

Janice L. Bossart

Curriculum Vitae

PRESENT POSITION

Associate Professor, Department of Biological Sciences, SLU Box 10736, Southeastern Louisiana University, Hammond, LA 70402. Phone: 985 549-5287. Fax: 985 549-3851. E-mail: jbossart@selu.edu.

Website: <http://www2.selu.edu/Academics/Faculty/jbossart>.

Ghana Butterfly Biodiversity Project: <http://iz.carnegiemnh.org/GhanaBFly/default.asp>

EDUCATION

Ph.D. (1993) Entomology, Program in Ecology & Evolutionary Biology – Michigan State University, E. Lansing, Michigan

M.S. (1988) Entomology – Michigan State University, E. Lansing, Michigan

B.S. (1985) Magna cum laude – Plant and Soil Science, Basic Science – West Virginia University, Morgantown, West Virginia

PROFESSIONAL APPOINTMENTS

2005-present Associate Professor of Biology, Southeastern Louisiana University, Hammond, LA

2004-present Research Associate, Section of Invertebrate Zoology, Carnegie Museum of Natural History, Pittsburgh, PA

2004-2005 Visiting Research Professor of Biology, Rose-Hulman Institute of Technology, Terre Haute, IN

2003-2004 Visiting Assistant Professor of Biology, Rose-Hulman Institute of Technology, Terre Haute, IN.

1998-2003 Assistant Professor of Biology, College of New Jersey, Ewing, NJ.

1997-1998 Lecturer, Department of Biological Sciences, Louisiana State University, Baton Rouge, LA.

1995-1997 Postdoctoral Research Fellow. Museum of Natural Science, Louisiana State University, Baton Rouge, LA. Faculty Advisor: Dr. Dorothy Pashley-Prowell.

1993-1995 Postdoctoral Research Associate. Department of Entomology, University of Maryland, College Park, MD. Faculty Advisors: Dr. Walter S. Sheppard and Dr. Michael J. Raupp.

1987-1993 Graduate Research Assistant. Department of Entomology, Michigan State University, E. Lansing, MI. Major Professor: Dr. J. Mark Scriber.

1989-1992 Graduate Teaching Assistant. College of Biological Sciences, Michigan State University, E. Lansing, MI.

1985-1987 Graduate Research Assistant. Department of Entomology, Michigan State University, E. Lansing, MI. Major Professor: Dr. Stuart H. Gage.

RESEARCH INTERESTS

Determinants and dynamics of insect communities and populations in habitat patches; Evolutionary ecology of insect life-history traits relating to host plant and habitat use; Integration of local genetic pattern and process at the scale of landscapes and species; Historical and contemporary determinants of spatial genetic structure (both molecular and quantitative variation); Adaptation and genetic constraints; Dispersal and gene flow; Ecological sustainability and biodiversity conservation; Environmental gradients and ecotones; Indicator species.

GRANTS/FELLOWSHIP SUPPORT

LA Dept. of Wildlife & Fisheries and US Fish & Wildlife Service, *Insect assemblages of rare saline prairies* – \$118,455 (non-Federal match, \$59,395) (2007-09)

Internal Grants, Southeastern Louisiana University – \$6,400 (2006)
Environmental Protection Agency, *Development of an index of biological integrity for Lake Pontchartrain Basin wetlands*, with co-PI Jackson (U of MS) – \$145,817 (2006-09)
National Science Foundation - REU Supplement to DEB-0417367 – \$7,000 (2005)
NSF DEB-0417367, *Diversity and dynamics of forest butterflies in Ghana's indigenous sacred groves and forest reserves* – \$299,876 (2004-08)
National Geographic Society, *Conservation value of remnant sacred forests* – \$23,000 (2001-02)
Internal Grants, College of New Jersey – \$60,000 (1998-2003)
AAAS Environmental Science & Engineering Policy Fellowship (declined to accept faculty position) – \$45,000 (1998)
Molecular Evolution Postdoctoral Fellowship, Louisiana State University – \$42,500 (1995)
NSF Dissertation Improvement Grant (BSR #9001391) – \$7000 (1990-1992)
Various Small External Grants – \$6000 (1989 – 2001)

HONORS/AWARDS

Honorary Faculty Coach, Southeastern Louisiana University (October 2007)
Outstanding Faculty of the Week, Rose-Hulman Institute of Technology (May 2004)
Invited Scientific Expert on Conservation International's Rapid Assessment Program for Ghana (Fall 2003)
Finalist, AAAS Diplomacy Fellowship (April 2003)
Beta Beta Beta Biological Society Research Award, National Chapter, with Karla Adesso*,
**undergraduate student researcher* (November 2001)
Phi Kappa Phi Honor Society Research Award, Local Chapter, with Molly Sheridan*,
**undergraduate student researcher* (November 2000)
Finalist, AAAS Roger Revelle Fellowship in Global Stewardship (April 1998)
Delta Zeta Outstanding Professor, Louisiana State University (October 1997)
Eugenia McDaniel Teaching Award, Entomology, Michigan State University (1992)
Wooley Research Award, Entomology, Michigan State University (1990)
Outstanding Senior, Division of Plant and Soil Sciences, West Virginia University (1985)
Golden Key National Honor Society – inductee based on record of academic excellence (inducted 1985)
Gamma Sigma Delta National Honor Society of Agriculture – inductee based on record of academic excellence (inducted 1984)
Business and Professional Women's Association – Academic Scholarship (1984)

PUBLICATIONS

Bossart, J. L. and E. Opuni-Frimpong (2008) Distance from edge determines fruit-feeding butterfly community diversity in Afrotropical forest fragments. In Press. *Environmental Entomology*.

Bossart, J.L., J. F. Fetzner Jr., and J. E. Rawlins (2007). Ghana Butterfly Biodiversity Project website. <http://iz.carnegiemnh.org/GhanaBFly/>.

Bossart, J. L., E. Opuni-Frimpong, S. Kuudaar and E. Nkrumah (2006) Richness, abundance, and complementarity of fruit-feeding butterfly species in relict sacred forests and forest reserves of Ghana. *Biodiversity and Conservation*. 15 (1): 333-359.

Reprinted In: (2006) Arthropod diversity and conservation (D. L. Hawksworth and A. T. Bull, eds). Topics in biodiversity and conservation, Vol 1. Springer Verlag.

Bossart, J. L., E. Opuni-Frimpong, S. Kuudaar and E. Nkrumah (2005) Fruit-feeding butterfly communities of forest "islands" in Ghana: survey completeness and spatial correlates of diversity. Pp. 151-158. *In:* African biodiversity: molecules, organisms, ecosystems. Proceedings of the 5th International Symposium on Tropical Biology, Museum Koenig, Bonn, Germany (B. A. Huber, B. J. Sinclair and K-H. Lampe, eds). Springer Verlag.

- Bossart, J. L.** (2004) Butterflies: Ecology and Evolution Taking Flight. Invited Book Review. *Quarterly Review of Biology*. 79 (4): 435-436.
- Bossart, J. L.** (2004) Genes in the Environment. Invited Book Review. *Quarterly Review of Biology*. 79 (3): 307-308.
- Bossart, J. L.** (2003) Covariance of preference and performance on normal and novel hosts in a locally monophagous and locally polyphagous butterfly population. *Oecologia*. 135: 477-486.
- Bossart, J. L.** and C. E. Carlton (2002) Insect conservation in America: status and perspectives. *American Entomologist*. 48: 82-92.
- Stracey, C. M.* and **Bossart J. L.** (2002) Temporal survey of butterfly species in the Pine Barrens of New Jersey. In: Identification and protection of reference wetland natural communities in New Jersey: Pine Barren Savannas. (Report for NJDEP, Division of Parks and Forestry, Office of Natural Lands Management, Natural Heritage Program). *undergraduate student researcher
- Bossart, J. L.** and J. M. Scriber (1999) Preference variation in the polyphagous tiger swallowtail butterfly (Lepidoptera: Papilionidae). *Environmental Entomology*. 28: 628-637.
- Bossart, J. L.** (1998) Genetic architecture of host use in a widely distributed, polyphagous butterfly (Lepidoptera: Papilionidae): adaptive inferences based on comparison of spatio-temporal populations. *Biological Journal of the Linnean Society*. 65: 279-300.
- Bossart, J. L.** and D. Pashley Prowell (1998) Genetic estimates of population structure and gene flow: Limitations, lessons, and new directions. *Trends in Ecology and Evolution*. 13: 171-212.
- Bossart, J. L.** and D. Pashley Prowell (1998) Reply from J. L. Bossart and D. Pashley Prowell. *Trends in Ecology and Evolution*. 13: 360.
- Triapitsyn, S. V., R. F. Mizell, III, **J. L. Bossart**, and C. E. Carlton (1998) Egg parasitoids of glassy-winged sharpshooter, *Homalodisca coagulata* (Say) (Homoptera: Cicadellidae). *Florida Entomologist*. 81: 241-243.
- Bossart, J. L.** (1995) Swallowtails of the Americas. Invited Book Review. *Quarterly Review of Biology*. 70: 522-523.
- Bossart, J. L.** and J. M. Scriber (1995) Maintenance of ecologically significant genetic variation in the tiger swallowtail butterfly through differential selection and gene flow. *Evolution*. 49: 1163-1171.
- Bossart, J. L.** and J. M. Scriber (1995) Genetic variation in oviposition preference in the tiger swallowtail butterfly: interspecific, interpopulation and interindividual comparisons. Pp. 183-193. In: The swallowtail butterflies: Their ecology and evolutionary biology. (J. M. Scriber, T. Tsubaki and R. C. Lederhouse, eds.). Scientific Publisher, Inc. Gainesville, FL.
- Bossart, J. L.** (1993) Differential selection and adaptation in different host environments: genotypic and phenotypic variation in host use traits in the tiger swallowtail butterfly, *Papilio glaucus* L. PhD Dissertation. Michigan State University. Lansing.
- Ayres, M. P., **J. L. Bossart** and J. M. Scriber (1991) Patterns of variation in nutritional physiology: tree-feeding swallowtails of the nearctic. Pp. 85-102. In: Forest insect guilds: patterns of interaction with their host trees. (Y. Baranchikov and W. Mattson, eds.). Proceedings of the Symposium of Soviet Academy of Sciences. U.S. Forest Service.
- Hagen, R. H., R. C. Lederhouse, **J. L. Bossart** and J. M. Scriber (1991) *Papilio canadensis* and *P. glaucus* are distinct species. *Journal of the Lepidopterists Society*. 45: 245-258.
- Scriber, J. M., **J. L. Bossart** and M. L. Snider (1991) Diagnostic alleles from electrophoresis distinguish two noctuid pest species, *Hydraecia immanis* and *H. micacea*. (Lepidoptera: Noctuidae). *Great Lakes Entomologist*. 5: 91-98.

Scriber, J. M., R. H. Hagen, R. C. Lederhouse, M. P. Ayres, and **J. L. Bossart** (1991) Plant ecotones and butterfly speciation. *Symposia Biologica Hungarica* 39: 317-326.

Bossart, J. L. and S. H. Gage (1990) The biology and seasonal occurrence of *Manduca quinquemaculata* (L.) and *Manduca sexta* (Haworth) (Lepidoptera: Sphingidae) in southwestern Michigan. *Environmental Entomology*. 19: 1055-1059.

Bossart, J. L., B. Giebink and J. M. Scriber (1989) Electrophoretic differences between *Hydraecia immanis* and *Hydraecia micacea*. In: Impact of Integrated Crop Management Practices on European Corn Borer and Related Stalk-boring Insects. Proc. NC-180 Regional Research Technical Committee.

Bossart, J. L. (1987) Consequences of intraspecific host quality on the ecology of two specialist phytophages, *Manduca quinquemaculata* and *Manduca sexta*, (Lepidoptera: Sphingidae). MS Thesis. Michigan State University. Lansing.

PUBLICATIONS – In Preparation

Jean Elbers* and J. L. Bossart. Wandering wings: forest butterflies over the edge. Intended for *African Entomology*. *Undergraduate student researcher

Bossart, J. L., E. Opuni-Frimpong, S. Kuudaar and E. Nkrumah. Species' abundance patterns indicate apparent winners and losers in Ghana's fragmented forest-endemic butterfly communities. Intended for *African Entomology*.

J. L. Bossart, K. Altmann*, and L. Poche*. Lack of dependence between spatial scale and estimates of alpha diversity. Intended for *Journal of Tropical Ecology*. *Undergraduate student researchers

Bossart, J. L. Nestedness of fragmented forest butterfly communities in a highly transformed Afrotropical landscape. Intended for *Oikos*.

RESEARCH SEMINARS

31 total (1994-2008)

CONFERENCE PRESENTATIONS

33 total (1986-2008), including two invited

GRADUATE STUDENT ADVISEES

5 since 2005

GRADUATE STUDENT COMMITTEE MEMBER

7 since 2005

UNDERGRADUATE STUDENT RESEARCH ADVISEES

16 since 1999

PROFESSIONAL SERVICE

Panel Member: NSF Panel Member: 2006, 2008

Guest Editor: Northeastern Naturalist

Ad hoc Peer Reviews:

Journals: *African Entomology*, *Annals Entomological Society of America*, *Canadian J. of Zoology*, *Coleopterists' Bulletin*, *Conservation Biology*, *Ecological Applications*, *Entomologia Experimentalis et Applicata*, *Environmental Entomology*, *Evolution*, *Genetica*, *Great Lakes Entomologist*, *Insect Science*, *J. of Tropical Ecology*, *Molecular Ecology*, *Oecologia*, *Proc. Entomological Society of Washington*, *Sida*, *Trends in Ecology & Evolution*.

Granting Agencies: Regular reviewer for NSF; also USDA, NERC (United Kingdom), National Fish & Wildlife Federation, Civil Research Development Fund – RFBR, California Department of Food and Agriculture

Books: *Ecology*, D. B. Botkin, Prentice Hall

PROFESSIONAL AFFILIATIONS

American Society of Naturalists (since 2004), Ecological Society of America (since 1992),
Entomological Society of America (since 1986), Society for Conservation Biology (since 1998)

FIELD EXPERIENCE

Domestically, I have extensive field experience in Florida, Georgia, Louisiana, Maryland, Michigan, New Jersey, New York, Ohio, and Pennsylvania, associated with my studies of habitat-and host-use, and/or population genetic structure, mostly of the tiger swallowtail butterfly, but also of *Manduca spp.*, Oak gall wasps, Pine Barrens' savanna butterfly communities, and the macro invertebrate communities of Louisiana's cypress swamps.

My international field experiences include two weeks in Belize on a biodiversity survey project of beetles at Rio Bravo Conservation Area (with C. E. Carlton), ten days in South Africa collecting and inventorying butterflies, and 47 weeks (and counting) in Ghana in conjunction with my research of insect communities in transformed landscapes.

SPECIAL SKILLS

Expertise with a variety of molecular techniques related to DNA gathering and analysis; strong quantitative mathematical/statistical background; proficient with a variety of data analysis and presentation packages (e.g., SAS, EstimateS, and SigmaPlot).

PERSONAL HISTORY and INTERESTS

I was born in New York, but view the mid Atlantic region as home, having moved with my family to five different states in the region before the age of 17. Five additional states, excluding two repeats, have been added to my "state list" as a consequence of career moves. I embarked on my professional studies as a single parent and after a six year hiatus from academics. Parental responsibilities necessitated my professional goals be temporarily put on hold the two years following completion of my doctoral program. Professionally, I seek opportunities that are challenging; foster creativity and critical thinking; and promote and value independence, collaboration, and transfer of knowledge. I also hope to apply my professional expertise, in part, towards efforts to address socioeconomic challenges that underlie environmental degradation and ecologically unsustainable practices. These goals, coupled with my love of adventure and discovery, explain my career choice as an insect evolutionary ecologist currently conducting field studies of insect communities in Africa.

I jog regularly; like to attend art exhibit openings and to explore both natural and unnatural (e.g., midtown Manhattan) settings with friends and family; volunteer on educational, environmental, and social issues; and listen to music of all types from Grunge to African High Life to Mozart.

REFERENCES

Dr. Chris E. Carlton, Assoc. Professor, Entomology, Louisiana State University
Dr. Dorothy Prowell, Professor, Entomology, Louisiana State University
Dr. John E. Rawlins, Associate Curator, Head Invert. Zoology, Carnegie Natural History Museum
Dr. J. Mark Scriber, Professor, Entomology, Michigan State University
Dr. Lee Waite, Professor & Chair, Applied Biology, Rose-Hulman Institute of Technology