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EDUCATION

1963	BS, Zoology, Tulane University, New Orleans
1966	MA, Zoology, University of California, Berkeley
1971	Ph.D., Zoology, University of California, Berkeley
1971-1972	Postdoc, Parasitology, University of California, San Francisco
1972-1973	Postdoc, Ecology, University of Michigan Ann Arbor

EMPLOYMENT

1992-present	Professor, UC Santa Barbara, Department of Biological Sciences.
2005-2006	Associate Dean, College of Creative Studies, UC Santa Barbara
1992-2005	Associate Provost, College of Creative Studies, UC Santa Barbara.
1996-1997	Visiting Scientist, Marine Division, CSIRO, Hobart, Tasmania, Australia.
Spring 1990	Consultant, USAID project on biological control of schistosomiasis, Kenya Medical Research Institute, Nairobi.
1986-1992	Professor, UC Santa Barbara, Department of Biological Sciences.
1980-1986	Associate Professor, UC Santa Barbara, Department of Biological Sciences.
Summer 1984	Visiting Scientist, Hebrew University, Jerusalem, Department of Genetics.
1975-1980	Assistant Professor, UC Santa Barbara, Department of Biological Sciences.
1974-1975	Assistant Professor, University of North Carolina, Institute of Marine Sciences, Zoology Department.
1973-1974	Interim Assistant Professor, University of Florida, Zoology Department.
1973- 1974	Acting Assistant Professor, UC Berkeley, Zoology.
1975	Department, Bodega Marine Laboratory.
1972-1973	NIH Postdoctoral Fellow, University of Michigan.
1971-1972	NIH Postdoctoral Fellow, George W. Hooper Foundation, UC San Francisco.

AWARDS & HONORS

Best Teacher, Sciences, UCSB, 1999
Plenary Speaker, Australian Society of Parasitologists Annual Meeting, 2003
Chancellor's Award for Undergraduate Research Mentorship. UCSB, 2006

SELECTED PUBLICATIONS

- Kuris, A.M. 1973. Biological control: implications of the analogy between the trophic interactions of insect pest – parasitoid and snail – trematode systems. *Exp. Paras.* **33**: 365-379.
- Kuris, A.M. 1974. Trophic interactions: similarity of parasitic castrators to parasitoids. *Quart. Rev. Biol.* **49**: 129-148.
- Kuris, A. M. and A. R. Blaustein. 1977. Ectoparasitic mites on rodents: application of the island biogeography theory? *Science* **195**: 596-598.
- Kuris, A. M., G.O. Poinar, R.T. Hess and J.T. Morris. 1979. Virus particles in an internal parasite, *Portunium conformis* (Crustacea: Isopoda: Entoniscidae), and its marine crab host, *Hemigrapsus oregonensis*. *Jour. Invert. Pathol.* **34**: 26-31.
- Kuris, A.M., A.R. Blaustein and J.J. Alio. 1980. Hosts as islands. *Amer. Natur.* **116**: 570-586.
- Kuris, A. M., G.O. Poinar and R.T. Hess. 1980. Post-larval mortality of the endoparasitic isopod castrator, *Portunium conformis* (Epicaridea: Entoniscidae) in the shore crab, *Hemigrapsus oregonensis*, with a description of the host response. *Parasitology* **80**: 211-232.
- Kuris, A.M. 1980. Effect of exposure to *Echinostoma liei* miracidia on growth and survivorship of young *Biomphalaria glabrata* snails. *Int. J. Parasit.* **10**: 303-308.
- Margolis, L., G.W. Esch, J.C. Holmes, A.M. Kuris and G.A. Schad. 1982. The use of ecological terms in parasitology. *J. Parasitol.* **68**: 131-133.
- Blaustein, A.R., A.M. Kuris and J.J. Alio. 1983. Pest and parasite species richness problems. *Amer. Natur.* **122**: 556-566.
- Wickham, D.L., P. Roe and A.M. Kuris. 1984. Transfer of nemertean egg predators during host molting and copulation. *Biol. Bull.* **167**: 331-338.
- Kuris, A.M. and S.T. Norton. 1985. Evolutionary importance of overspecialization: insect parasitoids as an example. *Amer. Natur.* **126**: 387-391.
- Kuris, A.M., Z Ra'anan, A. Sagi and D. Cohen. 1987. Morphotypic differentiation of male Malaysian giant prawns, *Macrobrachium rosenbergii*. *J. Crustacean. Biol.* **7**: 219-237.
- Kuris, A. 1990. Guild structure of larval trematodes in molluscan hosts: prevalence, dominance and significance of competition. Pp. 69-100 in: *Parasite Communities, Patterns and Processes*, G.W. Esch, A.O. Bush and J.M. Aho, Eds., Chapman & Hall, London.
- Roberts, J.K. and A.M. Kuris 1990. Predation and control of laboratory populations of the snail *Biomphalaria glabrata* by the freshwater prawn *Macrobrachium rosenbergii*. *Ann. Trop. Med. Parasit.* **84**: 401-412.
- Ra'anan, Z., A. Sagi, Y. Wax, I. Karplus, G. Hulata & A. Kuris. 1991. Growth, size rank & maturation of the freshwater prawn, Macrobrachium rosenbergii; analysis of marked prawns in an experimental population. *Biol. Bull.* **181**: 379-386.
- Kuris, A.M., S.F. Blau, A.J. Paul, J.D. Shields and D.E. Wickham. 1991. Infestation by brood symbionts and their impact on egg mortality of the red king crab, *Paralithodes camtschatica*, in Alaska: geographic and temporal variation. *Can. J. Fish. Aquat. Sci.* **48**: 559-568.
- Wenner, A.M. & A.M. Kuris, eds. 1991. *Crustacean Egg Production*, Crustacean Issues 7, Balkema, Rotterdam.
- Kuris, A.M. 1991. A review of patterns and causes of crustacean brood mortality. In: "Crustacean Egg Production." Crustacean Issues 7, A.M. Wenner and A.M. Kuris, Eds., pp. 117-141.

- Kuris, A.M. 1992. Life cycles of nemertean that are symbiotic egg predators of decapod Crustacea: adaptations to host life histories. *Hydrobiologia* 266: 1-14.
- Kuris, A.M. and K.D. Lafferty. 1992. Modeling crustacean fisheries: effects of parasites on management strategies. *Can. J. Fish. Aquat. Sci.* 49: 327-336.
- Lafferty, K.D. and A.M. Kuris. 1993. Mass mortality of abalone *Haliotis cracherodii* on the California Channel Islands: tests of epidemiological hypotheses. *Marine Ecology Progress Series* 96: 239-248.
- Lafferty, K.D., D.T. Sammond and A.M. Kuris. 1994. Analysis of larval trematode communities. *Ecology* 75: 2275-2285.
- Kuris, A.M. and K.D. Lafferty. 1994. Community structure: larval trematodes in snail hosts. *Annual Review of Ecology & Systematics*. 25: 189-217.
- Lafferty, K.D. and A.M. Kuris. 1996. Biological control of marine pests. *Ecology* 77: 1989-2000.
- Kuris, A.M. 1997. Host behavior modification: an evolutionary perspective. Pp. 293-315 in: *Parasites and Pathogens: Effects on Host Hormones and Behavior*, N.E. Beckage, Ed., Chapman & Hall, New York.
- Mkoji, G.M., B.V. Hofkin, A.M. Kuris, A. Stewart-Oaten, B.N. Mungai, J.M. Kihara, F. Mungai, J. Yundu, J. Mbui, J.R. Rashid, C.H. Kariuki, J.H. Ouma, D.K. Koech and E.S. Loker. 1999. Impact of the crayfish *Procambarus clarkii* on *Schistosoma haematobium* transmission in Kenya. *Amer. Jour. Trop. Med. Hyg.* 61: 751-759.
- Lafferty, K.D. and Kuris, A.M. 1999. How environmental stress affects the impacts of parasites. *Limnol. Oceanogr.* 44: 925-931.
- Culver, C.S. and Kuris, A.M. 2000. The apparent eradication of a locally established introduced marine pest. *Biol. Invasions* 2: 245-253.
- Myers, J.H., Simberloff, D., Kuris, A.M., and Carey, J.R. 2000. Eradication revisited: dealing with exotic species. *TREE* 15: 316-320.
- Knudsen, R., H.-M. Gabler, A.M. Kuris and P.-A. Amundsen. 2001. Selective predation on parasitized prey – a comparison between two helminth species with different life history strategies. *Jour. Parasit.* 87: 941-945.
- Torchin, M.E., K.D. Lafferty and A.M. Kuris. 2001. Release from parasites as natural enemies: increased performance of a globally introduced marine crab. *Biol. Invasions* 3: 333-345.
- Lafferty, K.D. and Kuris, A.M. 2002. Trophic strategies, animal diversity and body size. *TREE* 17: 507-513.
- Kuris, A.M., Torchin, M.E. and Lafferty, K.D. 2002. *Fecampia erythrocephala* rediscovered: prevalence and distribution of a parasitoid of the European green crab, *Carcinus maenas*. *J. Mar. Biol. Assoc. UK* 82: 955-960.
- Kuris, A.M. 2003. Eradication of introduced marine pests. Pages 549-556 in DJ Rapport, WL Lasley, DE Rolston, NO Nielsen, CO Qualset and AB Damania, eds., *Managing for Healthy Ecosystems*, CRC Press, Boca Raton.
- Torchin, M.E., Lafferty, K.D., Dobson, A.P., McKenzie, V.J. and Kuris, A.M. 2003. Introduced species and their missing parasites. *Nature* 421: 628-631.
- Kuris, A.M. 2003. Evolutionary ecology of trophically transmitted parasites. *J. Parasit.* S96-S100.
- Kuris, A.M. 2003. Did biological control cause extinction of the coconut moth, *Levuana iridescens*, in Fiji? *Biol. Invasions* 5: 133-141.
- Amundsen, P.-A., R. Knudsen, A.M. Kuris and R. Kristoffersen. 2003. Seasonal and ontogenetic dynamics in trophic transmission of parasites. *Oikos* 102: 285-293.

- McCallum, H.I., Kuris, A., Harvell, C.D., Lafferty, K.D., Smith, G.W. and Porter, J. 2004. Does terrestrial epidemiology apply to marine systems? *TREE* 19: 585-591.
- Thresher, R.E. and Kuris, A.M. 2004. Options for managing invasive marine species. *Biol. Invasions* 6: 295-300.
- Culver, C.A. and Kuris, A.M. 2004. Susceptibility of California gastropods to an introduced South African sabellid polychaete, *Terebrasabella heterouncinata*. *Invert. Biol.* 123: 316-323.
- Harvell, D., R. Aronson, N Baron, J. Connell, A. Dobson, S. Ellner, L. Gerber, K. Kim, A. Kuris, H. McCallum, K. Lafferty, B. McKay, J. Porter, M. Pascual, G. Smith, K. Sutherland and J. Ward. 2004. The rising tide of ocean diseases: unsolved problems and research priorities. *Front. Ecol. Environ.* 2: 375-382.
- Gurney, R.H., B.F. Nowak, I. Dykova and A.M. Kuris. 2004. Histopathological effects of trypanorhynch metacestodes in the digestive gland of a novel host, *Carcinus maenas* (Decapoda). *Dis. Aquat. Org.* 58: 63-69.
- Lafferty, K. D. & A. M. Kuris. 2005. Parasitism and environmental disturbances. Pp. 113-123 in: Thomas, F., Guégan, J. F. & Renaud, F. Eds., *Parasitism and Ecosystems*. Oxford Univ. Press, Oxford).
- Kuris, A.M. 2005. Trophic transmission of parasites and host behavior modification. *Behav. Processes* 68: 215-217.
- Miura, O., Kuris, A.M., Torchin, M.E., Hechinger, R.E., Dunham, E.J. and Chiba, S. 2005. Molecular genetic analyses reveal cryptic species of trematodes in the intertidal gastropod, *Batillaria cumingi* (Crosse). *Int. Jour. Parasit.* 35: 793-801.
- Kuris, A.M. and K.D. Lafferty. 2005. Population and community ecology of larval trematodes in snail intermediate hosts. Pp. 321-325 in: Rohde, K. Ed., *Marine Parasitology*. CSIRO Publ., Collingwood, Australia.
- Torchin, M.E. and A.M. Kuris. 2005. Introduced marine parasites. Pp. 358-366 in: Rohde, K. Ed., *Marine Parasitology*. CSIRO Publ., Collingwood, Australia.
- Goddard, J.H.R., M.E. Torchin, A.M. Kuris and K.D. Lafferty. 2005. Host specificity of *Sacculina carcini*, a potential biological control agent of the introduced European green crab *Carcinus maenas* in California. *Biol. Invasions* 7: 895-912.
- Kuris, A. M., K.D. Lafferty and M.E. Torchin. 2005. Biological control of the European green crab, *Carcinus maenas*: natural enemy evaluation and analysis of host specificity. Pp.102-115 in: M.S. Hoddle, Ed., 2nd International Symposium on the Biological Control of Arthropods, Vol. I, FHTET-2005-08, USDA Forest Service, Morgantown, WV.
- Lafferty, K.D., K.F. Smith, M.E. Torchin, A.P. Dobson and A.M. Kuris. 2005. The role of infectious diseases in natural communities: what introduced species tell us. Pp. 111-134 in: Sax, D.F., Stachowicz, J.J., and Gaines, S.D., eds. *Species Invasions: Insights into Ecology, Evolution and Biogeography*. Sinauer Associates, Sunderland, MA.
- Lafferty, K.D., R.F. Hechinger, J.C. Shaw, K. Whitney and A.M. Kuris. 2006. Food webs and parasites in a salt marsh ecosystem. Pp 199-134 in: S. Collinge and C. Ray, Eds. *Disease Ecology: Community Structure and Pathogen Dynamics*, Oxford Univ. Press, Oxford.
- Lafferty, K.D., A.P. Dobson and A.M. Kuris. 2006. Parasites dominate food webs. *Proc. Nat. Acad. Sci.* 103: 11211-11216.
- Miura, O., A.M. Kuris, M.E. Torchin, R.F. Hechinger, and S. Chiba. 2006. Parasites alter host phenotype and create a new ecological niche for snails. *Proc. Roy. Soc. London, Ser. B.* 273: 1323-1328.

- Hechinger, R.F., K.D. Lafferty, T.C. Huspeni, A.J. Brooks and A.M. Kuris. 2006. Can parasites be indicators of free living diversity? Relationships between species richness and the abundance of larval trematodes and of local benthos and fishes. *Oecologia* (in press).
- Miura, O., A.M. Kuris, M.E. Torchin, R.F. Hechinger, and S. Chiba. 2006. Introduced cryptic species of parasites exhibit different invasion pathways. *Proc. Nat. Acad. Sci.* (in press).

PATENT

Walter, M. and A. Kuris. 2003. Methods for the inhibition of egg production in trematodes. US Patent 6514963

SELECTED FUNDING

Kuris, A.M & K.D. Lafferty. 2002-2007, Anthropogenic effects on host-trematode dynamics, NSF DEB-0224565 (NIH/NSF Ecology of Infectious Diseases Program), \$2,260,000.

Kuris, A.M. & K.D. Lafferty, 2005-2006, Large-scale survey of a potentially inexpensive ecological indicator, UC Sea Grant P/CZ-119PD-F-1/1, \$9,999.

Grosholz, E., S. Williams, A. Kuris, S. Morgan & L. Levin, 2006-2008, Establishing connectivity of Invasive populations: a precursor to prioritization and implementation of eradication efforts, UC Office of the President, CEQI, \$400,000.

Kuris, A.M. and K.D. Lafferty. 2007-2010. Parasites as indicators of coastal wetland health. UC Sea Grant, \$150,000.

SYNERGISTIC ACTIVITIES

Associate Dean (on sabbatical leave, 2006-2007) of the College of Creative Studies, UCSB, a research-intensive undergraduate college of 315 students, including 50 biology students. Research is the core element of their undergraduate curriculum.

Courses - Upper Division: Parasitology, Invertebrate Zoology, Higher Invertebrates, Epidemiology of AIDS, Evolutionary Medicine, - Lower Division: Biology Colloquium.

Total Graduate Students Advised: MA (6 awarded), PhD (15 awarded, 5 in progress).
Total Postdoctoral students (10).

RESEARCH

1. The overall goal of my research is to reveal the role of infectious diseases in ecosystems. Our system for intensive investigation is the salt marshes of California and Baja California, where about 20 species of trematodes parasitize a wide array of invertebrates and vertebrates. Our work indicates that they contribute substantially to the energetics of the ecosystem and substantially alter trophic relationships and the structure of food webs.
2. We are developing a theoretical frame-work for the evolution of intimate, durable exploitative interactions ("parasitism") and evaluating its ecological implications.
3. My research also emphasizes theory in the service of application. Recent examples include:
 - a) Development of the concept of biological control using natural enemies for introduced marine pest species. We are developing theory and testing the safety of parasitic castrators as natural enemies against the European green crab in California and Tasmania.

- b) Biological control of schistosomiasis, a major human tropical disease. We are investigating the efficacy of Louisiana crayfish as predators of the intermediate snail host of the urinary blood fluke, *Schistosoma haematobium* and the intestinal blood fluke, *S. mansoni*.
- c) We are developing a novel pharmacological approach to prevent the pathological sequelae of schistosomiasis.
- d) Use of information about parasites to assess ecosystem function in wetlands.