COLLEGE

Research Assistant, June-September 1996, June-September 1997

I assisted with research on characterizing six different plant communities on fens in the Sand Hills of Nebraska. I also conducted my undergraduate research project on the plant community composition of *Menyanthes trifoliata* meadows at the site. My responsibilities included sampling aquatic vegetation and water chemistry on fens, collecting and mounting plant specimens, aerial photography of study sites, and data entry.

PROFESSIONAL EXPERIENCE

THE NATURE CONSERVANCY

Land Steward and Scientist, August 2000–May 2003.

My responsibilities included preparing and updating management plans, site conservation plans, and conservation easement documentation reports. I was involved in fire management activities, grant writing, ecological monitoring and research on preserves, and provided general science support to the director of the Western Nebraska Projects Office. I served as a project leader for the Sandhills/Middle Niobrara River site of the North American Fire Learning Network. I worked closely with private landowners, as well as personnel from many federal, state, and local agencies. I was also responsible for GIS and data management in the Western Nebraska Projects Office. Supervised by Dr. Al Steuter, Director of Conservation Programs, Nebraska Chapter.

PUBLICATIONS

Jonas, J.L., A. Joern, W. Wolessensky. In preparation. Weather affects grasshopper population growth rates in a North American continental grassland – to a degree.

Loaiza, V., **J.L. Jonas**, A. Joern. In preparation. Local distributions of grasshoppers (Orthoptera: Acrididae) respond to foliar nitrogen but not phosphorus in native grassland.

Jonas, J.L. A. Joern. In preparation. Long-term nitrogen and phosphorus fertilization affects above- and belowground invertebrate communities and food web linkages.

Jonas, J.L., A. Joern. In review. Host plant selection is a primary means of nutrient regulation in a mixed-feeding insect herbivore. Ecology.

Jonas, J.L., A. Joern. In review. Host plant quality alters grass:forb consumption by a mixed-feeding insect herbivore, *Melanoplus bivittatus* (Orthoptera: Acrididae). Ecological Entomology.

Loaiza, V., **J.L. Jonas**, A. Joern. In review. Does dietary-P affect feeding and performance in the mixed-feeding grasshopper *Melanoplus bivittatus*. Environmental Entomology.

Jonas, J.L., A. Joern. 2007. Grasshopper (Orthoptera: Acrididae) communities respond to fire, bison grazing and weather in North American tallgrass prairie: A long-term study. *Oecologia* 153(3):699-711.

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Jonas, J.L., G.W.T. Wilson, P.M. White, A. Joern. 2007. Consumption of mycorrhizal and saprophytic fungi by Collembola in grassland soils. *Soil Biology and Biochemistry* 39(10):2594-2602.

Borgmann-Ingwersen, M., **J. Jonas**. 2003. The vascular plant community composition of three fens in the sandhills of Nebraska. Pps. 164 – 173 *In* Proceedings of the 18th North American Prairie Conference. S. Fore, *Ed.* Truman State University, Kirksville, MO.

Jonas, J., M.R. Whiles, R.E. Charlton. 2002. Aboveground invertebrate responses to land management differences in a central Kansas grassland. *Environmental Entomology* 31: 1142-1152.

GRANTS

Middle Niobrara-Nebraska Sandhills Demonstration Site, Co-project leader, sub-grant through the North American Fire Learning Network (collaboration between the USDA Forest Service, US Department of the Interior, and The Nature Conservancy), \$25,000

SPECIALIZED TRAINING

- S130 Fire Safety, National Wildfire Coordinating Group (NWCG), April 2002
- S190 Introduction to Wildland Fire Behavior, NWCG, April 2002
- S290 Intermediate Wildland Fire Behavior, NWCG, December 2001
- S390 Introduction to Wildland Fire Behavior Calculations, NWCG, December 2001
- RX300 Burn Boss, NWCG, October 2002
- Workshop on Ecological Burning, The Nature Conservancy, October 2002
- Ranch Practicum (non-credit), University of Nebraska Lincoln, June 2001-January 2002

HONORS & AWARDS

- Chris Edler Award for Outstanding Research on Konza Prairie, KSU 2007
- Othmer Fellowship (\$9000), UNL, 2003-04
- Graduate Assistance in Areas of National Need (GAANN) Fellowship (\$3900), UNL, summer 2003 & 2004
- R.H. Painter New M.S. Student Scholarship (\$1000), Dept. of Entomology, KSU 1999
- Knutson Graduate Student Travel Award (\$220), Dept. of Entomology, KSU 1999
- Graduate Student Assistantship Supplement (\$6000), KSU, 1998-99, 1999-2000
- United States Achievement Academy (USAA) All-American Scholar, 1997
- National Collegiate Natural Sciences Award, 1997
- President's Honor Roll, WSC, 1994-1998
- Alexis Ann Rohrberg Memorial Scholarship (\$175), WSC, 1995-96, 1997-98
- W.G. Ingram Scholarship (\$250), WSC, 1996-97
- Rod Varilek Scholarship (\$75), WSC, 1996-97
- Lambda Delta Lambda Physical Science Honorary, WSC, 1995-98
- Alpha Lambda Delta Freshman Honor Society, WSC, 1995
- Katherine Gruber Scholarship (\$2000), Blinded Veterans Association, 1994-95
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INVITED PRESENTATIONS

Jonas, J. 2002. GIS in conservation management. GIS Day 2002, Chadron State College, Chadron, Nebraska.

Jonas, J. 2002. The role of invertebrates in conservation. Wayne State College, Environmental Learning Community Lecture series.

PRESENTATIONS

Jonas, J.L., A. Joern. 2007. Host plant quality affects nutrient regulation and performance of a mixed-feeding insect herbivore. Ecological Society of America, 92nd Meeting, San Jose, CA.

Jonas, J.L., A. Joern. 2007. Host plant quality affects nutrient regulation and performance of a mixed-feeding insect herbivore. Kansas State University, Division of Biology, 33rd Annual Graduate Research Forum, Manhattan, KS.

Jonas, J.L. G.W.T. Wilson, T.C. Todd, P.M. White, A. Joern. 2006. Consumption of mycorrhizal versus saprophytic fungi by Collembola in grassland soils. Ecological Society of America, 91st Annual Meeting. Memphis, TN.

Jonas, J.L. 2006. Something to chew on: Long-term trends in the Konza Prairie LTER grasshopper database. Kansas State University, Ecology and Evolutionary Biology seminar series. May 4, 2006.

Jonas, J.L., A. Joern. 2006. What does it mean to be a good host? Effects of bottom-up factors on grasshopper feeding guilds. Kansas State University, Division of Biology, 32nd Annual Graduate Research Forum, Manhattan, KS.

Jonas, J.L. 2005. Food selection by a mixed-feeding insect herbivore. Kansas State University, Division of Biology, 31st Annual Graduate Research Forum, Manhattan, KS.

Fay, P., A. Joern, and **J.L. Jonas. 2004.** Heterogeneity and diversity in grassland ecosystems: implications for insect diversity. Symposium on Entomology in Prairie Ecosystems, 59th Annual Meeting of the North Central Branch, Entomological Society of America, Kansas City, Missouri

Jonas, J., M.R. Whiles, R.E. Charlton. 2000. Land use patterns and insect diversity in a central Kansas grassland. Southwestern Branch, Entomological Society of America, Fort Worth, Texas.

Jonas, J. 1998. A population description and community comparison for buckbean meadows on a fen in the Sand Hills of Nebraska. The Southwestern Association of Naturalists, Albuquerque, New Mexico.

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Borgmann-Ingwersen, M., **J. Jonas**. 1997. Vegetation communities and their relationship to soil and water characteristics on Sand Hill fens in Nebraska. The Southwestern Association of Naturalists, Fayetteville, Arkansas.

POSTERS

Jonas, J.L., A.Joern. 2007. Food selection is the primary means of nutrient regulation in a mixed-feeding insect herbivore. 18th Annual Konza Prairie LTER Workshop, Manhattan, KS.

Jonas, J.L., A. Joern. 2006. Assessing the effects of grassland ecosystem drivers on grasshopper communities: Long-term trends in the Konza Prairie LTER grasshopper dataset, 1982-2005. Long-Term Ecological Research Program All Scientist Meeting, Estes Park, CO.

Jonas, J.L. R.C. Frey, G.W.T. Wilson, P.M. White, T.C. Todd, A. Joern. 2006. Feeding on mycorrhizal and saprophytic fungi by Collembola in grassland soils. 17th Annual Konza Prairie LTER Workshop, Manhattan, KS.

Jonas, J.L. and A. Joern. 2005. Food selection by *Melanoplus bivittatus* (Orthoptera: Acrididae), a mixed-feeding grasshopper. 90th Annual Meeting of the Ecological Society of America, Montreal, Quebec, Canada.

Jonas, J. 2001. Conservation management in western Nebraska using Geographical Information Systems. GIS-Earth Science Day 2001, Chadron State College, Chadron, Nebraska.

Jonas, J., M.R. Whiles, R.E. Charlton. 1999. Influence of land use patterns on insect diversity in a central Kansas grassland. The Entomological Society of America, Atlanta, Georgia.

PROFESSIONAL MEMBERSHIPS

Ecological Society of America, student member, 2005-present

SERVICE & ACTIVITIES

- Reviewer, Oikos
- Reviewer, FEMS Microbiology Letters
- GEMS (Girls/Guys in Engineering, Math and Science) Workshop for middle school girls/boys, Garden City Community College, Garden City, KS, November 28-29, 2006
- Graduate Affairs Committee, KSU Division of Biology, 2006-07
- LTER Student Symposium, 2005, 2006
- Konza Prairie Biological Station, bison round-up, 2005, 2006
- Konza Prairie Biological Station, tour guide 2005-present
- KSU Biology Graduate Student Association, 2005-present, treasurer 2005-06
- The Wildlife Society, NE Chapter, 2000-03, planning committee 2002-03
- Prescribed Burn Task Force (western NE), 2000-2003
- Society for Range Management, NE Chapter Youth Range Camp, 2001
- "Expanding Your Horizons" Science and Math Workshop for middle school girls, Mid-Plains Community College, North Platte, NE, 2001

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- Central States Entomological Society, 2000 Meeting, webmaster
- Konza Prairie Biological Station, fire crew 1999-2000, 2004-present
- KSU Entomology Club, 1998–2000; vice-president 1999-2000, Linnean Team 1999-2000
- Planning Committee, KSU Department of Entomology, 1999

TEACHING EXPERIENCE

Guest Lecturer

- BIOL529 Ecology, KSU, “Life History Evolution,” Fall 2006
- BIOL529 Ecology, KSU, “Population Growth Models,” Fall 2006
- AGRON646 Soil Microbiology Lab, KSU, “Soil-dwelling Collembola,” Fall 2006
- ENTOM320 Horticultural Entomology, KSU, “Reproductive Adaptations of Insects,” Fall 1999

Teaching Assistant

- BIOL632 Ecology Lab, Kansas State University, Spring 2005, Spring 2006, Spring 2007
- BIOL210 General Botany, Kansas State University, Fall 2004, Fall 2005, Fall 2006
- BIOS302 Ecology and Evolution Lab, University of Nebraska-Lincoln, Spring 2004
- BIOS101L General Biology Lab, University of Nebraska-Lincoln, Fall 2003
- ENTOM320 Horticultural Entomology Lab, Kansas State University, Fall 1999
- BIO102 General Biology Lab, Wayne State College, Spring 1998