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IN MEMORIAM: ROGER MALCOLM EVANS, 1935–1998

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Roger Malcolm Evans was born at Coronation, Alberta, on 27 May 1935. His father died when Roger was three years old, so he grew up on his grandparents' farm at Blackfalds, Alberta, where he learned perseverance, independence, and resourcefulness while tagging after his grandfather and his uncle. After completing high school at Spirit River, Alberta, Roger worked in a bank for three years. He then entered Zoology at the University of Alberta and, as a freshman, collected birds for the museum under David A. Boag, then an M.Sc. student; David's infectious enthusiasm "turned him on." Still at the University of Alberta, Roger studied courtship and mating behavior of Sharp-tailed Grouse for his M.Sc. thesis, under the guidance of Victor Lewin, and eventually published a paper on territoriality in Sharp-tailed Grouse in *The Wilson Bulletin*. SGS, who years later would become Roger's colleague, was a freshman at Alberta in fall 1961; he vividly remembers Lewin entering a meeting of the Edmonton Bird Club carrying a copy of Roger's newly minted M.Sc. thesis, raving about the great job he had done. It was during this work that Roger's interest in animal behavior developed. He recognized the advantages of studying species in which large numbers of individuals could provide data in a brief reproductive season. Then he turned his attention to colonial water birds and, for his Ph.D., used playback experiments to study the ontogeny of mobility and approach responses in young Ring-billed Gulls, under John T. Emlen, Jr., at the University of Wisconsin. Creative experimentation would continue to characterize Roger's research.

In 1966, Roger joined the Department of Zoology at the University of Manitoba. He was a behaviorist and wrote for a behavioral audience, but he gradually became interested in ornithology. His research continued on parent–young interactions in gulls, and by the early 1970s he had established himself as a behavioral ecologist, just as that field emerged as a recognized scientific discipline. Until his terminal illness, he maintained continuous grant support for his students and himself for a variety of studies, including work on parent–young interactions in brood-parasitic waterfowl and lekking behavior of Sharp-tailed Grouse. But his primary research focused on the American White Pelican and several species of gull. He investigated brood reduction (including a study on blackbirds) and the significance of insurance eggs; vocal communication of hunger and cold by embryos; creching and begging behavior; siblicide among young; and loafing, flocking, and foraging by adults. Most of Roger's field studies were conducted in Manitoba, but he also studied spacing and foraging behavior of Black-billed Gulls in New Zealand and, just months before his death, behavior of endangered Dalmatian Pelicans in Greece. He was first author, with Fritz Knopf, of the account of the American White Pelican for *The Birds of North America*. Roger did ground-breaking work, and his many papers, authored alone and with students, were published widely in the behavioral and ornithological literature. He used a wide diversity of avian species as research organisms, and the breadth and depth of his theory-based work were impressive. Listening to Roger talk about his research was always a pleasure, and



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(Roger in his office at the University of Manitoba, 1996. Photograph by Audrey Waytiuk.)

his creative experiments were legendary. When he needed a piece of equipment, he often built it with materials from the local hardware store. He loved birds, at first mainly their behavior, but eventually the birds themselves, especially his pelicans. His death interrupted the preparation of a book on that group.

The signature of Roger's work was his extraordinary ingenuity in designing critical experiments to test theory. One often wishes one could ask questions of study animals. Roger and his students did exactly that with an experimental protocol that simply asked parent gulls and their offspring (while still in the egg) to set

their own optimal incubation temperature. The critical portion of the experiment involved placing a microphone near eggs warmed (or cooled) by a water bath linked to a thermostatic control. Peeps from the eggs warmed the circulating water, whereas silence resulted in cooling. The eggs were effectively allowed to heat or cool themselves. Did parents and offspring agree? At least over incubation temperature, they did. Such elegant empirical tests of parent-offspring conflict theory are few, and they are rarely, if ever, better done.

His most cited paper, with student Kevin Cash, "Brood reduction in the American White Pelican," published in 1986 in *Behavioral Ecology and Sociobiology*, was similarly sublime. Why do obligate brood-reducing birds lay two eggs if only one chick is likely to survive? Cash and Evans tested the longstanding insurance hypothesis by performing a simple but critical experiment: removal of one egg from parents with the usual two-egg clutches. The result was clear-cut. Parents deprived of the "supernumerary" egg and, hence, their insurance policy, fared worse than parents with the normal complement, even though none reared more than a single chick. About one in five eggs normally failed to hatch, and the second egg served as a valuable backup. Subsequent work inspired by this research shows that the insurance phenomenon applies widely to altricial birds, not just to so-called obligate brood reducers.

Roger joined the AOU in 1966 and became an Elective Member in 1976 and a Fellow in 1996. He was treasurer for the local committee that arranged the 93rd Stated Meeting of the AOU in Winnipeg in 1975. He was elected a Fellow of the Animal Behaviour Society in 1997 in recognition of his contributions to the field of animal behavior. In a special section on avian life histories published in *The Condor* in 2000, LSF and Douglas Mock dedicated their paper to Roger, "whose contribution to the study of insurance is unparalleled. His breathtaking originality will be missed."

Roger was every editor's dream. He received a certificate for meritorious service during John Wiens's tenure as Editor of *The Auk* in the late 1970s and early 1980s. As a former Editor of *Colonial Waterbirds*, RDM remembers Roger as the ideal reviewer. Rigor, thoughtfulness, and promptness are the most valued attributes an editor seeks in a reviewer, and Roger had all three. He approached the work of students—his own and those of his colleagues—in the same way. He read theses promptly, with great insight and thoughtfulness. He served on the advisory committees of many of SGS's graduate students, including LSF's; SGS constantly marveled at his ability to get to the heart of a hypothesis and the experiment(s) needed to test it. Roger's influence as a researcher extended well beyond his university. He served on grant selection panels for the Canadian National Sportsmen's Show and Natural Sciences and Engineering Research Council of Canada. When they served together as members of the Council of the Colonial Waterbird Group (now the Waterbird Society) from 1983 to 1985, RDM clearly remembers him as a quiet but focused commentator on matters of policy. When Roger spoke, his views were reasoned and worth the listening. He approached his work in the department similarly, with a gentle and unassuming manner. His sense of humor was legendary, and his love of acting was revealed each year during skits at the annual Christmas party. A memorial scholarship for graduate students in behavioral ecology has been set up in Roger's name at the University of Manitoba—a fitting tribute to his memory, because his former graduate students hold him in the highest regard for his encouragement, kindness, and respect.

Roger died of cancer in Winnipeg on 19 June 1998. He is survived by his wife, Janet; two daughters, Carolyn and Laura; and one granddaughter.

We thank Christine Abraham, one of Roger's last graduate students, for input.