

September 2011

Curriculum Vitae

Werner, Earl Edward

Born: July 11, 1944, Aliquippa, Pennsylvania

Degrees:

AB: Columbia University, 1966, Zoology

PhD: Michigan State University, 1972, Zoology-Ecology

Positions:

1966-1967	Teaching Assistant, Michigan State University
1968-1969	NDEA Fellow, Michigan State University
1969-1971	NSF Pre-doctoral Research Associate, Michigan State University
1972	NSF Post-doctoral Research Associate, Michigan State University
1972-1973	Assistant Professor of Zoology, University of Iowa
1973-1978	Assistant Professor of Zoology, Michigan State University
1978-1984	Associate Professor of Zoology, Michigan State University
1982-1983	Visiting Fellow, Research School of Biological Sciences, Australian National University
1984-1986	Professor of Zoology, Michigan State University
1986	Professor, Organization for Tropical Studies, San Jose, Costa Rica
1986-2001	Professor, Department of Biology, University of Michigan
2001-	Professor, Department of Ecology and Evolutionary Biology

Field Experience:

Michigan: Behavioral and community ecology of the centrarchid fishes. Experimental studies of competition in the genus Lepomis. Foraging behavior of the centrarchids and tests of optimal foraging theory. Behavioral and community ecology of amphibians. Long-term surveys of amphibian and macroinvertebrate communities on the E. S. George Reserve.

Florida: Fish community structure in the Central Highland lakes; comparative studies with Michigan lakes.

Lake Malawi, Africa: Behavioral and community ecology of the cichlid species flock, especially the mbuna rock fishes.

Great Barrier Reef, Australia: Community ecology of reef fishes. Foraging behavior of planktivorous pomocentrids.

Professional Societies:

Ecological Society of America
 British Ecological Society
 International Association for Theoretical and Applied Limnology
 AAAS
 American Society of Naturalists
 International Behavioral Ecology Society
 American Society of Ichthyologists and Herpetologists
 Sigma Xi

Society Offices and Activities:

Vice President, Ecological Society of America, 1985-1986
 Associate Editor, Ecology and Ecological Monographs, 1979-1980
 Editor, Ecology and Ecological Monographs, 1980-1982
 Council of the Ecological Society of America, 1981
 George Mercer Award Committee, Ecological Society of America, 1982
 Nominating Committee, Ecological Society of America, 1987
 George Mercer Award Committee, Ecological Society of America, 1988-89
 Nominating Committee, Ecological Society of America, 1992
 National Research Council Committee on the decline of salmon, 1992-1994
 Awards Committee, Ecological Society of America, 1994-1996

Awards:

Columbia University Full Scholarship, 1962-1966
 George Mercer Award, 1978 (Ecological Society of America)

Advisory Boards:

Scientific Advisory Board, National Center for Ecological Analysis and Synthesis, 1994-97

Publications:

- **Hall, D. J., W. E. Cooper and E. E. Werner. 1970. An experimental approach to the production dynamics and structure of freshwater animal communities. *Limnol. Oceanogr.* 15:839-928.
- Werner, E. E. 1974. The fish size, prey size, handling time relation in several sunfishes and some implications. *J. Fish. Res. Bd. Canada* 31:1531-1536.
- **Werner, E. E. and D. J. Hall. 1974. Optimal foraging and the size-selection of prey by the bluegill sunfish (*Lepomis macrochirus*). *Ecology* 55:1042-1052.
- Werner, E. E. and D. J. Hall. 1976. Niche shifts in sunfishes: Experimental evidence and significance. *Science* 191:404-406.
- Werner, E. E. and D. J. Hall. 1977. Density and competition among sunfish; some alternatives. *Science* 195:94-95.
- ++Werner, E. E. 1977. Species packing and niche complementarity in three sunfishes. *Amer. Natur.* 111:553-578.
- Werner, E. E., D. J. Hall, D. R. Laughlin, D. J. Wagner, L. A. Wilsmann and F. C. Funk. 1977. Habitat partitioning in a freshwater fish community. *J. Fish. Res. Bd. Canada* 34:360-370.
- Werner, E. E. and D. J. Hall. 1977. Competition and habitat shift in two sunfishes (*Centrarchidae*). *Ecology* 58:869-876.
- ** Named "Citation Classics" by the Institute for Scientific Information. (1974 paper reprinted in Lovett-Doust and Weis 1993, "A population biology reader")
- ++ Received the George Mercer Award, 1978 from the Ecological Society of America.

- Hall, D. J. and E. E. Werner. 1977. Seasonal distribution and abundance of fishes in the littoral zone of a Michigan lake. *Trans. Amer. Fish. Soc.* 206:545-555.
- Werner, E. E. 1977. Niche: Theory and Application. *Trans. Amer. Fish. Soc.* 106:649-650.
- Werner, E. E., D. J. Hall and M. D. Werner. 1978. Littoral zone fish communities of two Florida lakes and a comparison with Michigan lakes. *Env. Biol. Fish.* 3:163-172.
- Werner, E. E. and D. J. Hall. 1979. Foraging efficiency and habitat switching in competing sunfishes. *Ecology* 60:256-264.
- Werner, E. E. 1979. Niche partitioning by food size in fish communities. *In*: R. H. Stroud and H. Clepper (eds.) *Predator-Prey Systems in Fisheries Management*, p. 311-322. Sport Fishing Institute, Washington, D.C.
- Hall, D. J., E. E. Werner, J. F. Gilliam, G. G. Mittelbach, D. Howard, C. G. Doner, J. A. Dickerman and A. J. Stewart. 1979. Diel foraging behavior and prey selection in the golden shiner (*Notemigonus crysoleucas*). *J. Fish. Res. Bd. Canada* 36:1029-1039.
- Werner, E. E. 1979. Fisheries biology. *Science* 204:608-609.
- Werner, E. E. 1980. Niche theory in fisheries ecology. *Trans. Amer. Fish. Soc.* 109:257-260.
- Laughlin, D. R. and E. E. Werner. 1980. Resource partitioning in two coexisting sunfish: pumpkinseed (*Lepomis gibbosus*) and northern longear sunfish (*Lepomis megalotis peltastes*). *Can J. Fish. Aquat. Sci.* 37:1411-1420.
- Werner, E. E., G. G. Mittelbach and D. J. Hall. 1981. The role of foraging profitability and experience in habitat use by bluegill sunfish. *Ecology* 62:116-125.
- Werner, E. E., G. G. Mittelbach and D. J. Hall. 1981. Foraging and habitat use by the bluegill sunfish. *BioScience* 31:57-58.
- Werner, E. E. and G. G. Mittelbach. 1981. Optimal foraging: Field tests of diet choice and habitat switching. *American Zoologist* 21:813-829.
- Werner, E. E., G. G. Mittelbach, D. J. Hall and J. F. Gilliam. 1983. Experimental tests of optimal habitat use in fish: The role of relative habitat profitability. *Ecology* 64:1525-1539.
- Werner, E. E., J. F. Gilliam, D. J. Hall and G. G. Mittelbach. 1983. An experimental test of the effects of predation risk on habitat use in fish. *Ecology* 64:1540-1548.
- Werner, E. E. 1984. The mechanisms of species interactions and community organization in fish. *In*: D. R. Strong, D. Simberloff, L. G. Abele, and A. B. Thistle (eds.). *Ecological Communities: Conceptual Issues and the Evidence*, p. 360-382. Princeton University Press, Princeton, N.J.
- Werner, E. E. and J. F. Gilliam. 1984. The ontogenetic niche and species interactions in size-structured populations. *Ann. Rev. Ecol. Syst.* 15:393-425.
- Werner, E. E. 1985. Citation Classic. Commentary on *Ecology* 55:1042-1052, 1974. *Current Contents/Agriculture, Biology, and Environmental Sciences* 16:18.

- **Werner, E. E. 1986. Amphibian metamorphosis: Growth rate, predation risk, and the optimal size at transformation. *American Naturalist* 128:319-341.
- Werner, E. E. 1986. Species interactions in freshwater fish communities. *In*: J. Diamond and T. J. Case (eds.). *Community Ecology*, p. 344-358. Harper and Row, New York.
- Osenberg, C. W., E. E. Werner, G. G. Mittelbach and D. J. Hall. 1987. Growth patterns in bluegill (*Lepomis macrochirus*) and pumpkinseed (*L. gibbosus*) sunfish: environmental variation and the importance of ontogenetic niche shifts. *Can. J. Fish. Aquatic Sci.* 45:17-26.
- Werner, E. E. and D. J. Hall. 1988. Ontogenetic habitat shifts in the bluegill sunfish (*Lepomis macrochirus*): The foraging rate-predation risk tradeoff. *Ecology* 69:1352-1366.
- Stein, R. A., S. T. Threlkheld, C. D. Sandgren, W. G. Sprules, L. Persson, E. E. Werner, W. E. Neill, and S. I. Dodson. 1988. Size-structured interactions in lake communities. *In*: S. R. Carpenter (ed.). *Complex Interactions in Lake Communities*, p. 161-180. Springer-Verlag, Berlin.
- Kitchell, J. F., S. M. Bartell, S. R. Carpenter, D. J. Hall, D. J. McQueen, W. E. Neill, D. Scavia, and E. E. Werner. 1988. Epistemology, experiments, and pragmatism. *In*: S. R. Carpenter (ed.). *Complex Interactions in Lake Communities*, p. 263-280. Springer-Verlag, Berlin.
- Werner, E. E. 1988. Size, scaling, and the evolution of complex life cycles. *In*: B. Ebenman and L. Persson (eds.). *Size-structured Populations: Ecology and Evolution*. P. 60-81. Springer-Verlag, Berlin.
- Skelly, D. K. and E. E. Werner. 1990. Behavioral and life historical responses of larval American toads to an odonate predator. *Ecology* 71:2313-2322.
- Werner, E. E. 1991. 75th Anniversary Symposium. *Bulletin of the Ecological Society of America* 72:43-47.
- Werner, E. E. 1991. Nonlethal effects of a predator on competitive interactions between two anuran larvae. *Ecology* 72:1709-1720.
- Werner, E. E. 1992. Competitive interactions between wood frog and northern leopard frog larvae: the influence of size and activity. *Copeia* 1992:26-35.
- *Werner, E. E. 1992. Individual behavior and higher-order species interactions. *American Naturalist* 140:S5-S32.
- Gross, L.J., R.A. Rose, E.J. Rykiel, W. VanWinkle, and E.E. Werner. 1992. Individual-based modeling: summary of a workshop. pp. 511-522 *In*: D. DeAngelis and L. Gross (eds.), *Individual-based models and approaches in ecology*. Chapman and Hall, New York.
- ** Reviewed in *Trends in Ecology and Evolution* 2(3):60-61.
- *Reprinted in: L. Real (ed.), *Behavioral mechanisms in evolutionary ecology*. University of Chicago Press, Chicago. pp. 297-324

- Werner, E. E. and B. R. Anholt. 1993. Ecological consequences of the tradeoff between growth and mortality rates mediated by foraging activity. *American Naturalist* 142:242-272.
- Jones, T.R., D.K. Skelly, and E.E. Werner. 1993. *Ambystoma tigrinum tigrinum* (Eastern tiger salamander) developmental polymorphism. *Herpetological Review* 24:147-148.
- Werner, E. E. 1994. Ontogenetic scaling of competitive relations: size-dependent effects and responses in two anuran larvae. *Ecology* 75:197-213.
- Werner, E. E. and M. A. McPeck. 1994. Direct and indirect effects of predators on two anuran species along an environmental gradient. *Ecology* 75:1368-1382.
- Anholt, B.R. and E.E. Werner. 1995. Interaction between food availability and predation mortality mediated by adaptive behavior. *Ecology* 76:2230-2234.
- Werner, E.E., G.A. Wellborn, and M.A. McPeck. 1995. Diet composition in postmetamorphic bullfrogs and green frogs: implications for interspecific predation and competition. *J. Herpetology* 29:600-607.
- Werner, E.E. and B.R. Anholt. 1996. Predator-induced behavioral indirect effects: consequences to competitive interactions in anuran larvae. *Ecology* 77:157-169.
- Anholt, B.R., D.K. Skelly, and E.E. Werner. 1996. Factors modifying antipredator behavior in larval toads. *Herpetologica* 52:301-313.
- Wellborn, G. A., D. K. Skelly, and E. E. Werner. 1996. Mechanisms creating community structure across a freshwater habitat gradient. *Annual Review of Ecology and Systematics* 27:337-363.
- Werner, E. E. 1997. From individual behavior to population ecology. *Quarterly Review of Biology* 72:100-101.
- Peacor, S. D., and E. E. Werner. 1997. Trait-mediated indirect interactions in a simple aquatic food web. *Ecology* 78:1146-1156.
- VanBuskirk, J., S. A. McCollum, and E. E. Werner. 1997. Natural selection for environmentally-induced phenotypes in tadpoles. *Evolution* 51: 1981-1990.
- Werner, E. E. 1998. Ecological experiments and a research program in community ecology. pp. 3-26. In: W. J. Resetarits and J. Bernardo (eds.). *Experimental Ecology: Issues and Perspectives*. Oxford University Press. Oxford.
- Anholt, B.R. and E.E. Werner. 1998. Predictable changes in predation mortality as a consequence of changes in food availability and predation risk. *Evolutionary Ecology* 12: 729-738.
- Werner, E. E. and K. Glennemeier. 1999. The influence of forest canopy cover on breeding pond distributions of several amphibian species. *Copeia* 1999: 1-12.
- Anholt, B. R. and E. E. Werner. 1999. Density-dependent consequences of induced behavior. Pp. 218-230. In: Tollrian, R. and C. D. Harvell (eds.). *The Ecology and Evolution of Inducible Defenses*. Princeton University Press. Princeton.

- Relyea, R. A., and E. E. Werner. 1999. Quantifying the relation between predator-induced behavior and growth performance in larval anurans. *Ecology* 80:2117-2124.
- Skelly, D.K., E.E. Werner, and S.A. Cortwright. 1999. Long-term distributional dynamics of a Michigan amphibian assemblage. *Ecology* 80:2326-2337.
- Relyea, R. A., and E. E. Werner. 2000. Morphological plasticity in four larval anurans distributed along an environmental gradient. *Copeia* 2000:178-190.
- Eklov, P., and E. E. Werner. 2000. Multiple predator effects on size-dependent behavior and mortality of two species of anuran larvae. *Oikos* 88:250-258.
- Peacor, S. D., and E. E. Werner. 2000. Predator effects on an assemblage of consumers through induced changes in consumer foraging behavior. *Ecology* 81: 1998-2010.
- Anholt, B. R., E. E. Werner, and D. K. Skelly. 2000. Changes in larval activity of four species of ranid frogs in response to food availability and predator density. *Ecology* 81:3509-3521.
- Peacor, S. D., and E. E. Werner. 2001. The contribution of trait-mediated indirect effects to the net effects of a predator. *PNAS* 98:3904-3908.
- Werner, E. E., and S. D. Peacor. 2003. A review of trait-mediated indirect interactions in ecological communities. *Ecology* 84:1083-1100.
- Skelly, D. K., K. L. Yurewicz, E. E. Werner, and R. A. Relyea 2003. Estimating decline and distributional change in amphibians. *Conservation Biology* 17:744-751.
- Peacor, S. D. and E. E. Werner. 2004. How dependent are species-pair interaction strengths on other species in the food web? *Ecology*: 85:2754-2763.
- Peacor, S. D. and E. E. Werner. 2004. Context dependence of nonlethal effects of a predator on prey growth. *Israel Journal of Zoology*: 50:139-167.
- Werner, E. E. and S. D. Peacor. 2006. Interaction of lethal and non-lethal effects of a predator on a guild of herbivores mediated by system productivity. *Ecology*: 87:347-361.
- Schiesari, L. C., S. D. Peacor, and E. E. Werner. 2006. The growth-mortality tradeoff: evidence for anuran larvae and consequences to species distributions. *Oecologia* 149: 194-202.
- Peacor, S. D., L. Schiesari, and E. E. Werner. 2007. Mechanisms of nonlethal predator effect on cohort size variation: ecological and evolutionary implications. *Ecology* 88:1536-1547.
- Agrawal, A. A. D. D. Ackerly, F. Adler, A. E. Arnold, C. Cáceres, D. F. Doak, E. Post, P. Hudson, J. Maron, K. A. Mooney, M. Power, D. Schemske, J. Stachowicz, S. Strauss, M. G. Turner, and E. Werner. 2007. Filling key gaps in population and community ecology. *Frontiers in Ecology and the Environment* 5:145-152.
- Agrawal, A. A. D. D. Ackerly, F. Adler, A. E. Arnold, C. Cáceres, D. F. Doak, E. Post, P. Hudson, J. Maron, K. A. Mooney, M. Power, D. Schemske, J. Stachowicz, S. Strauss, M. G. Turner, and E. Werner. 2007. In support of observational studies – Reply. *Frontiers in Ecology and the Environment* 5:294-295.

- Werner, E. E., D. K. Skelly, R. A. Relyea, and K. Yurewicz. 2007. Amphibian species richness across environmental gradients. *Oikos* 116:1697-1712.
- Werner, E. E., K. Yurewicz, D. K. Skelly, and R. A. Relyea. 2007. Turnover in an amphibian metacommunity: the role of local and regional factors. *Oikos* 116: 1713-1725.
- McCauley, S. J., C. J. Davis, and E. E. Werner. 2008. Predator induction of spine length in larval *Leucorrhinia intacta* (Odonata) . *Evolutionary Ecology Research* 10: 435-447.
- Orrock, J. L., J. H. Grabowski, J. H. Pantel, S. D. Peacor, B. L. Peckarsky, A. Sih, and E. E. Werner. 2008. Consumptive and non-consumptive effects of predators on metacommunities of competing prey. *Ecology* 89:2426-2435.
- Peacor, S. D. and E. E. Werner. 2008. Nonconsumptive effects of predators and trait-mediated indirect effects. In: *Encyclopedia of Life Sciences (ELS)*. John Wiley & Sons, Ltd: Chichester.
- McCauley, S. J., C. J. Davis, R. A. Relyea, K. L. Yurewicz, D. K. Skelly, and E. E. Werner. 2008. Metacommunity patterns in larval odonates. *Oecologia* 158:329-342.
- Werner, E. E., R. A. Relyea, K. L. Yurewicz, D. K. Skelly, and C. J. Davis. 2009. Comparative landscape dynamics of two anuran species: climate driven interaction of local and regional processes. *Ecological Monographs* 79: 503-521.
- Schiesari, L., E. E. Werner, and G. L. Kling. 2009. Carnivory and resource-based niche differentiation in anuran larvae: implications for food web and experimental ecology. *Freshwater Biology* 54:572-586.
- McCauley, S. J., C. J. Davis, J. Nystrom, and E. E. Werner. 2009. A hump-shaped relationship between isolation and abundance of *Notonecta irrorata* colonists in aquatic mesocosms. *Ecology* 90:2635-2641.
- Cressler, C., A. A. King, and E. E. Werner. 2010. Life history tradeoffs and the evolution of integrated multiple-defense plasticity. *American Naturalist* 176:276-288.
- Foster, H. R., G.A. Burton, N. Basu and E.E. Werner. 2010. Chronic exposure to fluoxetine (Prozac) causes developmental delays in *Rana pipiens* larvae. *Environmental Toxicology and Chemistry* 12:2845-2850.
- Orrock, J. L., L. M. Dill, J. H. Grabowski, S. D. Peacor, B. L. Peckarsky, E. L. Preisser, A. Sih, J. R. Vonesh, and E. E. Werner. 2010. Predator effects in predator-free space: the remote effects of predators on prey. *The Open Ecology Journal* 3: 22-30.
- Hoverman, J. T., C. J. Davis, E. E. Werner, D. K. Skelly, R. A. Relyea, and K. L. Yurewicz. 2011. Environmental gradients and the structure of freshwater snail communities. *Ecography* 34: 1049-1058.

- Peacor, S D., K. Pangle, L. Schiesari and E. E. Werner. 2012. Scaling-up anti-predator phenotypic responses of prey: impacts over multiple generations in a complex aquatic community. *Proceedings of the Royal Society B* 279 no. 1726: 122-128.
- Werner, E. E. 2011. Nancy G. Slack, G. Evelyn Hutchinson and the Invention of Modern Ecology. *History and Philosophy of the Life Sciences*: In press.
- McCauley, S. J., C. J. Davis, and E. E. Werner. 2012. Dispersal behavior predicts North American range size in dragonflies. Ms.
- Benard, M. F., C. J. Davis, R. A. Relyea, D. K. Skelly, E. E. Werner, and K. L. Yurewicz. 2012. Assessing the relative importance of larval stage vs post metamorphic density dependence in amphibian population dynamics. *Ecology* (in review)
- Middlemis Maher, J., E. E. Werner, and R. J. Denver. 2012. Stress hormones mediate predator-induced phenotypic plasticity in amphibian tadpoles. Ms.
- Werner, E. E., C. J. Davis, D. K. Skelly, R. A. Relyea, M. F. Benard, and S. J. McCauley. 2012. Cross-scale interactions, population phase transitions, and the distribution-abundance relationship. Ms.

Invited Seminars and Symposia:

- 1971 Pennsylvania State University, Zoology Department
 University of Iowa, Zoology Department
 University of Chicago, Zooplankton Symposium
- 1972 Notre Dame University, Zoology Department
 University of Washington, Zoology Department
 University of British Columbia, Zoology Department
 American Fisheries Society, Optimal Foraging Symposium, Hot Springs,
 Arkansas
- 1973 University of Munich, Zoology Department
- 1974 University of Michigan, Zoology Department
 Northwestern University, Zoology Department
- 1975 American Institute of Fisheries Research Biologists
 University of Connecticut, Zoology Department
 AIBS Meeting, Ecological Society, Corvallis, Oregon
 Michigan State University, Fisheries and Wildlife Department
- 1976 University of North Carolina, Zoology Department
 University of Buffalo, Biology Department
 Queens University, Biology Department
 Notre Dame University, Zoology Department
 University of Michigan, Museum of Zoology
- 1977 Syracuse University, Zoology Department
 Cornell University, Department of Natural Resources
 University of Guelph, Zoology Department
 Western Michigan University, Department of Biology
- 1978 University of Western Ontario, Zoology Department
 University of South Carolina, Zoology Department
 University of Maine, Zoology Department
 University of Arizona, Ecology and Evolutionary Biology
 University of Wisconsin, Zoology Department
 Predator-Prey Systems in Fisheries Management Symposium, Atlanta, Georgia
- 1979 Ohio State University, Zoology Department
 Northern Illinois University, Zoology Department
 University of California, Santa Barbara, Biology Department
 University of California, Berkeley, Zoology Department
 University of California, Davis, Zoology Department
 North Carolina State University, Zoology Department
 University of British Columbia, Zoology Department
 Simon Frazer University, Zoology Department
- 1980 Midwest Population Biology Conference, Purdue University
 University of Maryland, Zoology Department
 Academy of Natural Sciences, Philadelphia
 Symposium arranged by American Society of Zoologists, Seattle
 (Theoretical ecology: What has it contributed to our knowledge of the real
 world?)

- 1981 Community Ecology: Conceptual Issues and Evidence. Symposium arranged by
D. Simberloff and D. Strong, Tallahassee
University of Oklahoma, Zoology Department
Three lectures in "Frontiers in Modern Biology" series, University of Alabama
University of Michigan, Department of Natural Resources
- 1982 University of Buffalo, Biology Department
University of Toronto, Biology Department
Wake Forest University, Biology Department (2 seminars and week long tutorial
for graduate students)
University of Lund, Nordic Council for Ecology Invitation to teach a week long
course on "Predation and competition in lake ecosystems".
University of Stockholm, Department of Zoology
University of Gothenburgh, Zoological Institute
University of Uppsala, Institute of Ecology
- 1983 Australian National University, Department of Environmental Biology
Sydney University, School of Biological Sciences
Australian Institute of Marine Sciences
- 1984 Queens University, Biology Department
Duke University, Zoology Department
University of North Carolina, Biology Department
University of Wisconsin, Symposium: Restoration Ecology: Theory and
Practice
University of Chicago, Department of Anatomy
Michigan State University, Zoology Department
Symposium arranged by Ecological Society of America, Fort Collins (Predators,
prey lifestyles, and indirect effects)
Symposium on Community Ecology, Los Angeles, arranged by J. Diamond and
T. Case
- 1985 Kansas State University, Zoology Department
University of Minnesota, Ecology Department
North Carolina State University, Zoology Department
University of Wisconsin, Milwaukee, Zoology Department
Virginia Institute of Marine Sciences
International Symposium on Stock Assessment and Yield Prediction, Thunder
Bay
Notre Dame University, Department of Biology
- 1986 University of Michigan, Division of Biology
7th Pacific Ecology Conference, Keynote Speaker, Vancouver, BC
University of California, Berkeley, Zoology Department
Symposium on The Behavior of Fishes, Keynote Speaker, Fisheries Society of
the British Isles, Bangor, Wales
State University of New York at Albany, Invited Speaker, First International
Behavioral Ecology Meeting
Invited participant: NSF Workshop on Great Lakes Research Issues, Kellogg
Biological Station
University of Utah, Department of Biology
- 1987 Invited Instructor, Organization for Tropical Studies, San Jose
Ohio State University, Zoology Department
Arizona State University, Zoology Department
NSF Workshop on Complex Interactions, Notre Dame University
U of M Biological Station, Pettingill Lecture

- University of Maryland
University of Georgia, Zoology Department
Symposium on Dynamics of Size (Age) Structured Populations, University of
Lund, Sweden
Rift Valley Lakes Exploration Workshop, Mbita Point, Kenya
- 1988 University of Illinois, Chicago Circle, Biology Department
Midwest Population Biology Conference, University of Wisconsin
- 1989 University of Guelph, Biology Department
University of Windsor, Biology Department
Organizer, symposium on "Community Responses to Elimination of Top
Predators", Conservation Biology Society, ESA-AIBS meetings.
Invited special "outside" participant, NSF workshop, "Future directions in
zooplankton biology". Kellogg Biological Station.
- 1990 University of Michigan, Evolution and Human Behavior Program
University of Buffalo, Biology Department
Oregon State University, Department of Zoology
Dartmouth College, Biology Department
Symposium/Workshop on Populations, Communities, and Ecosystems: An
Individual Perspective, University of Tennessee
- 1991 Archibold Biological Station
Duke University, Department of Zoology
University of North Carolina, Biology Department
ASN Symposium, Behavioral Mechanisms in Evolutionary Ecology
Kellogg Biological Station
- 1992 University of Georgia, Savannah River Laboratory
Florida State University, Biology Department
Symposium arranged by Ecological Society of America, The importance of size
and stage structure.
Invited plenary speaker, Quebec Behavior Society
Michigan State University, Department of Zoology
- 1993 Invited instructor, Nordic Council of Ecology graduate course, Umea, Sweden.
University of Toronto, Zoology Department
- 1994 Plenary Speaker, Ontario Ecology and Evolution conference
University of Michigan, Department of Biology
University of Chicago, Department of Biology
University of Zurich
- 1995 University of Washington, Department of Zoology
Indiana University, Department of Biology
Utah State University, Ecology Center
- 1996 Lubinsky Memorial Lecture, University of Manitoba
University of Maryland, Biology Department
- 1997 Cornell University, Department of Natural Resources
Cornell University, Section of Ecology and Systematics
Rutgers University, Graduate Program in Ecology and Evolution
Dozor Lectures, Ben-Gurion University, Israel
Michigan State University, Ecology and Evolutionary Biology
Binghamton University, Department of Biological Sciences

- 1998 University of Pennsylvania, Biology Department
University of California, Davis, Animal Behavior Graduate Group Workshop
University of Michigan, Museum of Zoology
- 1999 University of British Columbia, Institute of Ecology
Dartmouth College, Biology Department
North American Benthological Society, Invited symposium speaker.
- 2000 Zoology Department, University of Toronto
Department of Ecology, Ethology and Evolution, University of Illinois
- 2001 Zoology Department, University of Guelph
Department of Biological Sciences, Simon Fraser University
Department of Biological Sciences, University of Pittsburgh
Department of Zoology, University of Florida
- 2002 Department of Biological Sciences, Florida State University
University of Oklahoma, Weese Seminar
Department of Biology, Notre Dame University
- 2003 Plenary Speaker, Hutchinson's 100th Birthday, Yale University
- 2004 Center for Population Biology, UC Davis (one-week workshop)
Biology Department, Syracuse University
Biology Department, University of Victoria
- 2006 Herpetology Symposium, Detroit Zoo
- 2009 Eastern Michigan University
- 2010 Ohio University
Texas A&M
- 2011 Florida International University
University of Dayton

Teaching Experience:

University of Iowa	General Ecology (undergraduate) Seminar on Community Theory (graduate)
Michigan State University	Population Biology (graduate) Community Ecology (graduate) Ecology of Fishes (graduate) Seminar on Community Ecology (graduate) Current Topics in Ecological Research (graduate)
University of Michigan	General Biology (undergraduate) General Ecology (undergraduate) Honors Seminar (undergraduate) Community Ecology (graduate) Life History Theory Seminar (graduate) Seminar on Phenotypic Plasticity (graduate) Community Ecology Seminar (graduate) Visiting Distinguished Scholar Course (graduate) First-year seminar (undergraduate) Capstone seminar for EEB concentrators (undergraduate) Biodiversity seminar (undergraduate)

Graduate Students (As Major Professor):

D. Laughlin	PhD	1979	Employed in a private research firm, Chicago
L. Wilsmann	PhD	1979	Director of Reseach, Nature Conservancy, Boulder
G. Mittelbach	PhD	1980	Professor, Michigan State University
G. Doner	MS	1981	
J. Gilliam	PhD	1982	Professor, North Carolina State University
E. Turanchick	MS	1982	Ohio State University Law School
T. Ehlinger	PhD	1986	Associate Professor, University of Wisconsin
C. Osenberg	PhD	1988	Professor, University of Florida
M. Leibold	PhD	1988	Professor, University of Texas
M. McPeck	PhD	1989	Professor, Dartmouth College
R. Kiesling	PhD	1990	Texas Water Commission
D. Skelly	PhD	1992	Professor, Yale University
M. Breitsprecher	MS	1992	
G. Wellborn	PhD	1993	Professor, University of Oklahoma
S. McNaught	PhD	1993	Professor, Central Michigan University
R. Relyea	PhD	1998	Professor, University of Pittsburgh
M. Ellis	PhD	1999	Ecological Consultant
K. Glennemeier	PhD	2000	Ecological Consultant
S. Peacor	PhD	2000	Associate Professor, Michigan State University
K. Yurewicz	PhD	2002	Associate Professor, Plymouth State University
Jennifer Mitchell	MS	2002	Ecological consultant
M. Zimmerman	PhD	2003	Washington Department of Fisheries
L. Schiesari	PhD	2004	Assitant Professor, University of São Paulo
S. McCauley	PhD	2004	Assistant Professor, California Polytechnic
M. Fraker	PhD	2007	Postdoc, Oklahoma State University
A. Zellmer	PhD	2009	Postdoc, Tulane University
J. Middlemis Maher	PhD	2011	Postdoc, Michigan State University
Clay Cressler	PhD	2010	Postdoc, Queens University
John Marino	PhD		
Hannah Foster	Ms	2010	
J. Scanio	PhD		
Hyunmin Han	PhD		

Post-doctoral Fellows:

			<u>Present Position</u>
D. Hart	Univ. of California, Davis	1979-81	Curator, Philadelphia Academy of Sciences
A. Sih	Univ. of California, Santa Barbara	1981	Professor, Univ. of California, Davis
C. Folt	Univ. of California, Davis	1981-82	Professor, Dartmouth College
S. Kohler	Univ. of Michigan,	1984-86	Western Michigan University
K. Zerba	Arizona State University	1988-89	
S. Cortwright	Indiana University	1988-92	Professor, Indiana University, Northwest
B. Anholt	U. British Columbia	1989-90	Professor, University of Victoria
J. VanBuskirk	Duke University	1994-95	University of Zurich
A. McCollum	Duke University	1995-97	Associate Professor, Cornell College
P. Eklov	Umea University	1995-97	University of Uppsala
M. Benard	Univ. of California Davis	2005-08	Assistant professor, Case Western Reserve University
Manja Holland	Yale University	2008- 2009	Graham Institute, U of M

Grant Support:

<u>Agency</u>	<u>Title</u>	<u>Amount</u>	<u>Period</u>
NSF	An Approach to Problems of Community Utilizing Fish-Zooplankton Systems Structure	\$ 66,000	9/15/72-2/28/75
NSF	Niche Relations in the Sunfishes (Centrarchidae)	\$100,000	9/15/74-8/31/76
NSF	Experimental Pond Field Laboratory Facility	\$ 20,000	2/1/75-1/31/76
NSF	Niche Relations in the Sunfishes (Centrarachidae)	\$110,000	9/15/76-8/31/78
NSF	Size-Class Interactions and Niche Structure in Fish Communities	\$221,000	1/15/79-1/15/82
NSF	Foraging and Resource Patchiness: Experimental and Descriptive Studies with Stream Insect Grazers	\$ 23,000	7/1/79-7/1/80
NSF	Habitat Use and Species Interactions: The Foraging Rate-Mortality Risk Tradeoff	\$225,000	1/1/82-1/2/85
NSF	Supplement to Above Grant	\$ 11,000	1/1/83-6/30/83
NSF	Supplement to Above Grant	\$ 32,774	1/1/85-1/1/86
AURIG	Amphibian Metamorphosis: Growth Rate, Predation Risk, and the Optimal Size to Transform	\$ 5,593	7/1/85-6/30/86
NSF	Complex Life Cycles in Anurans: Predictions of the Size at Metamorphosis and Effects on Species Interactions	\$206,692	2/15/85-7/31/91
UM (OVPR)	Experimental Pond Facility (constructed at E. S. George Reserve)	\$250,000	7/15/87
NSF	Consequences of adaptive individual behavior, higher order interactions, and food web structure in a larval anuran community	\$320,321	2/1/92-2/1/95
NSF	Ecological consequences of phenotypic plasticity in larval anurans	\$300,000	9/1/94-9/1/97
OVPR	Ecological consequences of metapopulation structure and the application to amphibian conservation.	\$13,500	5/1/96-4/31/97

NSF	Mechanisms and consequences of trait-mediated indirect interactions in a larval anuran community.	\$338,692	1/01/97- 1/01/00
NSF	The potential tradeoff of competitive ability and predator resistance.	\$8,460	6/1/97- 5/31/99
NSF	A long-term study of an amphibian assemblage at the landscape scale.	\$300,468	6/15/98 6/15/03
NSF	Phenotypic plasticity, species interactions, and indirect effects in a larval anuran community.	\$400,000	3/01/00 3/01/04
NSF	A long term study of metacommunity dynamics of amphibians and their predators	\$300,000	3/1/05 2/28/10
NSF-DIGG	Local adaptation of stress physiology in <i>Rana sylvatica</i> .	\$8,000	6/1/09 5/31/11
NSF-DIGG	Synergistic Effects of Predators and Trematode Parasites on Larval Amphibians	\$14,155	7/1/11- 6/30/13