

Jenella E. Loye

Medical Entomologist, Director of Quality Assurance

Education

- 1980-1984 University of Oklahoma, Norman, OK, Zoology. Ph.D. Jan 1985
Dissertation: The cliff swallow bug, *Oeciacus vicarius* (Hemiptera: Cimicidae): natural history and population dynamics.
- 1978-1980 University of Delaware, College of Agriculture. Entomology and Applied Ecology. Newark DE M.S June 1980.
Thesis: Bionomics of Membracidae in a deciduous woodlot in Delaware.
- 1969-1973 University of Delaware, College of Arts and Sciences., Newark DE Art, *Cum Laude* B.A. June 1973

Areas of Subspecialization

Organic Compliance
Medical Entomology
Ethnobiology
Host and Parasite Coevolution
Tropical Conservation

Memberships in Professional societies

Tropical Conservation Foundation (TCF)
Board member Ecological Conservation Society for Southeast Asia (ECOSEA)
Entomological Society of America (ESA)

Honors and awards

- 2000-2005 NIH&USDA : "Plague, Prairie Dogs and Landscape Fragmentation".
\$2,000,000. Co-PI
- 2000-2002 T. S. Glide Foundation: Evaluation of insect vectors, exposure and reservoir for *Corynebacterium pseudotuberculosis* infections in California horses.
\$40,000. Co-PI.
- 1993-95 NSF, Research Experience for Undergraduates (REU) supplement to
"Fly parasitism and fitness effects on Bluebirds." \$17,450.
- 1992 NSF, "Fly parasitism and fitness effects on Bluebirds." \$180,000.
- 1991 Faculty Research Grant: Univ. California, Davis, Dept. Entomology,
"Community ecology and ethnobotany of Sapindaceous plants:
Belize, Guatemala, Mexico, Costa Rica."

- 1990 Faculty Research Grant: University of Utah: pilot project for ectoparasite effect on hole-nesting birds.
Biomedical Research Support Grant: University of Utah,
“*Protocalliphorid* fly response to habitat and bird nest site .”
- 1988 Faculty Research Grant: University of Utah,” Tropical diversity - the guild of seed-feeders on *Cardiospermum corindum*, a cyanogenic plant in sub-tropical Florida and Belize.”
Biomedical Research Support Grant: University of Utah,
“Electrophoretic analysis of Geographical Variation in Cliff Swallow bug populations.”
- 1986 N.I.H. Postdoctoral Research Fellow: Department of Entomology, University of California-Berkeley. “Ecology of Lyme Disease.”
- 1984 Sigma Xi Research Grant, “An assay for viral presence in populations of cliff swallow bugs.”
Graduate Council Dissertation Research Grant, University of Oklahoma, “Viral maintenance in cliff swallow bugs and nestling birds.”
Research Fellowship, Oklahoma Biological Survey, “Population dynamics of cottonrat lice.”
- 1983 Sigma Xi Research Grant, “Geographic variation in life history traits of cliff swallow ectoparasites.”

Previous Applicable Employment

- 1997-Pres. Associate in the Agricultural field Station, Dept. Entomology, and Research Assistant Professor, Dept. Avian Sciences, University of California-Davis
- 2003-04 Visiting Academic, School of Life Sciences, University of Queensland, Brisbane, Australia
- 2002 Director: Jungle Medicine: wilderness medicine and vector ecology in Belize. University of California Continuing Medical Education.
- 1997-1998 Assistant Professor, Dept. Biology, University of New Mexico.
- 1997-1998 Visiting Scholar, Dept. Entomology, University of California-Davis
- 1992-1996 Research Associate, Dept. Entomology, Ag. Experiment Station, University of California-Davis.
Post-doctoral Affiliate, Center for Population Biology, University of California-Davis.
- 1994,1995 Faculty, Sierra Institute, University of California-Santa Cruz, Biodiversity and Human adaptation.

- 1991-92 Faculty Resource Person, Organization for Tropical Studies (OTS), Tropical Ecology, Costa Rica.
Lecturer Zoology, Entomology, University of California-Davis.
Research Associate, Entomology, University of California-Davis.
- 1991 Faculty, Center for International Educational Exchange (CIEE), Tropical Ecology, Costa Rica.
- 1988-91 Research Assistant Professor of Biology, University of Utah.
- 1990 Faculty School for Field Studies (SFS), Tropical Ecology and Conservation Biology, Costa Rica.
- 1988 NIH Postdoctoral Research Fellow, Dept. Biology, Univ. Utah.
- 1987 Curator of Entomology. Utah Museum of Natural History.
- 1986 Postdoctoral Research Fellow in Entomology, University of California-Berkeley.
- 1985 Postdoctoral Research Fellow, Dept. of Biology, University of Utah.
Visiting Scientist, Smithsonian Tropical Research Institute.
- 1985-87 Consultant to Collections: Entomology, Mammals and Birds. Utah Museum of Natural History.
- 1983 Lecturer in Medical Entomology, Dept. of Zoology, University of Oklahoma.
- 1980-84 Research Assistant and Teaching Assistant, Dept. of Zoology, University of Oklahoma.
- 1982 Mosquito Surveillance Officer, City of Norman, Oklahoma .
- 1979 Curator of Entomology Teaching Collection and
Research Assistant in Field Crop Entomology and Apiology,
University of Delaware, Dept. Entomology and Applied Ecology.

Teaching: Courses Designed and Taught

Vector ecology in Belize

Ethnobotany

Biodiversity and Human Adaptation in the Tropics

Research Methods in Ecology

Tropical Biology and Deforestation

Tropical Ecology and Conservation Biology

Disease Ecology

Medical Entomology

Field Ecology

Introductory Biology

Natural Selection

Insect Biology

Seminars- Ethnobotany, Advanced Topics in Entomology, Avian Sciences

Publications

Book

- 1991 Loye, J. E. and M. Zuk, eds. *Bird-Parasite Interactions: Ecology, Evolution and Behavior*. Oxford University Press, Oxford. UK.

Peer Reviewed Journal Articles

- 2006 Carroll, S. P. and Loye, J. E. A commercially-available botanical insect repellent as effective as DEET. *Journal of the American Mosquito Control Association* 22: 507-514.
- Carroll, S. P. and Loye, J. E. Field test of a lemon eucalyptus repellent against biting midges. *Journal of the American Mosquito Control Association* 22: 483-485.
- 2005 Carroll, S. P., Loye, J. E., Dingle, H., Mathieson, M., Famula, T. R. and Zalucki, M. And the beak shall inherit— evolution in response to invasion. *Ecology Letters* 8: 944-951.
- Collinge S. K., Johnson W. C., Ray C., Matchett R., Gresten J, Cully, J. F., Gage K. L, Kosoy M. Y., Loye J. E., Martin A. P. Landscape structure and plague occurrence in black-tailed prairie dogs on grasslands of the western USA. *Landscape Ecology* 8: 941-955.
- Collinge, S. K. Johnson, W. C. Ray, C. Matchett, R. Grensten, J. Cully, J. F. Gage, K. L. Kosoy, M. Y. Loye, J. E. Martin, A. P. Testing the Generality of a Trophic-cascade Model for Plague Ecohealth 2: 102-112.
- Carroll, S. P., Loye, J. E., Dingle, H., Mathieson, M., and Zalucki, M. Ecology of *Leptocoris* Hahn (Hemiptera: Rhopalidae) Soapberry Bugs in Australia. *Australian Journal of Entomology* 44:344-353.
- Carroll, S. P., Mathieson, M., and Loye, J. E. Invasion history and ecology of the environmental weed Balloon Vine, *Cardiospermum grandiflorum* Swartz, in Australia. *Plant Protection Quarterly* 20: 140-144.

- Pratt, S. M., Spier, S. J., Carroll, S. P., Vaughan, B, Whitcomb M. B., and Wilson W. D. Clinical characteristics and diagnostic test results in horses with internal infection caused by *Corynebacterium pseudotuberculosis*: 30 cases (1995-2003). *Journal of the American Veterinary Medicine Association* 227: 441-448.
- 2004 Spier, S., Leutenegger, C. M., Carroll, S. P., Loye, J. E., Berger Pusterla, J., Carpenter, T. E., and Madigan, J. E. Evaluation of the insect vector(s) for *Corynebacterium pseudotuberculosis* in horses using real time TaqMan PCR. *American Journal of Veterinary Research* 65: 829-834.
- 1998 Loye, J. and S.P. Carroll. Forum on Insect Behavior in conservation: Ectoparasite behavior and its effects on avian nest site selection. Invited Paper for *Ann. Entomol. Soc.*
- 1996 Dingle, H., Carroll, S. P. and Loye, J. Behavior, conservation and 99% of the world's biodiversity: Is our ignorance really bliss? pp. 72-92 In: J. Clemmons and R. Buckholtz.[eds.]. *Behavior and Conservation Biology*. Academic Press.
- 1995 Loye, J. and S. P. Carroll. Birds, bugs and blood: avian parasitism and conservation. *Trends in Ecology and Evolution*. 10(6):232-235.
- 1993 Thorpe, P.A., J. Loye, C. Rote and J. Dickinson. Evolution of regulatory genes and patterns: Relationships to evolutionary rates and to metabolic functions. *J. Molecular Evolution*.
- 1992 Carroll, S.P. and J. E. Loye. Natural selection, competition and cooperation : human biology and human freedom. Invited chapter for *Cooperation*, ed., A. Coombs, Gordon and Breach, NY
- Loye, J. E. Ecological diversity in host plant relationships of some treehoppers (Membracidae and Nicomiidae) in a lowland tropical rain forest. In: *Insects of Mesoamerica* , D. Quintero Arias & A. Aiello (eds.). Oxford University Press, Oxford, UK.
- 1991 Lane, R. S. and J. E. Loye. Interrelationship of Ixodid ticks (Acari), rodents, and *Borrelia burgdorferi*. *J. Med. Entomol.* 28(5):719-725.
- Loye, J. E. and S. Carroll. The effect of nest ectoparasite abundance on cliff swallow colony site selection, nestling development, and departure time. In: *Bird-Parasite Interactions: Ecology, Evolution and Behavior*. Oxford University Press, Oxford. UK.
- Loye, J. E. and T. Regan. The Cliff Swallow Bug in Florida: Implications of a newly introduced ectoparasite of hole-nesting birds. *J. Vet and Med. Entomology*. 5: 511-513.

- 1990 Carroll, S.P. and J. E. Loye. Male-biased sex ratios, female promiscuity, and copulatory mate guarding in a tropical seed-feeding bug, *Dysdercus bimaculatus*. J. Insect Behavior, 3(1):33-48.
- 1989 Lane, R. S. and J. E. Loye. Lyme disease in California: Interrelationship of *Ixodes pacificus* (Acari: Ixodidae), the Western Fence Lizard (*Sceloporus occidentalis*), and *Borrelia burgdorferi*. J. Med. Entomol. 272-277.
- 1988 Loye, J. E. and R. S. Lane. Questing behavior of *Ixodes pacificus* (Acari: Ixodidae) in relation to meteorological and seasonal factors. J. Med. Entomol. 25 (5): 391-398.

Additional publications 1981-1988: 12

Invited seminars and papers

- 2004 Seminar: Biocontrol. "Ecology of seed pests on Balloon-vine." Alan Fletcher Research Center, Brisbane Australia.
Seminar: Ecology of seed predators on invasive Balloon-vine. THECA Bush Environmental Association, Brisbane, Australia
- 2003 Symposium, organizer and speaker, "Insect repellents." Society for Vector Ecology, Boise, Idaho.
Balloonvine and the endangered Miami Blue in the Florida Keys. Monroe Co. Mosquito Control Association, Key West Florida.
- 2002 Seminar Avian Sciences. 8 week seminar series, Dept. Animal Sciences, University of California-Davis
- 1999 Techniques for Teaching Ethnobotany at the University of New Mexico. Society for Ethnobiology, Oaxaca Mexico.
- 1998 Seminar. Integrated Pest Management: Ecological approaches. New Mexico Pest Control Applicators Symposium. Albuquerque NM.
- 1996 Seminar, "Host, parasite and hyperparasite interactions in nests of bluebirds." Dept. Biology, University of California-Santa Barbara.
Seminar, "Parasite effect on development and behavior in hole-nesting birds." Dept. Biology, University of California-San Diego.
Seminar, "Fly parasitism and host response." Dept. Entomology, University of California-Davis.
- 1995 Symposium, "Cliff-swallow bug life-history and avian conservation." Entomological Society of America, Las Vegas, NV.
Seminar, "Protocalliphorid fly effects on Bluebirds in Carmel Valley, CA." Dept. Biology, Univ. Nevada.

- Seminar, " Birds, bugs and blood, parasitism of solitary nesters." Dept. Integrative Biology, University of California- Berkeley.
- Seminar, " Parasite effect on Bluebird behavior. " Dept. Entomology, University of California- Davis.
- Seminar, " Protocalliphorid fly parasitism in hole-nesting birds." Dept. Veterinary Medicine, University of California- Davis.
- 1994 Seminar, " Habitat fragmentation and parasites." Wild Bird Group, University of California- Davis.
- Seminar, " Neotropical migrants and fragmented habitat. Belize Agroforestry Research Center, Toledo, Belize.
- Lecture, "Disease ecology and habitat fragmentations." Landscape ecology course, University of California-Davis.
- 1993 Symposium, "Parasites and Behavior." Animal Behavior Society, Davis, CA.
- University of California, Veterinary field course, School of Veterinary Medicine, " Ectoparasitism and Avian hosts."
- 1992 University of Nevada- Reno, NV, Dept. Biology.
- University of California- Davis, Department of Entomology.
- 1991 University of California- Davis, Dept. Avian Biology, 2 seminars.
- 1990 Clemson University, Clemson, SC., Dept. of Biology

Additional scientific papers presented at meetings 1979-1995: 25

Professional service

- Review MS for: Ecology, Int'l J. of Parasitology, Auk, Environmental Entomology, Evolution, Science, J. Wildlife Disease.,
- Member Entomological Society of America, Society for Vector Ecology.
- Proposal Reviews: National Science Foundation..
- Lyme Disease Study Group- Utah State Department of Epidemiology.
- Tick Study Group, Calif. State Dept. Health.
- Convenor: Symposium on Insect repellents. Society for Vector Ecology, Boise Idaho, 2003.
- Convenor: Symposium on Birds, Parasites and Disease , University of California-Davis, Ca, 2002
- Co-convenor: "Symposium on Etnobotany in New Mexico.".University of New Mexico, Albuquerque, NM. 1997
- Convenor: Symposium on Avian Response to Parasitism. American Ornithologists' Union, Fayetteville, Arkansas. 1988.

Convenor: Symposium on Auchenorrhyncha/Host interactions,
Entomological Society of America, San Antonio, Texas. 1989.

Additional experience

Languages: French, Spanish.

Queensland Australia research volunteer Department of Environmental
Protection: mammal survey.

Queensland Australia research volunteer, Animal Research Center: Flying fox
virus study.

Naturalist: trip organizer/leader/lecturer: Tropical Ecology -
rainforest and lowland dry-forest in Costa Rica, Belize, Guatemala, Peruvian
Amazon, Australia.

South western U.S.- Desert and high altitude ecology;

River ecology- San Juan river and Grand Canyon.

Peace corps volunteer, Iran, 1974.

Consulting and contracts

Organic certification, natural product efficacy testing, experimental design,
product development.

Clients include:

Agraquest, CA , Avon Products, Inc., NJ, Biolink, Germany,

Cosmederm, Inc., CA, Dragoco Inc., NJ, Fundamental Properties, Inc., NYC.,

Gardens Alive, IN, Green Screen, Costa Rica, Gustin Kramer, Montréal, Hartz

Mountain Inc., NJ, IFS (Innovative Fragrance Solutions), CT, L'Oreal/Cosmair

Inc., NJ, Nature's Sunshine, UT, Nomads, Inc., NM, Primavera Labs, Inc, NY ,

Safe solutions, TX, Sierra Research Laboratories, CA, YVRS (Young Veterinary
Research Services), CA, Wisconsin Pharmacal (WPC Brands), WI, 8 in 1, NJ

California Certified Organic Farmers

Biowest, Logan Utah, Environmental impact .

CERL, Army Corp. of Engineers., UT.

University of California, School of Veterinary Medicine.

University of Colorado, Dept. EPO, Plague, fleas and mammals.

Sonoma Herb Exchange, Medicinal herb development, marketing and fund raising.