



## **Loye and Alden Miller Research Award 2015, to Jerram Brown**

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## AWARDS

# Loye and Alden Miller Research Award 2015, to Jerram Brown

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The Loye and Alden Miller Research Award is given by the Cooper Ornithological Society for lifetime achievement in ornithological research. Loye Holmes Miller and his son, Alden, left a remarkable legacy to the field of ornithology and to the Cooper Ornithological Society. Together they sponsored 30 Ph.D. students, 28 in avian biology, and their students in turn trained a total of 166 students. Alden also made contributions to the Society and to ornithology as a long-standing editor of *The Condor*.

The Cooper Ornithological Society is pleased to honor Dr. Jerram (Jerry) Brown as the 2015 recipient of the Loye and Alden Miller Research Award. Jerry has held a lifelong fascination with natural history. Growing up with a father who was a mathematician and a mother who was a musician, it is perhaps understandable how his childhood love of birding and wild places transformed his early experiences with museum taxonomy and fish systematics into a quantitative study of animal behavior informed mostly by birds.

Although intent on conducting doctoral research under the direction of Alden Miller at the University of California at Berkeley, career prospects as a taxonomist seemed dim, so he switched to another Miller Research Awardee, Frank Pitelka. The writings and lectures of Lack, Tinbergen, and von Frisch, as well as the friendship of others at Berkeley (Marler, Orians, Konishi, Nottebohm, and Hamilton), influenced Jerry as he revealed the behavior and social organization of Steller's Jays (*Cyanocitta stelleri*). His careful documentation of how the elevation of a jay's crest signaled its aggressive intentions improved understanding of animal communication and behavioral flexibility. This background contributed to his 1964 classic paper on the economic defensibility of territories. Initially written as a response to early group selection arguments concerning population regulation, his application of cost–benefit analysis and focus on “selection thinking” transformed how subsequent researchers examined the economics of territorial defense and helped lay the foundation for the field of behavioral ecology.

After receiving his Ph.D. at Berkeley in 1960, Jerry took a postdoctoral position in Switzerland to work on the proximate causes of behavior. As he investigated how the brain commanded the actions of cats, he coined the term “neuroethology.” He then moved to his first faculty position, at the University of Rochester in 1964, where he continued to conduct research in neuroethology. His



Jerram L. Brown

1975 textbook on animal behavior synthesized how neural templates affect behavior, as well as how behavior can be understood within the framework of selection thinking. Over time, his interest in applying selection thinking to understand behavior dominated his interests and motivated his move to the State University of New York at Albany in 1978 to develop a behavioral ecology program. At Albany, Jerry led the effort to organize the first behavioral ecology conference in 1986, and then helped found the International Society for Behavioral Ecology. Jerry retired from SUNY Albany in 2002.

Jerry has had profound impact in many areas central to the development of ornithology over the last five decades. Already mentioned was his fundamental contribution to our understanding of territoriality. Other work related to territoriality include his 1969 paper on buffer effects where Jerry developed what he called the “optimal mix,” which was an idea published independently by Stephen Fretwell and better known as the ideal free distribution. Jerry's focus, however, was on territoriality or the despotic distribution, which was logical for a birder from youth and a field ornithologist like Jerry. Soon after, Jerry authored and then co-authored with Gordon Orians, another Miller Research Awardee and a lab mate from Jerry's graduate school days at Berkeley, two influential

reviews on the impact of territorial behavior on population regulation and on spacing behavior in animals.

A second area where Jerry has had a pivotal impact is in the study of cooperative breeding and helping behavior. Inspired by W. D. Hamilton's 1963 paper, Jerry began a study of a color-banded population of Mexican Jays (*Aphelocoma wollweberi*) in the Chiricahua Mountains, Arizona, which he and his wife Esther continued for nearly 40 years. The contrast between the social organization of Mexican Jays and Steller's Jays provided Jerry with key insights that he used to expand his theory of territorial defense into a broad theory of avian sociality. Jerry's first paper on cooperative breeding was published in 1970, and he continued to publish key papers in this area, including the first experiment (on babblers in Australia) showing that "helpers" indeed help. This culminated in his 1987 book *Helping and Communal Breeding in Birds: Ecology and Evolution*, which synthesized the field and developed further Jerry's earlier and fundamental distinction between direct and indirect components of fitness.

Finally, in the mid 1990s, Jerry realized that a shift to earlier breeding dates over the previous decades in his banded population of Mexican Jays was likely a response to

climate change. His 1999 paper was one of the first to document such a response. Since then, studies on phenology and climate change have burgeoned. It is for the above and other lasting contributions made in a long and productive career that the Cooper Ornithological Society is honored to present the 2015 Miller Research Award to Jerram L. Brown.

The Loye and Alden Miller Research Award is given for lifetime achievement in ornithological research. Loye Holmes Miller (1874–1970) began his teaching career in 1904 at the Los Angeles State Normal School which later became UCLA, and he retired in 1943. It was only in the last nine years of his active service that the Ph.D. degree was awarded and, in that time, he had two M.A. and two Ph.D. students. Alden Holmes Miller (1906–1965), Loye's son, began his teaching career in 1931 in the Department of Zoology and Museum of Vertebrate Zoology at the University of California, Berkeley. He remained on the faculty until his death 34 years later. Miller sponsored 28 Ph.D. students, 26 of them in avian biology. Among their students, those with a Ph.D. in avian biology total 166. Additionally, there are at least 40 whose Ph.D. topics were non-avian.