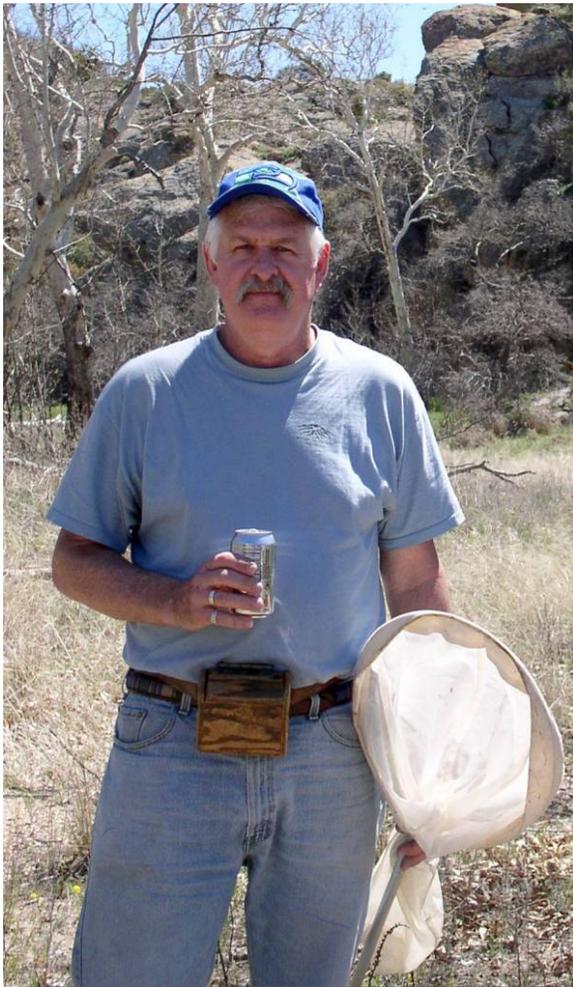

Obituary

Robert F. Denno

1945–2008



Robert F. Denno: Naturalist and influential scientist, lepidopterist, and friend. He hiked with enthusiasm, relishing each plant and insect, and especially the butterflies. There was not a North American butterfly that he did not know and love; his personal worldwide collection, in beautiful cabinets he made himself, numbered over 36,000 specimens. From his time in elementary school to his dying day he collected—during his honeymoon, and every holiday since. Collecting was not limited to butterflies, but cerambycid and buprestid beetles were reared from logs kept in the bath tub, roaches appeared in the freezer, pine cones, wooden bowls, and native plants were a delight. Bob's son Erik received a butterfly net before the tender age of 1 year, and his grandchildren also, at an early age. Barbara Denno, his wife for 42 years, was a generous and understanding accomplice to all Bob's collecting enthusiasm, from the first meeting at a football game in their senior year in high school at Santa Barbara.

As Barbara has said, butterflies were his love, but planthoppers were his work. His first scientific paper, "Wing polymorphism in salt marsh inhabiting Fulgoroidea" (Denno 1975) established a theme that ran through Bob's professional life.

He became a world-renowned authority on the ecology of sap-feeding insects, both in natural and cultivated settings. The wing polymorphism expanded into the developing fields of life history evolution (e.g., Denno and Dingle 1981), plant and herbivore interactions (e.g., Denno and McClure 1983), community ecology (e.g., Denno et al. 1996), and many aspects of predator ecology, reviewed recently in Denno et al. (2005). His aggregate of over 130 research papers will no doubt continue to expand. With early recognition of his leadership in various fields, including many incisive studies on multitrophic interactions, Bob became a major figure in ecology in North America and around the world. In addition, his first paper introduced us to what became his life-long interest in salt marsh communities involving the salt water cord-grass, *Spartina alterniflora*, and

delphacids in the genus *Pokelisia* and others. Extensive and detailed studies on this system became the basis for his cutting-edge views on the ecology and evolution of plant and herbivore interactions.

Adding to a growing library of empirical research studies, Bob quickly developed a special knack for synthesis. He grasped the big picture, revealing general patterns in nature, and their underlying mechanistic forces. Edited books and book chapters, plus papers in review journals, added up to well over 30 publications. For example, the Denno and McClure (1983) edited volume, *Variable Plants and Herbivores in Natural and Managed Systems*, was a landmark in the emerging realization that almost everything in nature varied almost all the time, from within plants as they grow, to plant–herbivore interactions over landscape and geographical distributions. The book continues to be widely cited as the key exemplar in an important avenue of ecology to this day. Denno and Roderick's (1990) review on the population biology of planthoppers, and the edited book on this group by Denno and Perfect (1994), became standard works on sap-feeding insect ecology and management. Denno et al. (1995) contributed to the debate on the role of competition in communities that had developed over 20 years, between the school of thought that competitive interactions were central to community organization, and the school with a Gleasonian philosophy of individualistic responses of species to resource displays. The timely review by Denno and Roderick established that competition was commonplace in phytophagous insect communities, but its frequency varied considerably among various kinds of insect feeding groups and host plants. Regarding the plant water stress hypothesis, in which stress improves herbivore fitness, Huberty and Denno (2004) took an equivalent approach to the competition review, including a meta-analysis, finding that performance of sap-feeding and gall-inducing insects were negatively impacted by plant stress, and that results were inconsistent for free-feeding and leaf-mining species. Notable contributions have also been made by the Denno group on stoichiometric approaches to omnivory, intraguild predation within spider communities, and bottom-up and top-down influences on herbivore communities (e.g., *Ecology* Special Feature article by Denno and Fagan, 2003).

Bob's own web site describes his research goals, which he has fulfilled with distinction, and extends beyond what many wish for in their academic careers.

My overall programmatic goal is to create an internationally recognized program in population and community ecology with both basic and applied components. I have tried to develop a balanced approach which blends excellence and visibility of research with enthusiasm toward instruction and the rigorous training of students at all levels (undergraduates, graduates, and postdoctoral associates). It is with the academic lineage of students and postdoctoral associates that I feel the impact of my program will persist and have widespread consequences for the scientific community. Toward this end, I am dedicated to producing and placing top-quality students and postdocs in academic and government positions, publishing in the very best scientific journals, and creating an atmosphere in my laboratory where it is easy for students and postdoctoral associates to learn, interact, and simply enjoy doing rigorous science.

Bob received his doctoral degree from the University of California, Davis, in 1973, with his dissertation on niche relationships and competitive interactions of carrion-feeding flies, but he soon transferred his attention to salt marsh communities when he moved to Rutgers University in the same year. There he was Assistant Professor from 1974–1976, moving to the University of Maryland in 1976, advancing to

Associate Professor in 1979 and Professor in 1985 in the Entomology Department. Among his many awards was a teaching award in 1971 at Davis, and a Distinguished Scholar-Teacher Award (2000) at the University of Maryland. Awards for excellence in research (1990) and excellence in pest management (1996) illustrate the breadth of his recognition as a scholar.

He was well funded by extramural grants throughout his appointment at the University of Maryland, with mostly National Science Foundation grants. He served on the editorial boards of *Ecology* and *Ecological Monographs* (2001–2004), *Ecological Entomology* (1996–2008), and the Science Advisory Board of the National Center for Ecological Analysis and Synthesis (2007–2008). Bob supervised over 30 graduate students, and over 10 postdoctoral fellows, with many now placed in university and government positions and in private enterprise. He gave about 140 invited lectures around the world, and almost 250 papers with students at ecological and entomological meetings. All his publications are listed in his CV at <http://www.entm.umd.edu/people/denno.html>.

Bob's last visit overseas late in 2007 was to Uppsala, Sweden, where he spent six weeks writing and interacting with friends. His friendship with ecologists at the Swedish University of Agricultural Sciences dates back to 1984, when he was invited to teach a short course in Uppsala. This took place soon after the successful launch of the "Variable" book (Denno and McClure 1983), which was a tremendous inspiration for students and faculty. After that time Bob continued to collaborate in various ways with ecologists from Sweden and other European countries. Bob initiated two field courses on Tropical Insect Ecology in Venezuela and Mexico, which brought together students from Sweden, Maryland, Venezuela, and Mexico. Some of the events during the courses have become legends still passed on by those attending. These courses offered high-quality tropical experience, orchestrated by Bob for northern-latitude students. He was able to teach in a manner he liked so much: combining observational natural history, hypothesis testing, and the exchange of ideas with students in an interesting natural habitat. European students of insect ecology also have lost a close friend and a great mentor.

In addition to his professional accomplishments, Bob touched the lives of many people all over the world, and we, his many friends, colleagues, and students, are diminished by his loss, but joyful to have had the privilege of knowing him. His humility, thought-provoking brilliance, and passion for bugs, were just a few of the things that defined him and enriched us. He made us think and laugh, all at the same time. Those at the University of Maryland, his friends and colleagues all over the world will miss hearing an approaching presence, Diet Coke in hand, loudly asking, "Hey Dude, que pasa."

His untimely death on 22 March 2008, at the age of 62, from a heart attack, occurred while he was collecting butterflies on Sapelo Island, Georgia. He was born on 28 April 1945. Barbara Denno and their sons Erik and Alex hold rich memories of their lives together.

The end of the life history of Bob Denno is not yet written, nor can this be realistically contemplated. His unfinished business remains extensive, including many research papers in review and in preparation, a new textbook on insect ecology coauthored with Peter Price, much travel—and, of course, perfecting his butterfly collection. However, as his web site statement revealed, his former students and postdoctoral fellows are filling the gap that Bob has left, and they will embellish his legacy over the academic generations to come.

Literature cited

- Denno, R. F. 1975. Wing polymorphism in salt marsh inhabiting Fulgoroidea. *Journal of the New York Entomological Society* 83:253–254.
- Denno, R. F., and H. Dingle, editors. 1981. *Insect life history patterns: habitat and geographic variation*. Springer-Verlag, New York, New York, USA.
- Denno, R. F., and W. F. Fagan. 2003. Might nitrogen limitation promote omnivory among carnivorous arthropods? *Ecology* 84:2522–2531.
- Denno, R. F., and M. S. McClure, editors. 1983. *Variable plants and herbivores in natural and managed systems*. Academic Press, New York, New York, USA.
- Denno, R. F., and T. J. Perfect, editors. 1994. *Planthoppers: their ecology and management*. Chapman and Hall, New York, New York, USA.
- Denno, R. F., and G. K. Roderick. 1990. Population biology of planthoppers. *Annual Review of Entomology* 35:489–520.
- Denno, R. F., D. L. Finke, and G. A. Langellotto. 2005. Direct and indirect effects of vegetation structure and habitat complexity on predator–prey and predator–predator interactions. Pages 211–239 *in* P. Barbosa and I. Castellanos, editors. *Ecology of predator–prey interactions*. Oxford University Press, New York, New York, USA.
- Denno, R. F., M. S. McClure, and J. R. Ott. 1995. Interspecific interactions in phytophagous insects: competition revisited and resurrected. *Annual Review of Entomology* 40:297–331.
- Huberty, A. F., and R. F. Denno. 2004. Plant water stress and its consequences for herbivorous insects: a new synthesis. *Ecology* 85:1383–1398.

Peter Price
Department of Biological Sciences
Northern Arizona University
Flagstaff, AZ 86011

Pedro Barbosa
Department of Entomology
University of Maryland
College Park, MD 20742

Stig Larsson
Department of Ecology
Swedish University of Agricultural Sciences
SE-750 07 Uppsala, Sweden

Source: *Bulletin of the Ecological Society of America*, Vol. 89, No. 3 (July 2008), pp. 213-216. Courtesy of JSTOR
