

*Curriculum vitae*

# JAMIE M. KNEITEL

## CONTACT INFORMATION

Department of Biological Sciences  
California State University, Sacramento  
6000 J Street  
Sacramento, CA 95819-6077

Phone: (916) 278-3633  
Fax: (916) 278-6993  
Email: [kneitel@csus.edu](mailto:kneitel@csus.edu)  
Web: <http://www.csus.edu/indiv/k/kneitel>

## EDUCATION

- Ph.D.** Florida State University (2002) Biology  
Dissertation title: *Species diversity and trade-offs in Sarracenia purpurea inquiline communities*
- M.Sc.** California State University, Northridge (1997) Biology  
Thesis title: *The effects of fire and pocket gopher (Thomomys bottae) disturbances in a California valley grassland*
- B.A.** University of California, Santa Cruz (1992) Biology

## PROFESSIONAL EXPERIENCE

**Assistant Professor** (2004 - present) Department of Biological Sciences, California State University, Sacramento. Courses taught: *Ecology, Quantitative Methods in Biology, Honor's Proseminar, Population and Community Ecology* (Graduate), *Seminar on Food Webs* (Graduate), *Introduction to Scientific Inquiry* (Graduate)

**Tyson Postdoctoral Fellow** (2002 - 2004) Department of Biology, Washington University in St. Louis

**Instructor** (2002 - 2004) Department of Biology, Washington University in St. Louis: *Conservation Biology*

**Research Assistant** (2001 - 2002) Department of Biological Science, Florida State University

**Lecturer** (Summer 2000) Department of Biological Science, Florida State University: *Ecology & Evolution for General Biology*

**Teaching Assistant** (1997 - 2001) Department of Biological Science, Florida State University: *Ecology, Plant Hormones (Experimental Biology), Plant Biology, Pollination Biology (Experimental Biology), Field Botany, Animal Diversity*

**Teaching Assistant** (1994 - 1997) Department of Biology, California State University, Northridge: *Field Botany, Systematic Botany, Plant Biology, Plant Morphology, Field Ecology, Introduction to Biology*

## PUBLICATIONS

Reuman, D. C., C. Mulder, C. Banašek-Richter, M.-F. C. Blandenier, A. M. Breure, H. D. Hollander, **J. M. Kneitel**, D. Raffaelli, G. Woodward, and J. E. Cohen. 2008. Allometry of body size and abundance in 166 food webs. *Advances in Ecological Research*, in press.

**Kneitel, J. M.** 2008. Gause's Principle of Competitive Exclusion. *Encyclopedia of Ecology*, Elsevier Publishing, in press.

Yee, D. A., S. H. Yee, **J. M. Kneitel**, and S. A. Juliano. 2007. Richness-productivity relationships between trophic levels in a detritus-based system: significance of abundance and trophic linkage. *Oecologia* 154: 377-385.

**Kneitel, J. M.** 2007. Intermediate-consumer identity and resources alter a food web with omnivory. *Journal of Animal Ecology* 76: 651-659.

Miller, T. E., J. H. Burns, P. Munguia, E. L. Walters, **J. M. Kneitel**, P. M. Richards, N. Mouquet, and H. L. Buckley. 2007. Evaluating support for the resource-ratio hypothesis: a response to Wilson et al. *American Naturalist* 169: 707-708.

**Kneitel, J. M.** and D. Perrault. 2006. Disturbance-induced compositional changes increase species invasion success. *Community Ecology* 7: 245-252.

Ostman, O., **J. M. Kneitel**, and J. M. Chase. 2006. Disturbance alters the effects of habitat isolation on biodiversity in aquatic microcosms. *Oikos* 114: 360-366.

Mouquet, N., T. E. Miller, T. Daufresne, and **J. M. Kneitel**. 2006. Consequences of varying regional heterogeneity in source-sink metacommunities. *Oikos* 113: 481-488.

Miller, T. E., J. H. Burns, P. Munguia, E. L. Walters, **J. M. Kneitel**, P. M. Richards, N. Mouquet, and H. L. Buckley. 2005. A critical review of twenty years' use of the resource-ratio theory. *American Naturalist* 165: 439-448.

Miller, T. E. and **J. M. Kneitel**. 2005. Pitcher-plant inquiline community as a prototypical metacommunity. Pages 122-145 in: *Metacommunities* (M. Holyoak, R. Holt and M. Leibold, eds.), University of Chicago Press, Chicago, IL.

Buckley, H. L., J. H. Burns, **J. M. Kneitel**, E. L. Walters, P. Munguía and T. E. Miller. 2005. Small-scale patterns in community structure of *Sarracenia purpurea* inquiline communities. *Community Ecology* 5: 181-188.

**Kneitel, J. M.** and J. M. Chase. 2004. Disturbance, predator, and resource interactions alter container community composition. *Ecology* 85: 2088-2093.

**Kneitel, J. M.** and J. M. Chase. 2004. Trade-offs in community ecology: linking spatial scales and species coexistence. *Ecology Letters* 7: 69-80.

Walters, E. L. and **J. M. Kneitel**. 2004. Use of water-filled red-cockaded woodpecker cavities by other organisms. Pages 492-498 in: *Red-cockaded woodpecker: road to recovery* (R. Costa and S. J. Daniels, eds.), Hancock House Publishers, Blaine, Washington.

Mouquet, N., P. Munguia, **J. M. Kneitel**, and T. E. Miller. 2003. Community assembly time and the relationship between local and regional species richness. *Oikos* 103: 618-626.

**Kneitel, J. M.** and T. E. Miller. 2003. Dispersal rates affect species composition in metacommunities of *Sarracenia purpurea* inquilines. *American Naturalist* 162: 165-171.

Ellison, A. M., N. J. Gotelli, J. S. Brewer, D. L. Cochran-Stafira, **J. M. Kneitel**, T. E. Miller, A. C. Worley, and R. Zamora. 2003. The evolutionary ecology of carnivorous plants. *Advances in Ecological Research* 33: 1-74.

Miller, T. E., **J. M. Kneitel**, and J. H. Burns. 2002. Effect of community structure on invasion success and rate. *Ecology* 83: 898-905.

**Kneitel, J. M.** and T. E. Miller. 2002. Resource and top-predator regulation in the pitcher plant *Sarracenia purpurea* inquiline community. *Ecology* 83: 680-688.

Manuscripts submitted or in preparation:

**Kneitel, J. M.** and M. Holyoak. The relevance of metacommunity theory to conservation biology.

Simmons, Z.M. and **J. M. Kneitel**. Microhabitat partitioning of bird and rodent granivores in conifer-invaded subalpine meadows.

**Kneitel, J. M.** Species diversity, co-occurrence, and spatial scales in natural and restored California vernal pools.

**Kneitel, J. M.** Interactions between local and regional regulation of mosquito populations. Invited review to *Israel Journal of Ecology and Evolution*

**DEPARTMENTAL SEMINARS**

University of Central Florida, Department of Biology, 2006

University of Tennessee, Department of Ecology and Evolutionary Biology, 2005

California State University, Northridge, Department of Biology, 2005

San Francisco State University, Department of Biology, 2005

Illinois State University, Department of Biology, 2004

California State University, Sacramento, Department of Biology, 2003

Saint Louis University, Department of Biology, 2003

Washington University in St. Louis, Department of Biology, 2002

Florida State University, Department of Biological Science, 1999, 2002

## INVITED SYMPOSIUM PRESENTATIONS

**Kneitel, J. M.** *Spatial ecology of vernal pools: new insights and implications.* Collaborative Learning at the Interface of Biology and Mathematics (CLIMB) Workshop 2007, Population Ecology in Vernal Pool Systems: Implications for Management and Restoration, University of California, Davis.

**Kneitel, J. M.** *Spatial ecology of vernal pools: new insights and implications.* Floodplains and Vernal Pools Session, Sacramento-Shasta Chapter of the Wildlife Society Natural Resources Symposium 2006, Sacramento, CA.

**Kneitel, J. M.** *The effects and responses of mosquito larvae as the top predator in container food webs.* Using Principles of Ecology to Understand Populations and Communities of Container Mosquitoes Symposium, Entomological Society of America 2004 Meeting, Salt Lake City, UT.

**Kneitel, J. M.** and T. E. Miller. *The effects of prey and top-predator addition on the inquiline community of the pitcher plant, Sarracenia purpurea.* Carnivorous Plants as Model Ecological Systems Symposium, Ecological Society of America 2000 Meeting, Snowbird, UT.

Miller, T. E. and **J. M. Kneitel.** *Evidence of evolution in bacterial populations from the pitcher plant Sarracenia purpurea: is competition an important evolutionary force?* Carnivorous Plants as Model Ecological Systems Symposium, Ecological Society of America 2000 Meeting, Snowbird, UT.

## MEETING PRESENTATIONS

**Kneitel, J. M.** and C. Lessin. *Nutrient addition alters plant composition in vernal pool mesocosms.* California Native Plant Society 2009 Conservation Conference, Sacramento, CA.

Alford, J. and **Kneitel, J. M.** *Corn Lily (Veratrum californicum) presence structures sub-alpine meadows in the Sierra Nevada.* California Native Plant Society 2009 Conservation Conference, Sacramento, CA.

**Kneitel, J. M.** *Community structure and spatial ecology of natural and restored California vernal pools.* Ecological Society of America 2007 Meeting, San Jose, CA.

Mayberry, D. and **J. M. Kneitel.** *Spatial patterns of invertebrate species diversity in California vernal pools.* Annual Biomedical Research Conference for Minority Students, November 2005, Atlanta, GA.

Mouquet, N., T. E. Miller, T. Daufresne, and **J. M. Kneitel.** *Consequences of varying regional heterogeneity in source-sink metacommunities.* Ecological Society of America 2005 Meeting, Montreal, Quebec.

Yee, D., S. Harrell Yee, **J. M. Kneitel,** and S. A. Juliano. *It's not easy being brown: linking productivity, nutrients, and species richness across spatial scales in ephemeral aquatic*

*detritus-based microcosms*. Ecological Society of America 2005 Meeting, Montreal, Quebec.

Mayberry, D. and **J. M. Kneitel**. *Spatial patterns of invertebrate species diversity in California vernal pools and pitcher plants*, *Darlingtonia californica*. The 2005 Science Educational Equity Undergraduate Student Research Symposium, California State University, Sacramento.

Yates-White, C., **J. M. Kneitel**, and J. M. Chase. *Affect of landscape on food web interactions and community composition in artificial treeholes*. Howard Hughes Research Symposium 2004, Washington University, St. Louis, MO.

Ryberg, W. A., J. M. Chase, and **J. M. Kneitel**. *Connectivity, scale-dependence, and the productivity-diversity relationship*. Ecological Society of America 2004 Meeting, Portland, OR.

Liang, C. and **J. M. Kneitel**. *Plant community structure at Tyson Research Center*. Howard Hughes Research Symposium 2003, Washington University, St. Louis, MO.

**Kneitel, J. M.** *Intermediate-consumer identity and resources alter omnivore food web*. Ecological Society of America 2003 Meeting, Savannah, GA.

Walters, E. L. and **J. M. Kneitel**. *Use of water-filled red-cockaded woodpecker cavities by other organisms*. 2003 Red-cockaded Woodpecker Conference IV, Savannah, GA.

**Kneitel, J. M.** *Trade-offs among coexisting species in *Sarracenia purpurea* inquiline communities*. Ecological Society of America 2002 Meeting, Tucson, AZ.

Miller, T. E. and **J. M. Kneitel**. *Effects of migration, predators, and resources on metacommunity patterns*. Ecological Society of America 2002 Meeting, Tucson, AZ.

**Kneitel, J. M.** *The effects of prey and top-predator addition on the inquiline community of the pitcher plant, *Sarracenia purpurea**. Florida Ecological and Evolutionary Symposium 2000, Archibald Biological Station, FL.

Schiffman, P.M. and **J. M. Kneitel**. *Erratic rainfall, small mammals, and the annual lifestyle in southern California valley grasslands*. Ecological Society of America 1997 Meeting, Albuquerque, NM.

**Kneitel, J. M.** and P.M. Schiffman. *The effects of fire and pocket gopher (*Thomomys bottae*) disturbance on a California annual grassland*. Ecological Society of America 1996 Meeting, Providence, RI.

### **MISCELLANEOUS TALKS**

*Vernal pools at local and regional scales: new insights and conservation implications*. California Environmental Protection Agency, Sacramento, CA, 2008.

*The spatial ecology of vernal pools.* Ecological and Environmental Issues Seminar. California State University, Sacramento, 2007, 2008

*Ecosystem Management.* Pacific Forest Institute, Sierra Nevada, CA, 2007.

*Ecosystems.* Pacific Forest Institute, Sierra Nevada, CA, 2006.

*Species diversity in space and time, or how I learned to stop worrying and love the niche.* College of Natural Sciences and Mathematics Winter Retreat, 2006.

*The ecology, evolution, and conservation of carnivorous plants.* Ecological and Environmental Issues Seminar, California State University, Sacramento, 2005, 2006.

*The ecology, evolution, and conservation of carnivorous plants.* Sacramento Bromeliad and Carnivorous Plant Society Meeting, 2005

*The relevance of the metacommunity concept to conservation: is there a new kid in town?* Ecological and Environmental Issues Seminar, California State University, Sacramento, 2004.

*Treeholes of Tyson: subtle, sly, and bloody,* Friends of Tyson Monthly Meeting, Tyson Research Center, 2003.

## **AWARDS AND HONORS**

United States Department of Defense Environmental Security Technology Certification Program (ESTCP) (2009-2014): *Implementation of technology to measure hydrological functioning of vernal pool wetlands and their watersheds for use with base-wide evaluation of project impacts, regulatory permitting, and future mitigation through habitat restoration*

CSU Sacramento STEM (Science, Technology, Engineering, and Mathematics) Faculty Fellowship (2008-9): *The Spatial Ecology and Ecosystem Functioning of Vernal Pools: Integrating Research into Undergraduate Education*

CSU Sacramento Research and Creative Activity Award Program (2008-9): *Keystone Predation in Sub-Alpine Meadow Communities? Indirect Effects of a Specialist Herbivore on Plant Biodiversity*

CSU Sacramento College of Natural Sciences and Mathematics Project Grant (Summer 2008): *Testing Island Biogeography in Sub-Alpine Meadows: Do Invading Trees Facilitate the Invasion of Forest Species in Meadows?*

United States Department of Agriculture- Forest Service (2006-7): *Restoration of sub-alpine meadows in Eldorado National Forest, CA*

C. M. Goethe Fund (2005-6): *Spatial and temporal patterns of invertebrate biodiversity in *Darlingtonia californica* inquiline communities*

ArtSci Council Faculty Award (Nominee), Washington University in St. Louis, 2004

Magaret Menzel Endowed Award (for outstanding graduate student), Florida State University, 2001-2

Department of Biological Science Faculty Publication Award (for best student publication), Florida State University, 2001-2

Office for Graduate Studies, Research and International Programs Graduate Fellowship, California State University, Northridge, 1996

Office for Graduate Studies, Research and International Programs Research Grant, California State University, Northridge, 1995

California State University, Northridge, University Fee Waiver, 1995

### **WORKSHOP/WORKING GROUP PARTICIPANT**

Ecological Society of America Faculty Development Workshop: *Using Continental-Scale Data to Teach Undergraduate Ecology*, Washington D.C., 2008

Science Environment for Ecological Knowledge (SEEK): *Early Career Faculty and Postdoctoral Training in Ecoinformatics*, University of New Mexico, 2005

National Science Foundation Biocomplexity-Incubation Activity (A. Ellison, N. Gotelli, T. Miller, PIs): *A Synthetic Approach to Phytotelmata Communities* Workshop, Wakulla Springs, FL, 2001

### **STUDENTS ADVISED**

#### **Current Graduate students (Master's Candidates, CSUS)**

Kevin Aceituno (current): *Mercury bioaccumulation in San Francisco Bay*

Angela Calderaro (current): *Vernal pool community ecology*

Chris Carr (current): *Insect species diversity in sub-alpine meadow metacommunities*

Sarah Estrella (current): *Invasive plant ecology (Lepidium latifolium at Suisun Marsh)*

Elif Fehm-Sullivan (current): *Fish Community Ecology*

Karen Gehrts (current): *Species Invasions*

Emily Kachorek (current; co-advised with Joseph Fragoso, Stanford University and Michelle Stevens, CSUS): *Conservation Biology*

Gena Lasko (current): *Ecology*

Carrie Lessin (current): *Community ecology of vernal pools*

Heather Stiles (current): *Urbanization effects on vernal pool ecosystems*

#### **Former Graduate Students (CSUS)**

Marcus Yee (**Graduated Fall 2008**): *Evaluating and mitigating avian collisions with distribution power lines at the Cosumnes River Preserve.*

Michelle D. Beachley (co-advised with Sharon Lawler, UC Davis, **Graduated Fall 2008**): *Pesticide effects on non-target terrestrial insect populations.*

Clara Matallana (Fulbright Scholar, **Graduated Fall 2008**): *Use of systematic site selection to design a marine reserve network along Oregon's coast.*

Katy Washburn (**Graduated Spring 2008**): *Habitat characteristics and community composition changes associated with the New Zealand Mudsail invasion of the lower Mokelumne River, California*

Zach Simmons (**Graduated Spring 2007**): *Bird and mammal resource use sub-alpine meadow microhabitats*

Ryan Henning (**Graduated Spring 2007**): *Nest success of urban waterfowl using artificial "hen house"<sup>m</sup> structures*

#### **Undergraduate students**

Jim Alford, Honor's Research (2008-9): *Keystone predation in sub-alpine meadows*

Mike Memeo (Summer 2008): *Keystone predation in sub-alpine meadows*

Jennifer Rossiter (Summer 2008): *Facilitation and invasion of sub-alpine meadows*

Kasie Barnes (2007- 8): *Plant-insect interactions in sub-alpine meadows*

David McNabb (Summer 2006): *Facilitation and invasion of sub-alpine meadows*

Demetrius Mayberry, CSUS Science Educational Equity Program's Summer Scholar (Summer 2006): *Spatial ecology in sub-alpine meadows*

Aaron Langenbeck, Honors Research (2005-6): *Seed ecology of the invasive plant, Yellow Star Thistle*

Demetrius Mayberry, CSUS-Los Rios Science Transfer Project (STP) Fellow (Summer 2005): *Spatial ecology of *Darlingtonia californica* and vernal pool communities*

Amy Harris, (Spring 2005): *Interspecific mosquito larvae competition*

Crystal Yates-White, Washington University Linnette Environmental Research Fellow, Summer 2004 (co-advised with Jon Chase): *A study of the effects of variation in regional landscape on food web interactions and community composition in artificial treeholes*

Daniel Perrault, Senior Honors Thesis, Washington University in St. Louis, 2003 - 4: *Disturbance-facilitated invasion of artificial treehole communities. **Winner of the Department of Biology's 2004 Spector Prize for Outstanding Undergraduate Research and Honors Thesis and published work***

Chris Liang, Tyson Undergraduate Research Fellow, Washington University in St. Louis, Summer 2003: *Assembly of plant communities in patchy habitat*

Mentor: 9 undergraduate researchers, Washington University in St. Louis, 2002 – 2004  
NSF Young Scholars Program, Florida State University, 2000

#### **Committee member:**

*Master's Thesis Committee, California State University, Sacramento*

Current: Bianca Bommarito, Colin Contino, Lesley Hamamoto, Sarah Lego, Beth Lesar, Byron Love, Hurshbir Shahi, Katherine Veizaga

Graduated: Robin Bilski, Larry Cabral, Laura Cholodenko, Pamela Conavay, Justin Cutler, Danielle de la Porte, Lynn Drennan, D.J. Eichenberger, Rob Grasso, William Hamilton, Katherine Parker, Laura Patterson, Luciana Rodriguez, Stephen Stringer, Ishtar Thomas, Robin Wall

### **CURRENT COLLABORATIONS**

Donald Yee and Steven Juliano, Illinois State University: *Geographical variation in treehole community composition*

Marcel Holyoak, UC Davis: *The relevance of metacommunity theory to conservation biology*

Niall McCarten, UC Davis: *Implementation of technology to measure hydrological functioning of vernal pool wetlands and their watersheds for use with base-wide evaluation of project impacts, regulatory permitting, and future mitigation through habitat restoration*

Sharon Kay Collinge, University of Colorado: *California vernal pool ecosystems*

## **REVIEWS**

Editorial Board Member: *Madrono*

### Journal Articles:

*American Naturalist* (6), *Annals of Forest Science*, *Aquatic Sciences*, *Biological Journal of the Linnean Society*, *Canadian Journal of Zoology*, *Community Ecology*, *Diversity and Distributions*, *Ecography*, *Ecological Entomology*, *Ecology* (6), *Ecology Letters* (9), *Functional Ecology*, *Hydrobiologia*, *Journal of Animal Ecology* (7), *Journal of Applied Ecology* (2), *Natural Areas Journal*, *Oecologia* (9), *Oikos* (4), *PLoS ONE*, *Proceedings of the Royal Society B* (2), *Quarterly Review of Biology*

### Grant Proposals:

National Science Foundation (8)

United States Department of Agriculture

Netherlands Organization for Scientific Research (2)

U.S.-Israel Binational Science Foundation

California State University, Sacramento Research and Creative Activities Grant Program

### Books and Book Chapters (Ecology and Conservation Biology):

Benjamin Cummings

McGraw-Hill

Blackwell Publishing

University of Chicago Press

Holt, Reinhart and Winston

W. H. Freeman & Company

John Wiley & Sons

Waveland Press

### Panel Member

National Science Foundation, Division of Environmental Biology- Ecological Biology Cluster, 2006, 2007, 2008

## **SERVICE**

Coordinated Workshop at Expanding Your Horizons Conference. *The secret world of carnivorous plants*. California State University, Sacramento 2007, 2008

### **CSUS University Committees:**

*Chair*, College of Natural Sciences and Mathematics Undergraduate/Graduate Research Symposium Committee

Chancellor's Office/Council for Undergraduate Research (CUR)/CSUS Committee to Institutionalize Undergraduate Research

CSUS Faculty Hearing Committee

California State University, Sacramento Representative to the California State University Biodiversity, Field Sites, and Conservation Committee  
 Juror for the California State University, Sacramento Student Research Competition, 2005, 2007

**CSUS Department of Biological Sciences:**

*Present Committees:* Budget/Equipment/Space, Website (Information Technology), Scholarships, Library

*Previous Committees:* Graduate, Motor Pool

*Committee Chair,* Animal Conservation Biologist Search Committee, Fall 2006

Biology Minor Advisor

Department Organizer (2006-present):

- Department of Biological Sciences Seminar Series
- Ecology, Evolution, and Conservation Reading Discussion Group

**Elementary School Science Presentations:**

- Shalom School Walkathon Charity Event (Sacramento, CA), 2008: *Ecology, food webs, and predator morphology*
- Starr King Elementary School- The Lights On Celebration (Sacramento, CA), 2007: *Predator plants and the prey they eat*
- Deterding Elementary School (Sacramento, CA), 2007: *Carnivorous plants and Insects; Spiders; Reptiles* (Brides Program)
- Phoebe Hearst Elementary School (Sacramento, CA), 2006: *Carnivorous plants and Insects*
- Shalom School (Sacramento, CA), 2005, 2006, 2008: *Carnivorous plants, Insects, Amphibians, Snakes, and Playful plants*

*Previous Service (as a graduate student and post doc):*

Jackson Park Elementary School Science Fair Judge (St. Louis, MO), 2004

Graduate Student Representative to Faculty Search Committee (Ecologist), Florida State University, 2001

Capital Regional Science-Fair Judge (Tallahassee, FL), 2001

Incoming graduate-student teaching training, Florida State University, 2000

Ecology/Evolution Graduate Student Representative, Florida State University, 1999-2000

Instructor, Saturday at the Sea, Florida State University Science Outreach Program, 1998

**MEMBERSHIP**

Ecological Society of America (1995 – present)

American Society of Naturalists (1998 – present)

Entomological Society of America (2004 - present)

Union of Concerned Scientists (2004 - present)

California Botanical Society (2008 - present)