

# Michael Dale Meyer

Department of Biology, Chemistry and Environmental Science  
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## Education

### **Ph. D. in Entomology:** August 2005

Department of Entomology, Purdue University, West Lafayette, IN

Dissertation: Inventory and Environmental Status of the Ephemeroptera of Far Western United States

### **Master of Science in Entomology:** December 2001

Department of Entomology, Purdue University, West Lafayette, IN

Thesis: Compilation and Assessment of the Recorded Ephemeroptera of California, Oregon, and Washington

### **Clear Ryan Professional Multiple Subject Teaching Credential:** June 1992

School of Education, University of California, Davis, CA

### **Bachelor of Science in Zoology:** June 1987

Department of Zoology, University of California, Davis, CA

## Academic Experience

Assistant Professor, Christopher Newport University, Newport News, VA (2005-present)

Teaching Assistant, Purdue University, West Lafayette, IN (1999-2005)

## Teaching Experience

### **Assistant Professor, Christopher Newport University, Newport News, VA**

#### Zoology (BIOL 151/151L), 2006-2008

Collaboratively created and implemented all coursework (exercises, quizzes, and exams) introducing zoological principals, including evolution, systematics, physiology, behavior and ecology. Prepared all laboratory exercises with an emphasis on the scientific method, cellular functions, genetics, and organism classification. Maintain office hours and an open door policy, as well as provide supplemental materials to students when requested.

#### Tropical Ecology (BIOL 295), 2008

Created and implemented all coursework revolving around John Kricher's A Neotropical Companion. Students were held responsible for weekly reading reviews, leading discussions, and formal presentations. Maintain office hours and an open door policy, as well as provide supplemental materials to students when requested.

#### Biology Seminar (BIOL 491W), 2007

Create and implement all coursework revolving around David Quammen's *The Song of the Dodo: Island Biogeography in an Age of Extinction*. As a writing intensive course, students were held responsible for weekly reading reviews, leading discussions, and formal presentations. In addition, students created and evaluated resumes and cover letters, as well as participated in mock interviews, both as interviewees and interviewers. Maintain office hours and an open door policy, as well as provide supplemental materials to students when requested.

#### Honey, Silk, and the Black Death (BIOL 112), 2007

Created and implemented all coursework for this new course designated to meet the university's exploring the natural world area of inquiry (AOI) requirement. Incorporated student presentations and hands-on experiences, including entomophagy. Prepared all in-class activities, assignments, and exams. Maintain office hours and an open door policy, as well as provide supplemental materials to students when requested.

#### Comparative Vertebrate Anatomy (BIOL 409/409L), 2006

Created and implemented all coursework (exercises, quizzes, exams) with an emphasis on a phylogenetic systematics approach to comparative vertebrate structure and function. Prepared all laboratory exercises to enhance topics discussed during lectures, including field activities, dissections, and electronic applications. Maintained office hours and requested individual visits to assess student understanding throughout the semester, as well as provide supplementary materials.

#### Entomology (BIOL 495/495L), 2006-2007

Created and implemented all coursework (exercises, quizzes, and exams) with an emphasis on an advanced introduction to insect evolution, systematics, internal and external anatomy, physiology, behavior and ecology. Prepare all laboratory exercises with an emphasis on the identification of major insect orders and representative families using dichotomous keys and a variety of additional resources. Sampling techniques gained by collecting specimens from a variety of habitats, processing material, and identifying all specimens to the family level to be presented as a final project. Provide opportunities for oral presentations. Maintain office hours and an open door policy, as well as provide supplemental materials to students when requested.

#### Introductory Biology (BIOL 107), 2005-2007

Prepared all coursework (exercises, quizzes, and exams) with an emphasis on introducing major concepts, theories, trends, and ideas related to biology to four classes, each with approximately 70 students. One of the courses included honors students, who were exposed to additional materials, had additional assignments, and were required to meet at special times out of class. Maintain office hours and an open door policy, as well as provide supplemental materials to students when asked. Work collaboratively with Academic Advising regarding students with documental learning disabilities.

### **Laboratory Instructor, Purdue University, West Lafayette, IN**

#### Advanced Insect Taxonomy (ENTM 506), 2004

Maintained and presented specimens for taxonomic order and family recognition to department graduate and undergraduate students. Created and administered all exams. Coordinated field excursions and demonstrated sampling methods, including using sweep nets and kick screens. Presented proper specimen labels, preservation, and storage techniques for larvae and adults. Reinforced morphological characters used for by-sight recognition, as well as used dichotomous keys for specimen identification.

#### Fundamentals of Entomology (ENTM 500), 2002

Maintained and presented specimens for taxonomic recognition to departmental graduate students lacking an entomology background. Administered and graded all exams. Presentation emphasis on the major groups of arthropods, insect external anatomy, order recognition of larvae and adults, and select familial identification of Coleoptera, Diptera, Hymenoptera, and Lepidoptera.

#### Aquatic Entomology (ENTM 460), 1999 – 2005

Maintained and presented specimens for taxonomic order and family recognition to departmental and non-departmental graduate and undergraduate students. Administered and graded all assignments and exams. Presentation emphasis on morphological and behavioral adaptations, ecological roles, the use of dichotomous keys for both adult and larval identification.

#### General Applied Entomology (ENTM 307A), 1999 – 2005

Presented lectures, developed learning materials, and administered exams to undergraduates with backgrounds ranging from liberal arts to engineering. Presented laboratory exercises on the care and use of microscopes, arthropod diversity, general insect external anatomy, general insect internal anatomy, metamorphosis, and order identification.

#### **Teaching Assistant, Insect Friend and Foe (ENTM 105), Purdue University, West Lafayette, IN** 1999 – 2005

Provided lectures, supervised student employees, coordinated all audio-visual equipment, assisted with lecture material and handouts, graded assignments, administered exams, and lead field trips for 400 undergraduates representing a diversity of majors per semester.

#### **Invited Instructor, Wildlife Practicum (FNR 373), Purdue University, West Lafayette, IN 2004**

Demonstrated and used a variety of techniques regarding ornithological study, including maintaining a field notebook, family and species recognition by sight and vocalization, mist netting, and banding.

#### **Teacher, Three Rivers School, Three Rivers Union School District, Three Rivers, CA** 1995 – 1999

Taught self-contained classrooms of second, third, fourth, and eighth grade students emphasizing all learning modalities. Implemented Early Primary Literacy strategies, a buddy reading system, and Tribes curriculum. Students created a book as part of the California Communities Treasures project and presented an entomology art display at The Great Western Livestock Show and Exposition. Co-directed the annual eighth grade trip to San Francisco, coached volleyball, served on an Interview Selection Committee, and cooperatively worked with all faculty and staff members to develop school-wide outcomes.

#### **Teacher, Georgetown School, Black Oak Mine Unified School District, Georgetown, CA** 1992 – 1995

Taught a self-contained sixth grade classroom, as well as multiple seventh and eighth grade science and math courses focusing on diverse learning modalities. Developed and implemented science and ecology curriculum using state framework and district guidelines, as well as an independent study skills class. Worked cooperatively with middle school faculty and parents to develop student outcomes, served on a Mentor Teacher Selection Committee, and coached volleyball.

### **Professional Development**

SENCER Institute, San Jose, CA (2008)

Teaching Evolution and the Nature of Science Symposium, New York (2006)

DLIA/ATBI Conference, Gatlinburg, TN (2003)

North American Benthological Society, Keystone, CO (1999)

## Refereed Publications

- Meyer, M. D.**, and W. P. McCafferty. 2008. Mayflies (Ephemeroptera) of the far western United States. Part III: California. Transactions of the American Entomological Society, submitted.
- Meyer, M. D.**, D. E. Baumgardner, and W. P. McCafferty. 2008. The Ephemeroptera of Central America. Part II: Nicaragua. Transactions of the American Entomological Society, 133-146.
- McCafferty, W. P., **M. D. Meyer**, R. P. Randolph, and J. M. Webb. 2008. Evaluation of mayfly species originally described as *Baetis* Leach from California (Ephemeroptera: Baetidae). Proceedings of the Entomological Society of Washington 110: 577-591.
- Meyer, M. D.** and W. P. McCafferty. 2007. Mayflies (Ephemeroptera) of the far western United States. Part II: Oregon. Transactions of the American Entomological Society 133: 65-114.
- Meyer, M. D.** and W. P. McCafferty. 2007. Mayflies (Ephemeroptera) of the far western United States. Part I: Washington. Transactions of the American Entomological Society 133: 21-63.
- McCafferty, W. P. and **M. D. Meyer**. 2007. An extreme range extension and disjunction for the Ephemeroptera family Potamanthidae in North America. Proceedings of the Entomological Society of Washington 109: 738-739.
- McCafferty, W. P. and **M. D. Meyer**. 2007. Confirmation data for three species of mayflies in the state of Washington (Ephemeroptera: Ephemerellidae, Ephemeridae, Heptageniidae). Entomological News 118: 523-524.
- McCafferty, W. P. and **M. D. Meyer**. 2007. Insecta, Ephemeroptera: Transcontinental range extensions in western North America. Check List 3: 51-54.
- Baumgardner, David E, **M. D. Meyer**, and W. P. McCafferty. 2006. A new species of *Asioplax* (Ephemeroptera: Leptohyphidae) from Costa Rica and Nicaragua. The Pan-Pacific Entomologist 82: 346-350.
- Lu Sun, Aniko Sabo, **M. D. Meyer**, R. P. Randolph, Luke Jacobus, W. P. McCafferty, and Virginia Ferris. 2006. Tests of current hypotheses of mayfly (Ephemeroptera) phylogeny using molecular (18s rDNA) data. Annals of the Entomological Society of America 99: 241-252.
- McCafferty, W. P., **M. D. Meyer**, J. M. Webb and L. M. Jacobus. 2004. New state provincial records for North American small minnow mayflies (Ephemeroptera: Baetidae). Entomological News 115: 93-100.
- Jacobus, L. M., B. C. Kondratieff, **M. D. Meyer** and W. P. McCafferty. 2003. Contribution to the biology and systematics of *Ephemerella alleni* (Ephemeroptera: Ephemerellidae). The Pan-Pacific Entomologist 79: 207-211.
- Meyer, M. D.** and W. P. McCafferty. 2003. New synonym of *Apobaetis etowah* (Traver) (Ephemeroptera: Baetidae). The Pan-Pacific Entomologist 79: 35.
- Meyer, M. D.**, W. P. McCafferty, and E. L. Silldorff. 2003. Relationships of *Edmundsius* Day (Ephemeroptera: Siphonuridae), with notes on early instar larvae and eggs. The Pan-Pacific Entomologist 79: 44-50.

McCafferty, W. P., **M. D. Meyer**, and Gary T. Lester. 2002. Significant range extensions for Southwestern Nearctic mayflies (Ephemeroptera: Baetidae, Oligoneuridae). *Entomological News* 113: 211-214.

**Meyer, M. D.** and W. P. McCafferty. 2001. Hagen's small minnow mayfly (Ephemeroptera: Baetidae) in North America. *Entomological News* 112: 255-263.

## **Books**

Turpin, F.T. 2002. *Insect Appreciation, Third Edition*. Contributing authors: **M. D. Meyer** and R. P. Randolph. Kendall/Hunt Publishing Company, Dubuque, Iowa.

## **Posters**

Alex Blan and **M.D. Meyer**. 2008. A baseline survey of insects of Weymouth Woods Nature Preserve, Moore County, NC. Paideia Conference, Christopher Newport University. Alex Blan presenter.

Lu Sun, Aniko Sabo, **M.D. Meyer**, R.P. Randolph, Luke Jacobus, W.P. McCafferty, and Virginia Ferris. 2005. Tests of current hypotheses of mayfly (Ephemeroptera) phylogeny using molecular (18s rDNA) data. Entomological Society of American, North Central Branch Meeting, Purdue University. Lu Sun presenter.

## **Scholarly Activities**

Ph.D. research: The first comprehensive regional study to inventory and assess the biodiversity and biogeographic distribution of Ephemeroptera (mayfly) species in California, Oregon, and Washington. Test the current estimates of potentially imperiled species in the study region, and modify global environmental rankings of all species as necessary. Determine the taxonomic validity of historically questionable species.

M.S. research: Study was the first comprehensive compilation of the published species reports of Ephemeroptera (mayflies) from California, Oregon, and Washington. Species documented within each state, county, and hydrologic accounting unit, designated by the United States Geological Survey, were compiled and incorporated into distribution maps.

Ph.D. and M.S. research is of use to individuals and organizations involved with freshwater environmental assessment or management, including public officials, business and industry leaders, natural resource managers, and any concerned citizens.

## **Research Experience**

Assistant Curator, Purdue University, West Lafayette, IN, 1999-2005

Identify aquatic and terrestrial insect species to be accessioned into the Purdue Entomological Research Collection (PERC), maintain Purdue's internationally recognized Department of Entomology Mayfly Central web site, maintain the PERC North American Ephemeroptera database, maintain the insect teaching collection, review manuscripts for publication, and conduct field research in California, Kentucky, Michigan, Montana, Oregon, New Jersey, New York, North Carolina, South Dakota and Tennessee. Collaborate with multiple universities, organizations, agencies, and private citizens. Maintain, identify, and return all borrowed collections.

#### International Research, Central America, Nicaragua, 2002

Conducted aquatic and terrestrial insect biodiversity research through varied sampling techniques, including kick screens, light traps, and sweeping. Created and fostered the collaboration with Purdue University and Museo Entomologico, Leon. Maintained specimens and prepared species diversity and distribution studies for publication.

#### Taxonomic Consultant

Virginia Living Museum, Newport News, VA, 2007-present

Identify and curate adult specimens of all insect orders within collection.

Sandy Bottom Nature Park, Hampton, VA, 2006-present

Sample, identify, and curate insect specimens collected within park.

Smithsonian Institute, Washington, D.C., 2006-present

Identify larval and adult mayfly species collected during the National Park Service and Nature Conservancy's Potomac Gorge 2006 BioBlitz.

Royal Ontario Museum, Toronto, Ontario, Canada, 2005-2006

Identify and verify larval and adult mayfly species (primarily Baetidae) sampled throughout Ontario.

Illinois Natural History Survey, University of Illinois, Champaign, IL, 2002 – present

Identify and verify larval and adult mayfly species sampled from The Great Smoky Mountain National Park for the ongoing Discover Life in America/All Taxa Biodiversity Inventory.

Aquatic Research Services, Hot Springs, AR, 2002-2005

United States Geological Survey, Menlo Park, CA, 2001-2005

Hydrozoology, Newcastle, CA, 2000-present

Identify and verify hundreds of larval and adult mayfly species sampled throughout the USA to be used in environmental assessment reports.

#### Field Technician, Department of Zoology, UC Davis, CA (Dr. Bradley Shaffer), 1989

Sample nearly one hundred locations distributed throughout the central valley and foothills of California for the state endemic tiger salamander (*Ambystoma californiense*).

#### Post Graduate Researcher, Dept. of Zoology, UC Davis, CA (Dr. Martin Wilson), 1987 – 1991

Prepare and maintain retinal cell colonies, oversee undergraduate lab assistants, maintain all lab equipment and materials, and maintain a colony of juvenile tiger salamanders (*Ambystoma tigrinum*).

### Formal Presentations

"Mayfly (Ephemeroptera) diversity and conservation assessment of the far western United States." Invited speaker, Salisbury University, Salisbury, MD 2008.

"Environmental Assessment of the mayfly (Ephemeroptera) fauna of the western US." Invited speaker, University of Wisconsin, Stevens Point, WI, and Kent State University, Kent, OH 2005.

"Environmental Assessment of the mayfly (Ephemeroptera) fauna of California, Oregon, and Washington." Invited speaker, Christopher Newport University, Newport News, VA 2005.

"Entomology Collections: Past, Present, and Future," Entomology Department Seminar Series, Purdue University, West Lafayette, IN 2004.

“Environmental assessment of the Ephemeroptera of California, Oregon and Washington,” Graduate Student Symposium, Purdue University, West Lafayette, IN 2002.

“Compilation and Assessment of the Recorded Ephemeroptera of California, Oregon, and Washington,” Department seminar, Purdue University, West Lafayette, IN 2001.

“A Baseline Faunistic Assessment of West Coast Ephemeroptera,” Graduate Student Symposium, Purdue University, West Lafayette, IN 2001.

“Species and the Rodney Dangerfield Syndrome,” Entomology Department Seminar Series, Purdue University, West Lafayette, IN 2000.

## **Grants**

Faculty Development Grant, Christopher Newport University, \$1000.00 (2006)

Faculty Development Grant, Christopher Newport University, \$3000.00 (2005)

Graduate School Summer Research Grant, Purdue University, \$2000.00 (2005)

Summer Research Grant, Purdue Research Foundation, Purdue University, \$2000.00 (2004)

Summer Research Grant, Purdue Research Foundation, Purdue University, \$2000.00 (2003)

Summer Research Grant, Purdue Research Foundation, Purdue University, \$2000.00 (2002)

Travel Grant, International Programs in Agriculture, Purdue University, \$2000.00 (2002)

Travel Grant, Department of Entomology, Purdue University, \$2000.00 (2002)

## **Honors/Awards**

Associate Member, Purdue University Teaching Academy, Purdue University 2002

One of four university-wide graduate students selected for this honor by the Teaching Academy Executive Council. Each dean of an academic unit nominated one teaching assistant or teaching staff member to be an associate fellow based on departmental submissions acknowledging excellence and commitment to teaching.

Outstanding Graduate Student Teacher, Purdue University, Dept. of Entomology 2001

Selected by department faculty members to receive this award honoring graduate students from across campus for their dedication to Purdue students and their outstanding teaching contributions.

J.J. Davis Scholarship, Purdue University, Department of Entomology 2004

Received in recognition of outstanding academic performance and departmental contributions.

George E. Gould Scholarship, Purdue University, Dept. of Entomology 2001, 2003, 2005

Received in recognition of outstanding academic performance and departmental contributions.

Graduate Student Fellowship Incentive Award, Purdue University 2003

Monetary award for submitting grant proposals to external sources for funding.

Gamma Sigma Delta Agriculture Honor Society, Purdue University 2000 – present

Invited membership based on exceptional academic achievement.

## **Professional Affiliations**

Entomological Society of Washington 2008

Pacific Coast Entomological Society 2001 – present

North American Benthological Society 2000 – present  
The American Entomological Society 2007 – present  
National Audubon Society 1993 – present  
American Museum of Natural History 1992 – present

## Service

International Travel Experience. 2008

Co-led [with Dr. Rick Sherwin: Christopher Newport University] a trip to Costa Rica that included 28 undergraduate students from CNU, University of Northern Arizona, and Oklahoma State University.

Script reader for National Public Radio's A Moment in Science: 2001 – present

Proof read scripts for scientific accuracy detailing insect ecology and behavior.

Reader for *Entomological News*, *The Southwestern Naturalist* and *The Pan-Pacific Entomologist*: 2002 – present

Peer review manuscripts prior to acceptance for publication.

Master Naturalist Program, Tippecanoe Co., IN: 2004

Present aquatic entomology application and identification program as an invited guest to prospective docents seeking a greater understanding of Indiana natural history.

Bug Bowl, Purdue University: 2000 – 2005

Participate in a variety of interactive activities such as an insect petting zoo and cockroach races during Spring Fest, a campus wide open-house event that attracts over 35,000 participants annually, designated to educate the general public about insect biology and ecological roles.

Insectaganza, Purdue University: 2000 – 2005

Present workshops designed to enhance the entomological knowledge of the “magic” of insects, including firefly bioluminescence, to 1300 fifth grade students.

Indiana State Fair: 1999 – 2005

Co-present the “Roachill Downs” cockroach racing demonstration to audience members of all ages.

Taste of Tippecanoe, Tippecanoe County, IN: 2001

Present the “Oh My” collection and living insects, featuring indigenous and exotic specimens from around the world, as part of a county-wide celebration.

Entomology Tours ‘N Talks, West Lafayette Parks and Recreation: 2001 – 2005

Present general entomology programs to individual classrooms of first through fourth grade students designed to enhance their educational experience and entomological understanding.

Purdue Mentors for Kids: 2001

Present general entomology programs to 30 third grade underprivileged students and their college mentors.

## **Committees**

Liberal Learning Council, BCES representative, Christopher Newport University 2007-present  
LLC ULLC 100 and INW [chair] Subcommittees, Christopher Newport University 2007-present  
Asst Prof in Biology (Probationary) Faculty Search Committee, Christopher Newport University 2008  
BCES BIOL 151 [Zoology] Committee, Christopher Newport University 2007-present  
BCES BIOL 391W Committee, Christopher Newport University 2008  
CLAS Quantitative/Scientific Reasoning Assessment Committee, Christopher Newport University 2008  
BCES PRC Action Points Committee, Christopher Newport University 2007-2008  
Asst Prof in Biology (Ichthyology) Faculty Search Committee, Christopher Newport University 2007  
BCES Degree With Distinction Committee, Christopher Newport University 2007  
Graduate Admissions Committee, BCES, Christopher Newport University 2007  
CNU Building Committee, Christopher Newport University 2006-2008  
Project Kaleidoscope Campus Classroom Design Committee, Christopher Newport University 2006  
Asst Prof in Biology (Botany) Faculty Search Committee, Christopher Newport University 2005-2006  
Grade Appeal Review Committee, Christopher Newport University 2005  
PRC Summary Committee, DBEC, Christopher Newport University 2005  
Biodiversity/Spatial Ecologist Faculty Search Committee, Purdue University 2004  
Department Professional Development Workshops Coordinator, Purdue University 2004  
Education Committee, New Community School, West Lafayette, IN 2003 – 2005  
Department representative for the Graduate Student Senate, Purdue University 2002  
Entomology Graduate Organization, Purdue University 2002 – 2005  
John Osmun Award Committee, Purdue University 2002 – 2005  
Distance Education Committee, Purdue University 2001 – 2005

## **References**

Dr. Edward Weiss, Department of Biology, Chemistry, and Environmental Science, Christopher Newport University, Newport News, VA 23606 (757) 594-7044 eweiss@cnu.edu

Dr. Richard Sherwin, Department of Biology, Chemistry, and Environmental Science, Christopher Newport University, Newport News, VA 23606 (757) 594-7454 rsherwin@cnu.edu

Dr. W. Patrick McCafferty, Department of Entomology, Purdue University, West Lafayette, IN 47907 (765) 494-4599 mccafer@purdue.edu

Dr. Christian Oseto, Director of Honor's Program, Purdue University, West Lafayette, IN 47907 (765) 494-4548 osetoc@purdue.edu

Dr. F. Tom Turpin, Department of Entomology, Purdue University, West Lafayette, IN 47907 (765) 494-4568 turpin@purdue.edu

Dr. John MacDonald, Department of Entomology, Purdue University, West Lafayette, IN 47907 (765) 494-4582 macdonaj@purdue.edu