Curriculum Vitae

Edwin E. Lewis

EDUCATION

Ph.D. Entomology. 1991. Auburn University, Auburn, AL.
M.S. Entomology. 1987. University of Missouri, Columbia, MO.
B.S. Natural Resources. 1980. Cornell University, Ithaca, NY.
A.A.S. Science and Mathematics. Cayuga County Community College, Auburn, NY.

PROFESSIONAL EXPERIENCE

Current	Professor, Dept. Plant, Soil and Entomological Sciences, University of Idaho
2014-2017	Associate Dean, College of Agricultural and Environmental Sciences, University of California, Davis
2008-2017	Professor, Dept. Nematology / Entomology, University of California, Davis
2004-2008	Associate Professor, Depts. Nematology / Entomology, University of California, Davis
2004	Associate Professor/Cooperative Extension Specialist, Dept. of Entomology, Virginia Tech
1998-2004	Assistant Professor/Cooperative Extension Specialist, Dept. of Entomology, Virginia Tech
1995-98	Research Assoc., Dept. of Entomology, University of Maryland.
1994-95	Assistant Research Professor, Dept. of Entomology, Rutgers University.
1991-94	Post-doctoral Research Assoc., Dept. of Entomology, Rutgers University.

PUBLICATION SUMMARY

Refereed Papers: 108
Book Chapters: 12
Edited Books: 1
Patents: 2

PROFESSIONAL SOCIETIES

Entomological Society of America
Society of Invertebrate Pathology

LEADERSHIP EXPERIENCE AND PROFESSIONAL SERVICE

Current

- Co-Director, Center for Health in the Human Ecosystem, University of Idaho
- Editor-in-Chief, Biological Control (Published by Elsevier)
    - As EIC, I handle all submitted manuscripts (approximately 500 per year), evaluate their appropriateness for the journal and assign those not rejected without review to subject editors.

- Scientific Program Committee, 2017 Annual Meeting of the Society for Invertebrate Pathology
- Trustee – Society for Invertebrate Pathology
    - Trustees are the governing board for this international scientific society

Past Roles

- Associate Dean for Agricultural Sciences, College of Agricultural and Environmental Sciences, UC Davis.
    - I served all departments and other units within CA&ES directly involved with production agriculture, including the departments of Agricultural and Biological Engineering, Animal Science, Entomology and Nematology, Plant Sciences, Plant Pathology and Viticulture & Enology. I was also directly involved with all aspects of college strategic planning, development and infrastructure oversight.
- Faculty Advisory Committee – Robert Mondavi Institute for Food and Wine, UC Davis
- Board Member – California Crop Improvement Association
- UC Davis Representative – Balsells Foundation Graduate Fellowship Program
    - The Balsells Foundation is engaged with a number of US universities as a philanthropic partner funding graduate education for students from Catalonia, Spain. The foundation reached out to UC Davis as a destination for students interested in agriculture, and I led the program there.
- Advisory Board Member – AgSTART
    - AgSTART is a venture capital group specializing in agriculture-related start-up businesses
- Vice Chair, Department of Entomology and Nematology, UC Davis
- Acting Chair, Department of Entomology
- Interim Chair, Department of Nematology
- Editor – Biological Control 2009-2013
- North American Editor – Biopesticides International
- Faculty Advisory Committee – Robert Mondavi Institute for Food and Wine, UC Davis
- Co-Director – Robert Mondave Institute for Food and Wine Center for Honey and Pollination studies, UC Davis
- Chair, Committee on Interdepartmental Majors, UC Davis
- Member, College Planning Committee
- PI and Organizer, California Soil Health Symposium, June 2014 (an international symposium jointly sponsored by UC Davis and the California Department of Pesticide Regulation)
- Panel Member, USDA-NRI panel for Biology of arthropods and nematodes (2005)
- Chair, Regional Project S-1024: Discovery of Entomopathogens and their Integration and Safety in Pest Management systems; hosted annual meeting, February 2009. Sponsored by USDA. (2008-2010)

- Panel Member, USDA-AFRI Sustainable Bioenergy Research Feedstock
- Panel Member, USDA Peer Review Panel, Sustainability and IPM. August, 2010. This panel reviews 5-year research plans submitted by USDA research scientists.
- Chair, Entomopathogenic nematode subcommittee, Society of Invertebrate Pathology (2010-2011)

TEACHING

- Entomology 135: Biological Control – Principles of biological control of arthropod pests and weeds. Biology of pathogens, entomopathogenic nematodes, parasitoids, and predators. Implementation in classical and augmentative biological control. Role of biological control in pest management. (20 – 30 students)
- Entomology 104: Behavioral Ecology of Insects – Basic principles and mechanisms of insect behavior and ecology. An evolutionary approach to understanding behavioral ecology of insects. (275 – 300 students)
- Animal Biology 187: Seminar – Seminar leading to development of the Major Proposal for the Animal Biology major. (30 – 50 students)
- Freshman Seminar: Parasites and civilization. Special seminar limited to 15 first year students.
- Entomology 189. Special Topics in Entomology. The one-minute entomologist. Undergraduate students create one-minute-long videos that explain the biology and importance of various insect species.
- Nematology 290: Graduate Seminar. Evolution of nematode-insect relationships

MENTORING AND ADVISING

Graduate Student Advising

Name of Student/Institution	My Role	Ph.D.	M.S.	In Prog.	Year Degree Awarded	Current Position
Ken Cote/Virginia Tech	Chair		X		2001	Indiana State Nursery Inspector
Youngsoo Son/Virginia Tech	Chair	X			2003	Researcher – CA Department of Food and Agriculture
William Dimock/Virginia Tech	Chair	X			2004	Deceased
Janet	Chair		X		2004	Virginia

Ashley/Virginia Tech						Cooperative Extension
Amanda Hodson/UC Davis	Chair	X			2009	Project Scientist UCD
Farshid Sirjani/UC Davis	Chair		X		2009	Family Farm
Soledad Villamil/UC Davis	Co-Chair	X			2010	Instructor Dept. de Agronomia, University Nacional del Sur, Argentina
Hanayo Arimoto/UC Davis	Chair	X			2009	US Navy
Irina Shapiro/UC Davis	Chair		X		2014	Bayer Cropsciences
Atirach Noosidum/ Kasetsart University, Thailand	Co-Chair	X			2012	Lecturer, Kesetsart University
Margaret Scampavia/UC Davis	Co-Chair	X		X		
Danica Maxwell/UC Davis	Chair	X		X		
Stephani Kurniawan/UC Davis	Co-Chair		X	X		

Postdoctoral Scholars, Visiting Scientists, etc.

Name	Degree	Trainee Type	Years	Current Position
Enrique Perez	Ph.D.	Postdoctoral Research Associate	1999-2003	Unknown
Ken Spence	Ph.D.	Postdoctoral Research Associate	2006-2010	Agricultural Committee, State Senate of CA
Anne Nielsen	Ph.D.	Postdoctoral Research Associate	2008-2010	Assistant Professor, Rutgers University
Glen Stevens	Ph.D.	Postdoctoral Research Associate	2006-2010	Associate Professor, Ferrum College

Roy Kaspi	Ph.D.	Postdoctoral Research Associate	2009-2012	Research Scientist, Volcani Institute, Israel
Derya Asici	MS	Student	2010-2011	Postdoctoral Associate, Adnan Menderes University, Turkey
Heriberto Cruz Martinez	MS	Student	2012 (6 mos)	Student, Conservacion y Aprovechamiento de Recursos Naturales CIIDIR, Oaxaca, Mexico
Qizhi Liu	Ph.D.	Visiting Professor	2013 (6 mos)	Professor, China Agriculture University, Beijing, China
Chunjie Li	Ph.D.	Research Scientist	2013 (8 mos)	Scientist, Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, Harbin, China
Carlos Cortes Martinez	Ph.D.	Student	2013 (2 mos)	Student, Instituto Politecnico Nacional, CIIDIR, Oaxaca, Mexico
Mehmet Karagoz	Ph.D.	Visiting Professor	2013	Professor, Adnan Menderes University, Aydin, Turkey
Jamie Ruiz Vega	Ph.D.	Visiting Professor	2013 and 2015	Research Scientist, Agroecologia y Control Biologico, CIIDIR, Oaxaca, Mexico
Baris Gulcu	Ph.D.	Visiting Professor	2014	Assistant Professor, Duzce University, Turkey
Xingyue Li	Ph.D.	Student	2014	Research Scientist, Plant Protection, Sichuan Academy of Agricultural Science, Chengdu, Sichuan
Valentina Pidlisnyuk	Ph.D.	Visiting Professor	2010 and 2013	Professor, Matez Bel University, Banska Bystrica, Slovakia and Professor Jana Evangelista Purkyne University, Czeck Republic
Tatyana Stefanovska	Ph.D.	Visiting Professor	Multiple times over many years	Professor, National University of Life and Environmental Sciences, Kiev, Ukraine

Publication Record

Refereed Publications

Papadopoulos, N, J.R. Carey, C.S. Ioannou, H. Ji, H-G Muller, J-L Wang, S. Luckhart, E.E. Lewis. 2016. Seasonality of post-capture longevity in a medically-important mosquito (*Culex pipiens*). Frontiers in Ecology and Evolution. 4: article 63.

Nermut, J., V. Puze, Z. Mracek and E.E. Lewis. 2016. *Alloinema californicum* n. sp. (Nematoda: Alloinnematidae): a new alloinematid from USA. Zootaxa 4184: 505-516.

Li, X., Q. Liu, E.E. Lewis and E. Tarasco. 2016. Activity changes of antioxidant and detoxifying enzymes in *Tenebrio molitor* (Coleoptera: Tenebrionidae) larvae infected by the entomopathogenic nematode *Heterorhabditis beicherriana* (Rhabditida: Heterorhabditidae). Parasitology Research. DOI: 10.1007/s00436-016-5235-7.

Noosidum, A., P. Satwong, A. Chandrapatya and E.E. Lewis. 2016. Efficacy of *Steinernema* spp. plus anti-desiccants to control two serious foliage pests of vegetable crops, *Spodoptera litura* F. and *Plutella xylostella* L. Biological Control. 97, 48-56.

Li, X., E.E. Lewis, Q.Z. Liu, H.Q. Li, C.Q. Bai and Y.Z. Wang. 2016. Effects of long-term continuous cropping on soil nematode community and soil condition associated with replant problem in strawberry habitat. Scientific Reports. DOI: 10.1038/srep30466.

Kepenekci, I., S. Hazir and E.E. Lewis. 2016. Evaluation of entomopathogenic nematodes and the supernatants of the in vitro culture medium of their mutualistic bacteria for the control of the root-knot nematodes *Meloidogyne incognita* and *M. arenaria*. Pest Management Science. DOI: 10.1002/ps.3998

Hodson, A.K. and E.E. Lewis. 2016. Managing for soil health can suppress pests. California Agriculture. DOI: 10.3733/ca.2016a0005.

Dito, D.F., D. Shapiro-Ilan, C.A. Dunlap, R.W. Behle and E.E. Lewis. 2016. Enhanced biological control potential of the entomopathogenic nematode, *Steinernema carpocapsae*, applied with a protective gel formulation. Biocontrol, Science and Technology. *26:* 835-848.

Cortes-Martines, C., J. Ruiz-Vega, P. Matadamas-Ortiz, E.E. Lewis, T. Aquino-Bolanos and J. Navarro-Antonio. 2016. Effect of moisture evaporation from diatomaceous earth pellets on storage stability of *Steinernema glaseri*. Biocontrol Science and Technology. DOI: 10.1080/09583157.2015.1104650

Stefanovska, T., E.E. Lewis, V. Pidlisnyuk, O. Smyrnykh. 2015. First record of *Clytra laeviuscula* Ratzeburg as potential insect pest of energy willow (*Salix viminalis* L.) in Ukraine. Agriculture (Polnohospodárstvo). 61: 115–118. ISSN (Online) 1338-4376, DOI: 10.1515/agri-2015-0016,

Wang, B., N. Pakpour, E. Napoli, A. Drexler, E. Glennon, W. Surachetpong, K. Cheung, A. Aguirre, J.M. Klyver, E.E. Lewis, et al. 2015. *Anopheles stephensi* p38 MAPK signaling regulates innate immunity and bioenergetics during *Plasmodium falciparum* infection. Parasites & Vectors. DOI: 10.1186/s13071-015-1016-x

Abdolmaleki, A., Z.T. Maafi, H. Dastjerdi and E.E. Lewis. 2015. Potential efficacy of Iranian isolates of *Heterorhabditis bacteriophora* and *Steinernema feltiae* on *Pieris brassicae* (Lepidoptera: Pieridae). Russian Journal of Nematology. 23: 91-97.

Cator, L.J.,J.E. Pietri, C.C. Murdock, J.R. Ohm, E.E. Lewis, A.F. Read, S. Luckhart, M.B. Thomas. 2015. Immune response and insulin signalling alter mosquito feeding behaviour to enhance malaria transmission potential. Scientific Reports. DOI: 10.1038/srep11947

Dillman, A.R., M. Macchietto, C.F. Porter, A. Rogers, B. Williams, I. Antoshechkin, M.M. Lee, Z. Goodwin, X.J. Lu, E.E. Lewis, et. al. 2015. Comparative genomics of Steinernema reveals deeply conserved gene regulatory networks. Genome Biology. DOI: 10.1186/s13059-015-0746-6

Li, X., Q. Liu, Y.Z. Wang, H.Y. Sun, C.Q. Bai, and E.E. Lewis. 2015. Different changes of soil nematode communities in replant and continuous-planting peach orchards and their indicative value for peach replant problem. Helminthologia. 52: 261-269.

Kepenekci, I., S. Hazir and E.E. Lewis. 2015. Evaluation of entomopathogenic nematodes and the supernatants of the *in vitro* culture medium of their mutualistic bacteria for the control of the root-knot nematodes *Meloidogyne incognata* and *M. arenaria*. Pest Management Science. 72: 327-334.

Shapiro-Ilan, D.I., I. Brown and E.E. Lewis. 2014. Freezing and desiccation tolerance in entomopathogenic nematodes: diversity and correlation of traits. Journal of Nematology. 46: 27-34.

Ulug, D., S. Hazir, H.K. Kaya and E.E. Lewis. 2014. Natural enemies of natural enemies: the potential top-down impact of predators on entomopathogenic nematodes. Ecological Entomology. 39: 462-469.

Bender, G.S., L.M. Bates, J. Bethke, E.E. Lewis, G. Tanizake, J. Morse and K.E. Godfrey. 2014. Evaluation of insecticides, entomopathogenic nematodes and physical soil barriers for control of *Diaprepes abbreviatus* (Coleoptera: Curculionidae) in citrus. Journal of Economic Entomology. 107: 2137-2146.

Villamil, S., E.E. Lewis, F.G. Zalom. 2013. Seasonal pheromone trap catches of male *Bactrocera oleae* (Diptera: Tephritidae) in northern California: Asynchrony with host (olive tree) phenology? Environmental Entomology. 42: 1356-62.

Shapiro-Ilan, D.I., E.E. Lewis, P. Schliekelman. 2013. Aggregative group behavior in insect parasitic nematode dispersal. International Journal for Parasitology. 44: 49-54.

Pidlisnyuk, V., T. Stefanovska, E.E. Lewis, L. Erickson, and L.C. Davis. 2012. Miscanthus as a productive biofuel crop for phytoremediation. 33: 1-19. Critical Reviews in Plant Sciences.

Shapiro-Ilan, D.I., E.E. Lewis, J.F. Campbell and D.B. Kim-Shapiro. 2012. Directional movement of entomopathogenic nematodes in response to electrical field: Effects of species, magnitude of voltage, and infective juvenile age. Journal of Invertebrate Pathology. 109: 34-40.

Hodson, A.K., J.P. Siegel and E.E. Lewis. 2012. Ecological influence of the entomopathogenic nematode, *Steinernema carpocapsae*, on pistachio orchard soil arthropods. Pedobiologia. 55: 51-58.

Nielsen, A.L. and E.E. Lewis. 2012. Designing the ideal habitat for entomopathogen use in nursery production. Pest Management Science. 68: 1053-1061.

Arimoto, H., H.K. Kaya and E.E. Lewis. 2012. A laboratory study on the effect of *Paraiotonchium autumnale* parasitism on the longevity of *Musca autumnalis*. Parasitology. 139: 1580-1586.

Ebrahimi, L., Niknam, G., and E.E. Lewis. 2011. Lethal and sublethal effects of Iranian isolates of Steinernema feltiae and *Heterorhabditis bacteriophora* on the Colorado potato beetle, *Leptinotarsa decemlineata*. BioControl. 56: 781-788.

Hodson, A.K., Friedman, M. L., Wu, L. N., and Lewis, E. E. 2011. European earwig (*Forficula auricularia*) as a novel host for the entomopathogenic nematode *Steinernema carpocapsae*. Journal of Invertebrate Pathology. 107: 60-64.

Spence, K.O. and Lewis, E.E. 2011. Biopesticides with complex modes of action: direct and indirect effects of DiTera (R) on *Meloidogyne incognita*. Nematology. 12:835-846.

Nielsen, A.L., Spence. K.O., Nakatani, J. and E.E. Lewis. 2011. Effect of soil salinity on entomopathogenic nematode survivorship and behavior. Nematology. 13: 859-867.

Karban, R. A. Hodson, D.S. Gruner, E.E. Lewis, J. Karban, M. Joseph, T. Mata, and D.R. Strong. 2011. Lack of susceptibility of soil-inhabiting *Platyprepia virginalis* caterpillars, a native arctiid, to entomopathogenic nematodes in nature. Entomologia Experimentalis et Applicata. 140: 28-34.

Spence, K., Stevens, G., Arimoto, H., Ruiz-Vega, J., Kaya, H., Lewis, E. 2010. Effect of insect cadaver desiccation and soil water potential during rehydration on entomopathogenic nematode (Rhabditida: Steinernematidae and Heterorhabditidae) production and virulence. Journal of Invertebrate Pathology. 106: 268-273.

Noosidum, A., Hodson, A.K., E. E. Lewis, and A. Chandrapatya. 2010. Characterization of new entomopathogenic nematodes from Thailand: foraging behavior and virulence to the greater wax moth, *Galleria mellonella* L. (Lepidoptera: Pyralidae). Journal of Nematology. 42: 281-291.

Kaspi, R., A. Ross, A.K. Hodson, G.N. Stevens, H.K. Kaya and E.E. Lewis. 2010. Foraging efficacy of the entomopathogenic nematode *Steinernema riobrave* in different soil types from California citrus groves. Applied Soil Ecology.

Corby-Harris, V., A. Drexler, L. Watkins de Jong, N. Pakpour, Y. Antonova, R. Ziegler, F. Ramberg, E. Lewis, J. Brown, S. Luckhart and M. Riehle. 2010. Akt signaling reduces malaria parasite load and lifespan in *Anopheles stephensi* mosquitoes. PLoS Pathogens.

Lewis, E.E., T. Stefanovska, V. Pidlisnyuk, and H.K. Kaya. 2009. Current state and perspectives for using entomopathogenic nematodes. (In Ukrainian). Journal of Kremenchug Mychailo Ostrogradskiy State Polytechnic University, 4: 141-145.

Tiwari, S., R.R. Youngman, E.E. Lewis and J.D. Eisenback. 2009. Effect of European corn borer (Lepidoptera: Crambidae) stalk tunneling on root- knot nematode (Tylenchida: Heteroderidae) fitness on corn. Journal of Economic Entomology. 102: 602-609.

Shapiro-Ilan, D.I., J.F. Campbell, E.E. Lewis, J.M. Elkon and D.B. Kim- Shapiro. 2009. Directional movement of steinernematid nematodes in response to electrical current. Journal of Invertebrate Pathology. 100: 134-137.

Sirjani, F.O., E.E. Lewis and H.K. Kaya. 2009. Evaluation of entomopathogenic nematodes against the olive fruit fly, *Bactrocera oleae* (Diptera: Tephritidae). Biological Control. 48: 274-280.

Stevens, G.N., E.E. Lewis, and H.K. Kaya. 2008. Potential multitrophic influences of soil heterogeneity: roots, insect root herbivores, and entomopathogenic nematodes. Biopesticides International. 3:81-95

Nielsen, A.L., K.O. Spence and E.E. Lewis. 2008. Efficacy patterns of biopesticides used in potting media. Biopesticides International. 4: 87-102.

Spence, K.O., E.E. Lewis and R.N. Perry. 2008. Host-finding and invasion by entomopathogenic and plant-parasitic nematodes: Evaluating the ability of laboratory bioassays to predict field results. Journal of Nematology. 40: 93-98.

Christen, J.M., J.F. Campbell, L. Zurek, D.I. Shapiro-Ilan, E.E. Lewis, and S.B. Ramaswamy. 2008. Role of symbiotic and non-symbiotic bacteria in carbon dioxide production from hosts infected with *Steinernema riobrave*. Journal of Invertebrate Pathology. 99: 35-42.

Shapiro-Ilan, D., M. Guadalupe Rojas, J.A. Morales-Ramos, E.E. Lewis, W.L. Tedders. 2008. Effects of host nutrition on virulence and fitness of entomopathogenic nematodes: lipid- and protein-based supplements in *Tenebrio molitor* diets. Journal of Nematology. 40: 13-19.

Boina, D.R., E.E. Lewis, and J.R. Bloomquist. 2008. Nematicidal activity of anion transport blockers against *Meloidogyne incognita*, *Ceanorhabditis elegans*, and *Heterorhabditis bacteriophora*. Pest Management Science. 64: 646-653.

Fushing, H., L. Zhu, D.I. Shapiro-Ilan, J.F. Campbell, and E.E. Lewis. 2008. State-space based mass event-history model I: many decision-making agents with one target. Annals of Applied Statistics. 2: 1503-1522.

Preisser, E.L., S.E. Gibson, L.S. Adler, and E.E. Lewis. 2007. Underground herbivory and the costs of constitutive defense in tobacco. Acta Oecologica. 31: 210-215.

Ramos-Rodriguez, O., J.F. Campbell, E.E. Lewis, D.I. Shapiro-Ilan, and S.B. Ramaswamy. 2007. Dynamics of carbon dioxide release from insects infected with entomopathogenic nematodes. Journal of Invertebrate Pathology. 94: 64-69.

Ramos-Rodriguez, O., J.F. Campbell, J.M. Christen, D.I. Shapiro- Ilan, E.E. Lewis, and S.B. Ramaswamy. 2007. Attraction behavior of three entomopathogenic nematode species towards infected and uninfected hosts. Parasitology. 134: 729-738.

Christen, J.M., J.F. Campbell, E.E. Lewis, D.I. Shapiro-Ilan, and S.B. Ramaswamy. 2007. Responses of the entomopathogenic nematode, *Steinernema riobrave* to its insect hosts, *Galleria mellonella* and *Tenebrio molitor*. Parasitology. 134: 889-898.

Perez, E.E., and E.E. Lewis. 2006. Use of Entomopathogenic Nematodes and Thyme Oil to Suppress Plant-parasitic Nematodes on English Boxwood. Plant Disease. 90: 471-475.

Ashley, J.L., D.A. Herbert, E.E. Lewis, C.C. Brewster, R. Huckaba. 2006. Toxicity of Three Acaricides to *Tetranychus urticae* (Tetranychidae: Acari) and *Orius insidiosus* (Anthocoridae: Hemiptera). Journal of Economic Entomology. 99: 54-59.

Cordero, R.J., T.P. Kuhar, J. Speese, R.R. Youngman, E.E. Lewis, and J.R. Bloomquist. 2006. Field Efficacy of Insecticides for Control of Lepidopteran Pests on Collards in Virginia. Plant Health Progress. 10.1094/PHP-2006-0105-01-RS.

Kaya, H.K. and E.E. Lewis. 2006. Third international symposium on entomopathogenic nematodes and symbiotic bacteria. Biological Control. 38: 1-3.

Lewis, E.E., J.F. Campbell, C. Griffin, H.K. Kaya, and A. Peters. 2006. Behavioral ecology of entomopathogenic nematodes. Biological Control. 38: 66-79.

Kunkel, B.A., D.I. Shapiro-Ilan, J.F. Campbell, and E.E. Lewis. 2006. Effect of *Steinernema glaseri*-infected host exudates on movement of conspecific infective juveniles. Journal of Invertebrate Pathology. 93: 42-49.

Chen, J., E.E. Lewis, J.R. Carey, H. Caswell, and E.P. Caswell- Chen. 2006. The ecology and biodemography of *Caenorhabditis elegans*. Experimental Gerontology. 41: 1059-1065.

Shapiro-Ilan, D.I., A.P. Nyczepir, and E.E. Lewis. 2006. Entomopathogenic nematodes and bacteria applications for control of the pecan root- knot nematode, *Meloidogyne partityla* in the greenhouse. Journal of Nematology. 38: 449-454.

Son, Y. and E.E. Lewis. 2005. Effects of temperature on the reproductive life history of the black vine weevil, *Otiorhynchus sulcatus* (F.). Entomologica Experimentalis et Applicata. 114: 15-24.

Son, Y. and E.E. Lewis. 2005. Modelling temperature-dependent development and survival of *Otiorhynchus sulcatus* (Coleoptera: Curculionidae). Agricultural and Forest Entomology. 7: 201-209.

Caswell-Chen, E.P., J. Chen, E.E. Lewis, G.W. Douhan, S.A. Nadler and J.R. Carey. 2005. Revising the standard wisdom of *C. elegans* natural history: Ecology of longevity. Science Aging Knowledge Environment. 2005: 30 pp.

Bruck, D., D.I. Shapiro-Ilan, E.E. Lewis. 2005. Evaluation of Application Technologies of entomopathogenic Nematodes for Control of the Black Vine Weevil, *Otiorhynchus sulcatus*. Journal of Economic Entomology. 98: 1884-1889.

Cote, K.W., P.B. Schultz, and E.E. Lewis. 2004. Using acaricides in combination with *Phytoseiulus persimilis* Athias-Henroit to suppress *Tetranychus urticae* Koch populations. Journal of Entomological Science. 39: 267-274.

Nyczepir, A.P., D.I. Shapiro-Ilan, E.E. Lewis, and Z.A. Handoo. 2004. Effect of entomopathogenic nematodes on *Mesocriconema xenoplax* populations in peach and pecan. Journal of Nematology. 36: 181-185.

Perez, E.E. and E.E. Lewis. 2004. Suppression of *Meloidogyne incognita* and *Meloidogyne hapla* with entomopathogenic nematodes on greenhouse peanuts and tomatoes. Biological Control. 30: 336-341.

Shapiro-Ilan, D.I., E.E. Lewis, and Y.S. Son. 2003. Superior efficacy observed in entomopathogenic nematodes applied in infected-host cadavers compared with application in aqueous suspension. Journal of Invertebrate Pathology. 83: 270-272.

Luckhart, S., K. Li, R. Dunton, E.E. Lewis, A. Crampton, J.R. Ryan, and R. Rosenberg. 2003. *Anopheles gambiae* immune gene variants associated with natural Plasmodium infection. Molecular and Biochemical Parasitology. 128: 83-86.

Campbell, J.F., E.E. Lewis, S.P. Stock, S. Nadler, and H.K. Kaya. 2003. Evolution of host search strategies in entomopathogenic nematodes (Nematoda: Steinernematidae). Journal of Nematology. 35: 142-145.

Perez, E.E., E.E. Lewis, and D.I. Shapiro-Ilan. 2003. Impact of the host cadaver on survival and infectivity of entomopathogenic nematodes (Rhabditida: Steinernematidae and Heterorhabditidae) under desiccating conditions. Journal of Invertebrate Pathology. 82: 111-118.

Wilson, M.J., E.E. Lewis, F. Yoder, and R. Gaugler. 2002. Application pattern and persistence of the entomopathogenic nematode *Heterorhabditis bacteriophora*. Biological Control. 26: 180-188.

Lewis, E.E., B. Barbarossa, and R. Gaugler. 2002. Mating and sexual communication by *Steinernema carpocapsae* (Nemata: Steinernematidae). Journal of Nematology. 34: 328-331.

Lewis, E.E., D.I. Shapiro-Ilan, and C. McCoy. 2002. Comparison of development rates in entomopathogenic nematodes applied in infected hosts versus aqueous suspension. Journal of Nematology. 34: 340-342.

Lewis, E.E. and D.I. Shapiro-Ilan. 2002. Host cadavers protect entomopathogenic nematodes during freezing. Journal of Invertebrate Pathology. 81: 25-32.

Shapiro-Ilan, D.I., R. Gaugler, L. Tedders, I. Brown, and E.E. Lewis. 2002. Optimization of inoculation for *in vivo* production of entomopathogenic nematodes. Journal of Nematology. 34: 343-350.

Cote, K., P. Schultz, and E.E. Lewis. 2002. Residual effects of acaricides on predatory mites. HortScience. 37: 906-909.

Perez, E.E., and E.E. Lewis. 2002. Effects of entomopathogenic nematode application to *Meloidogyne incognita* penetration and egg production in laboratory and greenhouse experiments. Journal of Nematology. 34: 171-174.

Shapiro-Ilan, D.I., E.E. Lewis, R.W. Behle, and M.R. McGuire. 2001. Formulation of entomopathogenic nematodes-infected cadavers. Journal of Invertebrate Pathology. 78: 17-23.

Lewis, E.E., P.S. Grewal, and S. Sardanelli. 2001. Interactions between the *Steinernema feltiae-Xenorhabdus bovienii* insect pathogen complex and the root-knot nematode *Meloidogyne incognita*. Biological Control. 21: 55-62.

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Book Chapters

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Lewis, E.E. 2002. Behavioral Ecology, R. Gaugler, (ed), Entomopathogenic nematodes in biological control, CABI, 205-224.

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Lewis, E.E. 1994. Foraging strategies as a theoretical framework for the study of entomopathogenic nematode life history traits, Proceedings of the 6th International Colloquium on Invertebrate Pathology and Microbial Control, 109-114.

Books Edited

Lewis, E.E., J.F. Campbell, and M.K.V. Suhkdeho. 2002 . Behavioral Ecology of Parasites, CABI Publishing, New York, NY and Oxon, UK.

Patents

Shapiro-Ilan, D., M. Mcguire, R. Behle and E. Lewis. Formulated arthropod cadavers for pest suppression. U.S. Patent No. US6,524,601 B1.

J. Bloomquist and E.E. Lewis, co-inventors. Insecticidal and Nematicidal Compositions Comprising Stilbene Compounds. Disclosed Fall, 2004, provisional patent applied for 11/04 (VTIP # 04.111).

RECENT SELECTED GRANTS AND CONTRACTS

Grants Active

Title: Microbial based pest management program for Tephritid fruit flies
Agency: USAID
Amount: $75,000
Date(s): 4/1/17-12/31/20
Principal Investigator

Title: Leveraging nematode signals to enhance entomopathogenic nematode efficacy for pest control
Agency: USDA-SBIR (Phase 1)
Amount: $60,000
Date(s): 6/1/17-12/31/17
Co-Principal Investigator

Title: Improved end-season control and migration suppression of Lygus bugs in commercial strawberry fields
Agency: California Strawberry Commission
Amount: $240,000 ($80,000 per year contingent on available funding and demonstrated progress)
Date(s): 2/1/16-1/31/19
Co-Principal Investigator

Title: Development of a rapid real time PCR assay to detect nematode pests of pistachios, walnut and almond
Agency: California Department of Food and Agriculture
Amount: $220,000
Date(s): 10/01/2015 - 06/30/2018
Principal Investigator

Title: Industry Support
Agency: California Safe Soils
Amount: $103,500.00
Date(s): 09/01/2011 - 08/31/2016
Principal Investigator

Grants Completed

Title: An Integrated Biological Approach to Fuller Rose Beetle Control to Meet Quarantine Requirements
Agency: Citrus Research Board
Amount: $70,000
Date(s): 10/01/2013 - 09/30/2015

Title: DPR Symposium on Soil Health
Agency: California Department of Pesticide Regulation
Amount: $55,667.00
Date(s): 02/12/2014 - 09/30/2014

Title: Evaluation of two formulations of entomopathogenic nematodes for white grub control
Agency: UC-Mexus
Amount: $25,000
Date(s): 9/2005 - 3/2007

Title: Mechanized *in-vivo* production of entomopathogenic nematodes: expanding biocontrol utility
Agency: USDA-SBIR Phase 2
Amount: $346,000
Date(s): 09/07 - 08/09
PI/Co-PI: Co-Investigator, Tedders (Principal Investigator)

Title: Novel formulations for entomopathogenic nematodes: Phase II
Agency: USDA-SBIR
Amount: $74,500 (VT Share)
Date(s): 9/2002 - 9/2004
PI/Co-PI: Co-Investigator

Title: Biological and cultural control of *D. abbreviatus* in California nurseries
Agency: California Department of Food and Agriculture
Amount: $42,900

Date(s): 01/08 - 12/09
PI/Co-PI: Principal Investigator, Lewis (Principal Investigator)

Title: Trophic dynamics in the fine-root based food web: integrating resource heterogeneity, root foraging, and root herbivory.
Agency: NSF Dissertation Improvement Grant
Amount: $7,320
Date(s): 6/2003 - 1/2005
PI/Co-PI: Co-Investigator

Title: Infection decisions by entomopathogenic nematodes
Agency: NSF Animal Behavior Panel
Amount: $200,000
Date(s): 9/2003 - 8/2006
PI/Co-PI: Principal Investigator

Title: Root herbivores in an orchard system: assessing the influence of root herbivory and pest management on root dynamics, soil fauna, and soil carbon pools
Agency: Kearney Foundation of Soil Science
Amount: $168,000
Date(s): 01/07 - 12/10
PI/Co-PI: Principal Investigator, Lewis (Principal Investigator)

Title: Integrated pest management training for Virginia Schools
Agency: Environmental Protection Agency
Amount: $19,737
Date(s): 10/2003 - 9/2005
PI/Co-PI: Co-Investigator

Title: Establishment of native plants in an exotic matrix: the role of root-based food web interactions in California's Central Valley
Agency: USDA-NRI Post-doctoral Fellowship
Amount: $121,718.00
Date(s): 08/01/2005 - 07/31/2007
PI/Co-PI: Trainer, Glen Stevens (Principal Investigator)

Title: Biocontrol for environmental security in Ukraine
Agency: NATO
Amount: $6,300.00
Date(s): 02/03/2009 - 02/02/2011
PI/Co-PI: Principal Investigator

Title: Evaluating entomopathogenic nematodes as biocontrol agents for citrus root weevil in California soils and climates
Agency: California Citrus Research Board
Amount: $52,000*
Date(s): 11/2006 - 10/2007
PI/Co-PI: Principal Investigator

Title: Identifying the herbivore species complex in biofuel production systems in California and Ukraine
Agency: US Civilian Research and Development
Amount: $13,530.00
Date(s): 10/01/2009 - 09/30/2011
PI/Co-PI: Principal Investigator

Title: Entomopathogenic nematodes for the control of the citrus root weevil, *Diaprepes abbreviatus*
Agency: UC IPM Exotic Species Program
Amount: $74,832
Date(s): 9/2006 - 8/2008
PI/Co-PI: Principal Investigator

Title: Integrated biology learning through investigation
Agency: NSF CCLI
Amount: $200,000**
Date(s): 5/2007 - 4/2009
PI/Co-PI: Co-Investigator, Dolan (Principal Investigator)
Goal: **UCD subcontract for $25,901 per year.

Title: Entomopathogenic nematodes for complying with quarantine restrictions of nursery containerized plants and controlling Diaprepes weevil larvae
Agency: Slosson Foundation
Amount: $51,600
Date(s): 7/2007 - 6/2009
PI/Co-PI: Co-Investigator, Kaya (Principal Investigator)

Title: Biological control of Black Vine Weevil and Citrus Root Weevil (Coleoptera: Curculionidae) using entomopathogenic nematodes in berry crops and ornamentals in Ukraine and California
Agency: U.S. Civilian Research and Development Foundation
Amount: $11,940.00
Date(s): 09/01/2007 - 08/31/2009
PI/Co-PI: Co-Investigator, Stefanovska (Principal Investigator)

Title: Mechanized in vivo production of entomopathogenic nematodes: expanding biocontrol utility
Agency: SBIR-USDA Phase 1
Grant No.: EEL0313
Amount: $20,000.00
Date(s): 09/01/2007 - 08/31/2009
PI/Co-PI: Co-Investigator, Tedders (Principal Investigator)

Title: Control tactics for Diaprepes
Agency: California Department of Food and Agriculture
Amount: $76,175

Date(s): 9/20/2007 - 06/30/2010
PI/Co-PI: Co-Investigator, Godfrey (Principal Investigator)

Title: Research on the mode of action of the Nematicide DiTerra
Agency: Valent U.S.A. Corporation
Amount: $15,000 per year
Date(s): 07/01/07 - 06/30/09
PI/Co-PI: Principal Investigator

Title: Biological control of the Agave Weevil, a pest of ornamental plants in the US and of commercial agave production for tequila and mescal in Mexico
Agency: UC Mexus Program
Amount: $12,298.00
Date(s): 07/01/2011 - 12/31/2013
PI/Co-PI: Principal Investigator

Title: Biological Control of Key Pest of Ornamental Plants in the Greenhouse and Nursery
Agency: California Department of Food and Agriculture
Amount: $25,000
Date(s): 10/01/2010 - 10/31/2011
PI/Co-PI: Co-Principal Investigator, Michael Parrella (Principal Investigator)