

INTRODUCTION OF DALE CLAYTON AS THE HENRY BALDWIN WARD MEDALIST FOR 2008

Lance A. Durden

Department of Biology and Institute of Arthropodology and Parasitology, Georgia Southern University, Statesboro, Georgia 30460-8042.
e-mail: ldurden@georgiasouthern.edu

Fellow parasitologists, it is my distinct pleasure to introduce Dr. Dale H. Clayton of the University of Utah as the 2008 Henry Baldwin Ward Medalist for the American Society of Parasitologists. Dale Clayton is the quintessential modern parasitologist. His varied research projects are rooted in traditional parasite systematics but run the gamut from alpha-taxonomy to evolutionary, ecological, and behavioral associations between hosts and parasites, and state of the art molecular phylogenetic analyses. Furthermore, one of his recent applied studies received mass media attention throughout the world after he and his colleagues developed a new device to kill head lice and their eggs on humans. Throughout his studies, he has been amply supported by numerous grant awards, especially by recent significant awards from NSF, and he has engaged many students, ranging from high school to postdoctoral levels, in various research projects.

Dale's research principally involves the chewing lice associated with birds—often referred to as “bird lice.” Early in his career (1980–1983), he and Dr. Roger Price, the world's foremost authority on the taxonomy of chewing lice, became close associates at the University of Minnesota, where Dale was studying for his master's degree in entomology, and Roger was a tenured professor. Dale learned the taxonomic ropes from Roger and has never looked back, having published a succession of systematic manuscripts on chewing lice, many of them coauthored with Roger who is now retired but still actively publishing. To date, Dale has described or codescribed 2 genera and 59 species of lice. Perhaps the most grandiose, and certainly the most widely used, collaborative product between these two authors, as well as 3 additional coauthors, has been *The Chewing Lice: World Checklist and Biological Overview*, which was published in 2003. This 501-page book has received wide acclaim from ectoparasite, bird, and mammal researchers throughout the world. When I have a question about chewing lice, this is the first source I consult, a situation that is no doubt repeated globally every day.

After graduating from the University of Minnesota in 1983, Dale relocated to Chicago where he embarked on a Ph.D. program and widened his studies to include evolutionary, ecological, and behavioral interactions between birds and their lice. He worked with a veritable “think-tank” of evolutionary ecologists in Chicago and formulated many testable hypotheses, particularly regarding the effects of host grooming and morphological attributes, on the ecology, evolution, and morphology of bird lice. It was during this time period (1988) that I first met Dale when he visited the Smithsonian Institution where I was curating fleas and sucking lice. I had previously corresponded with him, but, upon meeting him, I was immediately impressed at the breadth of his knowledge and his novel approaches and ideas about host–parasite interactions. It was then that I realized that this individual would lead the study of bird ectoparasites into the 21st century.

Dale was awarded a prestigious NSF–NATO postdoctoral fellowship when he completed his Ph.D. in 1989. From Chicago, he uprooted and crossed the Atlantic to further his career at Oxford University in the Department of Zoology. Thus, he was in another, but somewhat different, “think-tank” of biologists. The result was unbridled new ideas and publications on a variety of parasitological topics but still based on lice parasitizing birds. Dale expanded into new areas, forged new collaborations, acquired significant grant support, and, I am told, he was popular on the U.K. lecture circuit. Two years into his life at Oxford, Dale was promoted to lecturer status (1991–1996).

As much as Dale apparently relished his experiences at Oxford, he was lured back to the United States to accept a position as Assistant Professor of Biology at the University of Utah in 1996. Dale has been remarkably productive in Utah with continuous major grant support, and rapid succession through the ranks to associate professor in 1999 and professor in 2004. He has developed a highly respected, bustling laboratory, replete with excellent students, collaborative researchers, and innovative research ideas. He has also developed the Price Institute for Phthirapteran Research (PIPeR) in honor of his long-term mentor. As a side note, whenever I meet a student or faculty member from Dale's department, I typically ask if the individual knows Dale. Without exception, the response is immediate enthusiasm and praise; one Ph.D. student (not from Dale's laboratory) remarked that departmental seminars by Dale or his students were always well attended because new and exciting ideas and research were sure to be presented.

To date, Dale's research has been funded by more than 50 grants ranging from small to grandiose with more than \$2.5 million in total support. Recently, with colleagues from the University of Kansas, he was awarded a 5-yr BSI–NSF grant to survey parasites of vertebrates in the Philippines. Dale has authored or coauthored 2 books, 7 book chapters, more than 100 peer-reviewed papers and 5 book reviews or letters to editors. One sponsor pointed out that Dale has averaged 3.5 funded grants and 7.2 published papers per year since becoming an assistant professor. Furthermore, Dale has mentored an astonishing number of students, including 4 postdoctoral associates, 13 graduate students, 27 undergraduate research associates, and 5 high school research associates. Many of these students or associates have progressed to important positions in biology or medicine, including all 4 of his postdoctoral researchers: Dr. Andrew Bennett, currently a Lecturer at the University of Bristol, U.K.; Dr. Kevin Johnson, currently an Associate Research Scientist at the Illinois Natural History Survey; Dr. David Reed, currently Assistant Curator of Mammals at the Florida Museum of Natural History, University of Florida; and Sarah Huber, currently an Assistant Professor at Randolph Macon College in Virginia. Both Kevin Johnson and David Reed have continued with the research that Dale fostered in them and are funded by

separate NSF grants to tackle significant research projects involving lice. Similarly, Dr. Sarah Bush, a former Ph.D. student from Dale's laboratory, is now funded by NSF to undertake parasite biodiversity inventories in China and the Philippines.

One of Dale's former students stated, "The years in Dale's laboratory were the most productive and inspiring of my career. Dale's enthusiasm for lice was infectious. Working with Dale, I gained the final confidence and skills needed to become a successful researcher. His hard-working ethic and boundless interest in a variety of topics led to a very productive environment in which to work."

Another of Dale's sponsors wrote, "The experiments currently conducted in his laboratory involving parasites of columbiform birds, are among the most creative and elegant ones in all of parasitological history. They can be characterized not only by their creativity and elegance but also by their audacity. His work of the past 5 years is a truly remarkable demonstration of what can be done to sort through the factors that actually allow survival of a parasite in/on a host, the host-parasite interactions that function most in selection and adaptation, and the mechanisms by which parasite taxa diversify evolutionarily along with their host taxa."

Dale is much more than a laboratory biologist. He has completed fieldwork in at least 18 countries and has delivered more than 60 invited seminars or other talks in various parts of the world including the United States, Argentina, Australia, Austria, Canada, China, England, France, Malaysia, Mexico, Scotland, and Switzerland. With respect to teaching, he regularly gives a course in Ornithology at the University of Utah and also often teaches Ecology and Evolution, Advanced Field Ornithology, Organismal Diversity: Form and Function, and various graduate-level seminar classes. Service-wise, he is a frequent reviewer of manuscripts on bird lice and parasite ecology and evolution. He is also the current secretary for the Society for the Study of Evolution and has had numerous service roles at the University of Utah. Of direct relevance to this society, he and Sarah Bush co-organized a Special Symposium on Evolutionary Ecology for the present (2008) ASP Annual Meeting.

As one of Dale's sponsors pointed out, "One of the real strengths of Dale's work for the discipline of parasitology is its visibility. Dale has been, and continues to be, a tremendous

ambassador for our discipline. Not only are his scientific contributions published in the highest quality journals, but he frames much of his work in a context that is often interesting to, and picked up by, the popular press. His work and name have appeared in outlets all over the world (e.g., *New York Times*, *USA Today*, *Washington Post*, *Los Angeles Times*, *Japan Times*, *Discover Magazine*, *Science News*, and *Science*) and have been covered by hundreds of television and radio broadcasts."

I will close with 2 examples of the wide-ranging influence of Dale's work. First, in 2006 Dale and his colleagues patented an effective device for killing head lice and their eggs on humans. Stories on this device were picked up by news groups around the world and widely posted in print or on the Internet. Without giving away too many secrets, I can tell you that this device is a lot of hot air—but in a good way!

In my opinion, no introduction of Dale Clayton would be complete without referring back to some events in 1989 when Dale was completing his Ph.D. at the University of Chicago. A popular cartoonist of the time was Gary Larson, and Dale decided to name a new species of owl louse after Mr. Larson. To be sure that Mr. Larson was aware of Dale's noble intentions, Dale sent a letter to Gary Larson outlining his intent and stressing that this was a way to honor Larson; Dale also included an image of the new species of louse. Gary Larson was apparently very impressed because he included a copy of Dale's letter in his next book, *The Prehistory of the Far Side*. He also decorated the inside covers of his book with regimental rows of *Strigiphilus garylsoni* and reproduced Dale's image of the new species. This must have been an exciting time for both Dale Clayton and Gary Larson, but, interestingly, the book was published before Dale's description of the louse so, technically, the book has taxonomic chronological precedence. The result of this sequence of events is that *The Prehistory of the Far Side* must be cited, along with Dale's descriptive paper, in any technical manuscript that discusses the taxonomy of *Strigiphilus garylsoni*. Therefore, through Dale's actions, no library or database of Phthiraptera is truly complete unless it includes *The Prehistory of the Far Side*.

Fellow parasitologists, I present Dr. Dale Clayton, this year's deserving recipient of the Henry Baldwin Ward Medal.