Erica F. Kosal, Ph.D.
Associate Professor of Biology
Division of Mathematics and Science
North Carolina Wesleyan College
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Education

Doctor of Philosophy in Zoology
North Carolina State University, Raleigh, North Carolina, 1998
Dissertation: The influence of size and parasites on mate choice of *Schistocerca americana* and *Dichromorpha viridis* and the parentage of these multiple-mating species using random amplified polymorphic DNA (RAPDs)

Master of Science in Ecology
North Carolina State University, Raleigh, North Carolina, 1995
Thesis: Female mate choice of *Schistocerca americana* (Orthoptera: Acrididae)

Bachelor of Science in Zoology
Michigan State University, East Lansing, Michigan, 1991

Experience

Associate Professor: August 2004 - present
Chair of Mathematics and Sciences Division: August 2007 - present
Assistant Professor: August 1998 – August 2004
North Carolina Wesleyan College, Biology Department
Rocky Mount, North Carolina

- Courses: *Introduction to Environmental Science, The Biology of Plants, Global Water Issues, Ecology, General Biology, Life Science, Invertebrate Zoology,* and *Animal Behavior* (both lecture and laboratories), and occasional special topics courses (such as *The Natural History of the Southeastern United States, Wildlife of East Africa and Ecotourism*, and *Alaskan Wildlife and Environmental Issues*)
- Environmental Science Program Coordinator
- Honor Research Director for 8 students, 1999 – present
- Independent Research Projects with 18 students, 1998 – present
- Student Internships: Helped with Placement of Students as well as Supervision of 26 students, 1998 - present
- Supervise undergraduate work study students

Adjunct Assistant Professor: Summers, 1998 – present
North Carolina State University, Zoology Department and Biological Sciences Interdepartmental Program; Raleigh, North Carolina

- Past and Current Courses: *Biology in the Modern World* (non-majors course), *Introduction to Biology* (majors course), and *East African Wildlife & Human Interaction*
- Supervise graduate teaching assistants for the laboratory portion of the courses

Professional Honors

2004-2005 Jefferson-Pilot Professorship. North Carolina Wesleyan College. *This is the highest award given to a faculty member at the institution*

2001-2002 Exemplary Teaching Award for North Carolina Wesleyan College and the General Board of Higher Education and Ministry of The United Methodist Church

Young Careerist Award from the Business and Professional Women's Organization, Local Award; District Award; and State Award: 2002

Outstanding Graduate Teaching Award from the National Association of Colleges and Teachers of Agriculture, 1997

Outstanding Graduate Teaching award from the College of Agriculture and Life Sciences, North Carolina State University, 1997

Outstanding Teaching Award from North Carolina State University Graduate Association, 1993, 1995, and 1996

Research and Scholarship

Publications

Kosal, E., Lawrence, C. and R. Austin. 2008. Using real-world issues in a multidisciplinary course centered on water issues to improve student attitudes toward learning and civic engagement. In review for the American Biology Teacher.

Kosal, E.F. Accepted December 2007. Findings in Chimpanzee Droppings Lead Scientists to Evolutionary Discovery. Journal of College Science Teaching. Also posted at the National Center for Case Study Teaching in Science Case Collection – funded by NSF and recognized as a National Science Digital Library (NSDL) collection (available at http://ublib.buffalo.edu/libraries/projects/cases/case.html)

Kosal, E.F. and M. Niedzlek-Feaver. 2007. Parental size influence on offspring phenotype in *Schistocerca americana* (Orthoptera: Acrididae). Journal of Orthoptera Research 16(1): 51-55

Lawrence, L. and E. Kosal. 2005. Investigating the physiological reactions of green anoles in response to different stresses. Journal of the North Carolina Academy of Science 121 (2): 94.

Kosal, E.F. February 2004. The fish kill mystery. Journal of College Science Teaching Volume 33 (4): 36 – 40. Also posted at the National Center for Case Study Teaching in Science Case Collection – funded by NSF and recognized as a National Science Digital Library (NSDL) collection (available at http://ublib.buffalo.edu/libraries/projects/cases/case.html)

Landry, N. and E. Kosal. 2004. The effects of competition and predation in tadpoles. Journal of the North Carolina Academy of Science 120 (2): 70.

Wells, T. and E. Kosal. 2004. How male fish pigment affects female's mate choice in *Betta splendens*. Journal of the North Carolina Academy of Science 120 (2): 89.

Kosal, E.F. and M. Niedzlek-Feaver. 2001. Parental size influence on offspring phenotype in *Schistocerca americana* (Orthoptera: Acrididae). Poster presentation at the International Orthopterist Society Meeting in France.

Kosal, E.F. and M. Niedzlek-Feaver. 1998. Using random amplified polymorphic DNA (RAPD)-PCR to assess paternity in species of grasshoppers. J. Orth. Research 7: 133-138.

Kosal, E.F. and M. Niedzlek-Feaver. 1997. Female preference for large, heavy mates in *Schistocerca americana* (Orthoptera: Acrididae). J. of Insect Behavior 10: 711-725.

Kosal, E.F. and M. Niedzlek-Feaver. 1997. Random amplified polymorphic DNA (RAPD) as a means of determining paternity in a grasshopper. Poster presented at the International Orthopterists' Society. Cairns, Australia. Abstract published in Metaleoptea 17: 14.

Kosal, E.F. and M. Niedzlek-Feaver. 1996. Crepitation in *Schistocerca americana* (Orthoptera: Acrididae). J. Orth. Research 5: 18.

Kosal, E.F. 1992. Mate selection in *Schistocerca americana*. Poster presented at the Florida Entomological Society annual meeting.

Presentations

"The Influence of Learning Preferences on Student Success in the Biology Classroom". E. Kosal. Presented at the National Science Teachers Association Annual Conference in March 2008.

"Improving Science Education through Globalization". E. Kosal, P. Fernandes, J. Mecham. Presented at the Association of Southeastern Biologists Annual Meeting, April 2008.

"Global Science: Discourse and Collaboration" J. Mecham, E. Kosal, P. Fernandes, M. Otieno. Presented at the SENCER (Science Education for New Civic Engagements and Responsibilities) Symposium in Washington, DC, April 2008.

"Global Problems, Global Science" E. Kosal, J. Mecham, P. Fernandes, M. Otieno. Presented at the American Conference of Academic Deans and The Phi Beta Kappa Society Conference "Promoting the Liberal Sciences: Science as Liberal Education" October 2007, Washington DC.

"HIV/AIDS from the Global Perspective"; J. Mecham, J. Palchinsky (Meredith College), P. Fernandes (USC-Sumter), E. Kosal (NCWC). Presented at the SENCER (Science Education for New Civic Engagement and Responsibility) Summer Institute 2006. Santa Clara University

"The Effects of Using Real-World Issues in a Multidisciplinary Course on Student Attitudes toward Learning and Civic Engagement" NCWC Fourth Monday Colloquia presentation jointly with Dr. Carol Lawrence, October 2005

"A Question of Biodiversity: Variation on the Same Theme" Jefferson-Pilot Lecture delivered to the NCWC College community and the local Rocky Mount community, April 2005

"Integrating Biology, Chemistry, and Mathematics to Evaluate Global Water Problems" presentation jointly with Drs. Rodney Austin and Carol Lawrence at Georgia's Conference on College and University Teaching, held at Kennesaw State University, February 2005

"Travels to East Africa: Wildlife and the Effects of Ecotourism on Them" NCWC Fourth Monday Colloquia presentation, January 2003

"What is the Greatest Environmental Threat facing the World Today?" NCWC Fourth Monday Colloquia presentation, November 2001

"The Evaluation of Writing Assignments" NCWC Writing Program Workshop, September 2001

Panelist for NCWC's Fourth Monday Forum on *Ecology and Economics*, April 1999

Speaker for the 12th Annual Graduate Professional Development Workshop for NCSU, October 1998

Workshops and Coursework Designed
The design and development of a new course: BIO 495/CHM 495, *Special Topics: An Inquiry Based Approach to Middle Grades Science*, summer course team taught with Dr. Wyatt McConnell, Chemistry, July 2005

The design and development of a new Summer Workshop for AHEC (Area Health Education Center) on *Forensic Biology*, 5 day workshop for Middle Grade Students, team taught with Dr. Heather Louch, June 2004 and 2005

Scholar for *The Research Revolution* program at Rocky Mount's Braswell Memorial Library (sponsored by the National Video Resources and the National Science Foundation), February and March 2003

Development of the following new courses: *Global Water Issues*; *Introduction to Environmental Science Laboratory*; *The Natural History of the Southeastern United States; East African Wildlife and Human Interaction*; and *Alaskan Wildlife and Environmental Issues*

Developed the following laboratory manuals for use: *Ecological Methods*; *Introduction to Environmental Science Laboratory*; *Invertebrate Zoology*; *Vertebrate Zoology* ; and *Animal Behavior* *. **These manuals are no longer used because I no longer teach the course or the laboratory portion of the course has been omitted.*

Helped to revise the following laboratory manuals for use: *General Biology Methods* and *Life Science Laboratory*

Participant in the Faculty Development for NCWC Title III Grant to work on course development for *Introduction to Environmental Science*, summer 2002

Service

Community
Advisory Board Member for the North Carolina State University Science Outreach Project, 2002 - present

GlaxoSmithKline Women in Science Faculty Representative for North Carolina Wesleyan College, 1999-present

Howard Hughes Medical Institute College Consortium Representative for North Carolina Wesleyan College, 1998-present

North Carolina InterCollegiate Environmental Science and Studies member, 1999 – present

Coordinator for EcoTeam, a program that couples college students with local third-grade classrooms to discuss and perform activities on environmental lessons, 1999 – present

Stream Watch community service group, 2000 - present

Board Member for "A Cat's Tale", a no-kill cat shelter, Raleigh, 2003 – 2006

Board Member of Association of Learning Disabled and Handicapped, Rocky Mount Branch, 1998 – 2005; Vice President, 2003 – 2005

Judge for Business and Professional Women's Organization (BPW) for the Young Careerist State Competition, June 2003 and June 2004

Englewood Elementary School Presentations on "Ecology Days": presentations to fourth graders over period of seven weeks, March – May, 2003

Volunteer at the Down East Festival, October 2002

Volunteer for Handicapped Kids Weekend Fundraising efforts, November 2002

"Science Day" at Red Oak Elementary School in May: presentation on insects to first and fourth graders, May 2002

Spring Hope Elementary Science Day (presentation to 3-5 graders): March, 2001

Volunteer at Lowe's to help the Red Cross after Hurricane Floyd struck: sorted out clothes and other essentials (e.g. food, baby diapers, etc) for easy transport, 1999

Volunteer and Presenter for NC State Museum of Natural Sciences,
Reptile and Amphibian Day, March 1999
Astrology Day, January 1999
BugFest, August 1998

North Carolina Wesleyan College

Member of the Task Force "Recruiting more Freshmen" as part of the NCWC Strategic Planning Committee, 2008

Member of the NCWC Strategic Planning Task Force, October 2005 – May 2006

- One of three faculty members invited to participate by the Dean of the College

Chair for Biology Position Searches, 1999 and 2000 and 2002 and 2005

Chair of Environmental Science Program Review, 1999-2000

Co-chair, jointly with Dr. Marshall Brooks, and organizer of NCWC Spring Forum on the *Environmental Health of North Carolina*, April 2002

Co-chair, jointly with Doretha Chichester, as faculty representative for "Day for Wesleyan, September 2002

Chair of the curriculum review of the Environmental Science major, 1999-2000

Member of the following curriculum reviews: the Biology major, 2000-2001, the Pre-medicine major, 2000-2001, and the Mathematics major, 1998

Grants

Received

National Science Foundation, August 2005. Project to develop a new course: *Life Science in Context: Sub-Saharan Africa*. $75,920. J. Mecham, PI; Co-PIs: E. Kosal (NCWC); Pearl Fernades (USC – Sumter); M. Barker-Bridgers (Bennett College); S. Fisher (Meredith College)

Nash-Rocky Mount School Partnership Grant with Nash-Rocky Mount Schools. Project title: *Pursuing Excellence in Middle Grades Math and Science.* $1,270,824. M.E. Perry, PI; North Carolina Wesleyan College partner on grant – I was involved in teaching a course on integrating math and science for middle grades.

Garner Leadership Award, North Carolina Wesleyan College, February 2004: to attend water conferences, purchase global position system units and the map-making software ArcView for student use, and funds to take a course to learn how to use the software, jointly with Drs. Rodney Austin and Carol Lawrence, $6300

Science Education for New Civic Engagements and Responsibilities (SENCER) grant, March 2003: for the development of a cross-disciplinary course (biology and chemistry) focused on water issues, jointly with Dr. Rodney Austin, $ 3,500

US Fish and Wildlife Service Grant, 2002: for purchasing tree signs, benches, and development for an outdoor "living laboratory" on NCWC campus, $3,500

Wilkinson Award, North Carolina Wesleyan College, 2002: for participation in a field course in Tanzania and Kenya, Africa during August 2002, $5,300

NCWC Teagle Grant, May 2002, jointly with Drs. Rodney Austin and Darryl Daley: for purchase of laboratory equipment, $7, 492

NCWC Teagle Grant, December 2000: for creating a natural preserve on campus for Environmental Science student use and for the purchase of technology to be used in preserve, $3,500

NCWC Garner Faculty Leadership Award, jointly with Dr. Marshall Brooks, North Carolina Wesleyan College, May 2000: for "greening the campus". Concentration on recycling programs and symposium with local leaders on environmental issues, $4,200

Research award from the International Orthopterist Society, 1995: for studying parental size influence on offspring of various grasshopper species, $1,500

Harkema research award from North Carolina State University, 1991: for female mate choice of *Schistocerca Americana*, $ 500

Pending
"Developing a Kenyan Field Site for Expanding A Successful Globalization of Science Curriculum" E. Kosal, J. Mecham (Meredith College) and P. Fernandes (USC Sumter). Phase II CCL& I NSF grant proposal, submitted December 2007.

"Trihybrid Virtual Research Environments to Enhance and Strengthen Introductory Biology Courses" E. Kosal, M. Klesath (North Carolina State University) and L. Annetta (NCSU). Phase I CCL & I NSF grant proposal, to be submitted May 2008.

Committee Work at NC Wesleyan College
Program Director for Environmental Science, 1998 – present

Faculty Council, 2000-2002 and 2005 – 2008
- Vice-Chair of the Faculty: 2005 - 2006
- Chair of the Faculty: 2006 – 2007

Faculty Advisor for the NCWC Science Club, 1999-2006

Arboretum Committee, 2000 - present

Academic Policy, 2002- 2005

Honor's Program Evaluation Committee, 2003 - 2004

Enrollment Management Board of Trustees Committee (faculty representative), 2002 – 2003

Academic At-Risk Committee,1998 & 2003

Library Services, 2000 - 2003

Professional Development, 1998 - 2002

Library Position Search, 2001 - 2002

Title III PACE Committee, 2000 – 2001

Exercise Science Search Committee, 1999 – 2000 and 2000 – 2001

Honor Program Committee to help recommend new Director to program, 2001

Jefferson-Pilot Professor Recommendation Committee, 2000 and 2005

Pre-Medicine Advisory Committee, 1999 - 2002

Math Review, 1998-1999

Psychology Department Review, 1999

Psychology Position Search, 1999

Internship Director Search, 1998

SWOT Analysis Committee, 1998