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IN MEMORIAM: JAMES ALLEN KEAST, 1922–2009

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James Allen Keast, 1922–2009

James Allen Keast, Fellow of the AOU since 1973, died from a heart infection on 8 March 2009, in Kingston, Ontario, in his 87th year. It is a cliché to say that someone's passing marks the end of an era, but in Allen Keast's case this is especially true because of the astonishing breadth of his interests and the amazing range and significance of his publications. Allen was at ease in many fields and it is impossible to define him as anything but a polymath. Depending on one's view, Allen Keast was an anatomist, an anthropologist, a botanist, a herpetologist, an ichthyologist, a lecturer, a lepidopterologist, a mammalogist, a morphologist, a museum curator, an ornithologist, a photographer, a physiologist, a popularizer of science, a university professor, and a television producer. His major contributions were his *Bird Speciation on the Australian Continent* (1961, *Bulletin of the Museum of Comparative*

Zoology); the popular book, *Australia and the Pacific Islands: A Natural History* (1966; later reprinted and translated into Dutch, German, French, Finnish, Spanish, Russian, and Swedish); his ecological analysis *Mechanisms Expanding Niche Width and Minimizing Intraspecific Competition in Two Centrarchid Fishes* (*Evolutionary Biology* 10:333–395, 1977); the three-volume, 2,142-page *Ecological Biogeography of Australia* (1981); and *The Origin and Evolution of Pacific Island Biotas: New Guinea to Eastern Polynesia: Patterns and Processes* (1996). All this and more despite his rather disorganized work habits!

James Allen Keast was born on 15 November 1922 in Turramurra, near Sydney, New South Wales, Australia. Not much seems to be recorded about his early years, and Allen himself was rather discreet about this part of his life, although he circulated some

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stories about his early childhood adventures and accomplishments. Upon reflection these seem more mythical than real. One of his earliest papers in *Emu* (1943) was based on observations in 1940–1941 of the birds of the Five Islands, near Sydney, when he was 18 to 19 years old. He served in Papua New Guinea (1941–1945) in the Australian army during World War II, especially on the island of New Britain. Despite the fact that New Britain was not the most secure place, he managed to observe—and collect—vertebrates there. He loved the fauna, flora, and native people of New Britain. Nevertheless, he never returned to New Britain. After his return to Australia after the war, Allen became a graduate student at the University of Sydney, where he earned his BSc. in 1950 and his MSc. in 1952. The latter is an unpublished manuscript, *The Physiology of the Avian Molt as Evidenced by a Study of the Moulting Cycles of the Silvereye* (1953; see Keast, A., and A. J. [“Jock”] Marshall, 1954, Proc. Zool. Soc. London 124:493–499). The year 1950 marked Allen’s shift from pure field observations to systematic and biogeographic studies of birds. In 1953 (at age 31) he became a Ph.D. student at Harvard University, under Ernst Mayr’s supervision, while on a leave of absence from the Australian Museum, where he had been assistant curator of birds and reptiles. Allen studied a large sample of Australian birds on the basis of specimens from the Museum of Comparative Zoology, the American Museum of Natural History (AMNH), the Academy of Natural Sciences, and the Los Angeles County Museum. His 300-page Ph.D. thesis, *Bird Speciation on the Australian Continent*, is dated June 1955. This was the first time that anyone had analyzed speciation in the avifauna of an entire continent. Three funding agencies enabled Allen to come to Harvard: the U.S. Fulbright Travel Grant, Harvard’s Peter Brooks Saltonstall ‘43 Memorial Scholarship, and the AMNH’s Frank M. Chapman Memorial Fund. The Saltonstall Scholarship was the gift of the family of Peter Brooks Saltonstall (Harvard 1943), who had died in action on Guam on 13 August 1944. (Peter was the son of Leverett Saltonstall [Harvard 1914], a former governor of Massachusetts.) The scholarship allowed Allen to study under Mayr to exploit and develop his gifts. In a letter sent to Edward O. Wilson (20 July 1997), Allen noted: “At the back of the Pacific book [1996] I acknowledged that my interest in the Pacific stems from coming to Harvard and Ernst Mayr on a Peter Brooks Saltonstall Fellowship. . . .”

In 1955 Allen returned to the Australian Museum in Sydney with his Ph.D. and began to work almost frantically to expand the already large database from his doctoral research. He also carried out field work collecting birds in the McDonnell Ranges, as well as fish, reptiles, mammals, frogs, dragonflies, snails, butterflies, and earthworms. When his 190-page monograph on bird speciation in Australia came out (1961), he had published 19 papers on speciation in several Australian families and genera of birds. What is even more remarkable is that during the years 1955–1961 Allen also managed to publish *Biogeography and Ecology in Australia* (1959, co-edited with R. L. Crocker and C. S. Christian, with a 20-page chapter on the reptiles of Australia); a lovely children’s book, *Window to Bushland* (also 1959); and a remarkably compact pocket guide, *Some Bush Birds of Australia* (1960), with his own photographs and sketches. While a Ph.D. student at Harvard, Allen had produced a short film, *Origins of Races: Australian Aborigines* (New York, AMNH and Columbia Broadcasting System; 1954; see Root, N., 1987, Catalog of the American Museum of Natural History Film Archives, New York, Garland).

In 1962 Allen was a Visiting Researcher at the Edward Grey Institute at Oxford University and a Visiting Biologist in Pretoria, South Africa, at the South African National Parks. He also moved to Canada, as assistant professor in the Department of Biology at Queen’s University, Kingston, Ontario. Allen remained at Queen’s for the rest of his life. He was promoted to associate and eventually full professor and became professor emeritus upon his retirement in 1989. Allen’s 36 years at Queen’s were marked by copious publications and an expansion of his already prolific research interests. He produced 33 papers, and that number does not include reprinting and translations of his book on the Pacific Islands, a book on *Birds of Eucalypts Forests* (1985), and a book on *Forest Bird Communities* (1990). It also does not reflect Allen’s range of research activities, his almost peripatetic meeting and congress attendance, his teaching program, and his sponsorship of at least 27 graduate students.

Shortly after arriving at Queen’s University, Allen developed a long-term research program on fish community ecology at Queen’s University Biological Station at Lake Opinicon, north of Kingston. His first fish paper (1965) was a report on resource subdivision among cohabiting fish species. His research program was “directed at an understanding of the feeding and distributional ecology of freshwater fishes, attention being given to evolutionary aspects.” This research was centered on (1) food specialization and interspecific competition, (2) age classes and ecological niches, (3) ecological separation by habitat differences, (4) the ecological significance of structure, (5) the food ecology of sibling species and hybrid swarms, (6) the origins of ecological specialization in fishes, (7) factors governing the occurrence of species, and (8) food intake, calorific value of foods, and digestive efficiency. Allen did with fishes what he could not do with birds or mammals: collect large samples, open the fish, and look in their gut for answers to his questions. His fish lab in Kingston was a beehive of activity. In spring and summer (Lake Opinicon was ice-covered from December to April), Allen and his students collected fish at the lake according to strict protocols. Allen published at least 30 papers on fish ecology and evolution, some with students as co-authors. All the while, he pursued research on birds, mammals, and biogeography. Over the years, he published papers on fish ecology, the theory and methodology of biogeography, the biogeography of marsupials, and the systematics of birds from Papua, Australia, and New Zealand.

Allen’s interest in mammals started early, in Australia, and peaked in the 1960s and early 1970s. With Frank C. Erk and Bentley Glass he edited *Evolution, Mammals, and Southern Continents* (1972), the eventual result of, first, a symposium at the XVI International Congress of Zoology (1963) and then of detailed papers in the *Quarterly Review of Biology* (1968–1969). Allen’s own contributions to this mammoth effort demonstrate his grasp of recent and fossil mammals and his understanding of the role of geological events in molding southern mammalian faunas. The series of studies showed the development and maturation of Allen’s ideas about mammalian evolution on Australia and the other southern continents. Read today in sequence, they appear as a prodigious tour de force.

Allen attended at least nine International Ornithological Congresses and presented papers or organized symposia at six of these. He was a member of the International Ornithological Committee of the IOC from 1978 to 1986. In addition, he often

attended AOU meetings and a variety of international meetings other than IOCs, perhaps the last of which was the Neotropical Ornithological Congress held in Chile in 2003. Allen became a Fellow of the Royal Australasian Ornithologists' Union in 1960 and received the Dom L. Serventy Medal for outstanding work on birds of Australasia in 1995 (*Emu* 95:301, 1995).

Teaching was an important part of Allen's life that demanded much of his time. Although he said that teaching was a "mad-denyingly distracting thing," he took it quite seriously. Allen was a wonderful lecturer. He usually started his talks with jokes that had everybody doubled over with laughter. And then there would be a transition to more serious stuff. But as soon as he saw that his audience was drifting off, the jokes would return, and he got their full attention again. Allen's lectures included the full range of his encyclopedic knowledge of animals, plants, and geography.

Characteristically, Allen was generous with his praise and encouragement. After I was appointed to the staff of the Department of Ornithology at the AMNH he wrote to me: "It was with the greatest pleasure that I learned yesterday of your appointment. . . . This is most gratifying. . . ." He was also generous with his money. In Australia, he endowed a postgraduate student award,

the Professor Allen Keast Research Award. In Canada, there is the J. Allen Keast Lake Opinicon Undergraduate Research Fellowship, to help undergraduates study at the Queen's University Biological Station. Also at Queen's University there is the J. Allen Keast Field Biology International Exchange Fund, designed to foster exchanges between biologists at Queen's University and Southern Hemisphere universities. He also endowed lectureships at the University of Sydney and at Queen's.

The bestselling Canadian children's author Krista Johansen named a city in one of her books "Keastipol" after Allen, who was instrumental in directing her toward writing fiction when she was a promising student working in his lab.

Allen was predeceased by his younger brother John, a solicitor, who died in Australia in 2006. Allen had encouraged John to collect butterflies as a hobby, and this collection is now in the National Museum in Canberra. Allen is survived by his sister, Janet Baker, of Seattle.

I thank Janet Baker, Raleigh Robertson at Queen's University, Dorothy Barr at the Ernst Mayr Library at Harvard's Museum of Comparative Zoology, and Krista Johansen for their help with this memorial.