Louis A. Magnarelli

Louis A. Magnarelli lost his courageous battle with a blood disease on 11 July 2013 at the age of 68. He was born in Syracuse, New York, on 27 March 1945 and graduated from West Genesee Central Senior High School, Camillus, New York, in 1963. He attended the State University of New York at Oswego, where he majored in biology and secondary education and graduated in 1967. He obtained a Master of Science in biology in 1968 from the University of Michigan.

He returned to his earlier roots and taught biology at West Genesee Central Senior High School from 1968-1971. During the summers of 1970 and 1971, mosquitoes and other biting arthropods interested him while he worked as a public health sanitarian for the Onondaga County Health Department in New York State. In September 1971, he began Ph.D. studies in medical entomology at Cornell University and chose Dr. E. M. Raffensperger as his major advisor. His thesis was titled “A Study of Mosquito Ovarian Cycles and Life Histories.”

He accepted a position as Assistant Scientist II at the Connecticut Agricultural Experiment Station in New Haven, CT, in 1975 and soon began publishing his studies on the biomics of mosquitoes. In the years that followed, he published extensively on the natural history of mosquitoes, horse flies, deer flies, house flies, black flies, sand flies, no-see-ums, and flesh-eating flies, but ticks were the group of arthropods that fascinated him the most. He studied their natural history and the multitude of pathogens they transmitted to vertebrate animals, including humans, with lifelong contributions to both the diagnosis and ecology of tick-associated diseases. He and colleagues were one of the first to publish serologic methods for detecting antibodies in humans to *Borrelia burgdorferi*, the causative agent of Lyme disease, by enzyme-linked immunosorbent assays and indirect fluorescent-antibody tests. Improving these two tests remained a focus for Dr. Magnarelli for more than two decades. He provided reagents and his expertise to Connecticut hospitals and to clinical laboratories throughout the U.S. He extended his serologic tests to other tick-associated pathogens that cause tularemia, anaplasmosis, ehrlichiosis, babesiosis, and Powassan encephalitis. He also developed tests for co-infections, and he was one of the first to report Lyme disease in dogs.

In 1976-1977, he established collaborations with Dr. Willy Burgdorfer and Dr. Robert N. Philip at the Rocky Mountain Laboratories, U.S. Public Health Service, National Institutes of Health, in Hamilton, Montana. Lou led the research that resulted in the first isolation from a Connecticut resident of *Rickettsia rickettsii*, the causative agent of Rocky Mountain spotted fever.

In 1987, The Experiment Station’s Board of Control appointed him Chief Entomologist and State Entomologist. From 1992-2004 he was Vice Director. In 2004 he was elected Director. Plant pest regulatory responsibilities came with these positions, and sometimes he established and enforced quarantines to protect Connecticut agriculture and forests. He fully recognized the economic impacts these decisions had on citizens and always listened intently to those who voiced their concerns at hearings. He oversaw quarantines on Japanese longhorned beetle, emerald ash borer, and tracheal and varroa mites on honey bees, as well as regulations on the movement of firewood. He successfully juggled his administrative responsibilities with his research.

Lou actively served numerous organizations and committees. He was on the editorial boards of the *Journal of Medical Entomology*, the *Journal of the American Mosquito Control Association*, and the *Journal of Clinical Microbiology*. He was...
Jacqueline L. Robertson

The passing of Jacqueline L. Robertson (1947-2014) on 21 July represents a loss to entomology on multiple levels; she will be remembered as a researcher, editor, mentor, author, consultant, and friend. Jackie (a.k.a. “J.R. Troll” or simply “J.R.”) obtained her B.A. and Ph.D. degrees from the University of California–Berkeley. She began working at the U.S. Forest Service, Pacific Southwest Research Station, while still an undergraduate, and was the first female researcher at the Forest Service to reach the GS-15 level and the first woman to head a research unit. Inspired early by Rachel Carson, Jackie directed her research toward ecotoxicology and testing to develop safer pesticides to control herbivorous insects on conifers. She authored or co-authored 130 technical publications in entomology, several software manuals, one patent for a spray chamber, and possibly the funniest statistics textbook ever written.

Nationally and internationally, she was recognized for her research accomplishments in forest entomology and statistics and her contributions to solving quarantine and trade restriction issues. She received a Scientific Achievement Award from the International Union of Forest-Related Organizations at a meeting held in 1986 in what was then Yugoslavia; in her inimitable style, she attended the meeting and gave her acceptance speech wearing a ten-gallon-hat and her cowgirl equestrian outfit.

Jackie provided the inspiration and drive behind a memorable co-authored guide to quantal response bioassays and probit/logit analysis, Pesticide Bioassays with Arthropods (first edition, 1992) and Bioassays with Arthropods (second edition, 2007). This text, featuring the exploits of an ignorant and somewhat inept novice researcher, takes the reader hilariously and almost painlessly through difficult statistical concepts using Robertson’s First Law: “Scientific writing need not be dry, dull, and dreary.” Jackie also helped to develop the user-friendly statistical programs featured in the books—POLO and POLO Plus—and served as Senior Entomologist for the LeOra Software Company. Reviews greatly appreciated Jackie’s extraordinary ability to produce an authoritative statistical reference and guide that was also a pleasure to read. Upon its initial publication, “senior entomologists and students alike breathed a sigh of relief”; reviews cheered, “There are not too many people who can write such a book and do justice to the statistics” and “This small volume is a bible for those who design and/or conduct and interpret bioassays.”

In addition to her own considerable publications, Jackie contributed immensely to entomological research through her service as an editor for the Entomological Society of America. From 1982 through 1996, alone or working with one to four co-editors, Jackie was the guiding force behind the Journal of Economic Entomology, enthusiastically and effectively mentoring not only authors, but new co-editors as well. Handling hundreds of submissions annually, Jackie devoted hours of her time to helping authors improve their manuscripts, revised the style guide for contributing authors, and set exceptional standards for the journal for content, statistical analysis, and writing style. Her approach to dealing with authors was blunt and honest and her expectations were high; an entire generation of researchers was tersely instructed (sometimes repeatedly) to “rephrase for clarity.” She had a wick- ed sense of humor; authors and reviewers often received notes on her signature stationery, emblazoned with the words “from the desk of The B••••…do it my way or die.” As co-editor for 15 years, then associate editor from 2002-2005, and most...
Terminal Segment, from page 256

history from its opposite simply by its methods. (And what is its opposite? Experimental science, laboratory science, or just science that thinks it is better than natural history?) After all, naturalists can perform experiments, and naturalists can have laboratories. I can’t think of a better example than the pioneer of insect behavioral studies, Jean-Henri Fabre, the man Darwin called “the incomparable observer.” Add 150 years, and beef up Fabre’s meager budget—you would still have difficulty achieving more than he did. And speaking of Darwin, what better example of a naturalist is there? Or what better example of a theorist? (Yes, I was referring to him in the third paragraph.) Are these examples too historical? How about E.O. Wilson, or Steve Marshall? Still too old? Go to a meeting of the ESA, and listen to the graduate students. There are plenty of great young naturalists among them.

Perhaps natural history is best distinguished by what it studies, or more specifically, how it characterizes the things that it studies. In general, naturalists think in terms of everyday, concrete entities, such as individual plants and animals. These may be small, as are insects, or even microscopic, but they are obviously real, as are the phenomena that affect them (for example, temperature, water chemistry, or being eaten by a predator).

Contrast this view with the more abstract entities favored by some biologists, such as monophyletic groups, community responses, or destabilizing selection pressures. The latter might be “real,” but they are not real in the everyday sense, and to a naturalist, this makes them less appealing when framing explanations. I just came from a seminar on pollination, filled with interesting information about real bees and real flowers, but framed in terms of abstract “networks” of “interactions,” interpreted “across scales.” I’ll admit, the distinction between the concrete and the abstract can seem subtle. In other contexts, however, truly obtuse abstractions (and I dare not suggest which) may not refer to anything real at all, which is why I always teach my students the Thomas Theorem from sociology: if situations are defined as real, they can become real in their consequences. And the consequences, for naturalists, are often snobbish and condescending.

Naturalists are intuitively wary of all