

## CHRISTOPHER J. PARADISE

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### **EDUCATION:**

Ph.D., 1997, Biology: The Pennsylvania State University. *Abiotic and Biotic Factors Controlling the Structure of Insect Treehole Communities.*  
M.A., 1989, Biology: State University of New York at Binghamton. *Physiological & Behavioral Consequences for Chinese Praying Mantids When Encountering Variable Prey.*  
B.S., 1986, Biology, w/ Chemistry minor: State University of New York at Albany.

### **EMPLOYMENT:**

August 2006-present: Associate Professor of Biology, Davidson College.  
August 2000-August 2006: Assistant Professor of Biology, Davidson College.  
August 1998-May 2000: Assistant Professor of Biology, Director of Environmental Studies, King's College, Wilkes-Barre, PA.  
January 1998-August 1998: Instructor, The Pennsylvania State University.  
September 1997-August 1998: Postdoctoral Research Fellow with Dr. William Dunson, PSU.  
1995-1997: Research Assistant with Dr. William Dunson, PSU.  
1994: Teaching Assistant, PSU.  
1990-1994: Laboratory Coordinator, PSU - Responsible for logistics of all introductory biology labs, including supervision of TAs, design of exercises, & maintenance of equipment.  
1989: Research Assistant with Dr. Nancy Stamp, SUNY Binghamton.  
1986-1989: Teaching Assistant, SUNY Binghamton.

### **COURSES TAUGHT:**

#### *At Davidson College:*

Fall 2001, 2003, 2004, 2005, 2006: Bio 321 – Ecology Lecture and Laboratory.  
Fall 2000, 2002: Bio 315 – Invertebrate Zoology Lecture and Laboratory.  
Annually, since 2001: Bio 112 – Organisms, Evolution, and Ecosystems, Lecture and Laboratory.  
Spring & Fall 2002, Fall 2005: Bio 103 – Issues in Environmental Biology, non-science majors.  
Spring 2001, 2004, 2008: Bio 362 – Ecotoxicology Seminar.  
Spring 2005: Bio 352 – Aquatic Community Ecology (group investigation course).  
Spring 2006: Bio 317 – Entomology Lecture and Laboratory.  
Fall 2007: CIS 171 – Introductory Environmental Studies (team-taught with Dave Martin (Economics) and Tim Beach-Verhey (Religion))

#### *At King's College, as a Post Doctoral Fellow or Graduate Student:*

Summer 2000: Woods, Water, & Wildlife: Integrating Environmental Standards in Teaching.  
Spring 2000: Environmental Science Lecture and Laboratory (environmental geology), General Biology Laboratory, Introduction to Environmental Science Lecture and Laboratory.  
Fall 1999: Ecosystems Lecture and Lab (senior ecology course), Environmental Science Lecture and Lab (environmental biology and chemistry).  
Spring 1999: Environmental Science Lecture and Lab (environmental geology), Biology

Seminar, Supervised Research.

Fall 1998: Environmental Science Lecture and Lab, Introductory Biology I, Natural Science (a required course for all non-science majors).

Summer 1998: Principles of Biology and Biodiversity, The Pennsylvania State University.

Spring 1998: Ecotoxicology, The Pennsylvania State University.

1990-1994: Taught laboratory sections of Introductory Biology, The Pennsylvania State Univ.

1986-1989: Courses taught as a Teaching Assistant at SUNY Binghamton included Community Ecology, Zoology, Ecology, Introduction to Biology II, and Introduction to Biology II Lab.

**REFEREED JOURNAL PUBLICATIONS (\*indicates undergraduate):**

- Blue JD\*, Brewer EJ\*, Castillo C\*, Goldberg J\*, Hawkins K, Krentz T, and Paradise CJ (in prep) Colonization and community dynamics in a simulated treehole metacommunity. In preparation.
- Chrisawn C\*, Chang M, Wessner D, Glick D, and Paradise CJ (in prep) Microbial diversity in water-filled treehole communities is affected by bottom-up factors. In preparation.
- Smith L\*, Blue JD\*, Carlson J\*, Metz G, and Paradise CJ (in prep) The effects of a top predator vary with resources and season in water-filled treeholes. In preparation.
- Paradise CJ, Berry D\*, Blue JD\*, Brewer EJ\*, Burkhart JQ\*, Carlson J\*, Castillo C\*, Chrisawn C\*, Goldberg J\*, Harshaw L\*, Hawkins K, Kegan B\*, Kittinger B\*, Krentz T, Metz G, Smith L\*, and Villalpando S (in prep) Local and regional factors influencing the structure of treehole communities. In review in *Oecologia*.
28. Burkhart JQ\*, Smith L\*, Villalpando S, and Paradise CJ (2007) Scirtid beetles, leaf litter, and treeholes: Is there evidence of facilitation in the field. *Southeastern Naturalist* 6(4):597-614.
28. Paradise CJ, Burkhart JQ\*, Chrisawn C\*, Harshaw L\*, Kittinger B\*, and Smith L\* (2007) Prior occupation by scirtid beetles does not affect mosquito and midge populations in treeholes. *Journal of Negative Results* 4:15-22.
27. Paradise CJ (2007) *The Weather Makers: Book Review*. *Bioscene: The Journal of College Biology Teaching* 33(2):26-27.
26. Harshaw L\*, Chrisawn C\*, Kittinger B\*, Carlson J\*, Metz G, Smith L\*, and Paradise CJ (2007) Decaying invertebrate carcasses increase growth of *Aedes triseriatus* (Diptera: Culicidae) when leaf litter resources are limiting. *Journal of Medical Entomology* 44(4):589-596.
25. Harlan NP\* and Paradise CJ (2006) Habitat size and shape modify abiotic factors and communities in artificial treeholes. *Community Ecology* 7(2):211-222.
24. Chemotti DC\*, Davis SN, Cook LW, Willoughby IR, Paradise CJ, and Lom B (2006) The pesticide malathion disrupts *Xenopus* and zebrafish morphogenesis: An investigative laboratory in developmental toxicology. *BioScene: Journal of College Biology Teaching* 32(3):4-19.
23. Cook LW\*, Paradise CJ, and Lom B (2005) The pesticide Malathion reduces growth and survival in the development of zebrafish, *Danio rerio*. *Environmental Toxicology and Chemistry* 24:1745-1750.
22. Paradise CJ (2004) Relationship of water and leaf litter variability to insects inhabiting treeholes. *Journal of the North American Benthological Soc.* 23(4):793-805.
21. Gage M\*, Spivak A\* & Paradise CJ (2004) Effects of land use and disturbance on benthic insects in headwater streams draining small watersheds north of Charlotte, NC. *Southeastern Naturalist* 3(2):345-358.
20. Paradise CJ (2001) A standardized soil ecotoxicological test using red worms (*Eisenia fetida*). *The American Biology Teacher* 63:504-510.
19. \*Wynn G & Paradise CJ (2001) Effects of microcosm scaling and food resources on growth

- and survival of larval *Culex pipiens*. BMC Ecology 2001 1:3 (<http://www.biomedcentral.com/1472-6785/1/3>).
18. Paradise CJ (2000) Effects of pH and resources on a processing chain interaction in simulated treeholes. Journal of Animal Ecology 69:651-658.
  17. Paradise CJ (1999) Interactive effects of resources and a processing chain interaction in treehole habitats. Oikos 85:529-535.
  16. Paradise CJ & \*Kuhn K (1999) Effects of pH and leaf litter quantity on scirtid beetles inhabiting treeholes. Freshwater Biology 41:43-49.
  15. \*Baltzley M, Paradise CJ & Dunson WA (1999) Interactive effects of density and water sodium concentration on larvae inhabiting treeholes. Journal of Freshwater Ecology 14:113-124.
  14. Paradise CJ & Dunson WA (1998). Effects of sodium concentration on mosquitoes and micro-organisms in treeholes. Journal of Medical Entomology 35:839-844.
  13. Paradise CJ (1998) Colonization and development of insects in simulated treehole habitats with distinct resource and pH regimes. Ecoscience 5:39-45.
  12. Paradise CJ & Dunson WA (1998) Relationship of atmospheric deposition to the water chemistry and biota of treehole habitats. Environmental Toxicology and Chemistry 17:362-368.
  11. Dunson WA, Paradise CJ & Dunson D (1998) The inhibitory effect of low salinity on growth and reproduction of the estuarine sheepshead minnow. Copeia 1998:235-239.
  10. Paradise CJ & Dunson WA (1997) Effects of water cations on insect treehole communities. Annals of the Entomological Society of America 90:798-805.
  9. Dunson WA, Paradise CJ & Van Fleet RL (1997) Patterns of water chemistry and fish occurrence in wetlands of hydric pine flatwoods. Journal of Freshwater Ecology 12:553-565.
  8. Paradise CJ & Dunson WA (1997) Effects of pH and sulfate on insects and protozoans inhabiting treeholes. Archives of Environmental Contamination and Toxicology 33:182-187.
  7. Paradise CJ & Dunson WA (1997) Insect species interactions and resource effects in treeholes: are helodid beetles bottom-up facilitators of midge populations? Oecologia 109:303-312.
  6. Paradise CJ & Cyr RJ (1994) Carbon dioxide uptake in plants: A computer-aided experimental system. In Goldman CA (ed) Tested studies for laboratory teaching, Vol 16. Proceedings of the 16th Workshop of A.B.L.E., pp. 99-114.
  5. Paradise CJ & Stamp NE (1993) Episodes of unpalatable prey reduce consumption and growth of juvenile praying mantids. Journal of Insect Behavior 6:155-166.
  4. Paradise CJ & Stamp NE (1991a) Prey recognition time of praying mantids and consequent survivorship of unpalatable prey. Journal of Insect Behavior 4:265-273.
  3. Paradise CJ & Stamp NE (1991b) Abundant prey can alleviate previous adverse effects on growth of juvenile praying mantids (Mantidae). Ann. Entomological Soc. Am. 84:396-406.
  2. Stamp NE, \*Erskine T & Paradise CJ (1991) Effects of rutin-fed caterpillars on an invertebrate predator depend on temperature. Oecologia 88:289-295.
  1. Paradise CJ & Stamp NE (1990) Variable quantities of toxic diet cause different degrees of compensatory and inhibitory responses by juvenile praying mantids. Entomologia experimentis et applicata 55:213-222.

**SELECTED PAPERS PRESENTED (last 10 years; \*indicates undergraduate):**

Apr. 2008: 69<sup>th</sup> Annual Meeting of the Association of Southeastern Biologists, "Colonization and community dynamics in a simulated treehole metacommunity," w/ J Blue\*, B Brewer\*, D

- Bush\*, C Castillo\*, J Goldberg\*, K Hawkins\*, J Haywood\*, T Krentz.\*
- Apr. 2008: 69<sup>th</sup> Annual Meeting of the Association of Southeastern Biologists, “Local and regional factors influence the structure of treehole metacommunities,” w/ J Blue\*, JQ Burkhardt\*, L Harshaw\*, L Smith\*.
- Jul. 2007: 14th Annual Interdisciplinary Environmental Association meeting, Portland, ME, “The effect of greenway establishment on environmental attitudes and stream health,” w/ K Devoy\*, S. Tonidandel.
- Apr. 2007: 68<sup>th</sup> Annual Meeting of the Association of Southeastern Biologists, Columbia, SC, “A comparative analysis of microbial diversity in simulated aquatic treehole ecosystems,” w/ C Chrisawn\*, M Chang\*, D Wessner, D Glick.
- Apr. 2007: 68<sup>th</sup> Annual Meeting of the Association of Southeastern Biologists, Columbia, SC, “Colonization and community dynamics in a simulated treehole metacommunity,” w/ J Blue\*, B Brewer\*, C Castillo\*, J Goldberg\*, K Hawkins\*, T Krentz.\*
- Aug. 2006: 91<sup>st</sup> Annual Meeting of Ecological Society of America, Memphis, TN, “Effects of a top predator on insect communities in treeholes,” w/ L Smith\*, J Carlson\*, G Metz.
- Apr. 2006: 67<sup>th</sup> Annual Meeting of the Association of Southeastern Biologists, Gatlinburg, TN, “Effects of a top predator on insect communities in treeholes,” w/ L Smith\*, J Carlson\*, G Metz
- Sep. 2005: 7<sup>th</sup> Annual Southern Appalachian Conference on Arthropod Biology, Asheville, NC, “Bottom-up and top-down effects on insect communities in treeholes,” with co-authors JQ Burkhardt\*, L Smith\*, B Kegan\*, S Villalpando, J Carlson\*, G Metz\*, L Harshaw\*, and C Chrisawn\*
- Aug. 2005: 90<sup>th</sup> Annual Meeting of Ecological Society of America, Montreal, Quebec, “Scirtid beetles, resource levels, and insect assemblages: investigating processing chains and community structure in treeholes,” with co-authors JQ Burkhardt (lead presenter)\*, L Smith\*, S Villalpando, B Kegan\*.
- Nov. 2004: 2004 Annual Meeting of the Entomological Society of America. Invited speaker in Symposium on Using Principles of Ecology to Understand Populations and Communities of Container Mosquitoes. “Preliminary assessment of the effects of resources and processing chains on mosquito species richness and abundance in simulated treeholes,” with co-authors JQ Burkhardt\*, B Kegan\*, and S Villalpando\*.
- Nov. 2004: Invited Seminar Speaker at Western Carolina University, Department of Biology. “Resources, beetles, and mosquitoes: effects of resources and processing chains on mosquito species richness and abundance in treeholes.”
- Apr. 2004: 65<sup>th</sup> Annual Meeting of the Association of Southeastern Biologists, Memphis, TN, “Malathion causes earlier hatching and stunted growth in developing zebrafish, *Brachydanio rerio*,” with co-authors L Cook\*, lead presenter, and B Lom.
- Mar. 2004: 101<sup>st</sup> Annual Meeting of the North Carolina Academy of Sciences, Salisbury, NC, “Bottom-up effects on processing chains in treehole communities,” with JQ Burkhardt\*, lead presenter.
- Mar. 2004: 101<sup>st</sup> Annual Meeting of the North Carolina Academy of Sciences, Salisbury, NC, “Relationship between resource use and environmental studies curricula at southeast US colleges,” with C Hartridge\*, lead presenter.
- Mar. 2004: 101<sup>st</sup> Annual Meeting of the North Carolina Academy of Sciences, Salisbury, NC, “Effects of abiotic factors on insects and microbes in artificial treeholes,” with NP Harlan\*, lead presenter.
- Sep. 2003: 5<sup>th</sup> Annual Southern Appalachian Conference on Arthropod Biology, Boone, NC, “Relationships among habitat size, dissolved oxygen, and aquatic insects in treeholes,” with co-authors \*NP Harlan and \*JQ Burkhardt.
- Aug. 2003: 88<sup>th</sup> Annual Meeting of Ecological Society of America, Savannah, GA, “Relationships

- among habitat size, dissolved oxygen, insects, and microbes in treehole communities,” with co-author \*NP Harlan.
- Apr. 2003: Faculty Research Group, Davidson College “Effects of land use on aquatic insects in headwater streams.”
- Apr. 2002: Annual Meeting of the Association of Southeastern Biologists, Boone, NC, “Effect of land use and development on insects in streams north of Charlotte, NC,” with M Gage\* and A Spivak\*.
- Nov. 2001: Annual Meeting of Sigma Xi, Raleigh, NC, “Effects of land use on insects in streams north of Charlotte, NC,” with undergraduate M Gage\* as primary author.
- Sep. 2001: UNC-Charlotte Biology Department, “Control of community structure by abiotic and biotic factors”
- Aug. 2001: 86<sup>th</sup> Annual Meeting of Ecological Society of America, Madison, WI, “A laboratory exercise using a standardized soil ecotoxicological test”
- Oct. 2000: Davidson College, Department of Biology, “Interactive effects of habitat size and food abundance on growth of larval mosquitoes”
- Apr. 2000: Annual Meeting of the Pennsylvania Academy of Sciences, Reading, PA, “Effects of trout dams on aquatic insect biodiversity,” with \*Nicole Toto and \*John Nealon
- Apr. 2000: Annual Meeting of the Pennsylvania Academy of Sciences, Reading, PA, “Complex interactions in simulated soil ecosystems,” with David Glick
- Apr. 2000: Annual Meeting of the Pennsylvania Academy of Sciences, Reading, PA, “Bioassessment of Bowman Creek watershed using benthic macroinvertebrates,” with \*Jessica Tenbus and \*Yvonne Szacki
- Jan. 2000: Invited talk, West Chester University, West Chester, PA, “Interactive effects of resources, pH, and processing chains in treeholes”
- Aug. 1998: 83<sup>rd</sup> Annual Meeting of Ecological Society of America, Baltimore, MD, “Interactive effects of resources and a processing chain interaction in treehole habitats”
- Dec. 1997: Invited talk, Annual Meeting of Entomological Society of America, Symposium on Nutritional Requirements of Larval Mosquitoes, Nashville, TN, “Effects of sodium on the eastern treehole mosquito *Aedes triseriatus*”
- Feb. 1997: Invited seminar, Entomology Department Graduate Student Symposium, Penn State, “Sodium limitation in treeholes communities”

### **LAB MANUALS:**

- Paradise CJ (2004) Ecology Laboratory and Field Manual. (Developed for my Ecology course, available online at <http://www.bio.davidson.edu/courses/ecology/321syll.html#lab>).
- Cyr RJ, Leicht BG & Paradise CJ (1994) A Laboratory Manual for Biology 110: Basic Concepts and Biodiversity. University Press Publications, State College, PA.
- Cyr RJ & Paradise CJ (1994) Experimental Biology II. Univ. Press Publ., State College, PA.
- Paradise CJ (1994) Exploring Biology: A Lab Manual. Univ. Press Publ., State College, PA.
- Cyr RJ & Paradise CJ (1993) Experimental Biology I. Univ. Press Publ., State College, PA.

### **FUNDING & AWARDS RECEIVED:**

- June 2006: Associated Colleges of the South Environmental Program, Curriculum and Faculty Development, “Designing an Introductory Environmental Studies Course for Davidson College” \$3,000 (w/ Dave Martin and Pat Peroni).
- June 2006: Associated Colleges of the South Environmental Program, Curriculum and Faculty Development, “Designing a Senior-Level Environmental Studies Course for Davidson College” \$3,000 (w/ Dave Martin and Pat Peroni).
- June 2006: Associated Colleges of the South, ACS Small Grant, Curriculum and Faculty Development, “Designing Two Environmental Studies Courses for Davidson College”

\$500 (w/ Dave Martin and Pat Peroni).  
 May 2006-Aug. 2006: Faculty Study and Research Grant, Davidson College, "Institutional matching funds for NSF-RUI grant" \$3,200.  
 May 2005-Aug. 2005: Faculty Study and Research Grant, Davidson College, "Institutional matching funds for NSF-RUI grant" \$3,200.  
 March 2005: Associated Colleges of the South Environmental Program, Campus as a Laboratory for Sustainability, "Earth Month at Davidson College: A Celebration of Green," \$1,200.  
 Aug 2003-Aug 2006: National Science Foundation, Research at Undergraduate Institutions grant (DEB #0315208), "RUI: Bottom-Up and Top-Down Influences on Processing Chain Interactions in Detritus-Based Communities," \$200,000.  
 May 2003-Dec. 2003: Faculty Study and Research Grant, Davidson College, "Microbial and invertebrate interactions in water-filled treehole communities," \$1,661.  
 Apr. 2002: Leadership in Service Learning Award, Community Service Office, Davidson College.  
 May 2002-Aug. 2002: Faculty Study and Research Grant, Davidson College, "Scaling Effects of Habitat Size on Aquatic Communities Within Water-Filled Treeholes," \$3,000.  
 May 2001-Aug. 2001: Faculty Study and Research Grant, Davidson College, "Effects of Stream Type on Aquatic Insects in the Catawba River Basin," \$2,994.  
 May 1999: Summer Research Stipend, King's College (with D. Glick), "Interactions in Soil Ecosystems: Microbes, Phytotoxins, and Invertebrates," \$4,050.  
 Oct. 1994-Oct. 1998: Co-PI, Environmental Protection Agency grant (#R82-2298-010 – PI William A. Dunson), "Treehole communities as bioindicators of forest stemflow pollution and ecosystem stress," \$297,000.  
 Jan. 1994: Fund for the Improvement of Undergraduate Instruction (with R. Cyr), \$9,000.  
 Aug. 1992: Fund for the Improvement of Undergraduate Instruction (with R. Cyr), \$900.  
 Jun. 1988: Competitive Research Stipend, SUNY Binghamton, \$1,000.

**COLLEGE SERVICE:**

Apr. 2008 to present: President's Sustainability Council, Davidson College  
 Aug. 2007 to present: Environmental Studies Working Group, Davidson College  
 Aug. 2007 to present: Education Committee, Davidson College  
 Aug. 2004 to present: Faculty Representative for the Morris K. Udall Foundation Scholarship  
 Aug. 2004 to present: Grant Travel Award Committee, Biology Department, Davidson College  
 Aug. 2006 to May 2008: Faculty Advisor to the Environmental Action Coalition, Davidson College  
 Aug. 2004 to May 2008: ACS (Associated Colleges of the South) Environmental Faculty Fellow, Davidson College  
 May 2004: Presentation on Environmental Education at Board of Visitors Annual Meeting, with Caroline Hartridge\* and Rick Gay.  
 Oct. 2003 to Aug. 2004: Joint Committee on Information Technology, Davidson College  
 Aug. 2002 to May 2005: Library Committee, Davidson College  
 Aug. 2002 to Jan. 2003: Faculty/Staff Retreat Committee, Davidson College  
 Aug. 2001 to present: Institutional Animal Care and Use Committee, Davidson College  
 Mar. 2001 to present: Department of Biology Web Server Administrator

**SOCIETY MEMBERSHIPS/EDITORIAL SERVICE:**

Jan. 2002 to present: Member, Association of Southeastern Biologists  
 May 2001 to present: Member, North Carolina Academy of Sciences & North Carolina Entomological Society

2001 to 2005: Member, North American Benthological Society  
1994-present: Member, Ecological Society of America  
1991-1995: Member, Nat'l Assoc. Biological Teachers and Assoc. for Biology Lab. Education  
Reviewed manuscripts for following journals:

Annals of the Entomological Society of America (>3)  
Aquatic Toxicology  
Archives für Hydrobiologie  
Archives of Environmental Contamination and Toxicology (>3)  
Biologia  
Biotropica  
Canadian Journal of Zoology (>3)  
Ecology and Ecological Monographs (>2)  
Ecological Entomology  
Functional Ecology  
Journal of the North American Benthological Society (>2)  
Journal of Vector Ecology  
Aquatic Microbial Ecology  
American Midland Naturalist (>2)  
Journal of Medical Entomology (>3)

Reviewed chapters for the following textbooks:

Camill, P. Environmental Science, W.H. Freeman & Co.  
Stiling, P. Ecology: Theories and Applications, 4th edition, Prentice Hall, Boston  
Temeles, E.J. Ecology and the Use of Resources: Concepts and Applications, Prentice Hall, Boston  
Friedman, A., Jones, R., and Weisberg, S. Environmental Science: People and the Natural World, W.H. Freeman & Co.

External Reviewer, National Science Foundation:

Panelist at April 2004 DEB-Ecology Program proposal reviews (reviewed 15 proposals)  
Ad Hoc reviewer for the DEB-Ecology Program (1 in 2006, 2 in 2005, 7 total reviews)  
DBS: Division of Molecular and Cell Biology (1)  
International Opportunities for Scientists and Engineers (1)  
RUI Program (2)  
Dissertation Improvement (1)

### **COMMUNITY SERVICE/OUTREACH:**

Jun. 2007 to present: Chair, Social Justice Team, Unitarian Universalist Church of Charlotte, Charlotte, NC.  
Jan. 2007 to present: Board of Directors, Carolinas Clean Air Coalition, Charlotte, NC.  
Insect Outreach: Routine identifications and consultations on insects. I consult for 20-30 people or groups each year.  
2003-2006: Davidson IB Middle School: Tutor for Science Olympiad Water Quality and Don't Bug Me teams  
Aug. 2003: World View' Partners' Workshop, Providence Day School, Charlotte – presented "Environmental Impact and the Future of Biosystems" to 100 Charlotte-Mecklenburg School District Magnet School teachers.  
2000: Board of Directors of the Riverfront Parks Committee, a non-profit organization committed to preserving two city parks near the Susquehanna River in Wilkes-Barre, PA.  
1999-2000: Technical Advisor to the Bowman Creek Watershed Association, Noxen, PA, advising on water quality monitoring and collecting data on benthic insect communities.